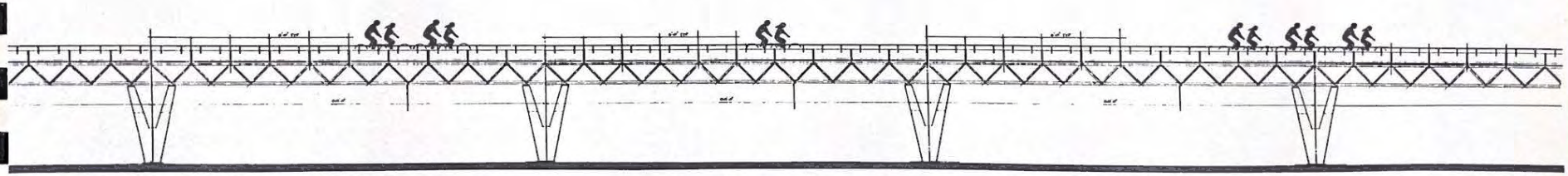
THE WEST LOS ANGELES VELOWAY

SUMMARY REPORT: PHASE 1 & PHASE 2



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January 17, 1984

Dear Friend of the Veloway:

The attached report from Urban Innovations Group (UIG) examines the feasibility of an elevated bicycle freeway, and connecting bicycleway network, between UCLA and Westwood, and neighboring areas. The proposed elevated bicycle freeway is called the West LA Veloway.

Traffic conditions around UCLA and Westwood are hazardous enough to discourage most people from bicycling. This is so even though there is a severe shortage of parking spaces, and even though many commuters live close enough to bicycle, and even though many own bicycles and would like to cycle to work in the generally favorable weather of Southern California. Taken together, the heavy traffic and the opportunity for bicycle commuting, suggest Westwood as the location for a major initiative in bicycle transportation - the West LA Veloway. It would be the country's first major facility to promote bicycling as a low-cost, non-polluting, energy-efficient means of transportation in an intensely developed urban area.

Urban Innovations Group has examined the feasibility of the Veloway in a two phase report, along with alternative plans for bicycle commuting. Phase I established the Veloway as the most cost effective facility that can be constructed in this area for bicycle commuting, and estimated that about 4300 bicycle commuters will use the system daily. Phase II offers details of the path and structure of the Veloway. The Urban Innovations Group has proposed a network of bicycleways, consisting of an elevated portion (the Veloway) fed by a system of on-street bicycleways which can be constructed at an eatmated cost of about $8 million. Environmental impact assessment, planning and construction are estimated to require about three years.

The attached report is a summary of the full study, about which we can provide further information. We urge you to consider this study as an innovative suggestion for reversing some of the detrimental effects of congestion, and pollution in our community.

We'd be delighted to make more information available and discuss the West LA Veloway further with anyone interested.

Sincerely yours,

David Eisenberg
David Eisenberg
Chairman

Ryan T. Snyder
Ryan T. Snyder
Executive Director

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THE WEST LOS ANGELES VELOWAY

SUMMARY OF

PLANNING STUDY - PHASE I AND PHASE II

By

URBAN INNOVATIONS GROUP

TABLES OF CONTENTS

PHASE I

PHASE II

INTRODUCTION

For more than two years a private citizens group organized as the "Citizens Committee for the West Los Angeles Veloway" has advocated the development of an exclusive grade-separated bikeway for bicycle transportation in West Los Angeles. The primary objectives advocated by the Veloway Committee are:

- Increased safety for bicycle riders
- Reduction of auto congestion on overloaded traffic arteries
- Promotion of the bicycle as a healthful, pollution-free and economical transportation mode

The Citizens Committee for the West Los Angeles Veloway has identified the area that includes Westwood, UCLA, and the Veterans' Administration complex as the ideal candidate for development of a first increment of a grade-separated bikeway. The area is an intense and compact destination cluster. Commuters to this area include people employed in the high rise offices on Wilshire Blvd., Veterans' Administration employees, and UCLA students, faculty, and staff. A pattern of commuting by bicycle, especially by UCLA students, is already evident in the area.

The Citizens Committee for the West Los Angeles Veloway's efforts elicited the interest of Caltrans, the Los Angeles County Road Department and the UCLA administration. The three entities agreed that there was enough merit to the proposed concept to warrant the commissioning of a study to assess the project's feasibility. The Urban Innovations Group was selected to conduct such a study.

The study consists of two phases: the primary purpose of the first phase was to determine the probable patronage that would be generated by the project and, through a preliminary cost estimate, to assess project cost-effectiveness. A second phase would be undertaken if the ridership estimates should warrant a continuation of the study. The second phase would explore in greater detail structure alignment, construction costs and techniques, implementation and operation problems, environmental impacts and possible funding sources; it will also define the implementation strategies and schedules for the realization of the project.

Following is a summary of the finding of the first phase of the study.

I. METHODOLOGY

The survey of relevant literature has highlighted the limitations of the state of the art in the field of forecasting bicycle ridership. Several and diverse methodologies for forecasting were identified. None was found directly applicable to the task. The "Quantitative Estimation" approach to forecasting was found most suitable for the specific characteristics of the subject of this study, and served as the model for the "ad hoc" methodology developed and adopted by UIG.

The methodology consists of:

- Determining the Region of Potential Ridership (defined as that portion of the West Los Angeles area that, under current conditions, is within twenty minutes riding time from the destination center)

- Determining the number of UCLA students living within the Region of Potential Ridership.

- Determining the number of residents of the Region of Potential Ridership that are employed in Westwood.

- Defining several alternative concepts of bikeway networks, ranging from a simple network of bikeways at grade to progressively more complex combinations of bikeways at grade and grade-separated bikeways.

- Identifying (and quantifying, for each of the alternatives) factors of incentives or disincentives to the choice of bicycling versus other transportation modes.

- Applying the cumulative factor of incentives and disincentives for each of the alternatives to the Potential Ridership from the student group and the employee group, and thus determining the Probable Ridership.

