BIKEWAY PLAN

CITY OF DAVIS

Ad Hoc Bicycle Task Force

Public Works Department

May 26, 1993

CITY OF DAVIS

BIKEWAY PLAN

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INTRODUCTION

PURPOSE

The purpose of this Bikeway Plan is to improve bicycle transportation in Davis. This is an update of the 1991 Draft Bikeway Plan in an effort to maintain a Bikeway Plan which is meaningful to the city and which meets the requirements of the California Bikeways Act, which requirements are contained in section 2377 of the California Streets and Highways Code.

SETTING

The City of Davis is located in the southern part of Yolo County, a predominantly agricultural county in California's central valley. Davis is the largest urbanized area within Yolo County.

In 1906, The University of California, Berkeley established the State Agricultural Experiment Station at Davis. The college became a general campus of the University of California System in 1959. Between 1950 and 1987, the average annual growth rate was 6.4 percent per year as the urban population grew from under 5,000 to 48,700. The 1993 population of Davis is about 50,000. Approximately 16,000 of the 22,000 UCD students reside within the city limits and are included in the population figure.

Yolo County temperatures are generally mild in the winter and hot in the summer. October through April is the rainy season, and accounts for approximately 90% of the area's annual precipitation.

South Davis is separated from the rest of the city by Interstate Highway 80 which is the major freeway serving the area. State Route 113 connects I-80 in Davis with the City of Woodland and Interstate Highway 5 to the north.

Davis is known for bicycles, energy conservation, and a preference for slow, carefully managed growth. Its notable physical characteristics are small scale in relation to UCD, innovative neighborhood design, a traditional downtown, and an absence of large scale shopping centers.

PLAN DEVELOPMENT

BACKGROUND

The University has a significant impact on the City of Davis. Historically, the population and geographic spread of the City has been driven by University enrollment. The ratio of city population to UCD enrollment has been steady at about 2:1 over the last twenty years.

Significant use of bicycles in the vicinity of Colleges and Universities is not uncommon. Bicycles serve the transportation needs of students, faculty, and staff in this setting perhaps better than any other mode. As the University grew from about 2,200 students in 1958 to over 20,000, the demands for adequate bicycle facilities and minimization of bicycle-vehicle conflicts mounted. The boundary between the University Core and the City has not appreciably increased during this period of student growth. Traffic data suggest that the bicycle is probably the dominant transportation mode for trips crossing the City-University boundary. By the mid 1960's the dramatic volume of bicycles using the City streets near the University made it clear that the status quo, (bicycles in ever increasing numbers sharing the public streets designed and marked solely for motor vehicles), was no longer a viable alternative. A plan to adequately provide for cyclists was needed.

The transportation system pressures described above were finally resolved within the system and processes of municipal government. The primary issue of the April, 1966 City Council election was the provision of bikeways for the commuter on the public streets. The pro-bikeway candidates were elected. A trial system of bike lanes was quickly installed and proved immensely popular. Rapid expansion of the system followed. The City bikeway system has steadily and consistently expanded and matured to its present state. The City of Davis has attained national preeminence in bikeway planning and design through its experience and lessons learned during the evolution of the system.

AD HOC BICYCLE TASK FORCE

In January of 1992, the Davis City Council established the Ad Hoc Bicycle Task force to address bicycle issues related to policy, planning, facility design, safety, and education. In order to expand public participation in addressing these issues, membership of the Task Force included representatives from the Davis Bike Club, UCD Administration, Associated Students-UCD, Core Area merchants, School District (staff and PTA), High School students, and Public at large (4 members).

TASK FORCE MEMBERS

Dan Shadoan	Davis Bike Club
David Takemoto-Weerts	UCD Administration
Matt Jones	Associated Students-UCD
Jeff Kowes	Core Area Merchants
Richard Waters	School District PTA
Lauren Bernheim	High School Students
James Watson	Public at Large
Rick Blunden	Public at Large
Nancy Hall	Public at Large
Shannon Kearns	Public at Large

COMMITTEES/COMMISSIONS LIASONS to the TASK FORCE

Ed Martin	Safety Advisory Commission
Bob Schelen	Planning Commission
Melinda Guzman-Moore	Reg. Plng. & Trnsptn. Cmsn.
Jody Boock	Parks & Recreation Commission
Simone Sevier	City/UCD Student Liaison Committee
Craig Reynolds	Natural Resources Commission
Richard Bode	Natural Resources Commission
Bruce Hartsough	UCD Bicycle Programs Committee

The Task Force met monthly from February 1992 until April 1993 and developed the goals and objectives that follow.

COORDINATION

This bicycle plan has been developed in consultation with the following agencies and groups:

- Yolo County Transportation Advisory Committee
- Sacramento Area Council of Governments (SACOG)
- California State Department of Transportation, District 3 (CALTRANS)
- City of Davis Community Development Department
- City of Davis Safety Advisory Commission and Regional Planning and Transportation Commission
- University of California, Committee on Bicycle Programs
- The Davis Bike Club and interested citizens

In addition to the General Plan, this plan has been coordinated with the South and East Davis Specific Plans. This Bikeway Plan has been reviewed by SACOG and found to be consistent with the SACOG Regional Transportation Plan. This plan has been coordinated with the Yolo County Bikeway Plan and The University of California, Davis Bikeway Plan and is consistent with both. The plan has been developed to comply with Section 2377 of the California Bikeways Act.

The Department of Public Works and the Bicycle Advisory Commission will perform a bi-annual review of this plan for needed updates and revisions. This will reflect continuing changes in bicycling needs, growth, and regulatory requirements.

GOALS AND POLICIES

It is the goal of the City of Davis to create and maintain, through this plan, an integrated system of bikeways. These facilities provide for safe and convenient travel for bicyclists throughout the City. The City recognizes the need to encourage bicycle travel for both transportation and recreation. Bicycle use conserves energy, contributes to cleaner air, and improves personal fitness.

The City of Davis General Plan, adopted in December of 1987, mentions bicycles no less than 23 times in 5 of the 7 elements contained in the plan. Section 4.4 of the Transportation Element is devoted to bicycle circulation considerations.

GENERAL PLAN BICYCLE POLICIES

Guiding Policies

- Assure safe and convenient bicycle access to all areas of the City. (General Plan Section 4.4).

- Promote use of bicycles as a viable and attractive alternative to cars. (General Plan Section 4.4).

Implementing Policies

- Provide bicycle lanes and/or paths along all collector and arterial streets. (General Plan Section 4.4).

- Where motor vehicle speed and volume make on-street bike lanes unsafe or unpleasant, plan for off-street bike paths. (Motor vehicle speed exceeding 35 miles per hour warrants consideration of a separate bikeway). (General Plan Section 4.4).

- Consider bicycle operating characteristics in the design of intersections and traffic control systems. (General Plan Section 4.4).

- Provide convenient bike access between areas where cars are prohibited. (General Plan Section 4.4).

- Improve bicycle access between South Davis and the UCD campus. (General Plan Section 4.4).

- Prepare and implement bicycle parking standards. Include locking devices to reduce theft where appropriate. (General Plan Section 4.4).

- Maintain an education program to promote bicycle use and bicycle safety. (General Plan Section 4.4).

- Require compliance with bikeway policies and standards for new development including recreational bikeways within greenbelts. Ensure interconnection of new facilities with the existing bikeway system. (General Plan Section 4.1)

BIKEWAY PLAN GOALS AND OBJECTIVES

The Ad Hoc Bicycle Task Force has developed the following Goals and Objectives to provide greater detail than the General Plan Goals and Policies which they support. They serve to provide specific guidance to the city for further development of bicycle programs.

BIKEWAY PLAN GUIDING POLICY

Promote bicycle use as a viable, attractive, non-polluting form of transportation and assure safe and convenient access to all areas of the city.

PROGRAMMING

GOAL: Establish a comprehensive and coordinated bicycle program.

1. Establish a Bicycle Coordinator position by July 1, 1993.

2. Establish an advisory commission to guide the bicycle programs.

EDUCATION

GOAL: Enhance educational programs to teach children and adults safe bicycle driving techniques.

1. Support and enhance existing programs that promote safe riding techniques and make the information available through schools, work sites and general publicity efforts.

2. Expand and support a city-wide school safety helmet program.

3. Investigate other safety programs, e.g. Bicycle Federation's "Basics of Bicycling" and see if the UCD cycling class could be taught through the adult education program.

4. Investigate development and promotion of a monthly use and "riding tips" clinic aimed at new riders.

GOAL: Provide literature and up-to-date bicycle route maps for public use.

1. Develop and produce a Davis area bicycle route map for public use. The map, free of charge, shall be distributed to employers, bike shops, public buildings and schools. The bike map shall be updated annually.

2. Support efforts to create a regional bikeway map.

GOAL: Establish a centralized program for interaction with and education of the public.

1. Hold an annual forum in conjunction with major bicycle events to receive input on the bicycle program, as well as to educate the public as to the needs and benefits of the program.

2. Publish an annual report summarizing bicycle program activities.

GOAL: Increase local coverage of bicycle events and present accurate information about bicycle safety and activities.

1. Include articles on bicycle issues in the City's newsletter (presently titled ENVIROWORKS), and distribute to local newspapers.

2. Establish a "bicycle column" in the Davis Enterprise.

3. Place advertisements in the local newspapers to promote bicycling.

GOAL: Share information and resources with UCD regarding bicycle activities.

1. Continue liaison with UCD activities via Committee on Bicycle Programs.

2. Establish an annual event where the City and UCD join efforts to promote bicycling.

3. Investigate joint sponsorship of special bicycling events.

FACILITY DESIGN - PARKS & GREENBELTS

GOAL: Integrate bike paths into all greenbelt and park designs. Ensure accessibility to these bicycle features by integrating design into the bikeway network.

1. Develop standards for greenbelt pathway design by July 1994.

2. Evaluate at-grade and separated grade crossing installations where greenbelts cross streets, and develop standards for design by July 1994.

3. Design facilities to allow for adequate access by public safety vehicles.

FACILITY DESIGN - STREETS, BIKEWAYS & PARKING

GOAL: Provide bike lanes along all collector and arterial streets. Provide pathways adjacent to arterials where justified, with full consideration of safety issues.

1. Develop standards to be used for planning decisions on where to place pathways adjacent to arterials by July 1995. Issues such as speed and volume of the motor vehicle, and the age and skill level of the bicycle driver shall be considered.

GOAL: Ensure that bicycle routing is an integral part of street design so that lanes and pathways form an integrated network.

1. Identify weak links and discontinuities in the existing network, and develop a plan for prioritizing and funding solutions to the problems by July 1994.

GOAL: Consider bicycle operating characteristics in the design of bikeways, intersections and traffic control systems.

1. Complete design and construct new bicycle signal features at Sycamore and Russell by November 1993.

2. Collect survey information and write a technical report on the design and application of bicycle signal heads at selected intersections by July 1994.

3. Develop standard pavement markings for identifying the sensitive portion of traffic signal loops for bicycles.

4. Develop standards for signal timing to facilitate movement of bicycles at intersections.

GOAL: Coordinate and cooperate with surrounding jurisdictions such as UCD, and Yolo and Solano Counties, to create a bikeway network.

1. Participate in the Regional Pedestrian/Bikeway Facility Plan being prepared by SACOG for fiscal year 1992-93.

2. Comment on Yolo County Bikeway Plan revisions and assist in identifying improvements needed in the network.

GOAL: Improve bicycle access between South Davis and the areas north of I-80.

1. Seek funding for early construction of the Putah Creek Crossing of I-80 using Proposition 116 State Bicycle Funds.

2. Develop preliminary engineering plans for the bicycle/pedestrian crossing of I-80 east of Drummond by Winter 1993.

3. Complete EIR for the Pole Line Road crossing of I-80 in order for construction to begin by Summer 1994.

GOAL: Improve the campus-to-core bikeway along Third Street.

1. Continue efforts to improve quality of the railroad crossing.

GOAL: Promote intermodal transportation.

1. Provide and maintain a multi-modal transportation center in the Core Area.

2. Integrate bikeway network and bike parking facilities into the design for the expanded transit terminal and transit corridor proposals under study by Unitrans. Study to be completed by April 1994.

3. Participate in the Yolobus sponsored County Transit Study to ensure that the bicycle interface with transit is enhanced.

4. Promote the transport of bicycles on all public transportation systems serving the City.

GOAL: Provide adequate bike parking.

1. Explore alternatives for bicycle parking facilities, such as lockers and secure racks, and report to the Bicycle Advisory Commission by February 1993.

2. Develop a complete plan for bicycle parking in the Core Area and integrate it into the revised Core Area Specific Plan.

3. Formalize standards for bicycle parking requirements related to new development and incorporate into Bikeway Plan.

GREENWAYS

GOAL: Design bike routes as integral parts of new greenways, open space areas (where appropriate) and greenstreets to complete and expand the existing bikeway system.

1. Develop criteria for bicycle access to open space areas preserved outside the city limits. The criteria should be available for open space plan consultant use by late 1993.

2. Adopt standards for the mixed use of off-street routes by foot traffic, equestrians and bicycles.

GOAL: Bikeways should be planned to provide attractive, shaded linkages between destinations.

1. Explore alternative street cross-sections for collectors and minor arterials that will result in more shaded bike lanes. Incorporate effort into next General Plan revision (safety, system continuity, and other factors have a higher priority).

MAINTENANCE

GOAL: Maintain roadways and bicycle related facilities so they provide safe and comfortable conditions for the bike driver.

1. Complete efforts to establish a routine inspection procedure for all class one facilities by June 1994.

2. Develop a list of priorities for pathway overlay and reconstruction to be considered for budget discussions in 1993 and beyond.

3. Develop a procedure for routine inspection and maintenance of parking facilities.

GOAL: Design facilities to minimize maintenance costs by specifying quality materials and standard products.

GOAL: The level of service for maintenance effort on bicycle facilities should be no less than on roadways used by motor vehicles.

ENFORCEMENT

GOAL: Continue the enforcement of bicycle rules and regulations in order to reduce violations and accidents.

1. Study bicycle/auto accident records and develop a focused enforcement effort with a goal of reducing accidents by 10% between 1991 and 1994.

GOAL: Enhance educational programs with emphasis on bicycle safety and laws relating to bicycle driving.

1. Strengthen educational programs used for traffic violators by working to change state law regarding adjudication of violations. (See Goals & Objectives under Education section.)

GOAL: Promote programs which reduce incidents of theft and continue efforts to recover stolen bicycles.

1. Develop informative material for use with neighborhood groups on incidents of bike theft from private property.

2. By July 1, 1994, establish and promote a voluntary bicycle licensing system.

GOAL: Seek changes in county court procedures to allow court appearance in Davis for bicycle driver traffic law violations.

(Approved by the Ad Hoc Bicycle Task Force on November 10, 1992)

BIKEWAY FACILITIES GUIDELINES

The City of Davis has been developing bikeways for over twenty years. During this period, bicycle use as a primary transportation mode has been ever increasing. It is estimated that about 25 percent of person trips in Davis are made by bicycle.

This development of the city's bicycle transportation system over the years, and the lessons learned during that time, have helped to evolve a set of bicycle facility planning principles that have served the city and have proven to be of benefit to other jurisdictions within the state as well as other parts of the country. In addition, procedures to effectively resolve bicycle circulation and safety issues have been institutionalized so that these issues are dealt with routinely as they arise.

CYCLIST POPULATION

The bicycling population in Davis is comprised of wide and diverse segments with differing skills and abilities as well as differing motivations for cycling in the first place. The type, location, and characteristics of bicycle facilities must necessarily take into account these segments of drivers if they are to be served adequately. A given set of bicycle facilities and routes will not be suitable for the entire cycling population. The following list is one attempt to classify this population into identifiable categories:

1. Avid bicycle enthusiast. Considers the bicycle as the primary transportation mode for most trips almost exclusively. The availability of direct, high speed routes that are relatively unfettered by traffic lights and stop signs is important. Will often choose to ride in the vehicle travel lane and along major routes without bicycle facilities. Shuns Class I facilities, particularly in neighborhood greenbelts. Is highly attuned to bicycle safety. Is sensitized to potential hazards and continually anticipates and avoids compromising situations while riding. A relatively small segment of the cycling population.

2. Regular bicycle rider. Uses the bicycle as the usual transportation mode provided that the destination is reasonably close and a good bicycle route exists. Is usually a working adult, a UCD student, or mature high school student. Includes parents with child seats/carts. Appreciates the relative speed and convenience of the bicycle as compared to the car. Desires safe and efficient bicycle facilities and routes. Is willing to accept some out of direction travel to avoid perceived hazardous locations. Some drivers in this group feel uncomfortable riding along high speed arterial streets even when bike lanes are provided. Is usually attuned to potential hazards such as opening car doors and cars exiting/entering driveways. Wants to maintain momentum but usually obeys traffic controls. A large segment of the cycling population.

3. Young regular bicycle rider. Is usually a child of junior high or high school age. Routinely rides to and from school. Bikes for general transportation to destinations such as to visit friends, to the park, to shop, and for other after school activities. Does not always tune in to potential hazards. May choose routes unsuitable to ability. Sometimes disobeys traffic controls. Prefers the shortest route almost exclusively. Minimal pedaling effort is more important than speed. Uses bike lanes and paths satisfactorily. A large segment of the cycling population.

4. Beginning bicycle rider. A school age child up to about the 4th grade. Bikes to and from school only if a route consisting of bike paths and lanes on lower traffic streets exist. Bikes in the neighborhood. Seldom bikes across town. Physical cycling skills are not fully developed. Sometimes deviates from following a straight track by weaving from side to side. Occasionally loses balance and falls or rides into signs, trees, and other drivers. A smaller segment of the cycling population.

There are other ways that cyclists could be categorized such as by the purpose of a trip. The above segmentation only serves to represent the major categories of drivers and does not imply that the categories are exclusive or the descriptions absolute.

ROUTE SELECTION

Route selection factors commonly used by bikeway facility planners typically include factors such as:

Rider Safety - Routes are chosen considering various safety factors, including lightest traffic, widest shoulders, and fewest parked cars.

Rider Convenience - Convenience factors usually considered include most destination points, fewest stop signs, most side streets with stop signs, and least debris on shoulders.

Rider Volume - Emphasis placed on limiting the number of bikeways designated in order to concentrate on bikeways with the highest bicycle volumes.

Selection criteria such as the above would result in too limited a bikeway system to adequately provide for the cycling population in Davis. In order to increase the already high use of bicycles, it is necessary to provide adequate routes for all segments of the cycling population. These route must serve all combinations of origins and destinations across the city. This cannot be done by designating and developing a skeleton of high priority bike routes.

The existing and future street and bicycle networks are planned to safely and adequately provide for bicycle circulation. Bike lanes exist or are planned along all arterial and collector streets. In addition, Class I bicycle facilities are provided in neighborhood greenbelts and along high demand bicycle corridors. A more austere circulation system would not meet the goal of providing safe and convenient bicycle access to all areas of the city.

