

# Chapter 6

## PRELIMINARY IMPLEMENTATION PLAN

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### OVERVIEW

This report represents the completion of the first phase of Bicycle Boulevard Implementation: the Early Design Phase. With the issues identified along the boulevards, and a toolbox of strategies for use on the boulevards, the next phase of implementation, the Detailed Design Phase, can take place. This phase will involve developing specific designs for the boulevards in conjunction with neighborhoods and bicyclists. As these designs are completed, or simultaneously as they are developed, the City will need to find funding to pay for the planned improvements. Specific design changes that affect how the street works will need to be approved by the City Council. This chapter outlines this implementation process. As the Bicycle Boulevard project moves forward, changes to this approach may be required.

### IMPLEMENTATION APPROACH

Two broad strategies have been suggested for implementing the bicycle boulevard system. The first is a city-wide approach and the second is a neighborhood-based approach.

#### Approach 1 - City-wide

- Install signs and pavement legends along all Bicycle Boulevards.
- Install devices to help cross all major streets (would need a large grant to do all simultaneously or would need to develop a prioritization scheme).
- Install unique pavement treatment with scheduled repaving program.
- Remove selected STOP signs and replace one by one with alternate traffic calming (would need to develop a prioritization scheme).

#### Approach 2 - Neighborhood Based

Work with one neighborhood at a time, looking at all of the bicycle boulevard segments in that neighborhood. Address all the elements and issues along the bicycle boulevards in that neighborhood:

- Install signage and pavement legends.
- Install devices to help bikes and pedestrians cross all major streets.
- Install unique pavement treatment with or without scheduled repaving program.
- Remove selected STOP signs and replace one by one with other traffic calming devices.

## Suggested Approach

Based on what was heard at the public workshops and the input of the Bicycle Subcommittee, it is recommended to take elements of both approaches. First, a citywide signing and awareness program is recommended. This citywide awareness program would consist primarily of signing and pavement legends.

The second step is addressing the most difficult streets to cross. The number of intersections that can be addressed will depend on the type of treatment needed and funding availability from local and grant sources. This process should involve local residents to select a compatible tool from Category E.

Finally, it is recommended to implement the remaining elements on one boulevard at a time, working closely with local residents. The remaining elements include: unique pavement treatment, and STOP sign removal and replacement with appropriate traffic calming devices. It would be most cost-effective to work with neighborhoods in the order that their streets are scheduled for repaving. This phase should also incorporate other neighborhood traffic issues as feasible.

## PRIORITY RECOMMENDATIONS

The following recommendations are in priority order, following the suggested approach detailed above.

### 1. Install Signing and Pavement Legends on All Bicycle Boulevards

**Preferred Strategy:** Use city funds to get grant to install signs and legends citywide.

- Most likely funding source: city funds as local match to TFCA or TDA funds.

### 2. Devices to Help Cross Major Streets

**Preferred Strategy:** Obtain large grant to cover all signals needed.

- Most likely funding source: Safe Routes to School-Hazard Elimination

**Alternate Strategy:** Prioritize major intersections according to volume of ADT and volume of bike traffic.

- Most likely funding source: city funds as local match to BLA Account

### 3. Install Unique Pavement Treatment in Conjunction with Scheduled Repaving - See Table 6-1

**Strategy:** In conjunction with scheduled repaving for those scheduled within the next five years.

- Most likely funding source: city funds, TDA, TFCA

**Strategy:** Seek Grant funding for those scheduled for beyond the next five years.

- Most likely funding source: grant funding e.g. TLC

#### **4. Remove Unwarranted STOP Signs and Replace as Needed with Traffic Calming Devices**

**Preferred Strategy:** Work with neighborhoods when street is scheduled for repaving.

- Most likely funding source: grant funding e.g. TLC

#### **5. School Area Safety Improvements and Improved Awareness**

**Strategy:** Implement demonstration project on non-bicycle boulevard street; fine tune design details to be compatible with bicycle boulevard concept.

- Most likely funding source: Safe Routes to School-Hazard Elimination

### **RECOMMENDED PHASING PLAN**

The total cost to implement the bicycle boulevards will depend on exactly which strategies are selected. These will not be determined until neighborhood-based meetings are held. However, the total cost of basic elements, i.e. signage and unique pavement treatment, which are applicable to all bicycle boulevards, can be estimated. The cost of traffic calming devices has also been estimated for each individual device, but the total city-wide cost will depend on how many and which devices are selected.