II. RIDERSHIP FORECASTS

The findings of the application of the adopted methodology are as follows:

- Commuter bicycle ridership under current conditions (base concept) is on the order of 1,200 daily bicyclists.

- A network consisting exclusively of bikeways at grade (minimal concept) will produce a moderate increase of ridership, to approximately 2,000 daily commuters.

- The addition to the minimal concept of two overpasses at the intersections with the most congested arterials will increase ridership to approximately 2,300 daily commuters.

- A network concept that includes approximately two and a half miles of grade-separated bikeways (intermediate concept) will significantly increase ridership by increasing average travel speed (and thus the limits of the Region of Potential Ridership), by avoiding major traffic conflicts and by decreasing the rider's concern for safety. The anticipated ridership for this concept is approximately 4,300 daily commuters.

- Network concepts that progressively extend the amount of grade-separated bikeway (extreme concepts) will increase ridership, but only in modest amounts that are disproportionate to the corresponding increases in system costs.

III. COST EFFECTIVENESS

The alternative bikeway concepts were costed, and their cost effectiveness was assessed in terms of:

a) cost per trip (or mile traveled)

b) cost per added riding commuter

The base concept (existing conditions) is obviously the most cost effective in terms of cost per trip, since, with no investment, it motivates 1,200 daily commuters. In terms of added commuters (none), it is the least effective.

The minimal concepts are more cost effective than the intermediate or extreme concepts; however, the modest increase in ridership that they generate (by comparison with the intermediate concept) limits the corollary benefits deriving from increased bicycle ridership (decreased traffic congestion and pollution, decreased demand for parking facilities, economic benefit for the riders).

The costs of the intermediate concept have been estimated at approximately $10,000,000. The costs per trip and per mile traveled (including operating and capital amortization cost) are $0.41 and $0.20. They compare very favorably with the corresponding costs for other publicly supported transportation facilities such as the proposed Downtown Minibus extension or the SCRTD Express bus service.

IV. BENEFITS

A. Benefits to the Bikeway User

To the extent that the bikeway user's costs are lower than the costs that would be incurred if alternate transportation modes were used, there is a measurable benefit for the rider. The costs to the rider (assuming that the use of the bikeway is free, and that no value is placed on the rider's personal energy output) are nominal; capital amortization of the cost of a bicycle is of the order of $20 to $40 per year (or $0.04 to $0.08 per trip). Operating costs are negligible.

The measure of the benefit depends, of course, on the alternative mode that the rider may have otherwise used. The commuting rider's benefit could be in the range of $0.50 to $2.00 per trip if he previously used a car for the trip. This benefit, however, cannot be tapped for financing of the Bikeway: imposing a fare for the use of the Bikeway would most effectively discourage ridership, and defeat the main purpose of the enterprise.

B. Benefits to the Community

To the extent that bicycle riders are former car drivers, some reduction of overall peak hour volumes on surface roads in the vicinity of the Destination Core can be anticipated. However, the impact is numerically small, even under the most optimistic assumptions.

More significant benefits to the community can be identified elsewhere: a successful system of bicycle facilities in West Los Angeles will probably prove to be the catalyst to a bicycle commuting trend and motivate other initiatives toward the development of bikeway systems; this in turn may, with time, encourage resettlement of employees in areas closer to the employment location, and thus, possibly, a shift from a two-car way of life to a one-car condition, with significant cost savings. If this trend developed, then the overall level of travel by car in the region would tend to diminish, and overall levels of congestion would be reduced. This, however, is at best a benefit far in the future. A more real and immediate community benefit will be the reduction of student and employee parking on residential streets in the vicinity of the Westwood center and UCLA. Some additional benefits would be the reduction of pollution and improved health. These benefits to the community are real, but they defy detailed quantification.

C. Benefits to the Owners and Tenants of Commercial Properties

To the extent that an employee shifts from car to bicycle, a unit of benefit accrues to either the building owner or the employer tenant as long as overall demand for parking exceeds supply. This condition prevails in the Westwood commercial district. The persistent parking shortage assures that the stalls released by commuters shifting to bicycles will be profitably utilized.

Since approximately 2/3 of the total employees in the Core Areas are employed in the Westwood commercial district, and since the total estimated reduction of demand for stalls for employees is approximately 900, the potential benefit to the business district (owners or employers) is in the range of: 2/3 x 900 x 2,000 = $1,200,000 per year. (The real cost to the employer of a subsidized parking stall is on the order of $2,000/year.)

D. Benefits to UCLA

The University, both as an employer (18,000 employees) and as a destination for students (33,000), has a major interest in encouraging a shift from car to bicycle commuting.

The University has currently a critical parking shortage and is planning to add 1,500 new parking stalls on campus, and several thousand more off campus in nearby locations.

If the Intermediate concept was developed, of the estimated total of probable student commuters (2,600), approximately 560 formerly drove; of the UCLA employee probable riding commuters (1/3 of the estimated employee total), approximately 310 formerly drove.

Thus, the currently estimated demand for additional parking for UCLA would be reduced (assuming an average car occupancy of 1.3 by approximately 700 stalls.

The "value" of the decrease of parking demand generated by the implementation of the bikeway network would depend on the policy that UCLA would adopt in response to the anticipated parking demand reduction.

Assuming that the costs per stall are approximately $12,000 for facilities on campus, and $6000 for off-campus parking, if 50% of the 700 stalls were eliminated from the program for "on campus" parking and 50% from "off campus" parking, the savings from the reduction of parking facilities alone would be on the order of 350 x 12,000 + 350 x 6,000 = $6,300,000.