ROUTES SELECTED

The Bikeway System is shown on the City's Bikeway Map which is Appendix F of this Plan. Both existing and planned facilities are shown. The planned facilities serve to augment the existing system, correct specific deficiencies, and extend the network to newly developing areas. Several features of the System are worthy of note:

- Bike lanes are shown along all arterial and collector streets.

- Grade separated facilities are provided to facilitate crossing of busy streets.

- Class I facilities are provided within neighborhood greenbelts.

- Class I facilities are shown to provide alternative facilities to using on street lanes along high traffic routes.

- Continuity of the system is important and wherever possible all classes of facilities are joined in a network providing continuous service for the bicycle driver.

Since this Bikeway System extends throughout the City, it will accommodate the commuting needs of employees, business persons, shoppers, and students regardless of the trip origin or destination, as part of the normal street design and construction process. Land use adjacent to bikeways includes all the land uses within the city. Since the policies contained in this Plan require integrated bikeways throughout the City, all land uses and combinations of bicycle trips are accommodated. Land use designations in the City of Davis are contained within the General Plan and the various other plans and maps maintained for that purpose. See figure 1 for a general picture of land uses. For specific land use designations adjacent to bikeways, reference is made to those documents.

STATE DESIGN STANDARDS

Chapter 1000 of the CALTRANS Highway Design Manual is the guiding reference for planning and design of Bikeways. The cases where City of Davis guidelines are more stringent are identified below. It must be emphasized that a careful evaluation of conditions for a specific bikeway may justify an easing of some requirement, or necessitate a more stringent requirement, as the case may be, for the appropriate reasons. Therefore, these guidelines are not absolute standards but rather a guide to be used as a point of beginning when planning new facilities or improving performance of existing facilities.

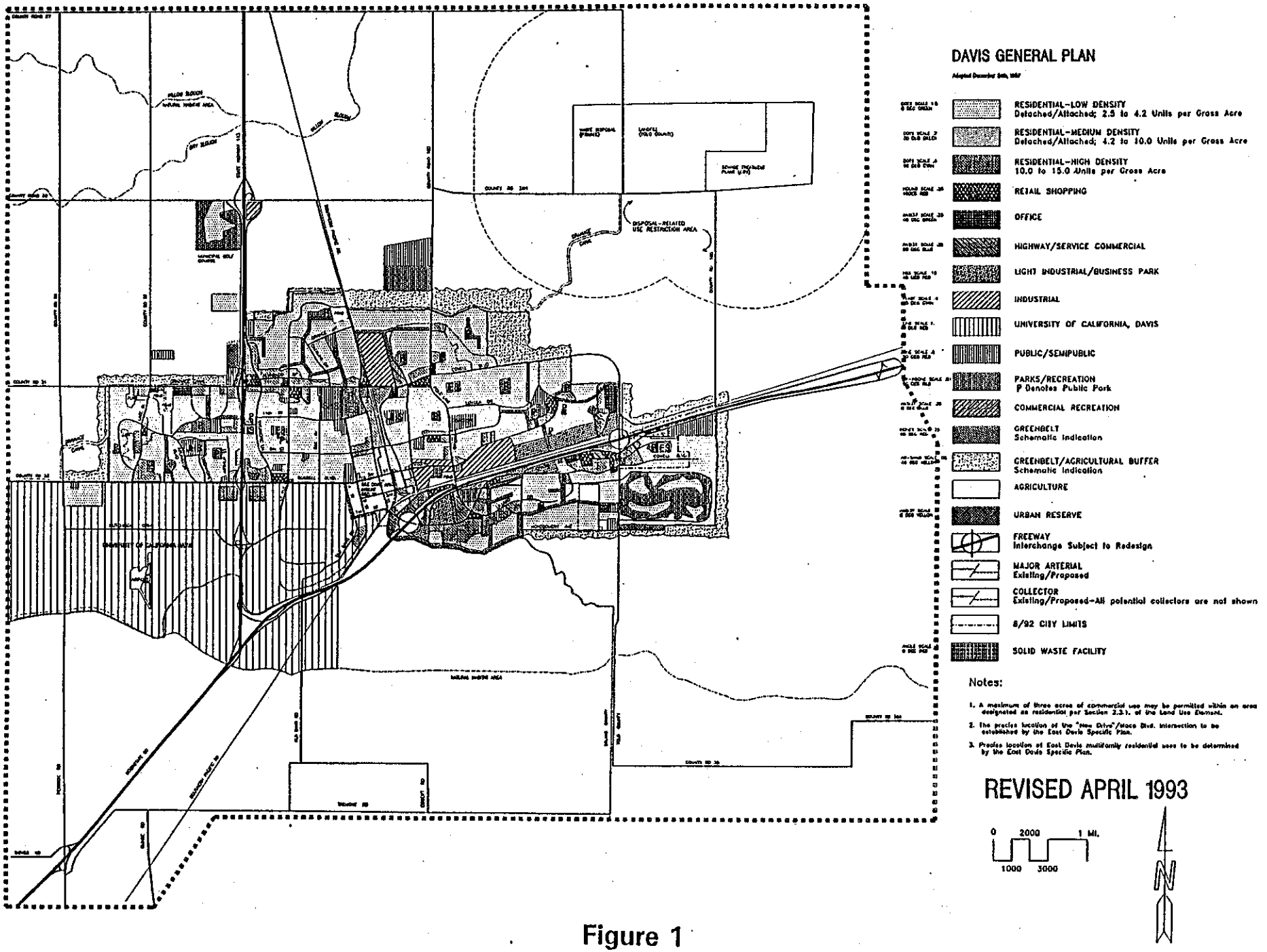
DAVIS GENERAL PLAN
RESIDENTIAL–LOW DENSITY
Detached/Attached; 2.5 to 4.2 Units per Gross Acre
RESIDENTIAL–MEDIUM DENSITY
Detached/Attached; 4.2 to 10.0 Units per Gross Acre
RESIDENTIAL–HIGH DENSITY
10.0 to 15.0 Units per Gross Acre
RETAIL SHOPPING
OFFICE
HIGHWAY/SERVICE COMMERCIAL
LIGHT INDUSTRIAL/BUSINESS PARK
INDUSTRIAL
UNIVERSITY OF CALIFORNIA, DAVIS
PUBLIC/SEMIPUBLIC
PARKS/RECREATION
P Denotes Public Park
COMMERCIAL RECREATION
GREENBELT
Schematic Indication
GREENBELT/AGRICULTURAL BUFFER
Schematic Indication
AGRICULTURE
URBAN RESERVE
FREEWAY
Interchange Subject to Redesign
MAJOR ARTERIAL
Existing/Proposed
COLLECTOR
Existing/Proposed–All potential collectors are not shown
6/92 CITY LIMITS
SOLID WASTE FACILITY
Notes:
1. A maximum of three acres of commercial use may be permitted within an area designated as residential per Section 2.3.1. of the Land Use Element.
2. The precise location of the "New Drive"/Mace Blvd. intersection to be established by the East Davis Specific Plan.
3. Precise location of East Davis multifamily residential uses to be determined by the East Davis Specific Plan.
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Figure 1

BICYCLE FACILITIES DESIGN

A. Design speed.

The selected design speed of a bikeway facility is the single criterion which dictates facility geometry to result in safe bikeways. Therefore, the selected design speed for a bikeway segment should be the uppermost speed expected for the bulk of riders using the facility. The design speed for bikeways within the City of Davis is 20 MPH. For downhill grades exceeding 4%, the design speed is increased to 30 MPH.

B. Grades.

For most facilities, sustained grades should not exceed two percent, if a wide range of riders is to be accommodated. Undercrossings and overcrossings cannot be limited to this grade criterion, however, due to the vertical rise which such structures typically require. Fortunately, the City landscape is nearly flat in most areas thereby eliminating grade limits as a significant design parameter except for grade-separated crossings. The safety of a given grade is based on criteria for stopping sight distance which is, in turn, dependent upon grade and design speed.

Much of the literature suggests that grades should be kept to 5 percent or less where possible. The reasons for this are that cyclists may avoid facilities with steeper grades, or that some cyclists may be unable to negotiate the grade due to physical limitations. There are two primary safety issues with steep grades. If overcrossing grades are too steep, cyclists may seek an alternative at- grade crossing at an unsafe location to avoid the effort of using the overcrossing. For undercrossings or bike tunnels, if the grades are too steep cyclists may choose to attain unsafe speeds while descending in order to gain momentum to negotiate the ascending grade. Other than these two situations, steeper grades do not create safety problems while ascending or descending provided adequate stopping sight distance is maintained. Of course, factors such as debris on the roadway, weather, and mechanical condition of the bike also have an effect on stopping distance.

Another factor to consider about grades is the distance that a given grade persists. The acceptability of a relatively steep grade depends on the length of the grade. Steep grades are tolerable for relatively short distances and are preferable as an alternative to much lesser grades that last long distances.

C. Grade Separated crossings

This plan provides for some grade separations where class I facilities cross arterial streets. Such crossings are planned to provide for relatively unimpeded bicycle routes interconnecting all areas of the City and the University. Additionally, grade separated crossings afford continuity along neighborhood greenbelt bike paths by eliminating the need to cross arterial streets at grade.

1. Undercrossings

The preferred grade separation is the undercrossing because it allows shorter and flatter approaches than an overcrossing. However, close attention to the design is needed because of the bicyclist tendency to excessive speed in an effort to contend with the adverse ascending grade. Therefore, approaches should be kept to no more than 5% grade. In addition, the roadway should be raised so that the upper portion of the bicycle tunnel is above the elevation of the surrounding terrain. This design approach usually allows relatively short approaches of modest grade thus moderating the tendency to excessive speed in the tunnel. In addition, this design feature may allow drainage to be accomplished by gravity. Undercrossings shall be fully lighted for safety. Finally, visibility into and through a raised tunnel enhances the sense of safety compared to a deeper structure.

2. Overcrossings

Overcrossings are needed where roadway curb to curb width exceeds about 90 feet due to concerns of personal safety. Steep grades should be moderated as much as possible so that ridership is not unduly discouraged. Grades exceeding 4% for downhill travel do not by themselves create a safety problem provided that safety criteria derived from the 30 MPH design speed are followed. For ascending cyclists, a combination of length and grade should be selected that carefully balances the two as necessitated by the total climb required. Short steep grades are preferable to modest grades of 2-4%, if those modest grades must persist for distances significantly in excess of 500 feet.

D. Typical Cross Sections

The bicycle facility cross sections depicted in figure 2 are the desired minimum widths for these facilities within the City of Davis. Lesser widths may be considered for low volume streets/paths, existing roadways narrower than City standards, or where other circumstances warrant. State bikeway standards shall be considered the absolute minimum when considering deviations from these guidelines.

E. Intersection Considerations

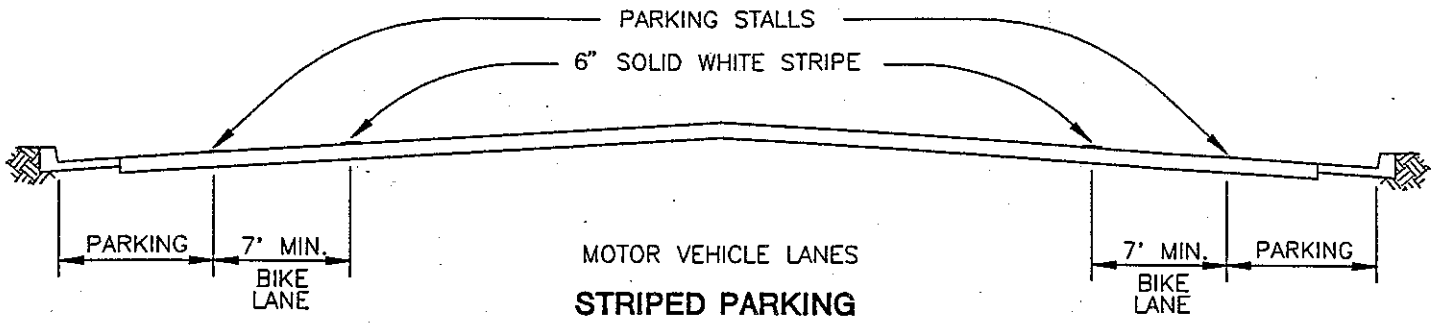
Intersections are the problematic locations where many bicycle-auto conflicts occur. Skilled bicycle drivers usually have little problem making the appropriate transitions when using on-street lanes. Lesser skilled drivers may have difficulty performing weaving maneuvers near intersections safely. These bicycle drivers need alternate less demanding routes as an alternative to using the on-street bike lanes. When using such alternate routes, the cyclist will still need to cross busy arterial streets, usually at signalized intersections. Specialized loop detectors which can be activated by bicycles as well as bicycle oriented signal call buttons can facilitate the crossing. Bicycle routes typically used by younger children need to provide protected signalization for crossing major streets both at intersections and at other locations where crossings are needed. Grade separated crossings are an alternative to protected at-grade crossings. Such crossings tend to be very expensive which limits the locations where they can be considered to only a few high priority locations. Neither bike overpasses nor underpasses work well near

intersections. The crossing length is longer and there is not the opportunity to adjust the road grade to shorten the slopes of the crossing. Also, the transitions between on-street lanes and the separate crossing path create the possibility of unsafe movements. Underpasses can prompt personal safety concerns if their required length is too great or visibility through the underpass is limited.

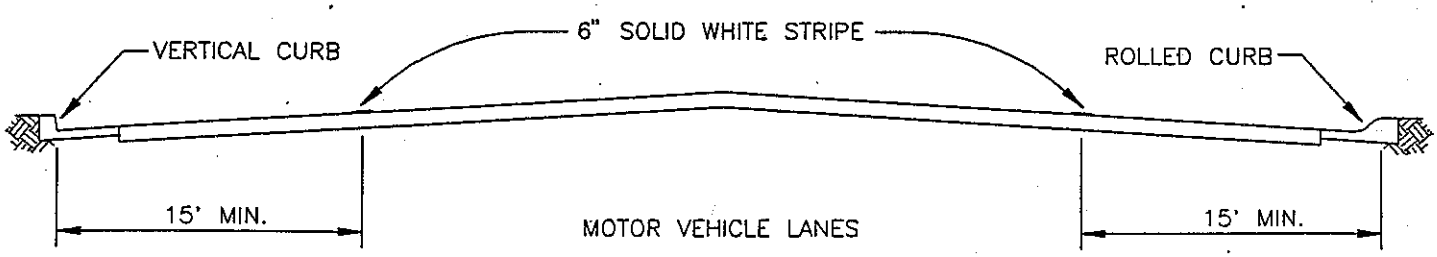
Research has shown that the majority of bicycle-vehicle accidents occur at intersections. Therefore, special consideration must be given to bicycle and vehicle movements at intersections. Bicycle lanes enhance visibility between bicycles and motor vehicles and provide the best opportunity for a safe interaction between vehicles. Typical treatment of these lanes is shown in figures 3 and 4. Note that a weaving section of sufficient length considering prevailing vehicle speeds is essential for the left turn and through bicycle lanes to be effective.

Figure 5 shows typical intersection treatment where a Class I facility interacts with an intersection. The bike path may or may not continue beyond the intersection. The advantage of this intersection design is that it places the bicyclist in a predictable location and minimizes the distance to cross opposing vehicle lanes during the prescribed signal phase.

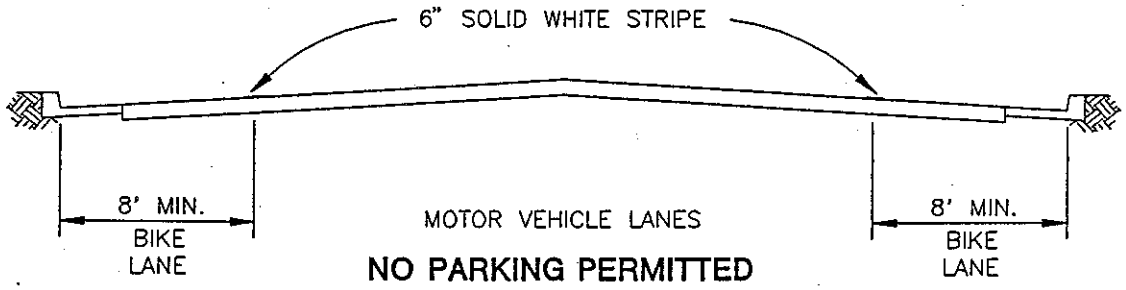
Figure 6 displays a plan view of a street segment constructed with a continuous center left turn lane. This lane, combined with on street bike lanes creates a bicycle friendly route by making it easier and safer to cross the street compared to a 4 lane road. Figure 7 provides some additional information about the traffic islands for bicycles at arterial intersections. These islands make it easier for bicyclists to approach the intersection, make a convenient and safe crossing, and then continue on along available routes in any direction.