To help the city plan and program funds, including applying for grant funds, the cost to implement the basic elements *city-wide* is presented below along with the costs for devices to help cross major streets and a range of costs for implementing traffic calming. Cost estimates for individual strategies are presented in Chapter 4. These cost estimates were developed in conjunction with City Public Works staff to reflect the actual costs of recent projects.

- Signing and pavement legends: \$600,000
- Colored pavement (one of the unique pavement options): \$3,100,000
- Crossing major streets: \$2,900,000

The cost of additional traffic calming could vary from \$500,000 to \$3,000,000 depending on the device and how school zones are treated. See the strategy sheets in Chapter 4 for estimates for individual strategies.

The cost per bicycle boulevard of just the basic elements, signage, pavement legends and colored pavement (one of the unique pavement options), is presented below along with the total cost (which includes site specific elements):

	<b>Cost of Basic Elements</b> \$	<b>Total Cost</b> \$
Bowditch/Hillegass	250,000	1,000,000
California/King	800,000	1,800,000
Channing Way	470,000	1,400,000
Milvia Street	530,000	1,400,000
Ninth Street	500,000	1,300,000
Russell Street	600,000	1,700,000
Virginia Street	560,000	2,100,000

Given the unlikelihood of being able to implement everything at once, a phasing plan for the next five years was developed. This phasing plan is partially based on the City's scheduled repaving/reconstruction program for city streets. Five of the seven bicycle boulevards, (all but Milvia and Channing), are scheduled to be reconstructed for some or most of their length in the next five years. The 1999 paving plan for the bicycle boulevards is presented in Table 6-1.

<b>Table 6-1</b> <b>SCHEDULED PAVING PROGRAM (ADOPTED 1999)</b>			
<b>Street</b>	<b>Limits</b>	<b>Fiscal Year</b>	<b>Treatment</b>
Hillegass	Woolsey to Ashby	unscheduled	-
Hillegass	From: Dwight Way To: Ashby Avenue	1999/ 2000	R
Bowditch		unscheduled	-
California	From: Hopkins St To: Cedar	2003/4	R
California	Cedar to Russell	unscheduled	-
King	From: Russell To: Ashby	2000/01	R
King	From: Ashby To: city limits	2001/02	R
Eighth	From: N. City limit To: Camelia	2000/01	R
Ninth		unscheduled	-
Russell	From: College Ave To: Claremont Blvd	2002/03	O
Virginia	From: 6 <sup>th</sup> Street To: San Pablo Ave	2000/01	O
Virginia	From: San Pablo Ave To MLK Jr. Way	unscheduled	-

Virginia	From: MLK Jr Way To: eastern end	2000/01	R/S/O
Treatment: R= reconstruct; O=Overlay; S=Slurry; C=Concrete			

The following table outlines a recommended phasing plan to begin to implement the bicycle boulevards.

<b>Table 6-2 RECOMMENDED FIVE YEAR PHASING PLAN</b>			
<b>Fiscal Year</b>	<b>Actions</b>	<b>Responsible Agency</b>	<b>Cost \$</b>
<b>Year 1 – 1999/2000</b>			
	Finalize design and placement of signage and pavement legends	PW	Staff time
	Apply for grant to install city wide signing and pavement legends	AP	Staff time
	Apply for grant to install traffic signals to help cross major streets	AP	Staff time
	Apply for grant to do neighborhood wide traffic calming in conjunction with STOP sign removal	AP	Staff time
	Begin planning with 1st neighborhood group	AP	Staff time
	Install signage and legends, with Hillegass repaving project in consultation with neighborhood group	PW	\$30,000
	Conduct ADTs	PW	Staff time
	Conduct bike counts	BFBC/UC	Volunteer time
<b>Total Cost</b>			<b>\$30,000</b>
<b>Year 2 – 2000/2001</b>			
After receive grant	Install city wide signing and pavement legends	PW	\$150,000*
After receive grant	Install traffic signals to help cross major streets	PW	\$1,500,000*
After receive grant	Remove STOP signs and install traffic calming devices as needed	PW	\$1,000,000*
Scheduled repaving program	Install unique pavement treatment with Eighth St. repaving project in consultation with neighborhood group	PW	\$30,000**

