Final Program Environmental Impact Report

for the

Pasadena Bicycle Master Plan

Certified on November 6, 2000

City of Pasadena
Department of Public Works & Transportation

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APPENDIX A

1 INTRODUCTION

An EIR is an information document intended to inform decision-makers and the general public of the potential significant environmental impacts of a project. An EIR also identifies possible ways to minimize significant impacts (referred to as mitigation) and describes reasonable alternatives to the project. The public agency with authority to approve or deny the project (the City of Pasadena) must consider the information in the EIR along with other information before making a decision on the project. The findings and conclusions of the EIR regarding environmental impacts do not limit the agency's discretion to approve, deny, or modify the project, but instead are presented as information intended to aid the decision-making process.

1.1 AUTHORIZATION

This EIR has been prepared for the City of Pasadena in accordance with the Guidelines for the Implementation of the California Environmental Quality Act of 1970 (Sections 15000-15387 of the California Administrative Code). The Guidelines stipulate that an EIR must be prepared for any project that may have a significant impact on the environment. The proposal under consideration, the Draft Bicycle Master Plan (also known as the "Century of Bikes; Bicycle Plan for City of Pasadena), is a "project" as defined by Section 15378 of the Guidelines. After conducting an Initial Study of the project, the City determined that the project may have a significant adverse impact on the environment and therefore, the preparation of an EIR was required.

1.2 LEAD AND RESPONSIBLE AGENCIES

The California Environmental Quality Act (referred to herein as "CEQA") defines a "lead agency" as the public agency which has the principle responsibility for carrying out or approving a project which may have a significant effect upon the environment. There can only be one lead agency for a project. Other agencies, which also have some authority or responsibility for carrying out or approving a project, are designated as "responsible agencies". Both the lead agency and responsible agencies must consider the information contained in the EIR prior to acting upon or approving the project.

The City of Pasadena is the lead agency for this project. At this time, no responsible agencies have been identified for the project.

1.3 PROJECT PROPONENT

Because the proposed Draft Bicycle Master Plan is a public policy document of the City, the City of Pasadena is the proponent for this project. Therefore, the City of Pasadena is both the proponent and the lead agency for this project. Comments or questions regarding the project should be directed to the following address:

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1.4 THE EIR PROCESS

When a public agency determines that there is substantial evidence that a project may have a significant effect on the environment, the agency must prepare an EIR before a decision is made to approve or deny the project. The purpose of the EIR is to fully disclose a project's impacts and recommend measures to reduce or avoid significant impacts. The basic content of an EIR includes a description of the project and its objectives, a description of existing conditions at the project site or in the project area, a discussion of the potential significant effects of the project, recommended measures for reducing impacts, and an evaluation of feasible alternatives to the proposed project.

An EIR consists of two documents: a Draft EIR, which is circulated for review by the public and affected governmental agencies, and a Final EIR, which consists of responses to comments received on the Draft EIR, as well as any necessary modifications to the Draft EIR. After the Draft EIR has been circulated for review and the Final EIR has been prepared, the EIR must be considered and approved by the agency's decision-making body before any actions can be taken on the project. If the lead agency makes substantial changes to the Draft EIR after circulation or decides to present significant new information, then the agency must re-circulate the revised Draft EIR for additional review and comment.

The decision to prepare an EIR is usually triggered by the completion of an Initial Study for the proposed project. When a public agency receives a complete project application or decides to undertake a project of its own, it first determines if the project is subject to environmental review under CEQA and, if it is, the agency staff then typically prepare an Initial Study to determine if the project has the potential to cause significant environmental effects. The Initial Study serves as a tool to help the agency determine if an EIR is needed and also helps determine what issues should be examined in the EIR.

The EIR process is initiated by the distribution of a Notice of Preparation (NOP). The NOP is sent to other agencies to solicit their suggestions for appropriate issues and types of analysis to be included in the Draft EIR. When preparation of the Draft EIR has been completed, it is circulated to responsible agencies, other affected or interested agencies, and interested members of the public for review and comment. The review period for a Draft EIR is 45 days. All comments and concerns regarding the Draft EIR must be received by the lead agency during this 45-day period in order to be considered for the Final EIR.