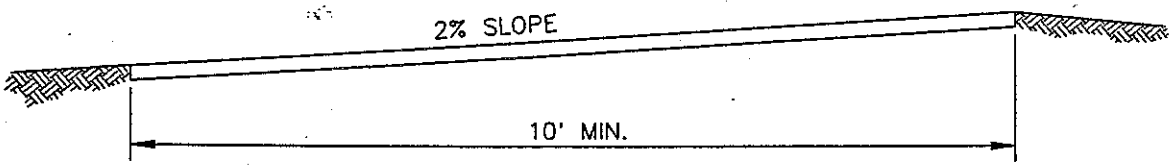
STRIPED PARKING



PARKING PERMITTED WITHOUT PARKING STRIPE OR STALL



NO PARKING PERMITTED



BIKE PATH

FIGURE 2

TYPICAL BIKE LANE CROSS SECTIONS

BIKE LEFT TURN LANE

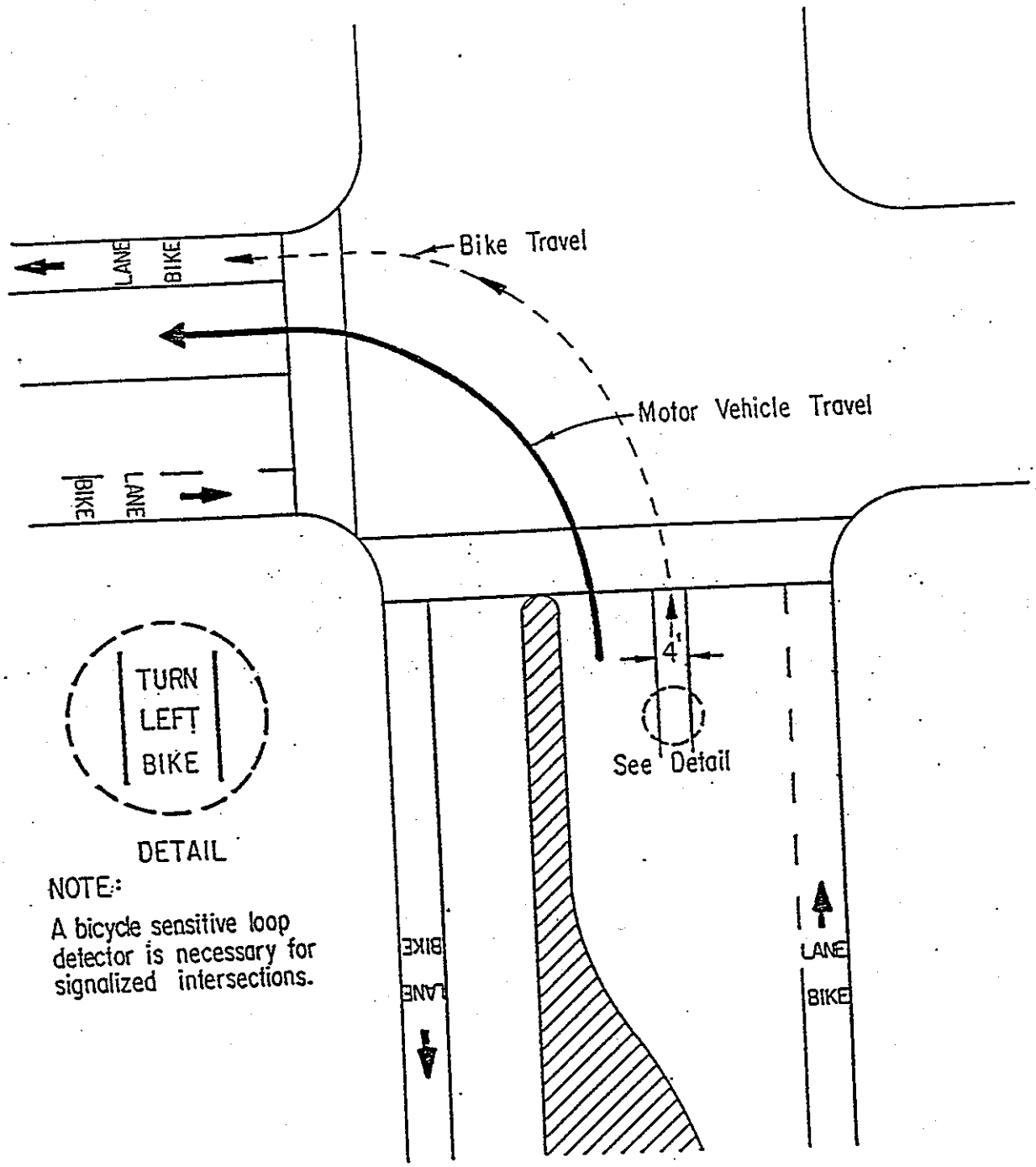
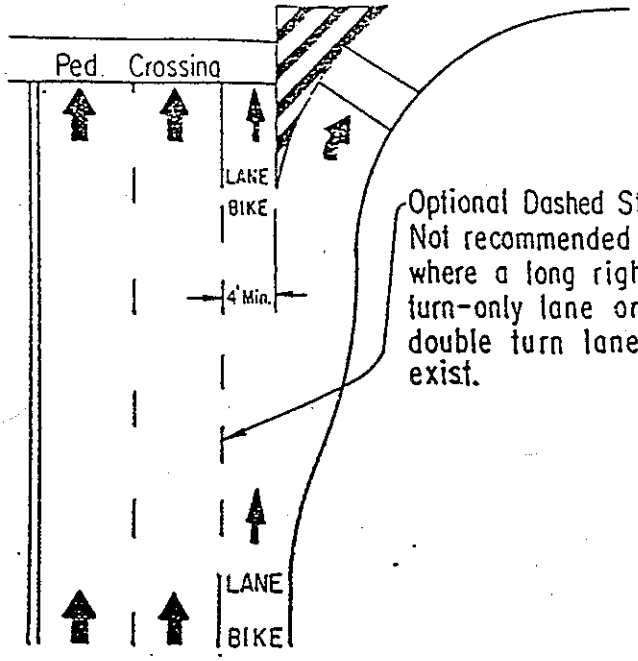
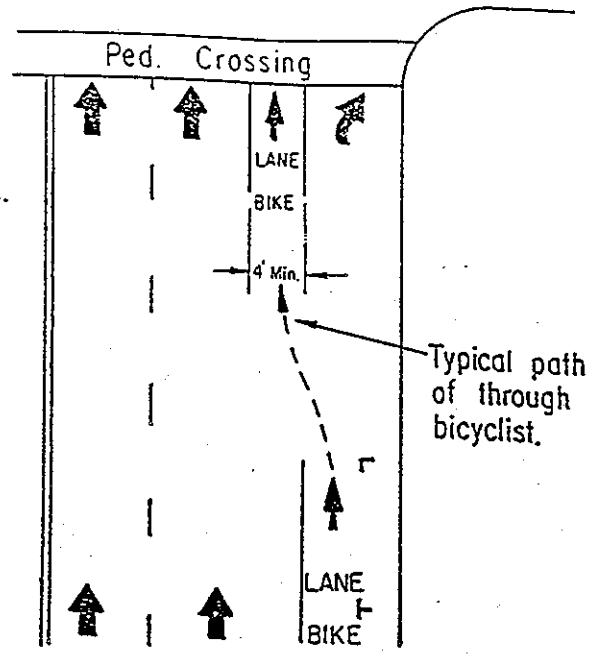


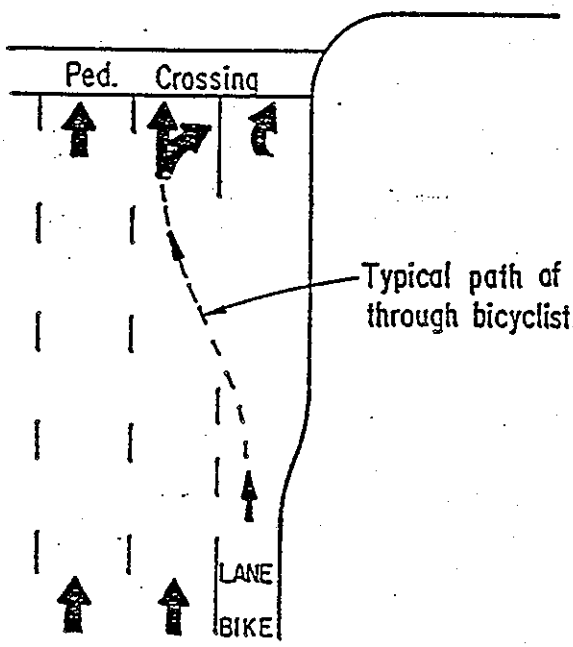
Figure 3



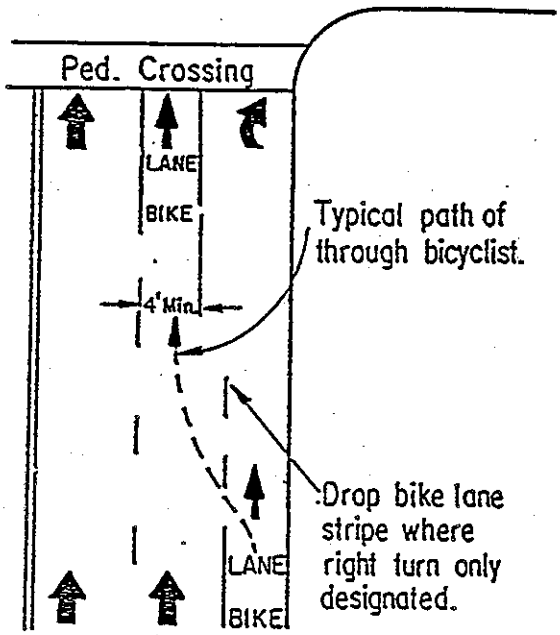
RIGHT-TURN-ONLY LANE



PARKING AREA BECOMES RIGHT-TURN-ONLY LANE



OPTIONAL DOUBLE RIGHT-TURN-ONLY LANE



RIGHT LANE BECOMES RIGHT-TURN-ONLY LANE

Figure 4

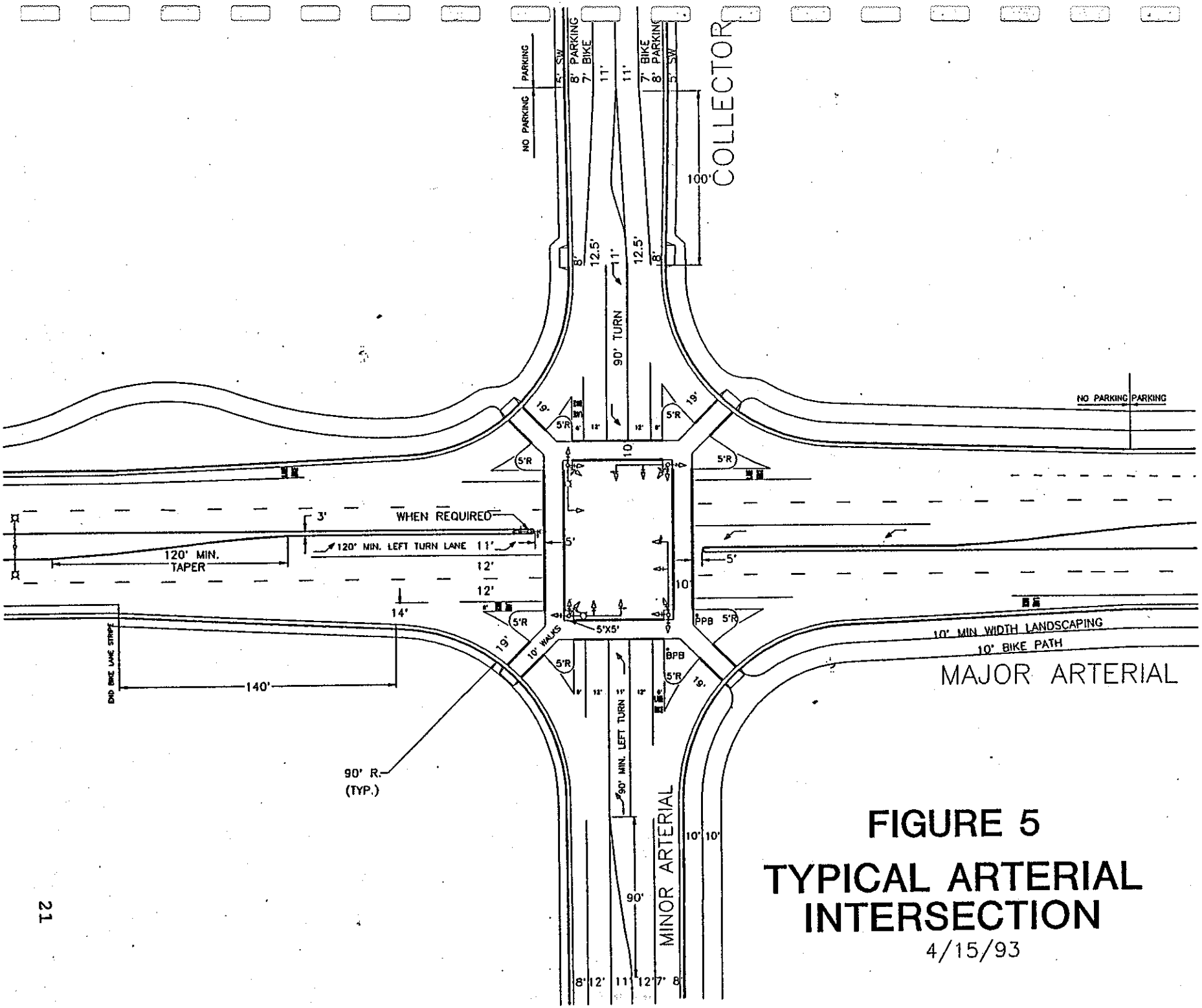


FIGURE 5
TYPICAL ARTERIAL INTERSECTION
4/15/93

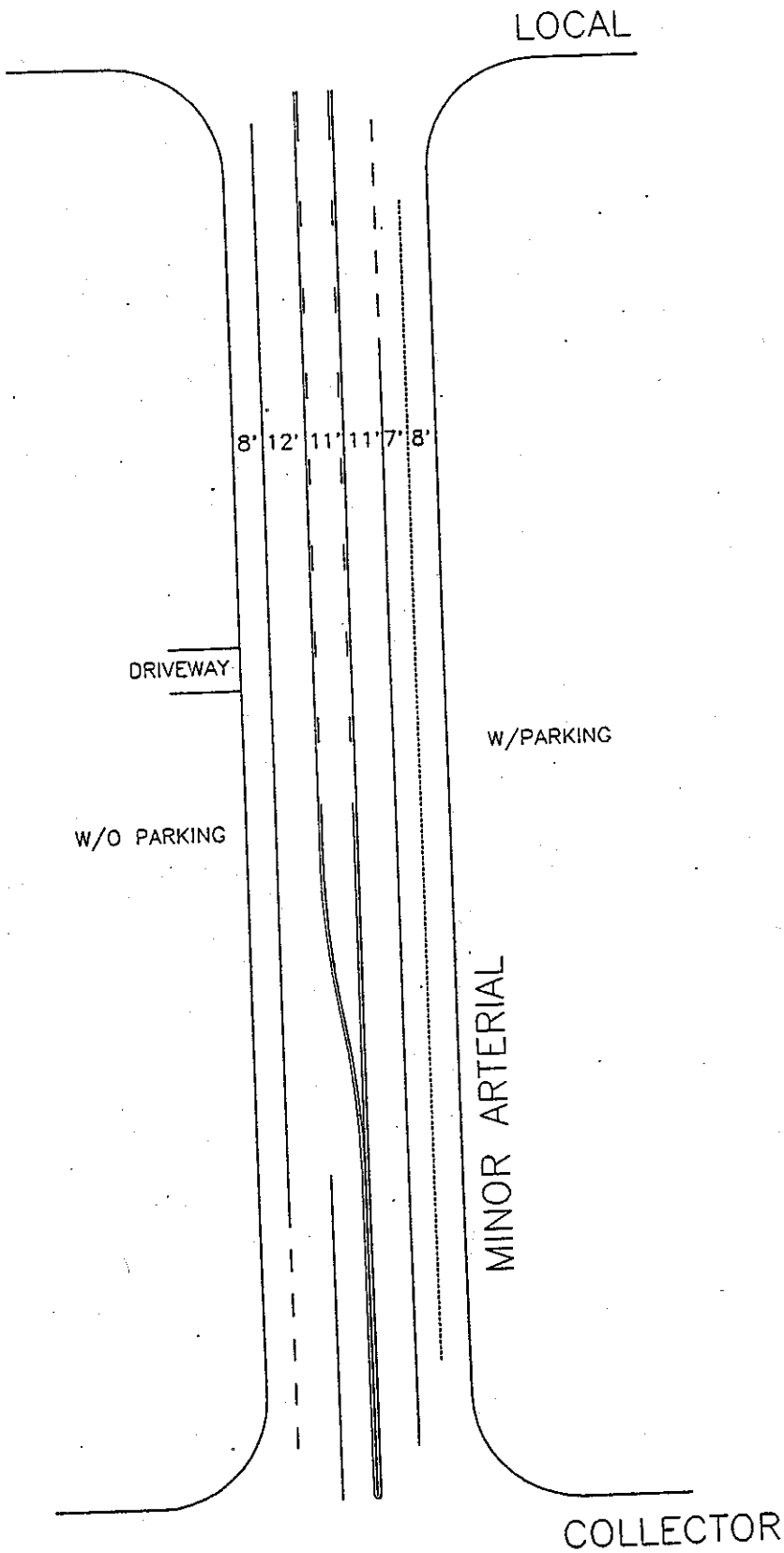


FIGURE 6

MINOR ARTERIAL
BIKE LANES AND TWO
WAY LEFT TURN LANE

4/15/93

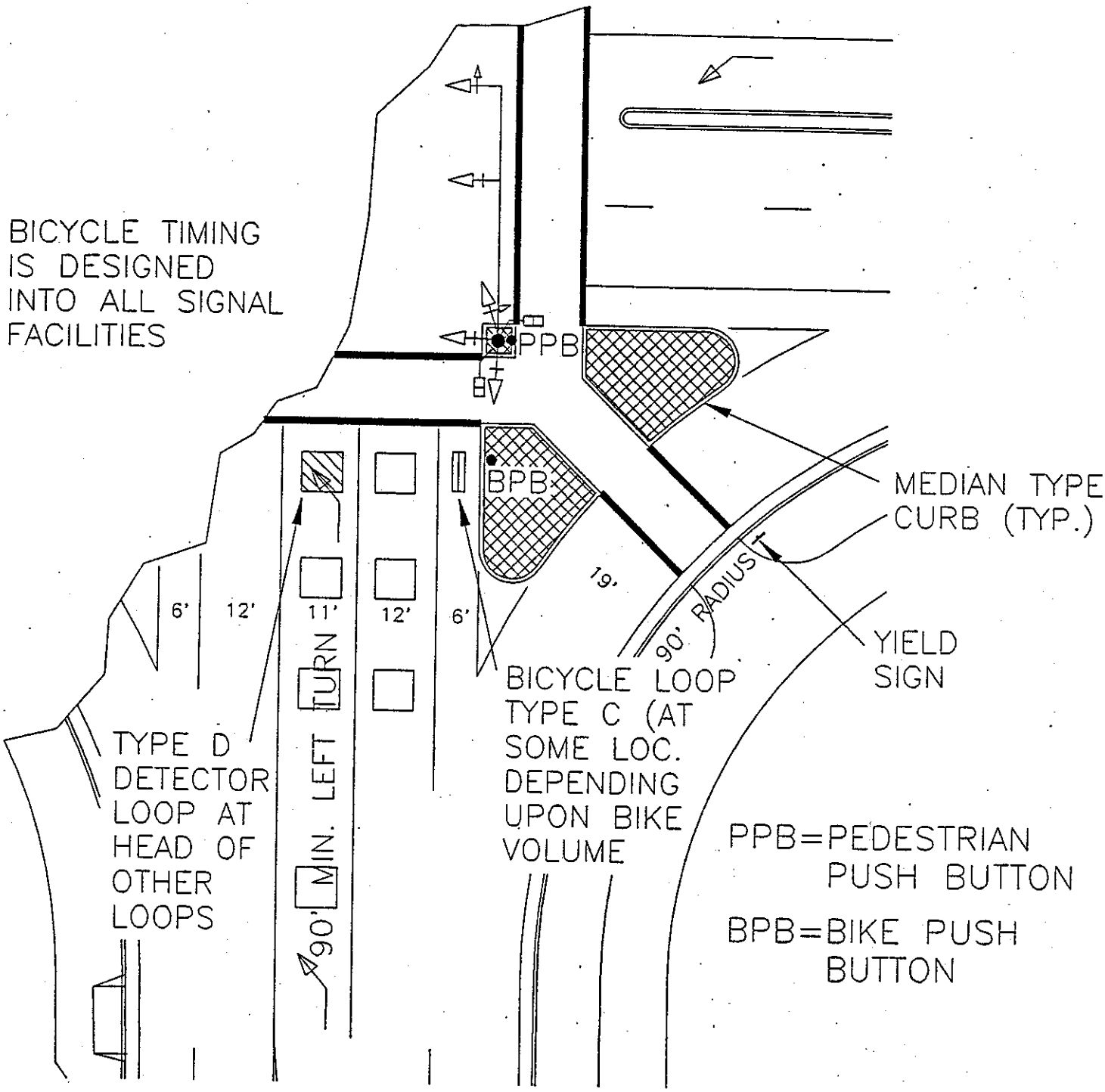


FIGURE 7
ARTERIAL STREET SIGNALIZATION FOR BICYCLES
4/15/93

F. BIKE LANES

Bike lanes provide a significant benefit to safe and efficient bicycle circulation. Conflicts between bikes and autos are dramatically reduced when on-street lanes are installed. Having separate identifiable areas on the street for bikes and autos places the travelers in predictable locations.