E. Benefits to Caltrans and the County of Los Angeles

The benefits to the public agencies that have joined UCLA in the sponsorship of this study - Caltrans and the County of Los Angeles - are not readily quantifiable. They are, nevertheless, significant. The sponsorship of an innovative experiment in alternative transportation facilities would constitute a creditable exercise of public initiative. Since the projections of ridership indicate that a significant increase of patronage could be attained, since the capital investment would be relatively modest, and since, of all the candidate "test areas," the Westwood-UCLA campus appears to be the most promising, the sustained support of the project could be well justified. In addition to providing the facilities needed to encourage a convenient and inexpensive alternative mode of urban transportation in the area, the experiment, if properly monitored, would provide invaluable information for future programming of

bicycle facilities in other parts of the County and the State.

This benefit would directly accrue to the sponsoring public agencies. Caltrans in particular would be given credit for expanding its range of interest and experimentation in seeking solutions to transportation problems of the State, and for pioneering an innovative initiative towards the development of economical transportation, particularly relevant in times of declining personal income.

V. PROMOTION

Most investments in transportation facilities occur in response to demonstrated need: no promotion was required to convert drivers to freeways. Investment in the bikeway has a different objective: to convert commuters from other modes to bicycle riding. For this reason, the implementation of the bikeway should be paralleled by an intense and imaginative promotional effort. Most of the incentive factors can be enhanced by increasing public awareness of the benefits of commuting by bicycle. While the numerical impact of the promotional effort cannot readily be determined, it is probable that, given the emerging trends of life style and economic conditions, promotional efforts could increase the probable ridership well above the estimated totals.

VI. CONCLUSIONS

The main conclusions to be drawn from the study are the following:

1) It appears that, given the characteristics of the area, and the traffic conditions of many major arterials, a network system consisting exclusively of bikeways at grade will generate only a modest increase of ridership above current levels.

2) The creation of a more complex bikeway network (one that would include grade-separated bikeways in order to remove bicycle movements from vehicular congestion of critical intersections, increase riding speed and mitigate fear of accidents) could significanlty increase bicycle ridership, especially among students with destination at UCLA. Such a system could raise the commuter ridership from its current levels of approximately 1,200 daily riders to a level of 4,000 to 5,000. While the percentage of increase would be greater for employees, the numerical gain would be most significant for students.

3) The estimated percentage of student commuters, while significantly higher than current levels, is still lower (by a factor of almost 2) than the percentages of student riders reported at the UC campus in Davis and at other University-oriented communities.

4) The investment needed to implement a bikeway network such as described above will be significant, probably in the order of 8 to 10 million dollars.

5) The cost effectiveness of such investment is relatively high; it compares favorably with the cost effectiveness of other publicly financed transportation facilities.

6) The primary beneficiary of a bikeway network would be UCLA: if the bikeway were implemented, the University could reduce its current programs for additional parking facilities by almost 25%

(700 stalls), and relieve traffic congestion to and on campus, while preserving funds and scarce land.

7) Secondary beneficiaries would be the owners (or the employers) of commercial enterprises in Westwood, since parking demand would be slightly relieved.

8) Predictable trends of economic and urban change should result in future higher ridership levels than indicated by the forecasts of the study.

9) The West Los Angeles area is a most promising candidate for a bold initiative toward development of imaginative facilities for urban bicyclists. The initiative would be a credit to its sponsors and a valuable precedent for other cities to follow.

The consultant team strongly recommends that, if a program of implementation of bikeway development is adopted, it be bold enough and comprehensive enough to make a significant impact on potential ridership.

PHASE II

The commissioning group substantially accepted the conclusions and recommendations of the Phase I study and, on December 21, 1982, authorized The Urban Innovations Group to proceed with Phase II accordingly.

Following is a summary of the findings of the Phase II study.

I. OBJECTIVES

The primary objective has been the precise definition of the route and of the basic design and standards for the Veloway system. Corollary objectives have been the identification of probable critical areas, the refinment of the estimates of capital and operating costs, the identification of possible funding sources and the outlining of strategies of implementation.

II. ROUTE ALIGNMENT

The proposed bikepath system consists of three primary components:

- A network of Class II and III bikepaths at-grade serving the West Los Angeles region, with a radius of approximately four miles from the Westwood/UCLA core. The network includes approximately 12 miles of existing bikeways and 32 miles of proposed new bikeways at-grade.

- A core element, of Class I bikeway, mostly grade-separated, providing safe and effective access to the Westwood business center core and to UCLA. The core element includes 1.9 miles of grade-separated bikeway and .85 miles of at-grade Class I bikeway.

- A system of ramps that link the at-grade to the grade-separated elements and provide access to the major destination points.

The network of Class II and III bikeways at-grade includes existing routes on Westwood Blvd., Tiverton Ave., Westholme Ave., San Vicente Blvd., Montana Ave., Arizona Ave., Ocean Ave., Colorado Ave., Pearl St., and the Beach bikeway.

To complete and complement the network the following additional routes are proposed:

- Arizona Ave. from 23rd St. to 9th St.
- Olympic Blvd. from Bundy Ave. to Sawtelle Blvd.
- Federal Ave. from Texas Ave. to Exposition Blvd.
- Venice Blvd. from Lincoln Blvd. to Stanley Ave.
- Sepulveda Blvd. from Wilshire Blvd. to Sepulveda Pass.

All of these routes are already identified in the bikeway plans for the Cities of Los Angeles and Santa Monica. In addition, the following new routes are recommended:

- Texas Ave./Arizona Ave. from 23rd St. to Federal Ave.
- San Vicente Blvd. from Bundy Ave. to Bringham.
- Montana Ave. from 26th St. to San Vicente Blvd.
- Sepulveda Blvd. from Santa Monica Blvd. to Venice Blvd.
- Exposition Blvd. from Westwood Blvd. to Barrington Ave.
- Rochester Ave. from Veteran Ave. to Comstock Ave.
- Gayley Ave. from Strathmore Ave. to Sepulveda Blvd.
- Hilgard Ave. from Sunset Blvd. to Wyton Ave.