Responses to comments received on the Draft EIR are prepared by the lead agency and included in the Final EIR. The Final EIR may also contain some additional information about the

project's potential impacts and minor corrections or modifications to the Draft EIR. The Final EIR must be certified (approved) by the lead agency's decision-making body (sometimes this responsibility is delegated to a commission) before any action is taken to approve or deny the proposed project. Typically, certification of the EIR and deliberation on the project occur at the same hearing, and public notice of these actions are usually advertised together.

CEQA only requires that the EIR address significant adverse impacts. The CEQA Guidelines do not establish thresholds or standards which define the significance of various types of impacts. The determination of the significance of impacts is left to the discretion of the lead agency. The CEQA Guidelines do not state that the significance of impacts should be considered in relation to their severity and probability of occurrence. Also, the identification of significant impacts in the EIR does not prevent an agency from approving the project. The project may be approved if the lead agency determines that there is no feasible method of mitigating significant impacts or if the agency determines that there are important overriding considerations, such as social and economic benefits, which are sufficient t justify approval of the project.

1.5 A PROGRAM EIR

The California Environmental Quality Act defines the adoption or amendment of a Master Plan as a project which requires environmental review. As a result of such review, if any aspect of the proposed Master Plan is determined to have the potential to cause significant impacts to the environment, then an EIR must be prepared. The CEQA Guidelines recognize that an EIR for a Master Plan will not be as specific as an EIR for a development proposal or site-specific projects. Therefore, the CEQA Guidelines define a type of EIR known as a *Program EIR* as suitable for a project such as a General Plan.

A program EIR is prepared for a series of related actions that can be characterized as one large project, such as a General Plan, master plan, or regulatory program. As a practical matter, projects suitable for a program EIR generally have at least two of the following features:

An implementation schedule longer than two years;

General parameters or conditions which will be applied to future activities such as site-specific development proposals; and

A requirement for subsequent agency discretionary approvals for future development projects or regulations.

Program EIRs contain less detail than typical development project EIRs because of the level of detail in the impact analysis can only reflect the level of detail in the program description itself. Section 15146(a) of the CEQA Guidelines states: "The degree of specificity required in the EIR will correspond to the degree of specificity involved in the underlying activity which is described in the EIR".

One of the advantages of the use of a program EIR is that it allows the lead agency to consider broad policy alternatives and city-wide mitigation measures before important policy decisions

have been made. It also ensures consideration of cumulative impacts that could otherwise be slighted in project-by-project analysis. Program EIRs also avoid the need for unnecessary reconsideration of basic policy matters in future EIRs and provides a level of environmental analysis on certain issues that does not need to repeated in the future in EIRs for development projects or other individual actions.

1.6 FOCUS OF ANALYSIS

The City has determined that the proposed project has the potential to cause certain types of significant impacts and, therefore, the analysis of the Draft EIR has been focused on the following topic:

- Transportation and circulation

1.7 E.I.R. CONTENT AND FORMAT

The Draft EIR is organized into seven chapters, each dealing with a separate aspect of the required content of an EIR as described by the CEQA Guidelines. Following this introductory chapter (Chapter 1.0) is a complete description of the proposed project, including project location, objectives, and characteristics (Chapter 2.0). The results of the impact analysis alone with recommended mitigation measures are summarized in Chapter 3.0. The complete and detailed impact analysis is presented in Chapter 4.0. Certain mandatory topics dealing with the long-term implications of the project are discussed in Chapter 5.0. Chapter 6.0 is a discussion of various alternatives that have been identified by the lead agency for evaluation in comparison to the proposed project. Chapter 7.0 lists resources and persons consulted in conduction the environmental analysis and presents a list of the persons who prepared the Draft EIR. Responses to the NOP and technical studies prepared for the Draft EIR are contained in the Appendix.

Chapter 4.0, entitled "Environmental Impact Analysis", is the focal component of the Draft EIR. The environmental impact analysis has been organized into a series of sections addressing each environmental topic. The sections covering each individual environmental topic are divided into the following subsections to assist the reader in understanding the organization and basis of the analysis:

Setting. This subsection describes existing conditions at the project site and the immediate area which may be subject to change as result of implementation of the proposed project. There is a separate description of existing conditions for each environmental topic.
Standards of Significance. Before potential impacts are evaluated for significance, the standards which will serve as the basis for judging impact significance are presented.
Impacts and Mitigation Measures. This subsection states and explains impacts caused by the project. If the impacts are considered to be potentially significant, mitigation measures are proposed to reduce or avoid the impacts.