Generally, bicycle lanes are provided or planned for all collector and arterial streets. The city's guideline width for on-street bike lanes is 8 feet when adjacent to the curb and 7 feet where parking is allowed. There is a consensus among bicycle planning and safety experts that bike lanes constructed to the Davis guidelines are safe and adequate.

Bike lanes become unsuitable for drivers that lack the necessary skill to safely use them when traffic volumes are heavy and/or vehicle speeds become high. These drivers should use alternate routes. There are bike drivers who have the desire and skill to use on-street lanes under congested and/or high speed conditions so the lanes are still needed.

Width criteria for bike lanes takes into account that occasional obstructions such as leaf piles and yard debris may exist in the bike lanes which would require bicyclists to steer around them. While automobiles do sometimes stray into the bike lane and cyclists sometimes stray into the vehicle lane, these incursions seldom result in accidents. Mid-block accidents between bikes and cars are rare. More common are bike-bike accidents and bikes running into fixed objects such as parked cars. The majority of bike-car accidents occur at intersections, not mid-block.

G. BIKE PATHS

Bike paths, when properly designed and constructed, provide good routes for bicycle circulation separated from vehicles. Separate bike paths are not always a good choice to replace on-street lanes along high volume, relatively high speed arterials. In these circumstances, retro-fitting within the existing right of way to add paths can prove difficult or impossible. In addition, the presence of numerous driveways which for the cyclist act just like un-signalized intersections, can be a problem. Paths within neighborhood greenbelts provide a good alternative to on-street facilities for large numbers of young and beginning bicycle drivers. These are being provided throughout newly developing areas.

H. ALTERNATIVE ROUTES

Good bicycle circulation can best be achieved with the appropriate mix of bicycle facilities for the respective segments of the cycling population. Such facilities will provide reasonably direct and convenient bicycle access throughout the city. Because the cycling population is segmented, the facilities infrastructure must provide alternative routes and types of facilities for the respective segments. While on-street bike lanes along a high demand route may serve large numbers of cyclists well, alternatives to the lanes may be necessary for less skilled drivers.

As an example, the design of the Pole Line Road Overcrossing takes into account the varying needs of cyclists. The route includes on-street lanes because these lanes are needed for a large segment of the cycling population. A separate path is included on the west side of the structure to serve those cyclists that feel uncomfortable using the bike lanes or do not have the skills necessary to use them safely.

BICYCLE PARKING GUIDELINES

The requirement to provide adequate bicycle parking for the various land uses within the City is contained within the City's zoning ordinance. It is the function of the Design Review Process to assess the bicycle parking plan of developers and project applicants to ensure that adequate facilities are provided. The following features should be considered.

1. Is the quantity of parking adequate considering the nature of the land use, its proximity to bike routes, and other factors which may affect bicycle parking need?

2. Is the bicycle parking located on the project to promote its use? Are bicyclists likely to use the parking rather than the sidewalk or locking bicycles to trees and posts?

3. Is bicycle circulation within the project adequately considered to minimize conflicts and hazards with motor vehicles?

4. Are the bicycle racks conducive to the use of common locking devices used by bicyclists?

5. Is the bicycle parking given prominence and illuminated at night?

6. Is the bicycle parking at least as convenient as the planned vehicle parking?

The amount of bicycle parking needed for a particular project depends upon a variety of factors such as the type of occupancy, the location and proximity to streets with heavy bicycle traffic, the relationship of the project to adjacent and nearby businesses, etc. The following are suggested amounts of bicycle parking for several types of land use. These amounts can be adjusted up or down for a particular project as circumstances suggest.

1. For multi-family residential, 2 bicycle parking spaces per dwelling unit.

2. Commercial, all zones, bicycle spaces numbering 30% of vehicle spaces otherwise required.

3. Provide one bicycle space for every 2 employees during the heaviest work shift in addition to bicycle parking otherwise required for visitors/patrons. This parking may be separately located from the public parking but should be at least as convenient as employee vehicle parking.

4. For Public facilities such as municipal offices, parks, swimming pools, museums, parks, auditoriums, churches, and similar uses, provide bicycle spaces numbering 30% of the vehicle parking normally required or immediately available to the facility.

5. Public and private schools K-12, provide bicycle spaces numbering 85% of peak enrollment. For Post-secondary, provide spaces at least 50% of peak enrollment.

Experience has shown that modest amounts of bicycle parking at many dispersed locations is preferable to a few high capacity facilities. Cyclists tend to shun bike parking unless the parking is very close to their destination. The best way to determine the need and amount of bicycle parking is to identify those locations where parked bikes exceed the available parking, and to find those locations where bikes are parked and no parking is provided. In this manner, parking can be provided to meet the need. The relocation of unused parking facilities to higher demand locations can help make available resources go farther.

REST FACILITIES

The city's Bike Map shows rest facilities (generally day use areas with rest room facilities) that may be used by bicyclists. Also shown are bike shops and a few points of interest. Since Davis is an urban area, commercial establishments that provide air, water, shopping, food, telephones, etc. are readily available either along the bicycle routes or in close proximity to them.

COORDINATION WITH OTHER TRANSPORTATION MODES

Bus service in Davis is provided by Unitrans and Yolobus. The bus routes used by these two systems are directly served by bicycle facilities. The city's intermodal rail facility brings together rail, bus, bicycle, and motor vehicle modes at one location. This plan provides for the installation of bicycle parking at bus stops to facilitate bus-bike trips.

Caltrans will be constructing a "Park and Ride" lot at the intersection of Mace Boulevard and 2nd Street concurrent with improvements to the Mace Overcrossing. Bicycle parking featuring bicycle storage lockers will be included.

SAFETY ADVISORY COMMISSION

The city addresses site specific bicycle circulation issues on a continuing basis. This function is performed through the Safety Advisory Commission (SAC). Safety concerns that arise are directed to the SAC for investigation and resolution. The on-going safe routes to school initiative in Davis is an example of the manner in which potential safety issues are addressed.

The SAC process involves a report prepared by the Public Works Department and then the item is placed on the SAC agenda for action. If a roadway improvement project is planned in front of

a specific school, bicycle safety and circulation considerations must be included as part of the project development process. This then would be considered by the SAC.

EDUCATION

The issues of bicycle safety cannot be fully addressed without mentioning the importance of educational programs. What bicycle accident data exists shows that the preponderance of accidents involve improper actions on the part of bicyclists, motorists, or both. Therefore, accident reduction efforts need to include educational programs to increase awareness of improper driver actions which are known to contribute to accidents. The education program must include components for bicyclists as well as motorists. The on-going bicycle education programs in Davis are well developed and contribute greatly to the excellent bicycle safety record experienced in the city, as does the enforcement activities of the police department. In addition, the proposed goals and objectives developed by the Bicycle Task Force have a strong component of education and safety.

Formal education programs alone will not provide all the needed education on bicycle safety. It is important that parents inform themselves of the proper safety considerations and pass them on to the children. Parents must also train their children and regularly monitor their actual performance when riding a bicycle. Also, adult bicycle drivers must inform themselves of the rules and regulations for safe operation of a bicycle just as they would for safe operation of a motor vehicle.

IMPLEMENTATION

BIKEWAY FINANCING

Bikeways are funded from the full range of financial resources available within the system of fiscal administration of a municipality. These resources include the General Fund, Construction Tax, Dwelling Unit Equivalent Fees, Redevelopment Monies, Mello-Roos Bonds, and cost participation by other entities, most notably, the University of California Davis. The appropriate funding is applied to the specific project according to the program or programs to which the project belongs.

In addition, bikeway projects are sometime eligible for State or Federal partial or full funding when a bikeway project meets the appropriate program criteria. The Intermodal Surface Transportation Efficiency Act makes federal funds available for bicycle projects.

The California State Administrative Code establishes a Bicycle Lane Account and provides $30,000 per month from gas tax revenues to fund local bikeway projects which improve capacity or safety of an existing local street or highway. The account is administered by Caltrans, and a

minimum local cost share of 10% is required. A maximum of $90,000 (25% of annual account funds) can be made available to any one agency in a given year. A municipality must have an approved General Bikeway Plan to be eligible for these funds.

PROJECT PRIORITIES

It is difficult to prioritize the bikeway projects in this Plan for several reasons:

1. Bikeway projects are accomplished from a variety of funding sources and combinations of funding sources. Every bikeway project does not compete for funding with all other bikeway projects.

2. Many Bikeway projects are undertaken concurrent with a larger project such as a street re-building or widening. It is usually the priority of the broader undertaking which determines when a bikeway project will be accomplished as determined by the broader project's importance.

3. Many identified bikeway projects are closely linked to development. Such projects are not needed until development materializes and their construction is dependent upon development related funding. The timing of need for these projects cannot be predicted accurately considering the many uncertainties inherent to the development process.

4. Sometimes the requirement identification and subsequent accomplishment occurs so quickly (because of urgency due to safety, etc) that programming the project is impractical.

Notwithstanding the above, the city's greatest deficiency is the lack of good bicycle routes which connect South Davis to destinations north of I-80 and the University. The Mace and Richards overcrossings are highly congested, require crossing freeway on and off ramps, and presently do not have bike lanes or paths. For these reasons, planned projects that will install bicycle facilities to facilitate crossing the freeway have the highest priority. These projects are The Richards Blvd. Overcrossing Improvements, the Mace Blvd. Overcrossing Improvements, the Pole Line Road Overcrossing, and the Putah Creek and Mace Bike Overcrossing projects.

The following policies describe some of the factors that are considered when making project approval and funding decisions on bike projects.

1. The City performs maintenance and repair of existing bikeway facilities on a continuous basis within an annual program. These efforts are not sacrificed by diverting resources to construct new facilities.

2. Requirements having significant safety aspects are accomplished expeditiously, and certainly ahead of expansion of the system. These issues are considered by the Safety Advisory Commission.

3. Requirements to close gaps or improve the operation of the existing bikeway system are high priority projects.

4. Requirements for expanding the system including ties to the existing system are analyzed annually as part of the normal budget process. Those projects which are needed to integrate bicycle facilities provided by development are scheduled and funded during this annual review process. In other words, when a project's time has come, all efforts are made to ensure its timely accomplishment.

5. Requirements to enhance the existing system or bring substandard bikeways up to standard are balanced according to their importance against other competing requirements.

ENVIRONMENT

The City Council has determined, after review and evaluation, that this Bikeway Plan is consistent with the City of Davis General Plan and other planning and implementation documents, and will not have an adverse effect upon the environment. Individual projects, as they are developed, will require evaluation of their effects upon the environment, and appropriate documentation and coordination will be required.

APPENDICES

APPENDIX A

DEFINITIONS

Bikeway means all facilities that provide primarily for bicycle travel. Section 1003 of the Caltrans Highway Design Manual categorizes Bikeways as follows:

(1) Class I Bikeway

Class I bikeways (bike paths) are facilities with exclusive right of way, with cross flows by motorists minimized. Section 2373 of the Streets and Highways Code describes Class I bikeways as serving the exclusive use of bicycles and pedestrians.

(2) Class II Bikeways

Class II bikeways (bike lanes) provide 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.

(3) Class III Bikeway

Class III bikeways (bike routes) provide a right of way designated by signs or permanent markings and shared with pedestrians or motorists. It is the policy of the City of Davis that this class of bikeway not be used.

APPENDIX B

RESOLUTION NO. 7184, SERIES 1993

RESOLUTION ADOPTING THE CITY OF DAVIS
BIKEWAY PLAN 1993

WHEREAS, the Regional Transportation Plan supports and encourages local agencies to develop comprehensive bikeway plans consistent with the regional plan; and

WHEREAS, the City of Davis Bicycle Task Force has reviewed the Davis Bikeway Plan and recommends its adoption; and

WHEREAS, the proposed Bikeway Plan is consistent with the City of Davis General Plan and General Plan environmental impact report, and no additional environmental review is necessary; and

WHEREAS, this Bikeway Plan is a document to guide future actions. Specific projects and goals will require further Council approvals and funding; and

WHEREAS, the Legislature of the State of California has established a Bicycle Lane Account to fund the construction of bikeway projects, and has required an adopted Bikeway Plan as a minimum requirement for eligibility.

NOW, THEREFORE, BE IT RESOLVED by the City Council of the City of Davis that the Bikeway Plan 1993 of the City of Davis be, and hereby is, approved and adopted.

PASSED AND ADOPTED by the Davis City Council this 2nd day of JUNE, 1993, by the following vote:

AYES: PARTANSKY, ROSENBERG, SKINNER, WOLK.

NOES: NONE.

ABSENT: BOYD.

LOIS WOLK
MAYOR

ATTEST:

Bette E. Racki

BETTE RACKI
CITY CLERK

APPENDIX C

PROJECT LISTS

I. The following projects construct bicycle facilities where none presently exist. These projects are exclusively bicycle facility projects.

BP-2	Bicycle Crossing of I-80 and SPRR at Putah Creek	$3,192,000
BP-3	Russell Blvd A to C Bike Lanes	$107,000
BP-4	Bike Overcrossing of Covell at Monarch	$469,000
BP-5	Pole Line Overcrossing Bike Facilities	$910,000
BP-7	Mace Ranch Bike Overcrossing of I-80	$2,135,000
BP-11	5th St C to L Bike Lanes	$2,240,000
BP-15	Putah Creek Parkway Mace to Oakshade	$377,000
BP-16	17 Arterial Bicycle Undercrossings Citywide	$2,822,000
BP-18	Install Bicycle Parking at Bus Stops	$32,000
BP-25	Greenbelt Bicycle Overcrossing at SR 113	$932,000
BP-26	Bicycle Overcrossing of Covell near L St	$857,000
BP-27	Bicycle Overcrossing of Pole Line	$469,000
BP-28	Davis Greenbelt Bike Facilities	$700,000
BP-29	Connector Greenways Bike Facilities	$2,172,000

II. The following projects are undertaken as part of a road project. Bicycle facilities are added to the road segments where none presently exist.

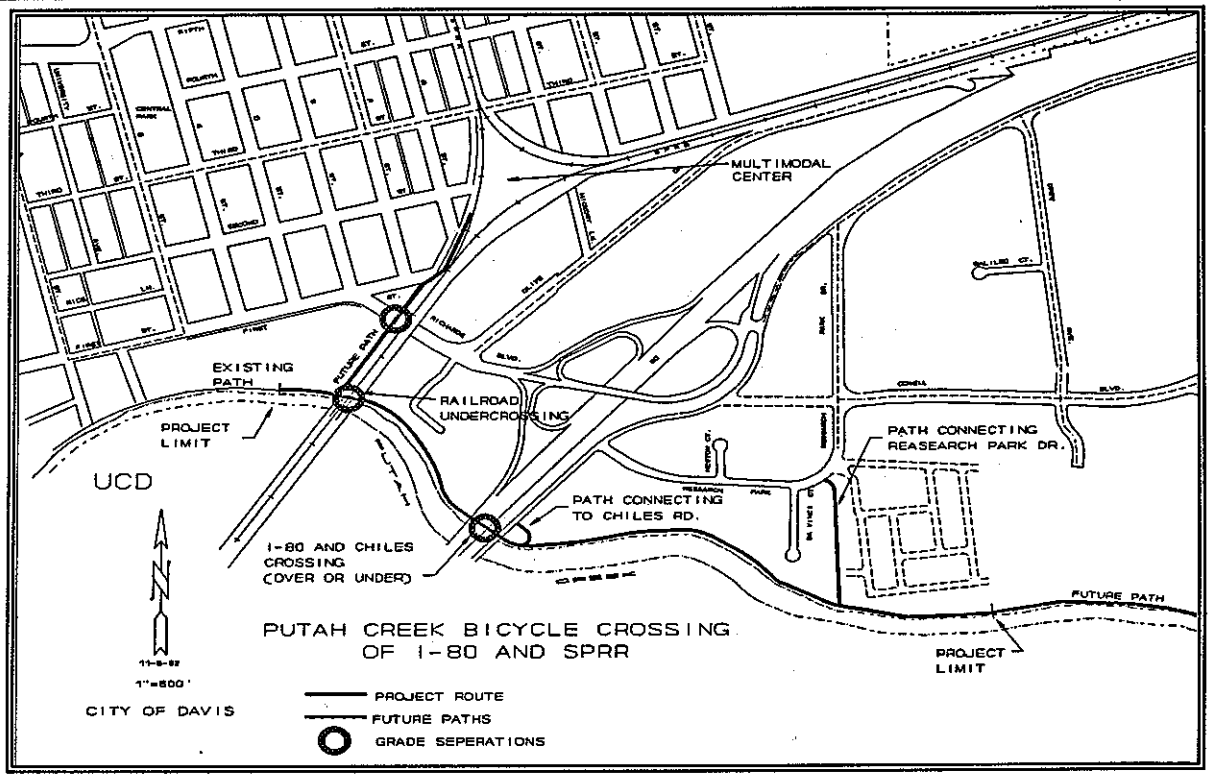
BP-6	1St Street Bike Lane Improvements	$49,000
BP-8	Mace Blvd Overcrossing Bike Facilities	$1,200,000
BP-9	Richards Underpass Bike Facilities	$750,000
BP-10	Richards Overcrossing Bike Lanes	$420,000
BP-20	2nd Street Bike Lanes Pole Line to Mace	$215,000
BP-23	F Street Bike lanes Grande to Anderson	$12,000

III. The following projects will be accomplished in conjunction with road projects. While bicycle facilities exist along these segments, the bicycle facilities will be moved for road widenings or otherwise expanded or improved.

BP-14	Covell Blvd Monarch to 2nd improvements	$465,000
BP-19	Covell Blvd Baywood to Monarch Widening	$130,000
BP-21	Covell Blvd Lake to SR 113 Improvements	$87,000
BP-22	Pole Line Rd Covell to City Limits	$90,000
BP-24	Drummond Albany to Montgomery Widen	$20,000

Project Title: Putah Creek Parkway Bike Facilities

Street:	N/A	Class:	I
From:	Arboretum	Est. Cost:	$3,192,000
To:	vic Oakshade	Project No.:	BP-2



Funding: UCD 50%; Construction Tax 33%; D.U.E. Fees 17%

Description of work: Construct a bicycle overcrossing of I-80 and an underpass of the Southern Pacific Railroad at Putah Creek to connect the Putah Creek Parkway to the UCD Arboretum pathway system. Construction of bike path to the vicinity of the Oakshade development is included.