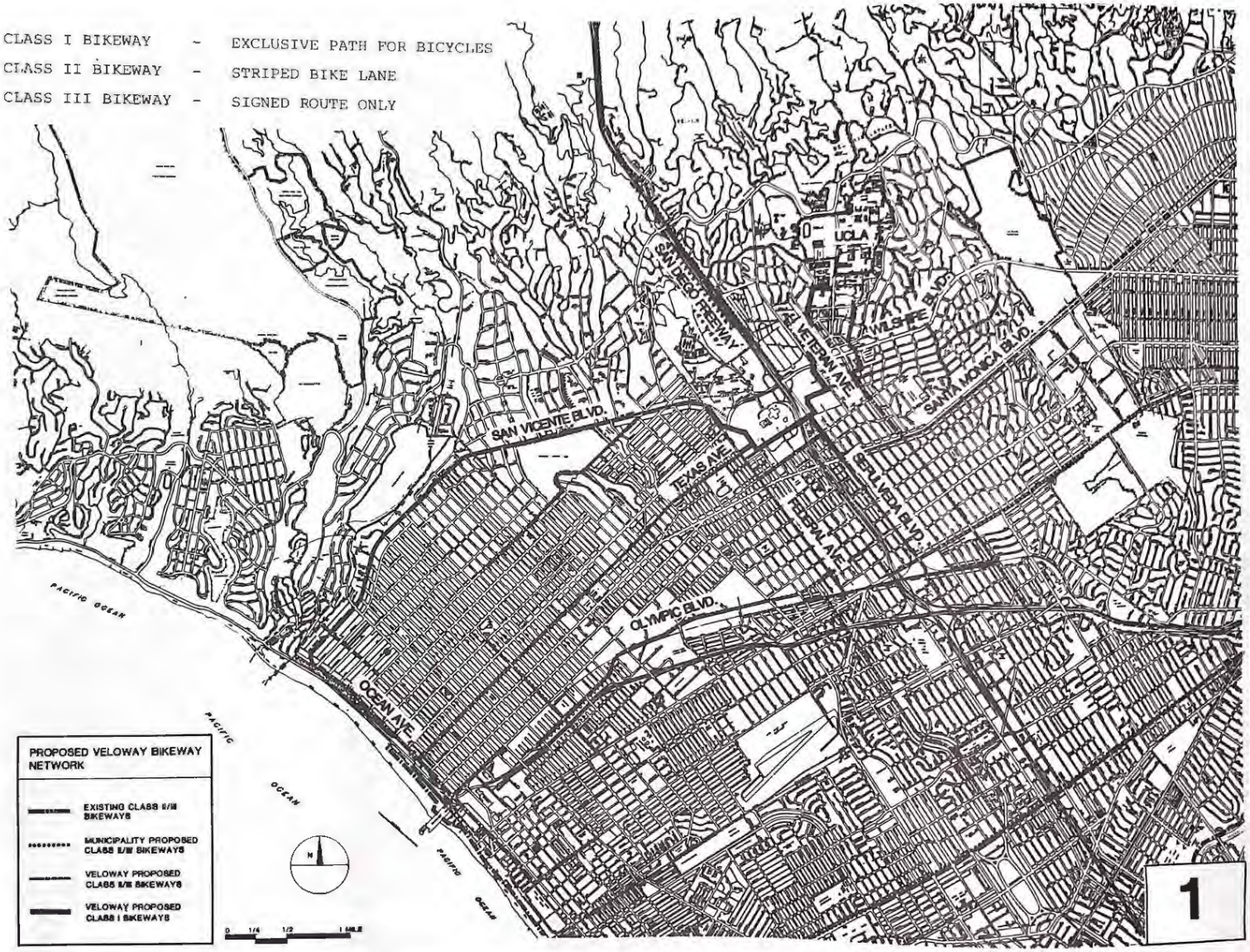
At-grade bikeways are also recommended for the UCLA campus, especially along Circle Drive and Westwood Plaza.

The proposed Class I bikeway (starting from its terminal point at Westwood Plaza on the UCLA campus) rises to a grade separated configuration and turns southward on UCLA property, paralleling Gayley Ave. At the intersection with LeConte Ave., the alignment shifts to the centerline of Gayley Ave. (to avoid interference with privately owned properties), continues southward, turns westward on Weyburn Ave., and then southward again, traversing the grounds of the UCLA Rehabilitation Center. Still in a grade-separated configuration and paralleling the northern boundary of Lot 32, the Veloway reaches Veteran Ave. Turning southward on UCLA property along Veteran Ave., the route crosses diagnonally the Wilshire/Veteran intersection, continuing southward at the eastern edge of the Federal Building grounds, until it reaches the Westood Park. Turning westward along the northern edge of the park, the Veloway branches into two routes. One heads south on the centerline of Sepulveda Ave., bridges Santa Monica Blvd., and descends to connect with the proposed Sepulveda Blvd. bikeway. The other branch bridges I-405, drops to an at-grade configuration along the edge of the Veteran Administration grounds, connects with the Texas Ave. bikeway and heads northward, rising to overpass again Wilshire Blvd., then descends, paralleling San Vicente Blvd., to connect with the extension of the existing at-grade bikepath. Intermediate connecting ramps are provided at Weyburn Ave. on the UCLA Rehabilitation Grounds (to provide access to Westwood Village), and at Rochester Ave. to connect north the proposed bikeway at-grade serving the residential areas to the east.

The entire Class I bikeway is routed on public property or properties controlled by public entities. Thus no acquisition of (or easements through) private property is required.

All the agencies have indicated willingness to cooperate in providing the necessary rights-of-way. Careful adjustment of the proposed alignment has taken into account specific concerns and minimized adverse impact on the properties on which the right-of-way will be located.

The only major unresolved problem is encountered in two short stretches that--since no viable alternative could be identified--must necessarily be located on the centerline of Gayley Ave. and Weyburn Ave. and along Sepulveda. The Transportation Department of the City of Los Angeles, while aknowledging that every effort has been made in the proposed design to minimize adverse impact on existing traffic problems, has expressed unwillingness to accept the location of the piers supporting the grade-separated structure on the centerline of the street.