The summary presented in Chapter 3.0 provides a comprehensive overview of the project's impacts. For a more detailed description of project impacts, it is recommended that the reader

review the project description (Chapter 2.0) and then read the sections on the topics of interest in the environmental impact analysis (Chapter 4.0). For more detailed investigation of certain technical topics, the reader is referred to the various technical studies in the Appendix.

2 PROJECT DESCRIPTION

2.1 INTRODUCTION

The Draft Bicycle Master Plan (DBMP, or Plan) contains proposals for capital improvements and programs and policies for implementation over the 20-year planning horizon of the Plan. The Plan was completed by the team of Crowley & Jacobsen for the City of Pasadena, with a Draft submitted on November 30, 1998 and City Council Revisions submitted on January 25, 1999. Further revisions to the Plan were completed in April 24, 2000.

2.2 PROJECT LOCATION

The *Draft Pasadena Bicycle Master Plan* (*Bicycle Plan*) was prepared to allow Pasadena residents access to major destinations throughout the city. The *Bicycle Plan* for the City of Pasadena encompasses a majority of the city streets in Pasadena which is located in the San Gabriel Valley south of the San Gabriel Mountains and approximately nine (9) miles northeast of downtown Los Angeles. Pasadena covers close to 35 square miles (Figure 1.4-1, Pasadena City Limits, in the General Plan). The City of Pasadena appears on USGS 7.5 minute series Pasadena topographic quadrangle (from Township 1 North, Range 12 West) and USGS 7.5 minute series Mt. Wilson topographic quadrangle (from Township 1 North, Range 11 West). The developed portion of the City of Pasadena extends approximately seven (7) miles from its western border at the Rose Bowl to its eastern border at Michillinda Avenue. It extends approximately five (5) miles from its northern border at Woodbury Road to its southern border near Monterey Road. Cities surrounding Pasadena include Altadena to the north, Arcadia and Sierra Madre to the east, San Marino to the southwest, the City of Los Angeles to the south, and Glendale and Flintridge to the west. Two watershed areas extend north from the developed areas of Pasadena into the Angeles National Forest, the Arroyo Seco above the Rose Bowl, and Eaton Canyon Wash on the east.

2.3 EXISTING CONDITIONS

Bike lanes can be found on some Pasadena streets. Eight percent of the 142 miles of collector and arterial roadways in Pasadena have bike lanes that traverse across Sierra Madre Boulevard leading down to Del Mar Boulevard as well as across to Maple Street and Corson Street, both which run parallel to the 210 Freeway, which then merge into St. John and Pasadena Avenue ending at Del Mar Avenue. Another bike path exists from the Arroyo Boulevard exit off the 210 Freeway West leading down to the Rose Bowl. Portions of Marengo Avenue, Raymond Avenue, and Arroyo Boulevard have bike lanes (30%) as well. A greater portion is signed bike routes. Many were installed as part of the Foothill Freeway construction project in the early 1970's. In addition, the City of Pasadena offers parking for approximately 1,000 bicycles in the form of bicycle racks at bus stops, city-owned parking lots, churches, private office garages, and local business and apartment buildings.

2.4 PURPOSE AND NEED

Over the years, Pasadena has experienced an ever-increasing wave of development resulting in increased travel along city streets. Traffic conditions in Pasadena are demanding and call for greater attentiveness and a higher level of skill than ever before--contributing to the degree of safety concerns experienced by bicyclists and pedestrians (*Office of Traffic Safety 1998).* Increased land development in Pasadena has forced children out of their neighborhoods and onto busy streets having to navigate through main intersections. In addition, many children are traveling on busy streets without the proper parental supervision of their bicycle and pedestrian habits. And last, Pasadena ranks 9th out of 39 cities with comparative populations in bicycle fatalities and injuries (*Office of Traffic Safety 1998).*

Pasadena's first bicycle route effort was manifested in the Kenneth Newell Bikeway along the Arroyo Seco and in 1973, the City of Pasadena commissioned a study to be prepared entitled *Pasadena Bicycle Transportation Program, Bikeway Development.* It was in 1991 when Pasadena continued its drive toward creating a bicycle friendly system by assembling a Bicycle Task Force. The success of this task force culminated in the creation of a City policy which is supported in the General Plan.