Project Need: This project is necessary to provide safe and convenient bicycle circulation between South Davis and destinations north of I-80 such as UCD, the Core Area, and the Multi-Modal Center. The existing route along Richards Boulevard is indirect and there are no bike facilities on the Richards overcrossing. The Richards corridor has the worst bike accident experience in the city.

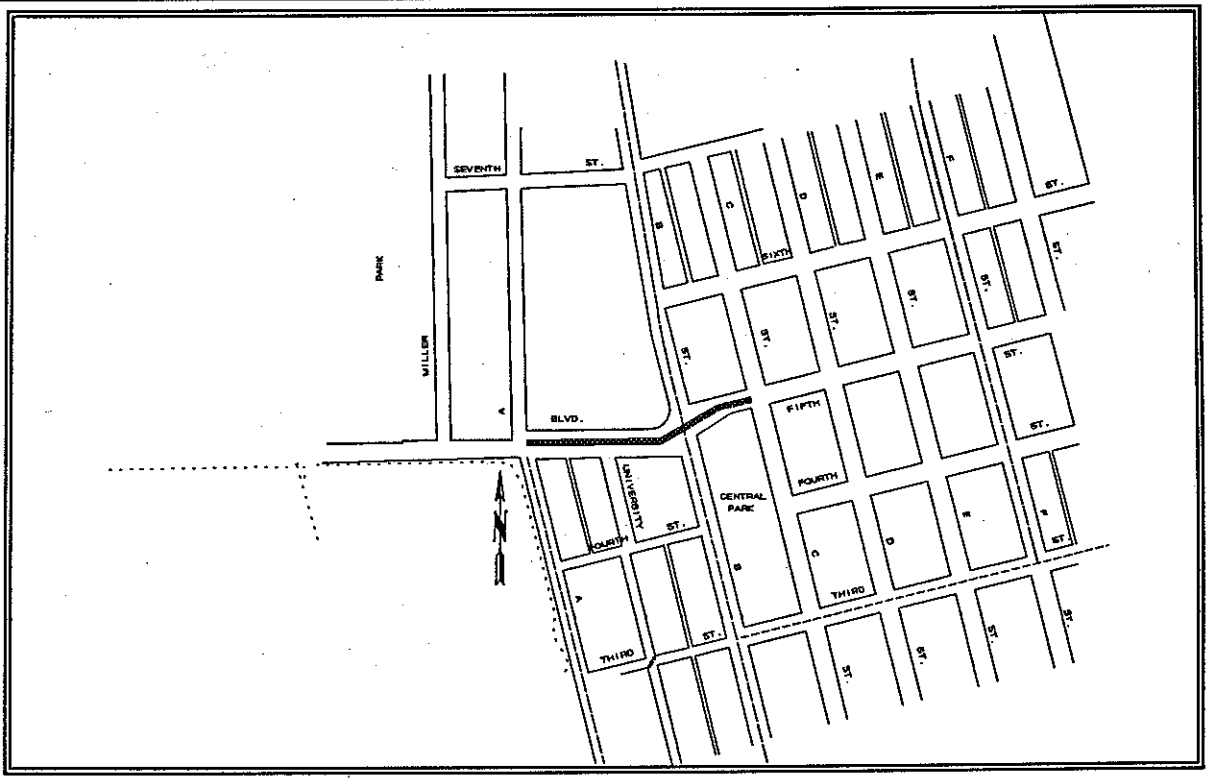
Expected Construction Year(s): 1994-1995

Notes: This project is designated as Project No A.9 in the MPFP.

CITY OF DAVIS BIKEWAY PLAN

Project Title: Russell Blvd A to C Bike Lanes

Street:	Russell Blvd	Class:	II
From:	A St.	Est. Cost:	$107,000
To:	C St.	Project No.:	BP-3



Funding: UCD 33%; D.U.E. Fees 67%

Description of work: Widen Russell Blvd and install Bike Lanes on both sides creating a new direct route from South Davis to UCD. This project will only be accomplished concurrent with C to L widening of 5th St (Project A.23 in MPFP and BP-11).

Project Need: The General Plan calls for bike lanes on all arterial streets. This project will provide the lanes on this segment of 5th St. Bicycle circulation to the Core Area and for east-west travel crossing B St. will be improved.

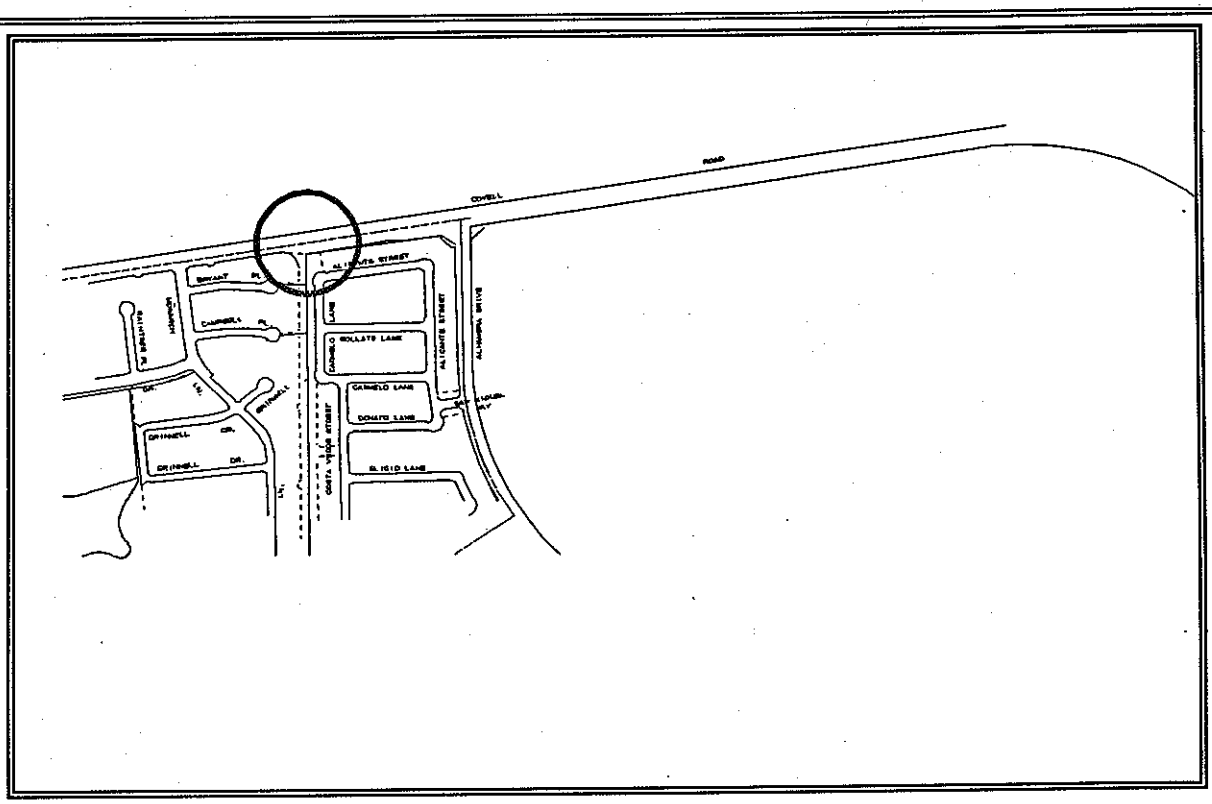
Expected Construction Year(s): 1999

Notes: This project is designated as part of Project No A.12 in the MPFP.

CITY OF DAVIS BIKEWAY PLAN

Project Title: Covell Blvd Overcrossing at Monarch

Street:	Covell Blvd	Class:	I
From:	N/A	Est. Cost:	$469,000
To:	N/A	Project No.:	BP-4



Funding: D.U.E. Fees

Description of work: Construct Bicycle Overcrossing of Covell Blvd to connect the greenbelt bicycle paths in the Wildhorse and Mace Ranch developments.

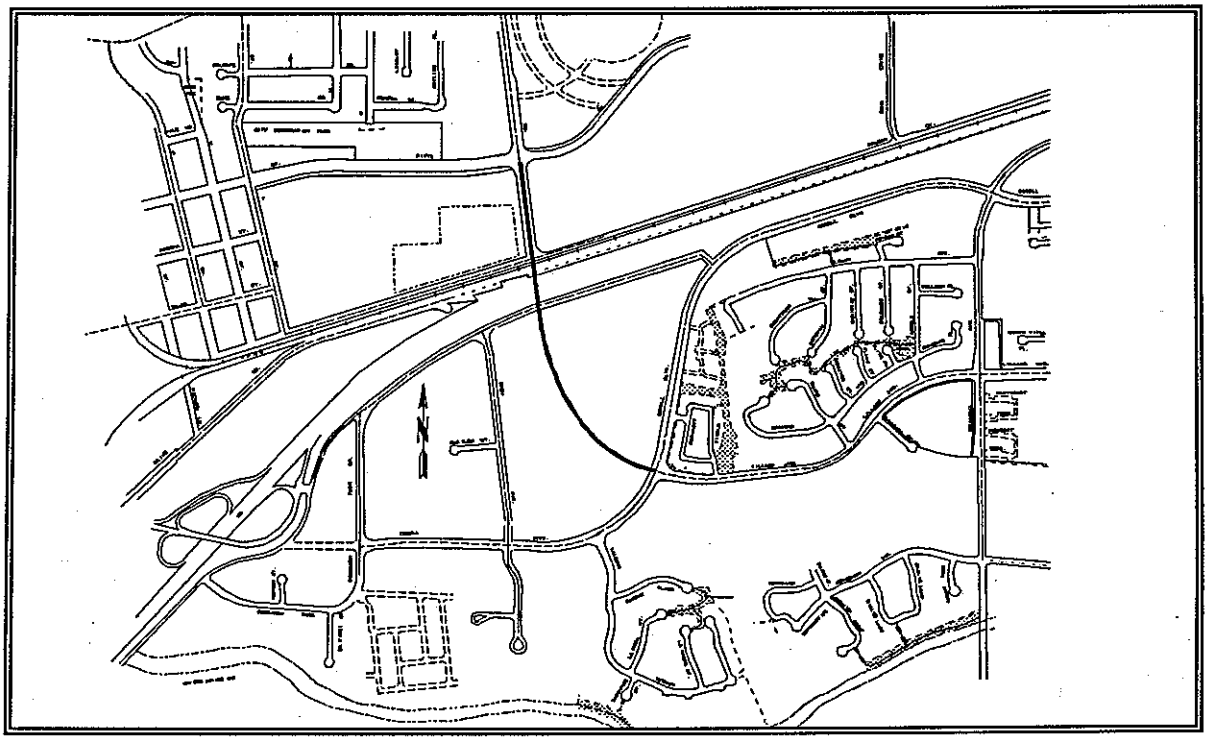
Project Need: This project will provide a grade separated crossing of Covell Boulevard. The facility will be a key link between the greenbelt bike path in Mace Ranch and bike facilities north of Covell Boulevard. This route will directly serve the Davis Greenbelt bike path. The project is needed to provide reasonably direct, convenient, and safe bicycle circulation serving Northeast Davis.

Expected Construction Year(s): 2006/2007

Notes: This project is designated as Project No A.14 in the MPFP.

Project Title: Pole Line Overcrossing Bike Facilities

Street:	Pole Line Road	Class:	I & II
From:	5th St	Est. Cost:	$910,000
To:	Cowell Blvd	Project No.:	BP-5



Funding: Redevelopment 57%; Mello-Roos 40%; Construction Tax 2%

Description of work: Construct Bike Lanes as part of new roadway construction. Construct 10 ft wide bike path on West side of overcrossing structure. Included is a Class I undercrossing of the new roadway in South Davis. New Bike Paths to connect with existing facilities North of I-80 and with planned facilities in the Oakshade and Southfield Park developments.

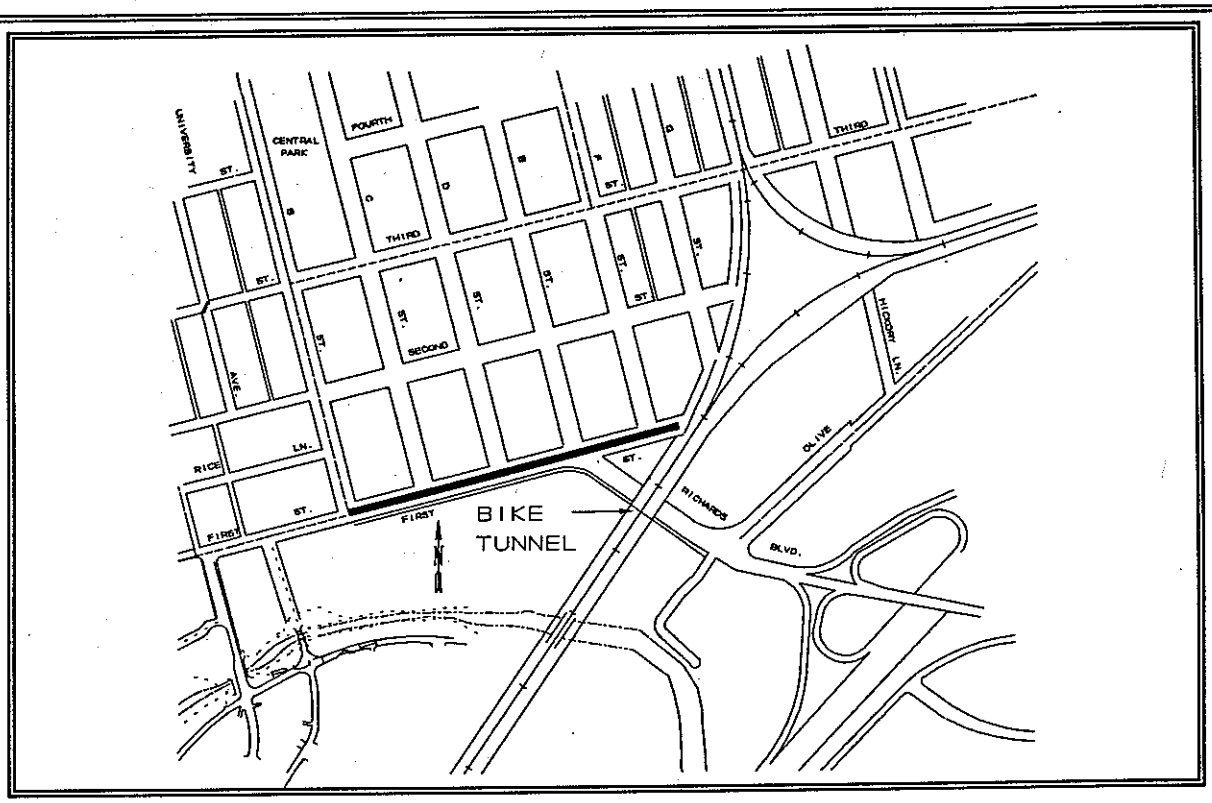
Project Need: This project is being planned and constructed as part of the Pole Line Overcrossing project. The project is needed to improve bicycle circulation between South Davis and the rest of the city. All of the bike lanes, the bike path, and the bike tunnel are important to serve the segments of bike riders by providing alternative facilities consistent with riding ability.

Expected Construction Year(s): 1993/1995
Notes: This project is part of Project No A.16 in the MPFP.

CITY OF DAVIS BIKEWAY PLAN

Project Title: Bike Facilities 1st St B to E

Street:	1st Street	Class:	II
From:	B Street	Est. Cost:	$49,000
To:	E Street	Project No.:	BP-6



Funding: UCD 10%; Redevelopment 90%

Description of work: Construct Bike Lanes as part of the road widening project. The project will be undertaken concurrent with the widening of B Street and the Richards Blvd. underpass.

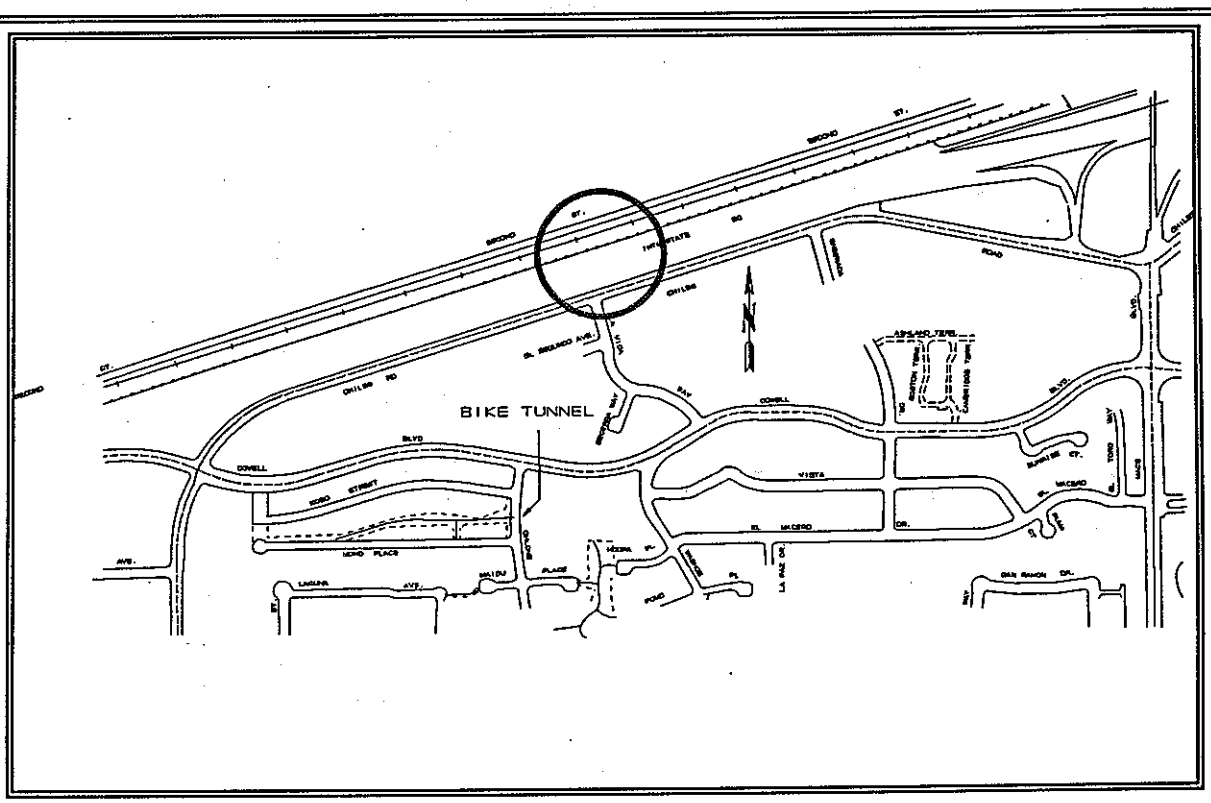
Project Need: This project is needed to install bike lanes on an arterial street according to the General Plan. The project will improve bicycle circulation to the Core Area and to UCD.