CLASS I BIKEWAY - EXCLUSIVE PATH FOR BICYCLES
CLASS II BIKEWAY - STRIPED BIKE LANE
CLASS III BIKEWAY - SIGNED ROUTE ONLY
UCLA
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VETERAN AVE.
WILSHIRE BLVD.
SANTA MONICA BLVD.
SAN VICENTE BLVD.
TEXAS AVE.
SEPULVEDA BLVD.
BEDFORD AVE.
OLYMPIC BLVD.
OCEAN AVE.
PACIFIC OCEAN
PROPOSED VELOWAY BIKEWAY NETWORK
EXISTING CLASS II/III BIKEWAYS
MUNICIPALITY PROPOSED CLASS II/III BIKEWAYS
VELOWAY PROPOSED CLASS II/III BIKEWAYS
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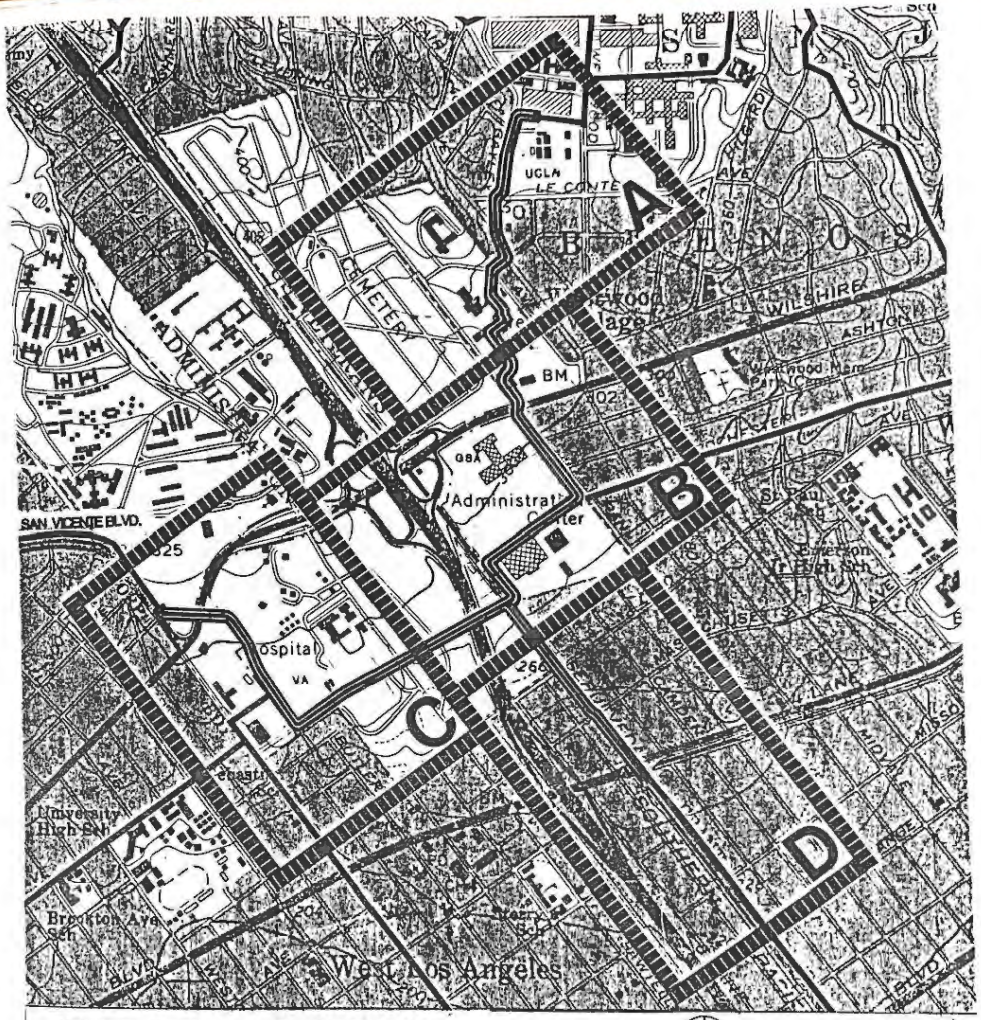