2.5 GENERAL PLAN LAND USE AND MOBILITY ELEMENTS

The City of Pasadena is proposing to adopt the Draft Bicycle Master Plan prepared as a result of the adoption of the General Plan which included some visionary approaches to land use and mobility throughout the City. It was prepared to meet the requirements laid out in the General Plan which called for a citywide bikeway system which would encourage the city's citizen base to utilize other forms of transportation other than vehicles. The Mobility Element of the General Plan 1992 envisions a city where people can get around without cars. The bicycle plan provides guidance for implementing that goal focusing primarily on developing a citywide bikeway system as a fundamental component to future planned transportation improvements. This plan creates a list of projects and programs to be added to the Transportation Improvement plan, along with possible sources of supplemental funding to enable Pasadena to continue to implement this vision. The Pasadena Bicycle Master Plan presents a guideline for the City to provide a safe and attractive environment needed to promote bicycling as an alternate mode of transportation. It is by the adoption of the Bicycle Master Plan that the City Council will move closer to attaining their goal of five percent of all trips in the City to be made by bicycle by the year 2001.

The Mobility Element of the Comprehensive General Plan is consistent with other elements of the Pasadena's Comprehensive General Plan and is in conformance with Government Code Section 65300.5. The Draft Bicycle Master Plan contains proposed strategies for attaining the City's 5% goal of all transit trips by bicycle by 2001 which are as follows:

According to the *City of Pasadena Comprehensive General Plan (General Plan)*, the City of Pasadena has accommodated a number of different uses ranging from low density residential, primarily located on the outer boundaries of the city, low-medium density residential, primarily located north of the 210 Freeway along Fair Oaks Avenue, medium density residential along Orange Grove Boulevard and south of the 210 Freeway from Lake Avenue to San Gabriel

Boulevard, medium-high density, high density residential concentrated around the California Institute of Technology, general commercial, neighborhood commercial near the city's downtown center, institutional and open space including the Arroyo Seco and the Rose Bowl on the west side and Eaton Canyon on the east side. The *General Plan* allows both medium high and high-density residential development in much of the city's downtown or Central District. The *General Plan* also indicates areas targeted for specific plan development. These land use designations are depicted in Figure 1.5-1, in the *General Plan Land Use Categories.*

2.6 PROJECT DESCRIPTION

As an element of the City's General Plan, the Bicycle Master Plan has the comprehensive scope and jurisdictional authority required to coordinate the provision of all bicycle related plans, programs, and projects. The Draft Bicycle Master Plan (entitled "Century of Bikes Bicycle Plan," 1999) establishes goals which serve as the long-term vision and foundation of the plan. The Goals are supported by programs to implement the vision of the Goals over the life of the Plan. Aside from the City's General Plan Mobility Element of the 1992 Pasadena General Plan, which calls for developing a citywide bikeway system and increasing the use of bicycling and walking, the proposed improvements contained within the plan are intended to meet regional, state, and federal guidelines in order to qualify the City for external funding sources.

The Plan originally included recommendations for various street improvements and bicycle lane development. The revised Plan (April, 2000) refers only to bikeways and passes design decisions regarding the type of bikeway onto the City engineer at the time of project development. The Plan classifies these streets into first priority, second priority, and third priority projects. A total of thirty-three bikeways are proposed. In addition to the top priority projects, the Plan also identifies the Rose Bowl Environs, the Horace Dobbins Cycleway, and the Kenneth Newell Bikeway projects. The Rose Bowl Environs improvements include measures to develop a sense of community (through the use of informational signing), improve access, reduce conflicts with other users, and provide bicycle parking at large public gatherings. The Horace Dobbins Cycleway, a Pasadena historical artifact, includes improvements under two options. The first is an historical reproduction of the elevated wooden bicycle right-of-way from the Green Hotel to downtown Los Angeles. The second is an alternative on street route with Cycleway signage using Raymond, California, and South Orange Grove Streets. The Kenneth Newell Bikeway that runs from Los Angeles to Altadena along the rim of the Arroyo Seco is a popular recreational route. The revised Plan calls for the City to investigate ways to improve this route. Other recommendations and programs of the plan include:

- X Improvements to the current traffic signal cycles
- X Establishment of a street maintenance program for detecting problems
- X Installation of parking facilities for bicycles
- X Implementation of bicycling programs for youths.