Expected Construction Year(s): 1996/1997

Notes: This project is a part of Project No A.17 in the MPFP. The construction will be accomplished concurrently with the Richards Underpass Project (A.21 in MPFP).

Project Title: Bicycle Overcrossing at I-80 (Mace Ranch)

Street:	I-80	Class:	I
From:	N/A	Est. Cost:	$2,135,000
To:	N/A	Project No.:	BP-7



Funding: Mello-Roos Bonds

Description of work: Construction of a 12 foot wide bicycle overcrossing of I-80 and the Southern Pacific tracks between Drummond and Mace Blvd.

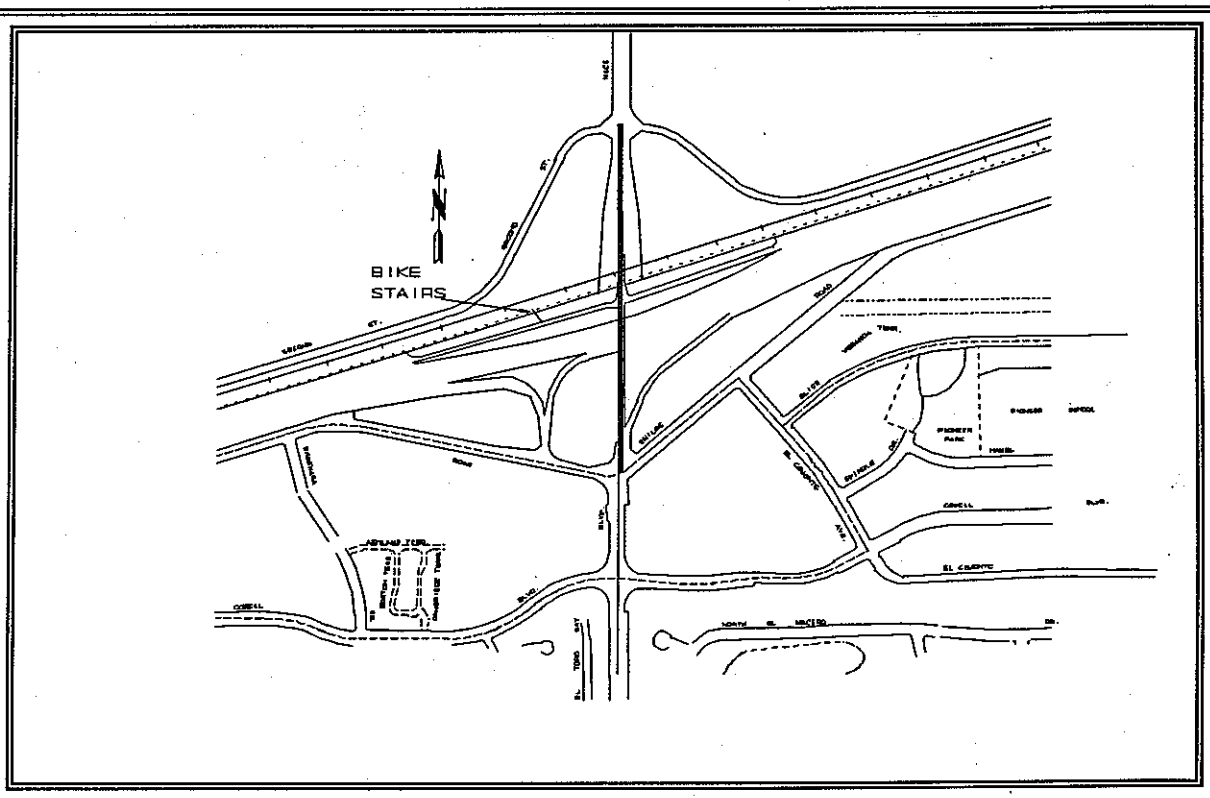
Project Need: This project will improve bicycle circulation crossing I-80. It will serve bike drivers from South Davis going to destinations such as the High School, Junior High, the Science Center, UCD, and the Core Area. The project will also serve destinations to the north such as the Davis Greenbelt facilities.

Expected Construction Year(s): 2004/2005

Notes: This project is designated as Project No A.19 in the MPFP.

Project Title: Mace Overcrossing Bike Lanes

Street: Mace Blvd	Class: II
From: Chiles Road	Est. Cost: $1,200,000
To: 2nd Street	Project No.: BP-8



Funding: Mello-Roos Bonds 1%; State Funds 60%; Redevelopment 39%

Description of work: Add Bike Lanes to the overcrossing structure as part of the widening project.

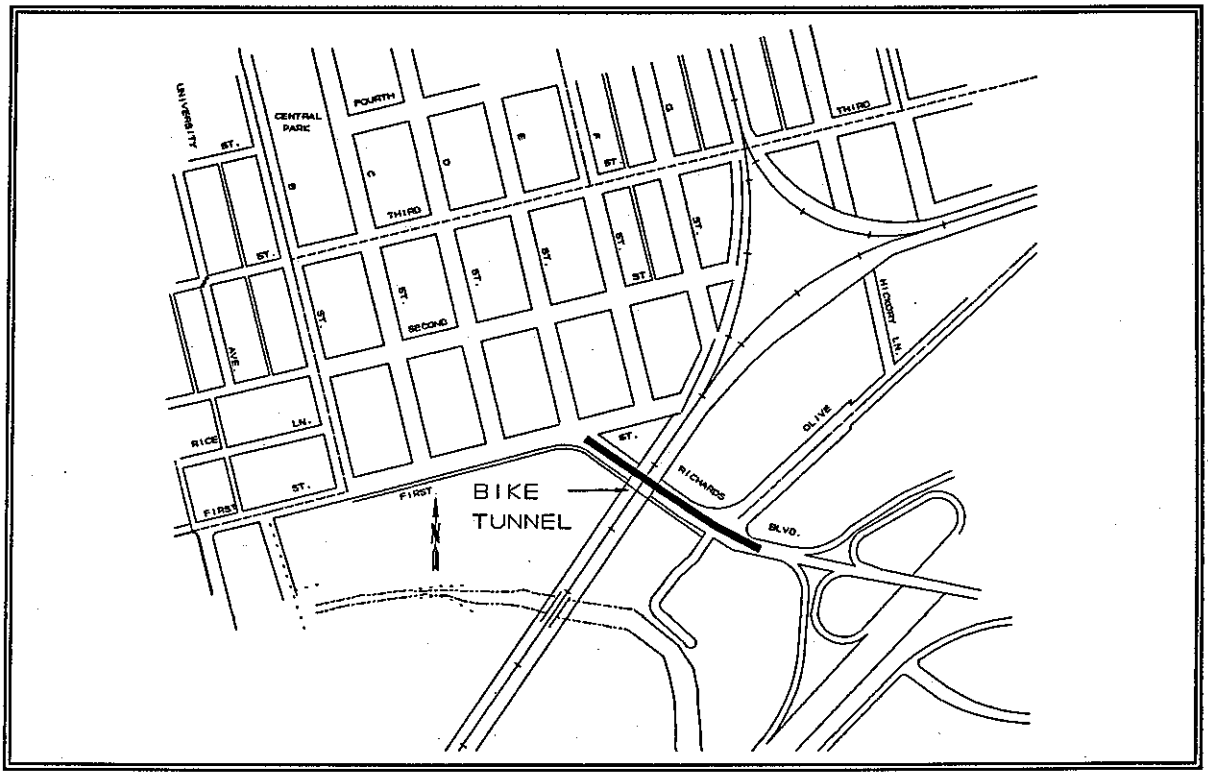
Project Need: The project will add bike lanes to an arterial street as called for in the General Plan. This project will improve circulation for bikes at this busy freeway interchange. Direct access to the state path to Sacramento via the bike stairs will be available.

Expected Construction Year(s): 1996/1997

Notes: This project is part of Project No A.20 in the MPFP.

Project Title: Richards Underpass Bicycle Facilities

Street:	Richards Boulevard	Class:	I & II
From:	1st Street	Est. Cost:	$750,000
To:	I-80	Project No.:	BP-9



Funding: UCD 10%; Redevelopment 90%

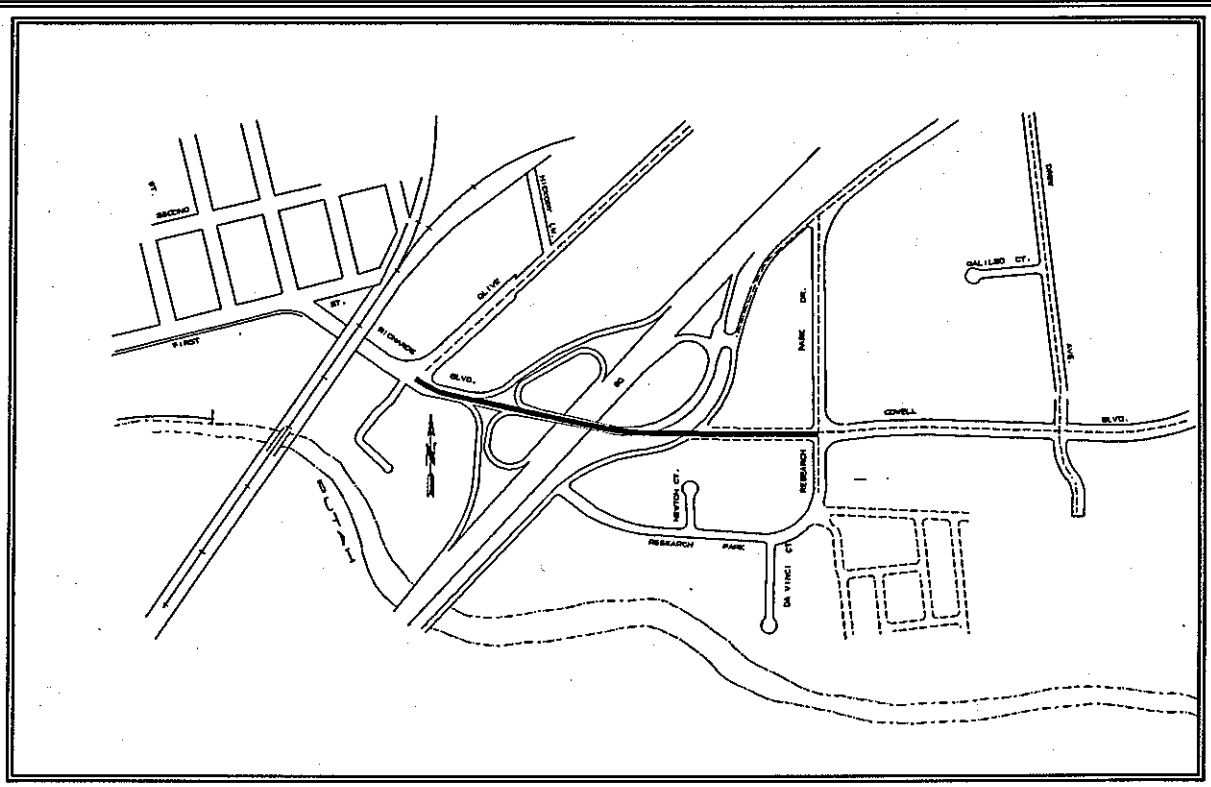
Description of work: Add Bike Lanes as part of the road widening project. Provide 12 foot wide bike paths on either side of the new roadway. Construct new bicycle bridge across Richards Boulevard North of the railroad.

Expected Construction Year(s): 1996/1997

Project Need: This project will install bike facilities along the busy Richards Blvd. corridor. Safe and convenient routes are linked to the new facilities at this key location. The planned facilities will serve all segments of bike drivers.
Notes: This project is part of Project No A.21 in the MPFP.

Project Title: Richards Overcrossing Bicycle Facilities

Street:	Richards Boulevard	Class:	II
From:	Olive Drive	Est. Cost:	$420,000
To:	Cowell Blvd	Project No.:	BP-10



Funding: Federal 15%; State 66%; UCD 2%; D.U.E. Fees 17%

Description of work: Add Bike Lanes as part of the Overcrossing realignment and widening.

Project Need: This project will add bike lanes to the overcrossing as called for in the General Plan. At present no bike facilities exist. Upon completion of this project, using Richards Blvd will be much safer, more direct, and convenient for bicyclists.

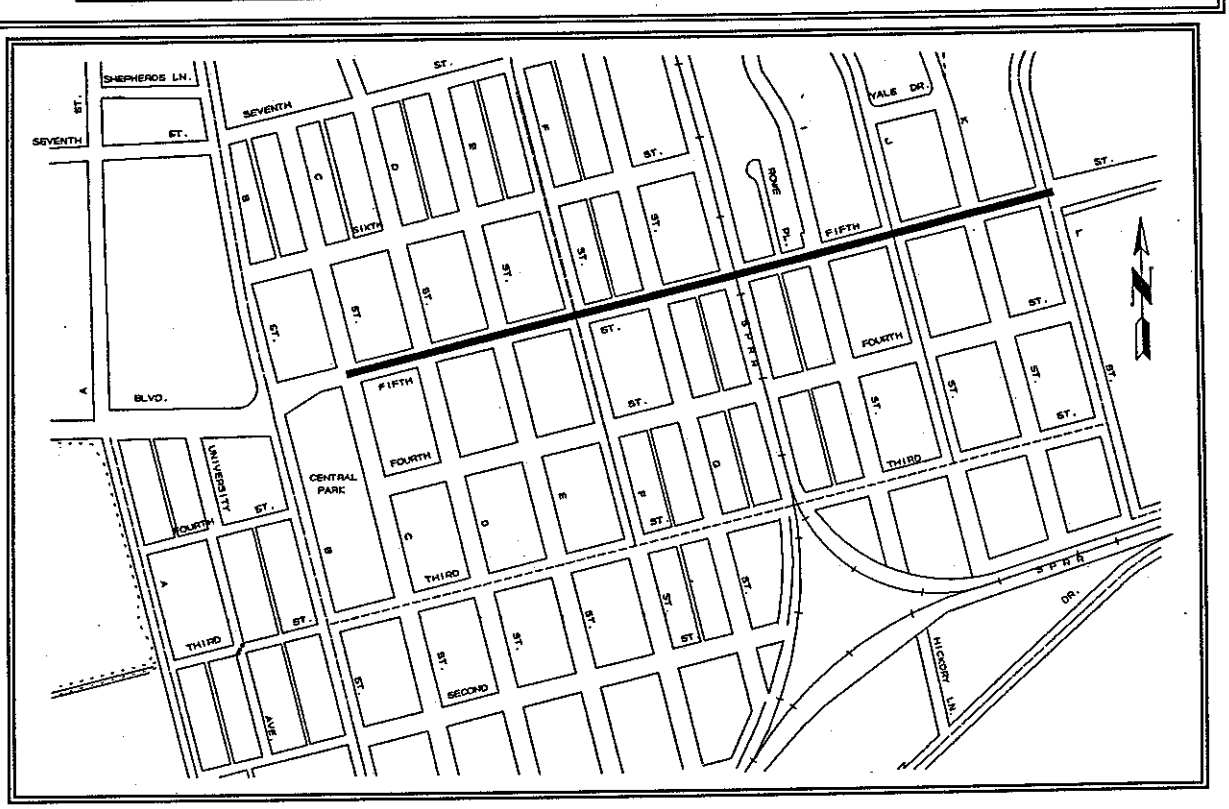
Expected Construction Year(s): 1993/1994

Notes: This project is part of Project No A.22 in the MPFP.

CITY OF DAVIS BIKEWAY PLAN

Project Title: 5th Street Bike Lanes C to L

Street:	5th Street	Class:	II
From:	C Street	Est. Cost:	$2,240,000
To:	L Street	Project No.:	BP-11



Funding: Redevelopment Funds

Description of work: Add Bike Lanes as part of the roadway reconstruction.

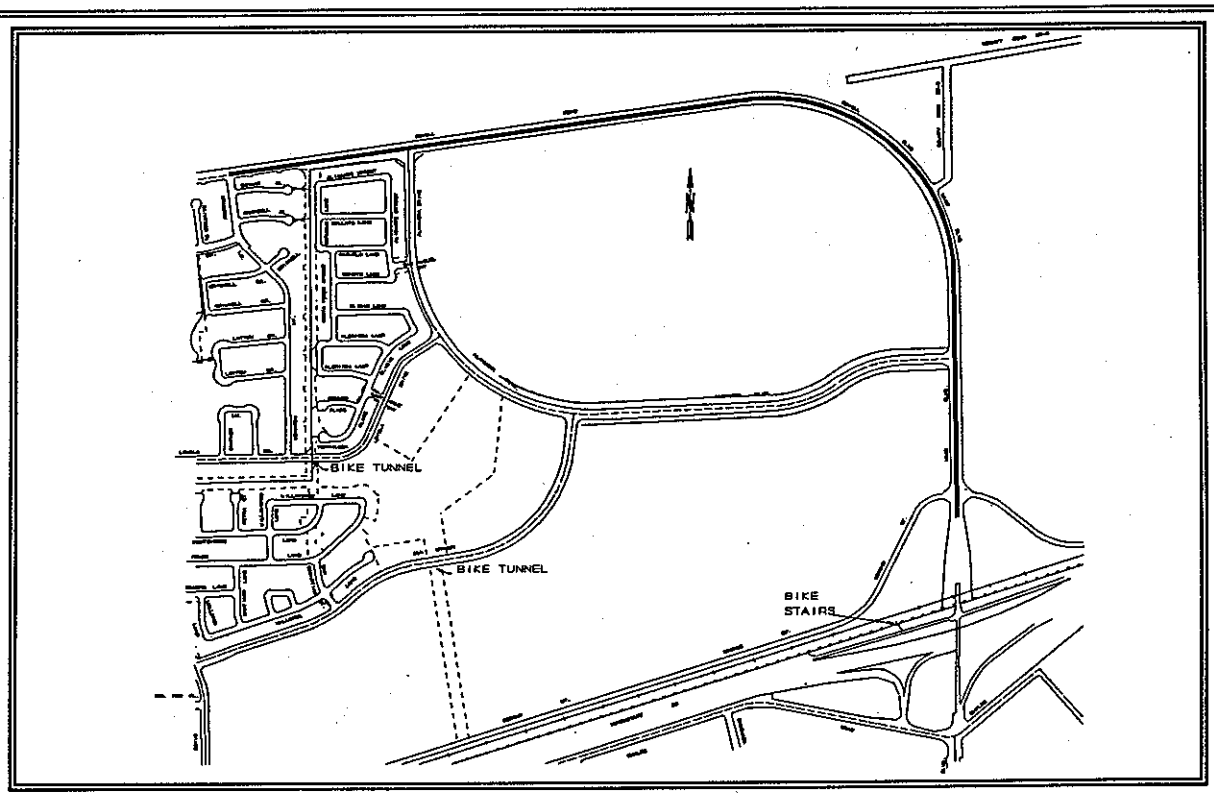
Project Need: 5th St. requires bike lanes because it is a major arterial. This project will provide the bike lanes which will vastly improve east-west circulation for bikes along this important route.