PROPOSED ALIGNMENT OF CLASS I BIKEWAY
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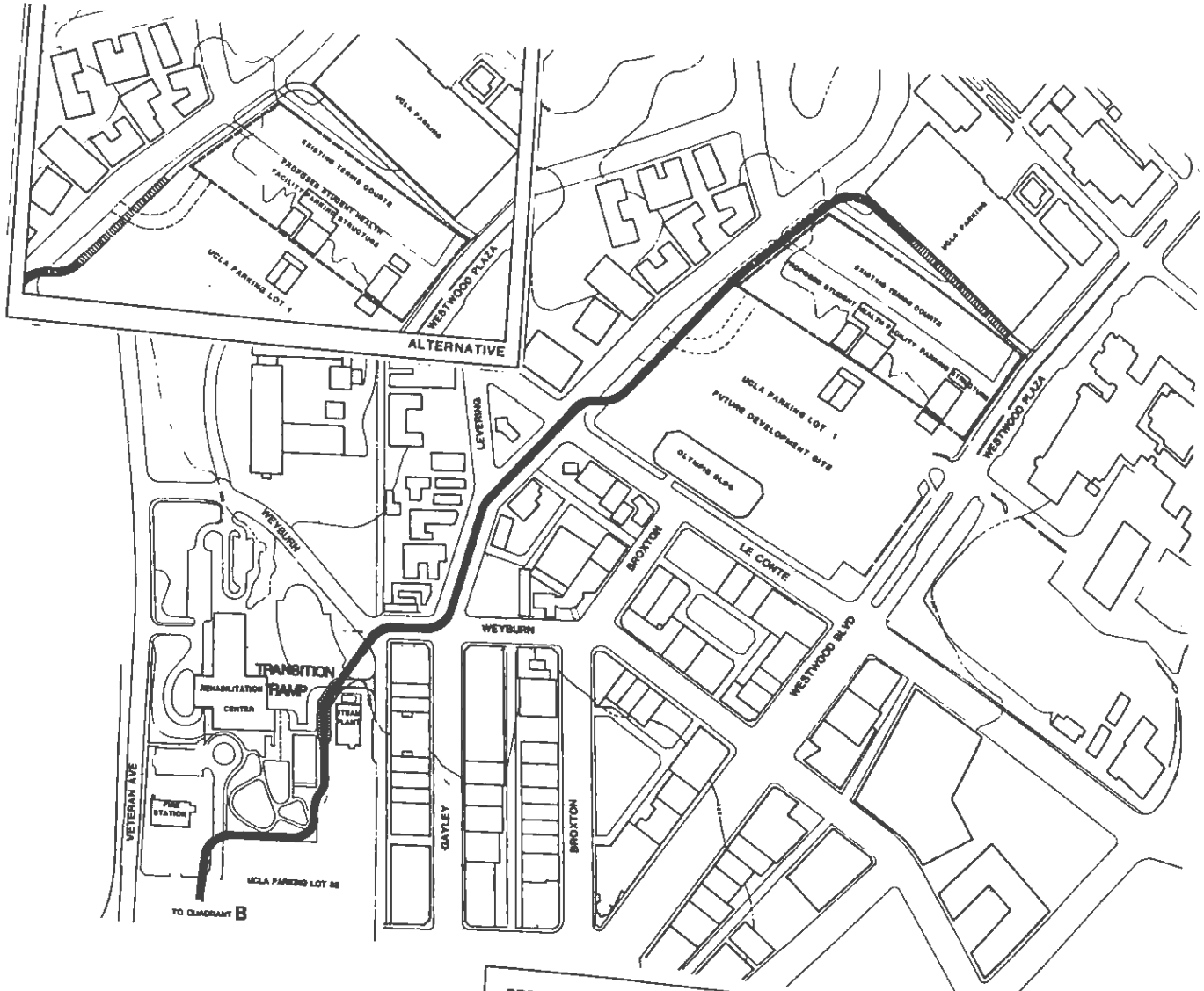

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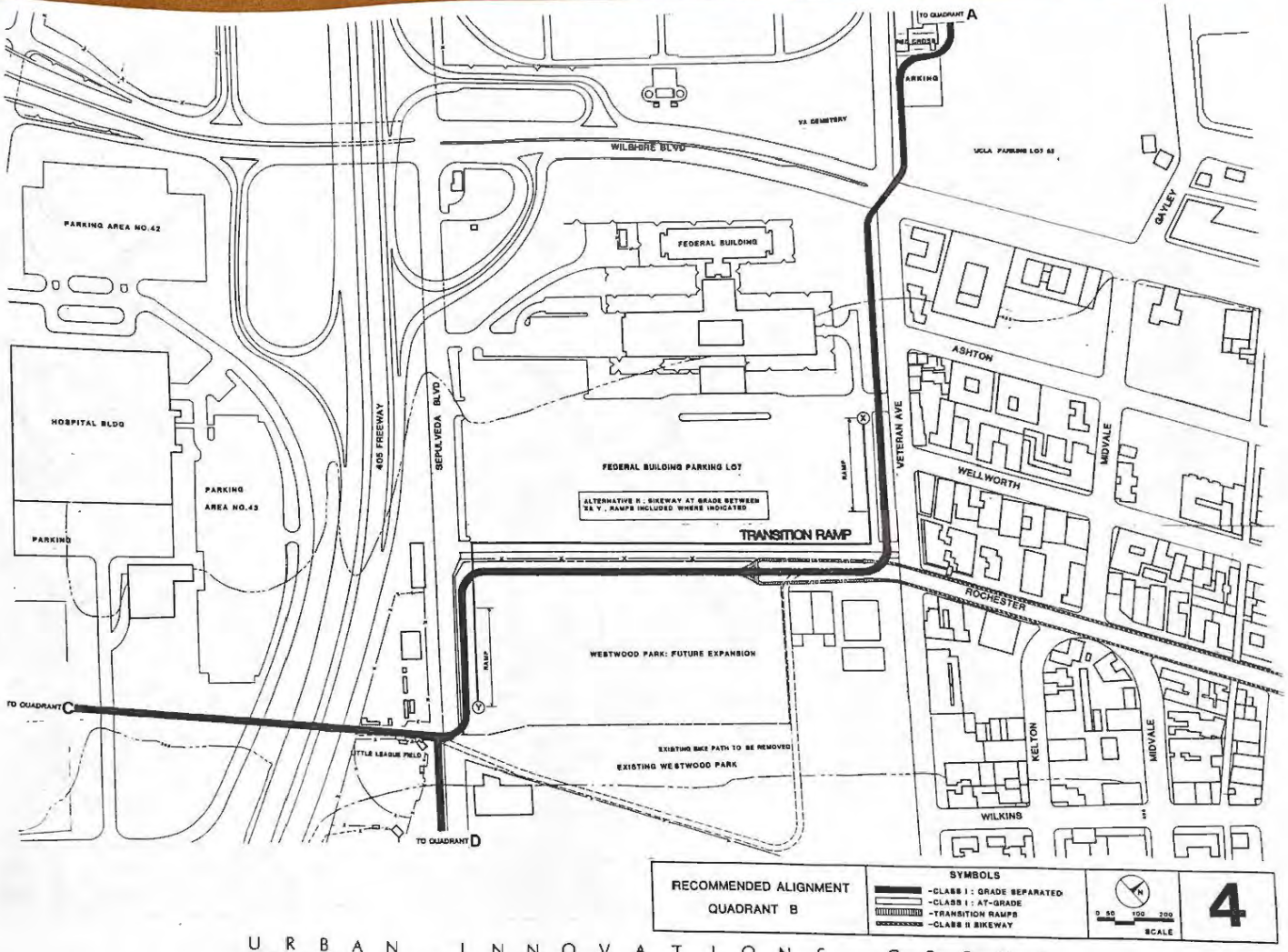