3 SUMMARY OF IMPACTS AND MITIGATION MEASURES

The Draft Bicycle Master Plan (DBMP), or the Project, was analyzed for potential significant impacts to the environment. The Draft Bicycle Master Plan contained references to specific projects and design options that could have had significant environmental impacts. Some of these impacts would have resulted from the narrowing of travel lanes, and elimination of parking lanes in some areas. The April 24, 2000 revised Plan eliminated references to specific design solutions. Therefore, no significant impacts are identified in this analysis.

The analysis also found a potential significant adverse impact to constructing an elevated bikeway on the Horace Dobbins Cycleway. The mitigation for this project identifies the fact that the DBMP only identifies a feasibility study at this juncture, and that should an elevated structure be selected, and environmental analysis of that project be conducted.

3.1 ALTERNATIVES CONSIDERED

The Project Alternative consists of additions and refinements to the existing DBMP to avoid significant adverse impacts, and to help meet General Plan and State requirements and policies. The April 24, 2000 revised DBMP has adopted the Project Alternative as the new Plan. The adoption of this DEIR and would then result in an adopted revised Bicycle Master Plan that meets General Plan and State funding requirements.

4 ENVIRONMENTAL IMPACT ANALYSIS

4.1 INTRODUCTION

The Initial Study identified potential negative impacts in a variety of areas including visual and cultural resource impacts based on the discussion of the Horace Dobbins Cycleway in the Plan. Subsequent review of the DBMP on page III-14 reveals a discussion of 'Cycleway Options' including an on-street and an elevated structure option. The Plan summarizes some of the key advantages and disadvantages of each option. The Plan does not make a specific recommendation on either option. On page IV-3 in the 'Schedules for Implementation' section of the Plan, the project is identified as: 'Prepare a feasibility study on the Horace Dobbins Cycleway ($50,000).' The elevated structure option would have to be developed in the feasibility study in enough detail so that an environmental analysis could be completed. Without anything more than some text discussing a potential elevated structure, there is nothing to evaluate the potential negative impacts. Therefore, those potential adverse impacts discussed in the Initial Study are not covered in this focused environmental impact report.

4.2 TRANSPORTATION/TRAFFIC

4.2.1 Environmental Setting

The City of Pasadena General Plan and the Draft Bicycle Plan both recognize the need to improve existing bicycle facilities and programs. The overall environmental setting is one where traffic volumes and congestion, along with the related impacts on noise, pollution, etc., are a major issue in the City. The General Plan focuses on addressing and managing traffic conditions, with a special emphasis on traffic-reduction methods including transit, bicycles, and pedestrian modes. The City in its General Plan has set a very ambitious goal of achieving 5% of all transit trips by bicycle by the year 2001, and provided specific goals and policies that mention looking at parking and roadway striping in order to provide bikeways. At the same time, the City has identified Principal Mobility Corridors where street widenings and traffic capacity increases are being considered, and other streets where traffic reductions are a major goal.

The Draft Bicycle Plan provides a detailed overview of the history of bicycle planning and implementation in Pasadena. While the City has long been committed to developing a comprehensive bicycle system, the current system can best be described as fragmented. The DBP also identifies the City commitment to providing bicycle parking, with bike racks being provided for over 1,000 bicycles.

4.2.2 Transportation and Circulation Policies

The City of Pasadena Comprehensive General Plan (1994)

The Mobility Element of the General Plan provides numerous objectives and policies that are relevant to the Draft Bicycle Plan:

4.2 Increase the Use of Bicycling and Walking

Provide Enhanced Bicycle Facilities

The City has adopted a policy to make Pasadena a place where bicycling and walking are encouraged, where all streets are bikeways and where safety, education and facilities are provided as an ongoing part of transportation and recreational planning and programs.