Expected Construction Year(s): 1999/2000

Notes: This project is part of Project No A.23 in the MPFP.

Project Title: Covell Blvd Bike Facilities Monarch to 2nd St.

Street:	Covell Boulevard	Class:	I & II
From:	Monarch Lane	Est. Cost:	$465,000
To:	2nd Street	Project No.:	BP-14



Funding: D.U.E. Fees

Description of work: Construct Class I & II Bikeway Facilities in conjunction with the Covell Blvd. Widening Project including connections with existing Bikeways.

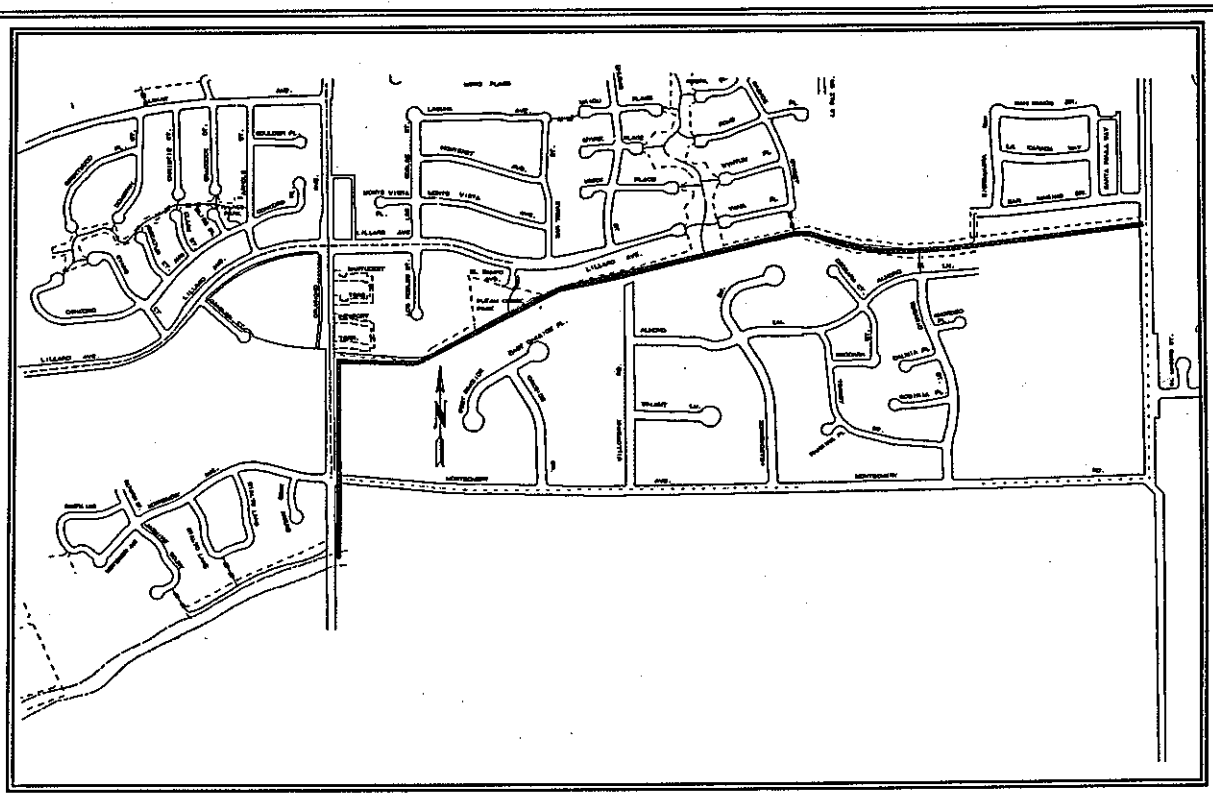
Project Need: This project will provide an important route for bikes along Mace Blvd. It will interconnect with the facilities at Mace Blvd, the county lanes along CR 32A, and the Davis Greenbelt to the north.

Expected Construction Year(s): 2005/2006

Notes: This project is part of Project No A.27 in the MPFP.

Project Title: Putah Creek Parkway Bike Path

Street: Putah Creek Parkway	Class: I
From: Mace Boulevard	Est. Cost: $377,000
To: vicinity Oakshade	Project No.: BP-15



Funding: D.U.E. Fees 30%; Construction Tax 61%; Pre-MPFP 9%

Description of work: Construct Class I Bike Path Improvements within the Parkway. This project will complete all segments from Mace Boulevard to the connection with the Putah Creek I-80 Overcrossing Project (BP-2).

Project Need: This project will construct the remaining bike paths that will provide a continuous east-west route through South Davis along Putah Creek.

Expected Construction Year(s): 2002/2003

Notes: This project is designated as Project No F.8 in the MPFP.

CITY OF DAVIS BIKEWAY PLAN

Project Title: Bicycle Undercrossings Citywide

Street: Varies	Class: I
From: N/A	Est. Cost: $2,822,000
To: N/A	Project No.: BP-16

1. Ohlone St. south of Cowell
2. Cowell Blvd. north of Lillard/Pole Line
3. Drummond Blvd. north of Albany - complete
4. F St. near Anderson
5. Anderson Rd. at Northstar greenbelt - complete
6. Shasta east of Denali - complete
7. Loyola Dr. east of Monarch - complete $108,000
8. Alhambra in Mace Ranch - complete $80,400
9. 5th St. at park in Mace Ranch - complete $126,000
10. SPRR near Anderson (co-located with No. 4)
11. Drummond Blvd./Danbury between Cowell and Montgomery
12. Evergreen Project
13. Lillard east of Cowell
14. Cowell Blvd. between Ohlone and Washoe
15. Crossroads Blvd. in Crossroads Project
16. Crossroads Project
17. Wildhorse Project

Funding: D.U.E. Fees

Description of work: Construct 17 bicycle undercrossings at key street/greenbelt intersections in newly developed areas.

Project Need: This project supplies grade separated crossings of arterial streets for neighborhood greenbelt bike paths at key locations across the city. The routes that these undercrossings serve will be safer and more convenient upon project completion.

Expected Construction Year(s): ongoing

Notes: This project is designated as Project No A.11 in the MPFP.

Project Title: Bicycle Parking at Bus Stops

Street: Varies	Class: N/A
From: N/A	Est. Cost: $32,000
To: N/A	Project No.: BP-18

VARIOUS LOCATIONS

CITYWIDE

Funding:

Description of work: Construct Bicycle Parking at selected high volume bus stop locations Citywide.

Project Need: This project will add much-needed bike parking at bus stops. Multi-modal transportation will be enhanced by this project.

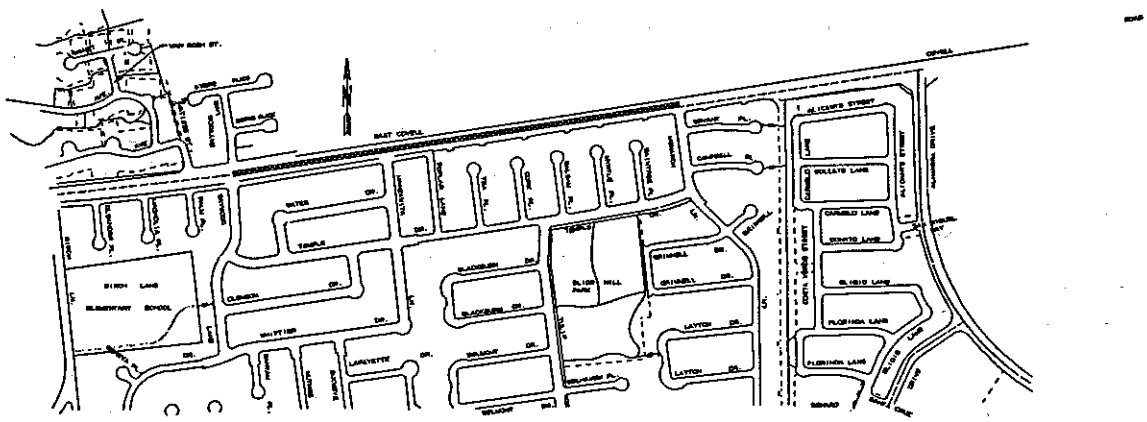
Expected Construction Year(s): 1992/1998

Notes:

CITY OF DAVIS BIKEWAY PLAN

Project Title: Covell Blvd Bike Facilities Baywood to Monarch

Street:	Covell Boulevard	Class:	II
From:	Baywood	Est. Cost:	$130,000
To:	Monarch	Project No.:	BP-19



Funding: D.U.E. Fees 48%; Mello-Roos Bonds 39%; Pre-MPFP 13%

Description of work: Construct new Class II Bikeway Facilities in conjunction with the Covell Blvd. Widening Project including connections with existing Bikeways.

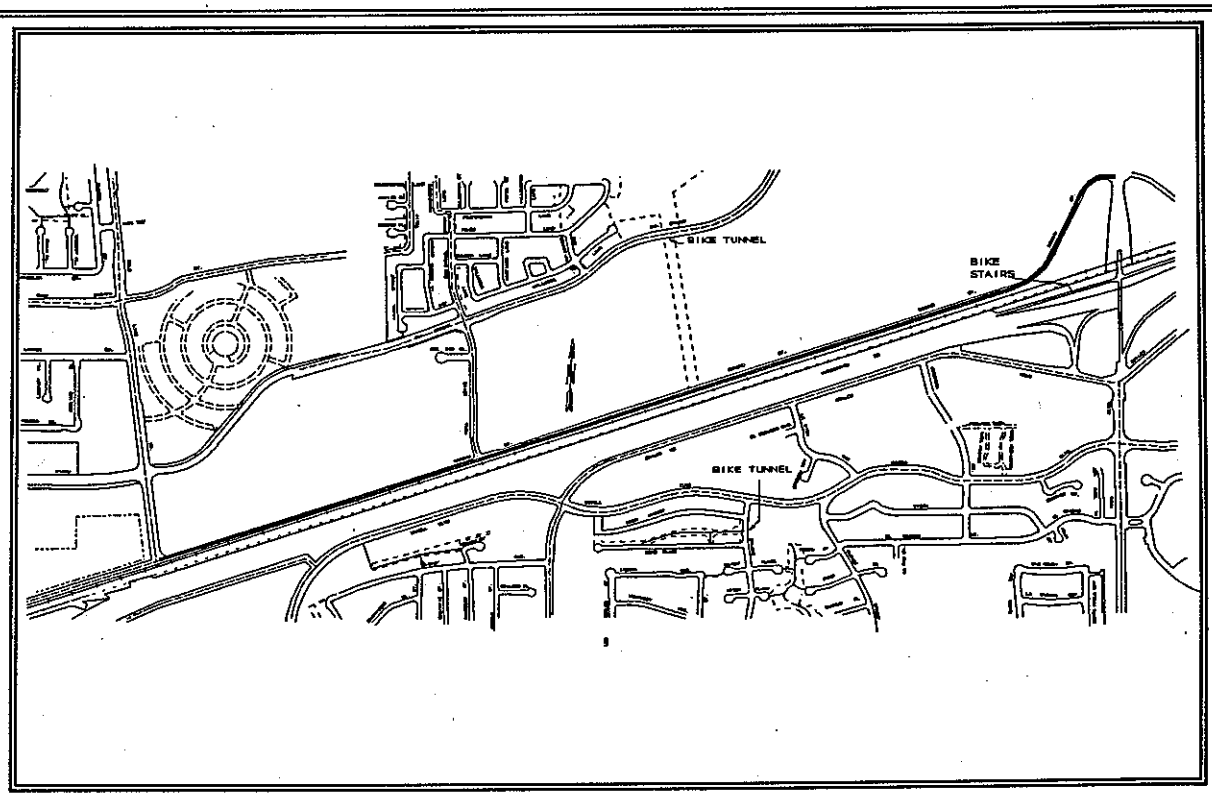
Project Need: This project will bike lanes along the newly widened section of Covell Blvd. This is an important route for bikes.

Expected Construction Year(s): 1995/1996

Notes: This project is part of Project No A.26 in the MPFP.

Project Title: 2nd Street Bike Lanes Pole Line to Mace

Street:	2nd Street	Class:	II
From:	Pole Line Road	Est. Cost:	$215,000
To:	Mace Blvd	Project No.:	BP-20



Funding: D.U.E. Fees

Description of work: Construct new Class II Bikeway Facilities in conjunction with the 2nd Street Reconstruction Project including connections with existing Bikeways.

Project Need: This project is needed so that 2nd St. will have bike lanes as called for in the General Plan. 2nd St. is an important east-west route for bicycle circulation.

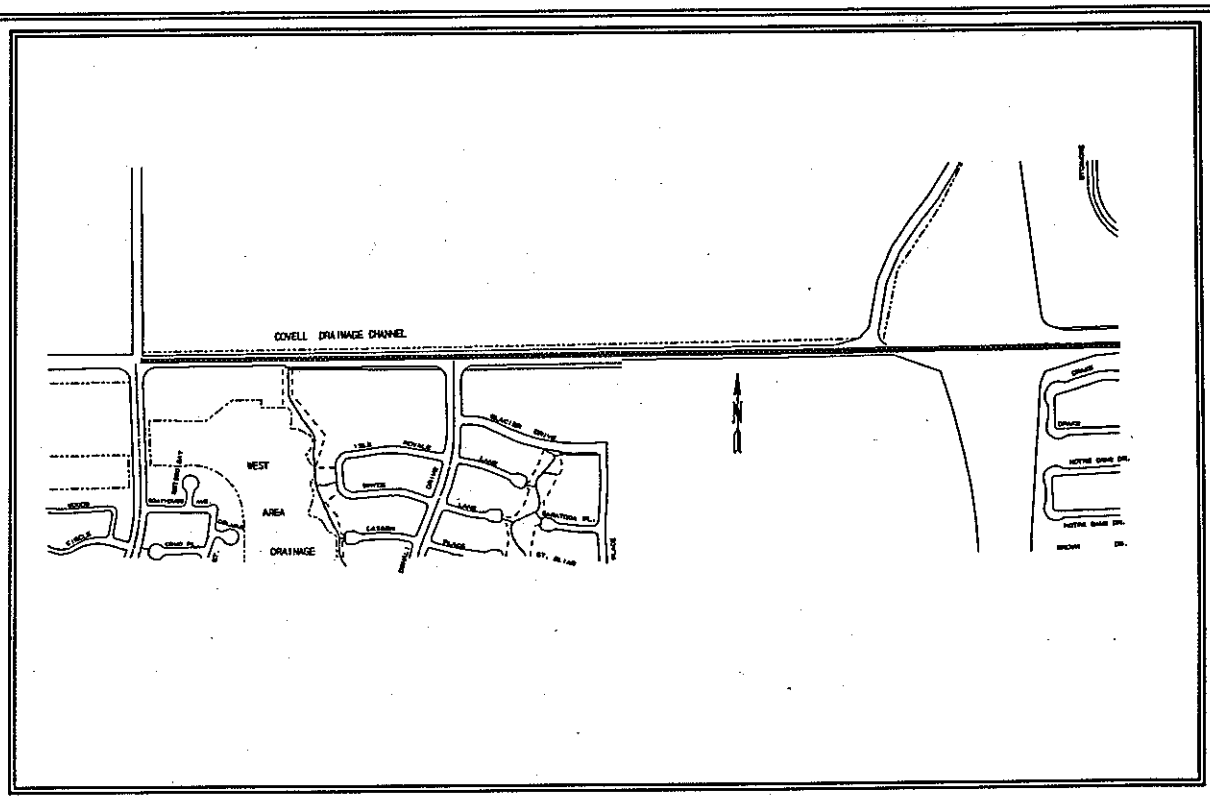
Expected Construction Year(s): 1994/1995

Notes: This project is part of Project No A.29 in the MPFP.

CITY OF DAVIS BIKEWAY PLAN

Project Title: Covell Blvd Bike Lanes Lake to SR 113

Street:	Covell Blvd	Class:	II
From:	Lake Blvd	Est. Cost:	$87,000
To:	SR 113	Project No.:	BP-21



Funding: D.U.E. Fees 98%; Pre-MPFP 2%

Description of work: Construct new Class II Bikeway Facilities in conjunction with the Covell Boulevard Widening Project including connections with existing Bikeways.

Project Need: This project will construct new bike lanes when Covell Blvd. is widened. This route is an important bike route in West Davis.

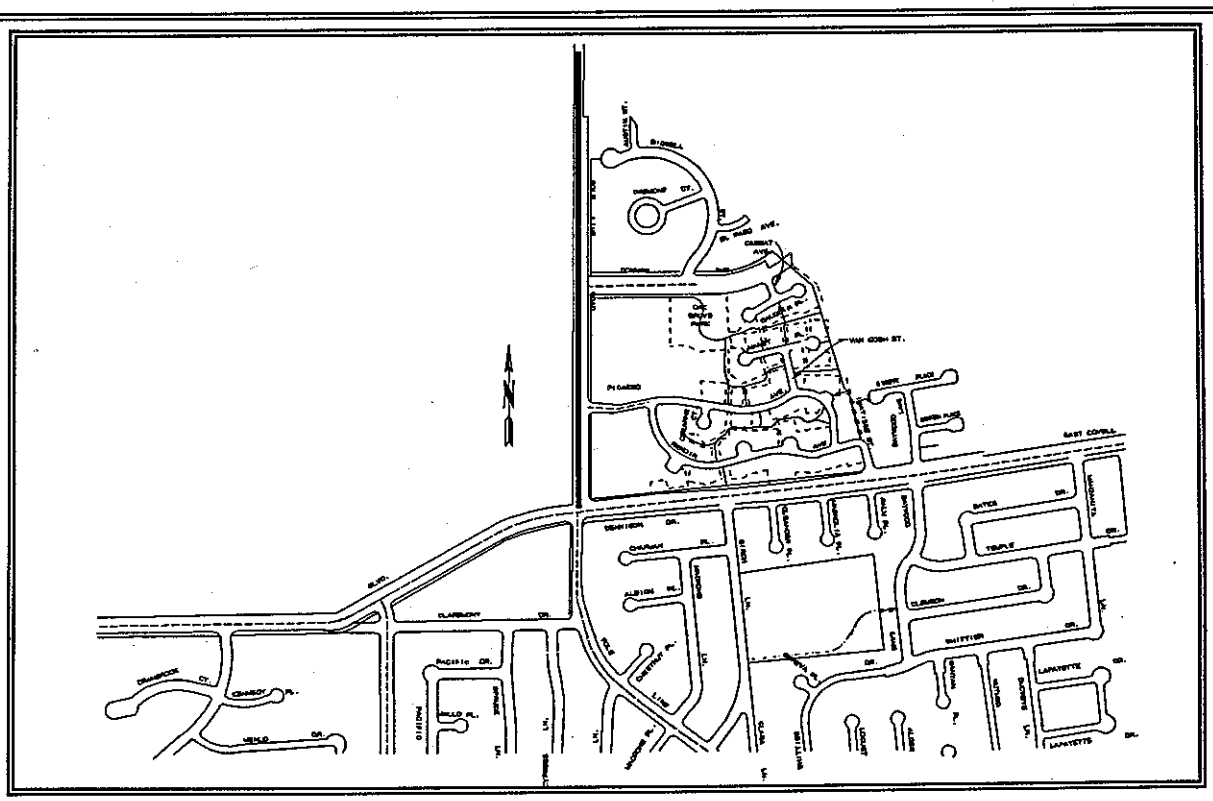
Expected Construction Year(s): 2001/2002

Notes: This project is part of Project No A.31 in the MPFP.