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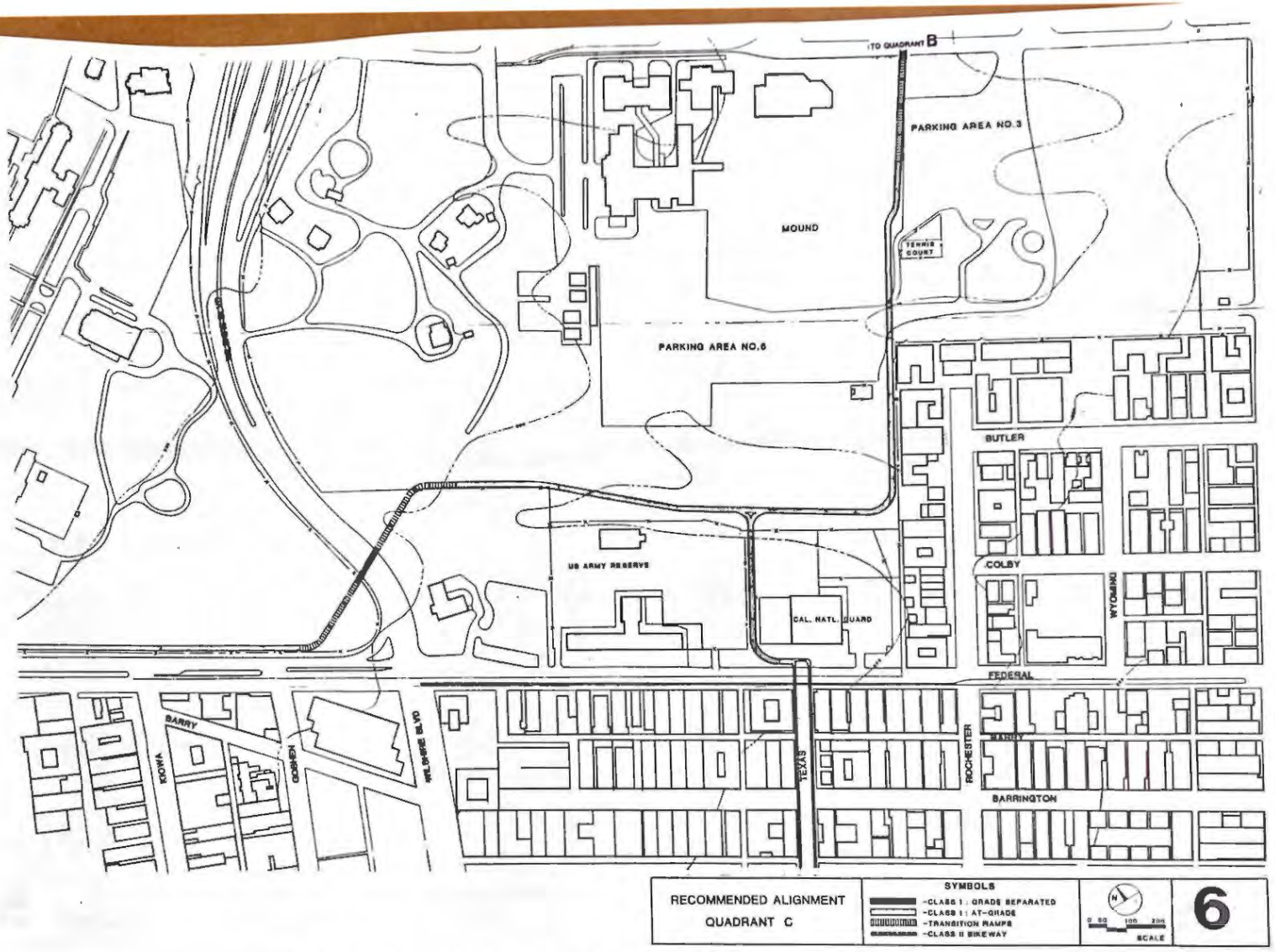

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IV. DESCRIPTION OF COMPONENTS AND STANDARDS

Several alternative design concepts have been developed for the grade-separated elements of the Veloway and have been evaluated in terms of costs, visual impact, ease of construction and maintenance.

The recommended typical structural system for the grade-separated bikeway consists of a precast concrete deck supported by tubular steel trusses on precast concrete piers. Typical pier spacing is 80 ft, except on curved sections where the spacing is reduced to 50 to 60 ft.

The San Diego Freeway overpass portion of the grade-separated bikeway is similar to the typical system, except that a precast concrete box girder is used in-lieu of the steel truss to avoid the problem of periodic painting that would adversely affect freeway traffic. A protective fence is provided on both sides for the entire length of the overpass.

The Wilshire/Veteran intersection overpass, due to its long span, consists of a special overhead steel truss with 8 ft. brackets cantilevering on both sides from the bottom chord to support the precast concrete deck.

The access ramps have a maximum slope of 5%. The average length is 375 ft. The first two thirds of the ramp (250 ft.) are assumed to consist of compacted fill, retained on both sides by concrete walls ranging in height above grade from 0 to 12 ft. Where practical, the concrete wall will be replaced by compacted, landscaped earth banks (2 to 1 slope). They are less costly than retaining walls; for costing purposes, however, all ramps are presumed to have retaining walls. This portion of the ramp is 16 ft. wide, has typical railing on both sides, and asphalt paving (3") over a rock base (4").

The balance of the ramp (125 ft.) consists of a modified typical steel truss and precast deck section.

The recommended structure is light and elegant in appearance; it can be constructed essentially from prefabricated elements, thus minimizing construction time and interference with traffic movements, and is economical both in terms of capital and operating costs.