To encourage cycling and to meet the Council-adopted goal of 5% of all transit trips by bicycle by 2001, the following steps need be taken:

A. The zoning code that requires new developments to provide car parking should be amended to require numerically and functionally adequate bicycle parking. This would encourage bicycle use and correspondingly reduce overall parking cost to developer.

B. Existing developments should be first encouraged and, after a reasonable period of time, required to provide bicycle parking at the same levels required for new development.

C. Bicycle facilities (lockers, showers, etc.) should be encouraged at worksites, shopping centers, and recreational areas.

D. At public events where large crowds gather—for instance, sports events, concerts and conventions—promoters should be required to provide Class I bike parking facilities at numerically adequate levels.

E. Employee rideshare plans should include installation of Class I bicycle parking, shower facilities and lockers proportional to workforce.

F. Streets should be planned, designed, constructed and maintained to facilitate shared use of bicycles and motor vehicles. This may involve parking restrictions and/or restriping.

G. Bicycle routes/paths should be extended to provide a citywide network.

H. A regional bikeway system should be developed by coordinating with adjacent communities.

I. Bicycle access should be developed to and from recreational facilities.

J. The City should print bicycle maps showing street ratings for bicycle use on an as-needed basis.

K. Bicycle parking facilities should not charge a fee. All bicycle parking throughout the City should be free.

L. Bicycle parking should be provided at all major bus, rail and park and ride facilities.

M. The Rose Bowl loop should be considered first and foremost a recreation area. A detailed traffic management plan that considers safety of the recreational user should be developed and implemented.

In addition, the General Plan offers other relevant objectives and policies on the street system including establishing Principal Mobility Corridors within the City (p. 21). These corridors are designed to serve as the 'backbone of the transportation system in Pasadena". Other streets are targeted for de-emphasizing or a reduction in vehicle traffic (p. 25). This can be accomplished, according to the Plan, by narrowing street widths, closures of streets to through traffic, and other traffic calming measures.

The City of Pasadena General Plan EIR (Land Use and Mobility Elements) (1994)

The General Plan EIR evaluated the potential impacts of the General Plan objectives and policies, and helped set the standards of significance for transportation and circulation. Highlights of this document include:

Street classification: The General Plan does not use standard street classifications, but rather separates the City corridors into Principal Mobility Corridors and De-Emphasized Streets. The General Plan EIR uses the standard street classification system (arterials, collectors, and local streets) to evaluate the Plan.

Level of service: While the General Plan does not mention traffic level of service (LOS) as a measure of transportation conditions, the EIR traffic analysis uses the level of service methodology to evaluate the traffic conditions on major corridors in the City. The general Plan EIR sets LOS E as the minimum acceptable threshold for traffic.

Bicycles No standard of significance is provided for bicycle facilities or bicycle travel. The EIR provides a map of Emphasis Areas for Bicycling and Walking that includes 'Future Bikeways.'

4.2.3 Standards of Significance

Three standards of significance, as defined in the General Plan and General Plan EIR, are defined for transportation/circulation impacts as:

- Potential negative impact to existing and future traffic conditions, especially on Principal Mobility Corridors, as defined by the level of service or travel lane theoretical capacity.

- A potential negative impact caused by the elimination of on-street parking in areas that have insufficient off-street parking supply, and where current parking demand is highly utilized.

- A potential negative impact to traffic safety caused by narrowing travel lanes as defined by established engineering standards and guidelines.

4.2.4 Impact Analysis of the Draft Bicycle Plan

The assessment of the potential for the proposed *Pasadena Bicycle Master Plan* (proposed project) to result in significant impacts on transportation and traffic was undertaken in accordance with Appendix G of the California Environmental Quality Act (CEQA) *Guidelines* (1998). Appendix G of the CEQA *Guidelines* indicates that the impacts on transportation and traffic are normally considered significant when the proposed project causes substantial increases in traffic in relation to pre-project conditions or create a safety hazard related to traffic.

Significant research backs up the analysis of the Plan. First, the research consisted of a review of existing plans including the DBMP Plan, several earlier bike plans for Pasadena, the City's Mobility Element, the City's Zoning Code, the Rose Bowl Area Bicycle Study, the Los Angeles Bikeway Master Plan and the San Gabriel Valley Bikeway Master Plan. A review of Caltrans and AASHTO standards for bikeways and surface streets was conducted.