CITY OF DAVIS BIKEWAY PLAN

Project Title: Pole Line Road Bike Lanes Covell Blvd to City Limits

Street: Pole Line Road	Class: II
From: Covell Blvd	Est. Cost: $90,000
To: City Limits	Project No.: BP-22



Funding: D.U.E. Fees 80%; Pre-MPFP 20%

Project Need: This project extends the Pole Line Road bike lanes to the north city limits. Interconnection with facilities in the Crossroads and Wildhorse projects and the Davis Greenbelt Bike Path are included. This project will provide facilities along this important north-south route.

Description of work: Construct new Class II Bikeway Facilities in conjunction with the Pole Line Road widening Project including connections with existing Bikeways.

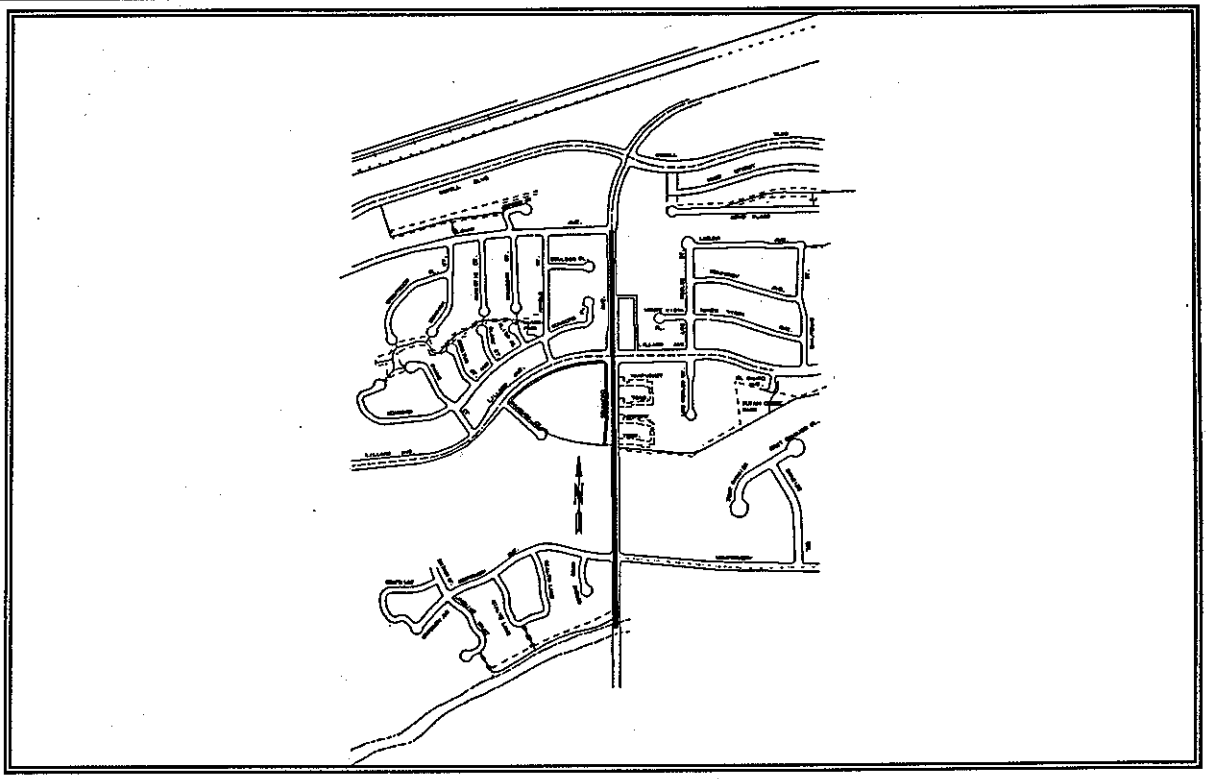
Expected Construction Year(s): 2004/2005

Notes: This project is part of Project No A.32 in the MPFP.

CITY OF DAVIS BIKEWAY PLAN

Project Title: Drummond Bike Lanes Albany to Montgomery

Street: Drummond	Class: II
From: Albany Avenue	Est. Cost: $20,000
To: Montgomery	Project No.: BP-24



Funding: D.U.E. Fees

Description of work: Construct new Class II Bikeway Facilities in conjunction with the Drummond Avenue Improvement Project including connections with existing Bikeways.

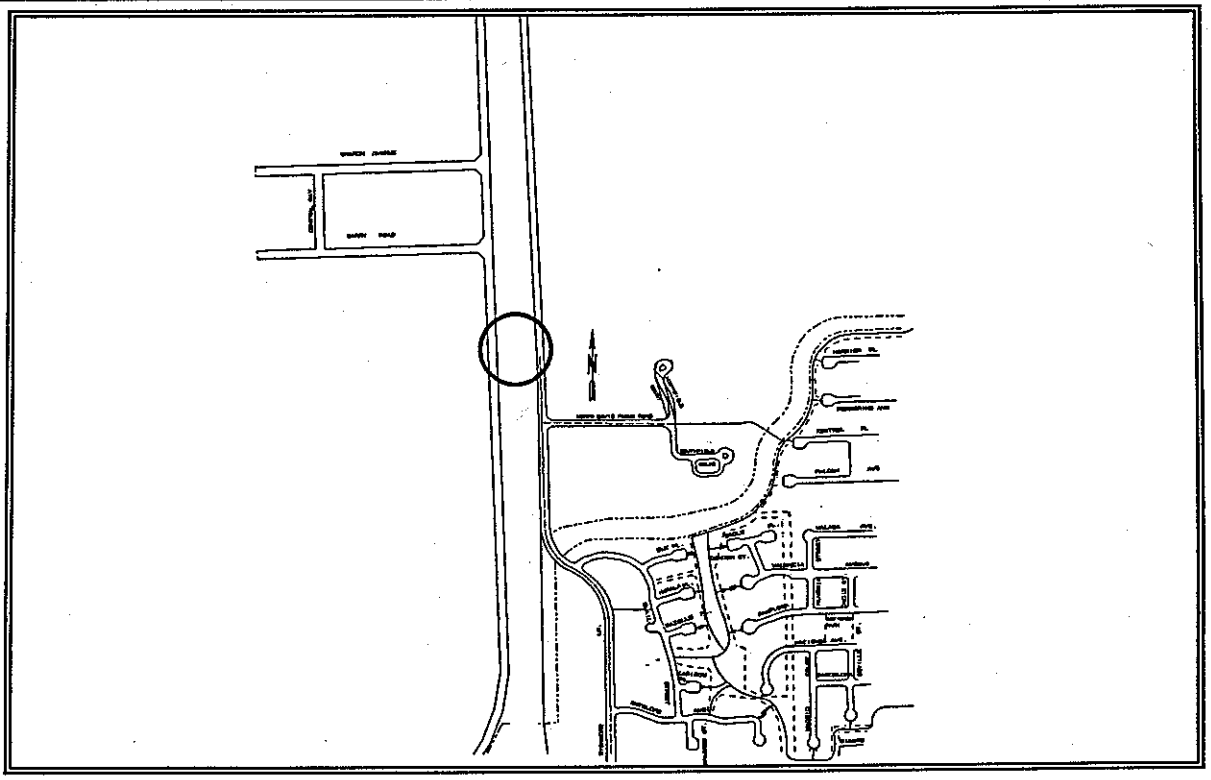
Project Need: This project adds bike lanes to a n arterial street as called for in the General Plan. Drummond Ave. is an important north-south route for bikes in South Davis. The project will interconnect segments of the Putah Creek bike path system.

Expected Construction Year(s): 2006/2007

Notes: This project is part of Project No A.34 in the MPFP.

Project Title: Highway 113 Bicycle Overcrossing at Greenbelt

Street: SR 113	Class: I
From: N/A	Est. Cost: $932,000
To: N/A	Project No.: BP-25



Funding: D.U.E. Fees

Description of work: Construct 12 foot wide Overcrossing of SR 113 at perimeter Greenbelt.

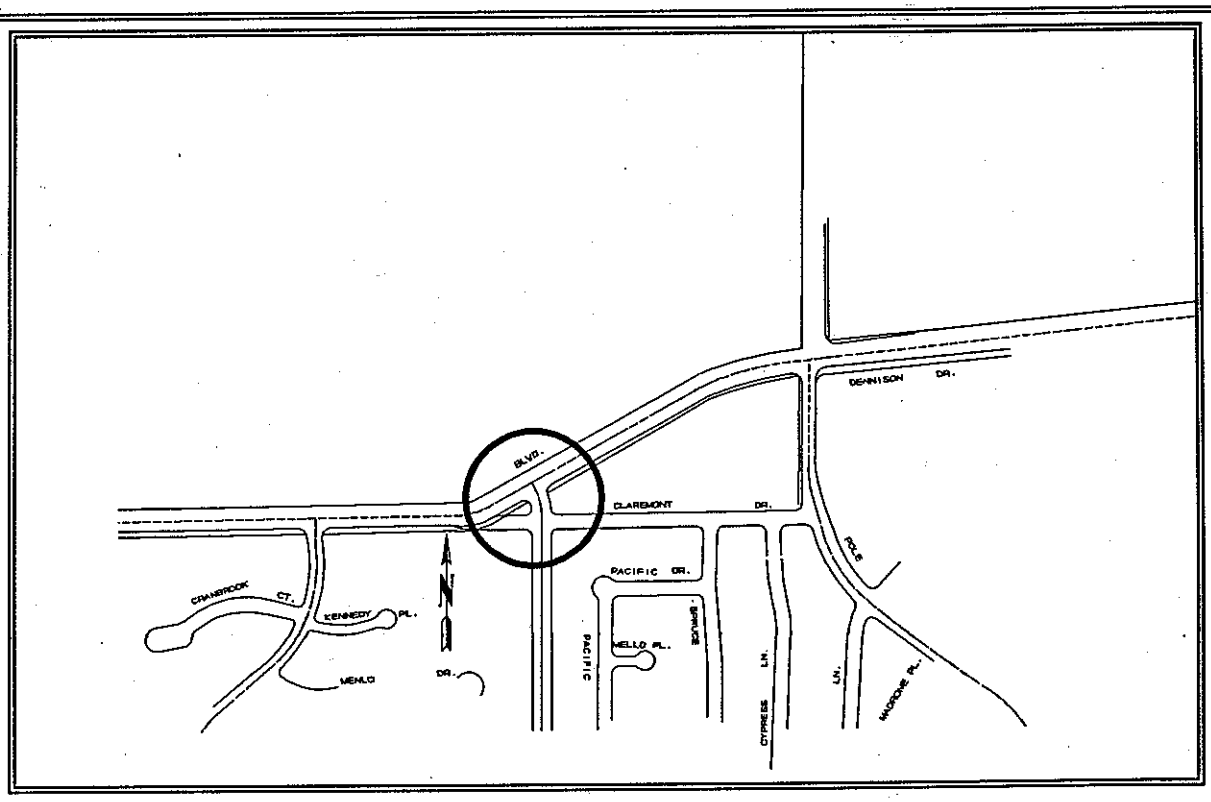
Project Need: This project will construct a key grade separated crossing of the freeway to interconnect the Davis Greenbelt. This facility will have both city-wide and region-wide significance. The route that this overcrossing supports will serve both commuter and recreational bicyclists.

Expected Construction Year(s): 2010/2011

Notes: This project is designated as Project No A.59 in the MPFP.

Project Title: Bicycle Overcrossing of Covell near L St.

Street: Covell Blvd	Class: I
From: N/A	Est. Cost: $857,000
To: N/A	Project No.: BP-26



Funding: D.U.E. Fees

Description of work: Construct 12 foot wide Overcrossing of Covell Blvd to connect pathways in newly developed areas to pathway on South side of Covell.

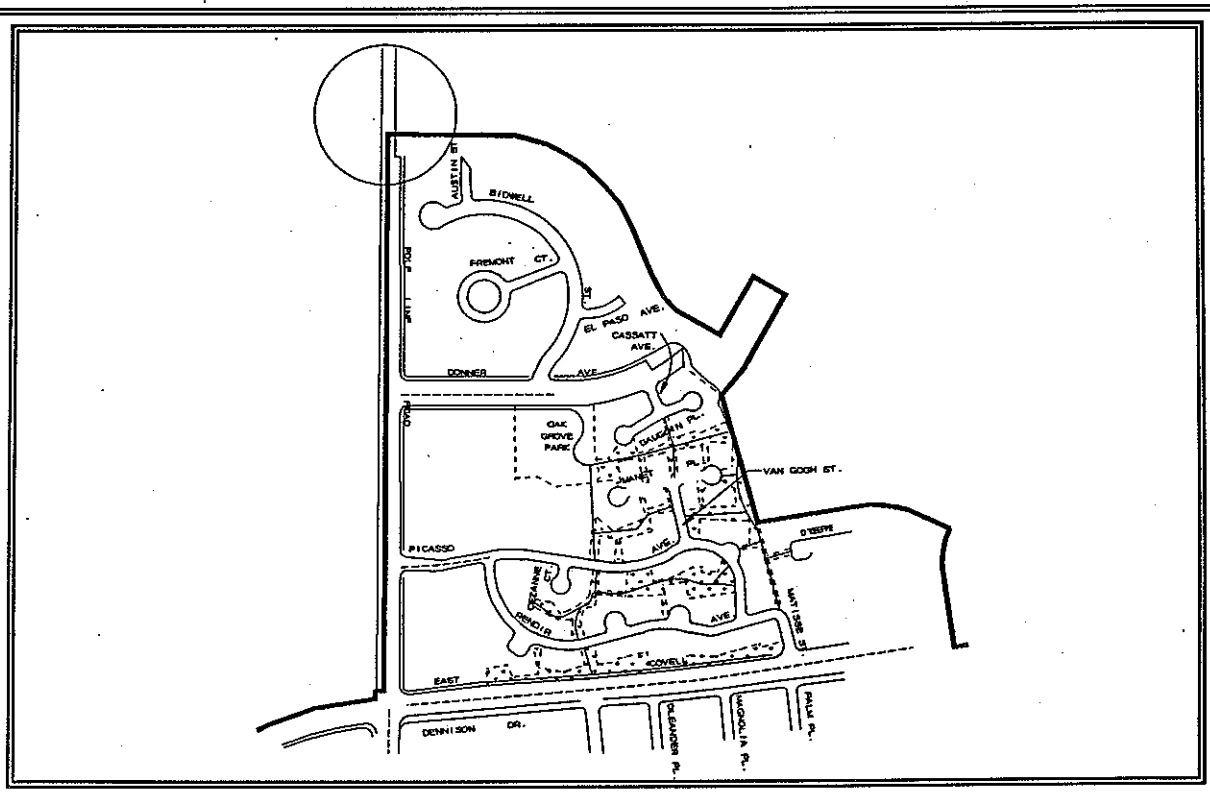
Project Need: This project will construct a bicycle overcrossing at an important location on Covell Blvd. Because of the future development north of Covell Blvd., an alternate means for cyclists to cross Covell Blvd. at this location is needed. The project provides the needed crossing.

Expected Construction Year(s): 2003/2004

Notes: This project is designated as Project No A.60 in the MPFP.

Project Title: Bicycle Overcrossing of Pole Line

Street:	Pole Line Road	Class:	I
From:	vic. N City Limits	Est. Cost:	$469,000
To:	N/A	Project No.:	BP-27



Funding: D.U.E. Fees

Description of work: Construct 12 foot wide Overcrossing of Pole Line Road near North City Limits. This project is part of the perimeter greenbelt..

Project Need: This project will construct a grade separated crossing of Pole Line Road as part of the continuous Davis Greenbelt Bike Path. Upon completion, this overcrossing will be a key link along this important future route.

Expected Construction Year(s): 2010/2011

Notes: This project is designated as Project No A.61 in the MPFP.

CITY OF DAVIS BIKEWAY PLAN

Project Title: Davis Greenbelt Bike Paths

Street: N/A	Class: I
From: N/A	Est. Cost: $700,000
To: N/A	Project No.: BP-28

NORTH CITY LIMIT LOCATIONS

Funding: D.U.E. Fees 33%; Construction Tax 67%

Description of work: Construct 12 foot wide Bicycle paths within the City perimeter Greenbelt.

Project Need: This project will provide outstanding opportunities for recreational cyclists as well as commuters. The project develops a rout along the north city limits for convenient access to and around the city.

Expected Construction Year(s): 2009/2010

Notes: This project is designated as Project No F.30 in the MPFP.

Project Title: Connector Greenways Bike Paths

Street: N/A	Class: I
From: N/A	Est. Cost: $2,172,000
To: N/A	Project No.: BP-29

OUTLYING AREAS AROUND CITY PERIMETER

Funding: D.U.E. Fees 33%; Construction Tax 67%

Description of work: Construct 12 foot wide Bicycle paths within Greenways connecting to paths and trails within surrounding jurisdictions.

Project Need: This project will construct key greenbelt/bike path connections between the bicycle circulation system in Davis with bike routes and paths in the surrounding region. These interconnections will be significant to bicycle circulation in the region.

Expected Construction Year(s): 2009/2010

Notes: This project is designated as Project No F.32 in the MPFP.

APPENDIX E

REFERENCES

1. City of Davis General Plan, 1987.
2. South Davis Specific Plan.
3. East Davis Specific Plan.
4. City of Davis Major Projects Financing Plan (MPFP).
5. SACOG Regional Transportation Plan.
6. Transportation Improvement Program (SACOG).
7. Yolo County Bikeway Plan.
8. UCD Long Range Development Plan.
9. California Department of Transportation, Chapter 1000, Highway Design Manual.
10. Smith, Daniel T., Jr., DeLeuw, Cather & Company, Bicycle Circulation and Safety Study, prepared for the Cit of Davis and the University of California-Davis, August 31, 1972.
11. Maryland Department of Transportation, A Bikeway Criteria Digest, FHWA-TS-77-201, prepared for Federal Highway Administration, Washington, D.C. 28590, 1978.
12. Lott, Dale F. and Donna Y., and Tammie Miller Harrington, Bikeway Usage and Design, DOT-FH-11-8134, prepared for Federal Highway Administration, Washington, D.C., 1975.
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14. American Society of Civil Engineers, Bicycle Transportation, New York, N.Y. 10017, 1980.