Appropriate standards have been developed for railing and dividers, markings and signs, lighting and traffic control, so as to insure convenience and safety for the bicycle riders.

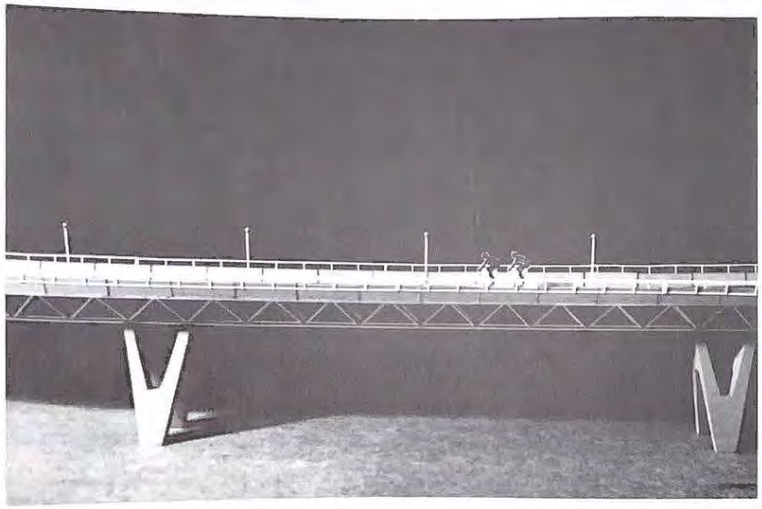
The Class I bikeway at-grade, which consists of a 16 ft. wide roadway with 3" asphalt paving over a 4" rock bed, has integral curbs, with lighting similar to the grade-separated structure. Where required by adjacent properties, an 8 ft.-high side fence is provided and located 4 ft. from the curb.

Lighting for both the Class I grade-separated and at-grade bikeway will consist of 14 ft.-high standards, with special fixture and metal halide light source. Spacing is approximately 80 ft.

Class II and III bikeways are obtained by re-striping within existing roadways. Lighting is provided by the existing street light standards. In addition to striping, new signs (both for bicycles and regular street traffic) are required.

Recommendations for support components (bicycle parking and rider's convenience facilities at major destination centers) have been formulated.

WEST L.A. VELOWAY



V. OPERATION

The operation of the Veloway is expected to be essentially trouble-free. Requirements for maintenance are minimal and relatively inexpensive.

Specific issues (traffic management, emergency aid, specialized maintenance equipment) have been addressed, and detailed recommendations have been formulated.

The two primary operational maintenance costs would involve surface sweeping and replacement of metal halide lamps. Both would involve capital costs and labor.

TOTAL ANNUAL LIGHTING AND SWEEPING COST -

$3,500/yr (lighting) + $9,750/yr (sweeping) = $13,250

VI. ENVIRONMENTAL FACTORS

Prior to implementation of the Veloway, a formal Environmental Impact Report will be required.

An informal assessment of the probable environmental impact of the Veloway indicates that adverse effects will generally be minimal, and more than offset by the beneficial impact of traffic improvement, pollution reduction and economy of transportation.

Significant adverse impact will unavoidably occur when the Veloway route is located on the centerline of public streets (Gayley Ave. and Sepulveda Blvd.), and some visual obtrusion affecting adjacent private development cannot be entirely avoided.

Adverse impact on public properties affected by the right-of-way has been minimized by careful routing along the edges of specific parcels on which future development is anticipated.

1 GAYLEY/WEYBURN

2 WILSHIRE/VETERAN

3 I-405

VII. PROJECT COST

The total estimated construction cost of the Veloway is approximately $8,500,000. It is assumed that the necessary rights-of-way will be obtained from the affected public agencies at no cost.

Two possible alternatives have been developed in an effort to reduce the extent of grade-separated structure, which is the major cost component of the system.

Each of the two alternatives could result in savings in the range of $700,000 to $1,000,000. The possible savings must be evaluated in terms of the disadvantages that may accrue from each of the alternatives.

VIII. FINANCING

A multitude of federal, state, and city programs identify bicycle facilities as potential recipients of funds. However, the amounts allocated are very small, and they must be allocated equitably to all applicants. While some of these sources could probably be successfully tapped for funds, it does not appear that they will be sufficient for the implementation of the Veloway. Thus it is probable that a major portion of the financial burden should fall on the direct beneficiaries of the facilities. The Westwood business community and UCLA are the most direct beneficiaries, since demand for parking facilities would be reduced and traffic conditions improved. Other potential beneficiaries are Caltrans, the County of Los Angeles and the City of Los Angeles, not only in terms of improved traffic flow and reduced congestion and hazards, but also because the Veloway would represent a valuable prototype for assessment of the feasibility of future similar projects.

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IX. PROJECT

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The Veloway should not be portrayed simply as an attractive way of helping students, faculty, and employees commute to and from UCLA and Westwood. Rather it should be portrayed as an innovative facility that promotes energy conservation, increases the safety of travel on local roadways, reduces traffic congestion (however slightly) on an interstate highway, provides an attractive recreational opportunity, offers a good chance to demonstrate the viability of a new means of urban transportation, and facilitates commuting in an already highly congested area. Collectively representing the essence of the Veloway bikeway network, these purposes should be used to accumulate financial support for the project.

IX. PROJECT IMPLEMENTATION

The implementation of the Veloway must be preceded by several specific and sequential steps, that include detailed design, environmental impact assessment, obtaining of necessary rights-of-way, securing of permits, and awarding of construction bids. Table 1 presents an estimated time line for these steps.

The coordination and processing of these steps will necessitate the early identification of an implementation agency responsible for the management of the project. While the Citizens Committee for the West Los Angeles Veloway has been extremely effective in its committed and persistent efforts in developing public agencies' interest in the project and obtaining funds for the initial studies, it would probably not be the appropriate lead agency for implementation.

The identification and recognition of the lead agency is probably the most pressing implementation issue of this time.

TABLE I IMPLEMENTATION SCHEDULE