Extensive field research included the survey of each street on the Draft Bicycle Master Plan. The streets were measured at numerous points and notes were taken of the lane widths and configuration of the streets. The streets were also ridden on a bicycle. Additionally, the Consultant reviewed the speed limits on city streets, traffic counts and pavement conditions.

<u>Impact 4.2.4.1</u>

Under the revised Draft Bicycle Master Plan, improvements for bicycles are recommended on thirty-three streets. No specific design solutions are proposed. These proposed bikeways have no potential significant negative impacts.

Specific bikeway design decisions will be made by the City engineer at the time of project development. Potential impacts of these design solutions will be assessed at the time of development.

Impact 4.2.4.2

One of the potential options in the DBMP includes an elevated structure on the Horace Dobbins Cycleway. An elevated structure would have potential significant adverse impacts to visual, cultural, geological, and other resources.

4.2.5 Mitigation Measure

The DBMP describes an elevated structure on the Horace Dobbins Cycleway as a potential option only, and does not make any specific recommendation other than to conduct a feasibility study. An environmental analysis should be conducted as part of any future feasibility work on this project.

5 ALTERNATIVES TO THE PROPOSED PROJECT

The revised (April 24, 2000) Plan has adopted bikeway elements of the earlier Project Alternative to make it a more effective document, provide a wider variety of implementation tools, and ensure conformance with General Plan and State policies and requirements.

5.1 Analysis of the Century of Bikes Draft Bicycle Master Plan

5.1.1 Strengths of the Plan

The greatest strength of the DBMP or 'Century of Bikes Plan' is its coverage of Pasadena. Every neighborhood, every park, school and retail district would be well served by the bicycle routes in the Plan. The Plan identifies opportunities to create bicycle boulevards.

Another strong point of the Plan is its presentation of existing bicycle lanes and accident data. The Plan well describes the situation facing today's cyclists.

The Plan incorporates an innovative concept to have attendant bicycle parking at Rose Bowl events. The description of different parking types for varying users, as well as the explanation of the need for bicycle parking at different types of land uses is quite detailed and complete. The Plan explains how Pasadena can better promote and manage their existing bicycle lockers.

The DBMP Plan points out the need for links to transit and cites the need for bicycle parking at planned Blue Line light rail stations. The Plan details the need for bicycle-sensitive loop detectors at signalized intersections, and provides the City with useful guidance as to how to make loop detectors bicycle-sensitive. The Plan mentions the need for good maintenance of bicycle routes, as well as innovative programs for youths.

Last, the Plan provides a strong vision of the need for and benefit of bicycle improvements in Pasadena.

5.1.2 Conformance with the General Plan and Mobility Element

The DBMP addresses some of the General Plan bicycle policies. Those that are addressed are identified below.

a. Bicycle Parking in the Zoning Code
b. Bicycle parking in new developments
c. Bicycle facilities (lockers, showers, etc.)
d. Special event bicycle parking
e. Bicycle access to recreational areas
f. Printing bicycle maps

5.1.3 Analysis of Potential Impacts

The Plan (April 24, 2000) adopts additional material that helps meet current State funding requirements, provides greater flexibility in the implementation of bikeways, provides more specific recommendations for bicycle parking, and addresses the General Plan bicycle policies in more detail.

Impact 5.1.3.1

The revised Plan (April 24, 2000) provides a more flexible approach to the implementation of on-street bikeways, allowing planners and engineers a range of options that reflect both cyclists' needs and the constraints of street width, parking demands, and traffic volumes and speeds. Therefore, any significant adverse impact would be addressed in the planning and design stage, and the network recommendation does not pose the potential for significant adverse impacts itself.

Impact 5.1.3.2

One of the potential options in the DBMP includes an elevated structure on the Horace Dobbins Cycleway. An elevated structure would have potential significant adverse impacts to visual, cultural, geological, and other resources.

5.1.4 Mitigation Measure

The DBMP describes an elevated structure on the Horace Dobbins Cycleway as a potential option only, and does not make any specific recommendation other than to conduct a feasibility study. An environmental analysis should be conducted as part of any future feasibility work on this project.

5.2 NO PROJECT ALTERNATIVE

A No Project Alternative would continue the policies and recommendations of the 1991 "A Plan to Make Pasadena Bicycle Friendly." That 1991 Plan provides a comprehensive series of recommendations but relatively little evaluation of existing conditions, constraints, costs, current bicycling patterns, or other information. The 1991 Plan also does not meet the Bicycle Transportation Act funding requirements, which were developed subsequent to this study. For example, the 1991 Plan calls for parking restrictions or re-striping multi-lane streets but does not provide evaluation steps, design guidelines or standards, preferred and back-up options, and other information needed to actually implement the Plan. While it provides a broad and exciting vision of how the City could be made more bicycle-friendly, and mentions specific projects and types of facilities and programs, little detail is given to the reader to allow for an evaluation of benefits or impacts. Therefore, no significant adverse impacts can be evaluated under the No Project Alternative.

APPENDIX

Appendix A

While Pasadena may lack a large network of streets where bike lanes can be easily accommodated, some measures can be taken to improve the bicycle route network. They are described below.

Wide Curb Lanes

Wide curb lanes provide bicyclists with more space in the street and make it more likely that the lane can be shared with motorists. On multi-lane streets, the City should stripe the number one lane to its minimum standard width (as well as the number two lane on six-lane streets) so that the curb lane can be as wide as possible. Even if the curb lane isn't wide enough to stripe a bike lane on, 13' or 14' lanes are much better for bicyclists than 11' or 12' lanes.

Good Signage

Bikeways should be well signed. Signage above the typical "Bike Route" signs, such as directional signs, distance to destinations, City logo attachments and "Share the Road" signs make cycling more convenient and cyclists more visible. Signs like "Caltech 2 miles", or "Rose Bowl 3 miles" with directional arrows would provide bicyclists with a greater sense of how the bicycle route network helps them. Even Class III bicycle routes take on much more significance when a network is signed and mapped so that cyclists develop a mental map of how to get about town on designated bicycle routes.

The City should consider a route numbering system to help bicyclists understand how the network connects. A suggested system would follow that of highway systems where east-west routes have even numbers and start in the south, and where north-south routes have odd numbers and start in the west and work up eastward.

Bicycle parking should also be clearly signed so that cyclists know where to find parking. Bicycle lockers should post a telephone number and instructions as to how to get a locker on the outside. Showers and clothing lockers should be identified through signage directing bicyclists to their locations as well.

Quality Street Maintenance

Most of the streets in Pasadena are well-maintained. Cyclists are much more sensitive to the quality of the street surface than motorists since minor potholes can cause a bicycle to topple. The City can strengthen the quality of the bicycle route network by maintaining a street surfacing schedule that ensures a smooth pavement. The City should consider an accelerated schedule for bicycle routes. Maintenance of painting and street signs is also important.

Bicycle-sensitive Loop Detectors

Many traffic signals are triggered by the presence of a vehicle over a detective loop on city streets. Often these loops do not detect bicyclists, leaving cyclists stranded until a car comes along, or until they decide to travel through a red light. Bicycle-sensitive loop detectors at signalized intersections were well discussed in the Century of Bikes Plan. The City should follow the guidelines provided for all signals in the Pasadena, starting with those on bicycle routes.

Street Lighting

The nighttime journey for bicyclists is safest on streets that are well-lighted. The City should ensure that all designated bicycle routes have good lighting.

Bicycle Maps

Bicycle maps can help cyclists understand how to travel to their destinations on bicycle routes. If the City follows these guidelines for street width, signage, maintenance, loop detectors and lighting, the maps will direct cyclists to the safest and often most convenient routes. If the routes are numbered, the numbers on the map will help bicyclists develop a mental map of the network. Bicycle parking should also be included on the maps. The back of the maps should include safety information, directions to obtain bicycle lockers, a telephone number to call for potholes, and any other pertinent information. The maps should be widely distributed and easily obtained.

Summary

Bike lanes are usually the preferred option for bicyclists on city streets. However, a network of mapped bicycle routes on streets with wide curb lanes, where good signage provides adequate information, the streets are well-maintained and lighted, and the loops detect cyclists at intersections can be effective as well. These measures are recommended for Pasadena's Class II and Class III routes.