**Table 6-2  
RECOMMENDED FIVE YEAR PHASING PLAN**

<b>Fiscal Year</b>	<b>Actions</b>	<b>Responsible Agency</b>	<b>Cost \$</b>
Scheduled repaving program	Install unique pavement treatment with King St repaving project in consultation with neighborhood group	PW	\$135,000**
Scheduled repaving program	Install unique pavement treatment with Virginia repaving project in consultation with neighborhood group	PW	\$230,000**
<b>Total Cost</b>			<b>\$2,700,000**</b>
<b>Years 3-5 – 2001/2004</b>			
After receive grant	Continue to install traffic signals to help cross major streets	PW	\$1,400,000*
After receive grant	Continue to remove STOP signs and install traffic calming devices as needed	PW	\$2,000,000*
Scheduled repaving program	Install unique pavement treatment with Russell repaving project in consultation with neighborhood group	PW	\$80,000**
Scheduled repaving program	Install unique pavement treatment with California repaving project in consultation with neighborhood group	PW	\$75,000**
<b>Total Cost</b>			<b>\$3,555,000**</b>
<p>* Depending on grant funding.  ** Costs for unique pavement treatment are based on colored asphalt costs, one of the possible pavement treatment options.  AP = Advance Planning, Planning &amp; Development Department  PW = Public Works Department  BFBC = Bicycle-Friendly Berkeley Coalition  UC = University of California Students</p>			

## OUTSTANDING ISSUES RAISED BY THE PUBLIC

Many issues were raised during the public process that could not be addressed in this document, either because they were outside the narrow scope of this study and/or they involved more time than was allocated for this study. These issues are important and should be addressed during the detailed design phase. Some issues may be the subject of a future detailed study. Some of these issues include:

- Improved street lighting for bike safety
- School area traffic congestion and safety issues

- Local traffic problems e.g. casual carpooling
- Desire for new full or half-diverters
- Coordination with other projects e.g. East Bay Greenway Project

## COORDINATION WITH OTHER PROJECTS

There are many planned or potential projects that will affect the bicycle boulevards in the next five years. To be cost-effective and to optimize financing opportunities as well as to ensure that the bicycle boulevards help as many constituencies as possible, the next phase of the bicycle boulevard design plan should coordinate wherever possible with these projects. At a minimum, all interested stakeholders of these projects should be invited to all meetings and workshops and should be included all the mailings related to bicycle boulevard planning.

### Planned or Potential Projects

- Bowditch/Hillegass
  - Alta Bates Neighborhood Quality of Life Study;
  - Repaving of Hillegass 1999/2000
  - UC Underhill Project (Channing to Haste)
- California /King-
  - East Bay Greenway – regional route Richmond to Hayward or even further south
  - Council-funded traffic circles at California/Channing and at California/Allston
  - Repaving
- Channing
  - Council-funded traffic circle at Channing/California
- Milvia
  - Civic Center project will add bike lanes in front of City Hall from Allston to Center.
- Ninth Street
  - Project underway for extending bike path from Heinz to Emeryville border. (mostly if not all funded)
- Russell
  - Repaving
- Virginia
  - Repaving
  - EBMUD water line to be installed.
  - Repaving

### School Area Studies

In addition, there are many schools located on the bicycle boulevards, each of which could justify a detailed traffic study of its own. The next phase of the bicycle boulevard design plan should attempt to

coordinate with and consider school traffic issues. A list of all public schools is included below; this list also includes some private schools:

### **Schools Located along Bicycle Boulevards**

- **Bowditch/Hillegass**
  - University of California (at Bancroft)
  - Willard Junior High (between Derby and Stuart)
- **California/King**
  - Longfellow Elementary School (between Derby and Ward)
  - Malcolm X School (between Ashby and Prince)
- **Channing**
  - Berkeley High School (between Milvia and MLK Jr Way)
- **Milvia**
  - Private School: St. Mary Magdalene School (at Berryman)
  - Arts Magnet Elementary School (between Milvia and Shattuck)
  - Berkeley High School (between Allston and Channing)
- **Ninth**
  - Columbus Elementary School (between Allston and Bancroft)
  - French American School (at Tenth and Grayson)
- **Russell**
  - Le Conte Elementary School (between Fulton and Ellsworth)
- **Virginia**
  - Franklin Elementary School (between San Pablo and Curtis)
  - Arts Magnet Elementary School (between Milvia and Shattuck)
  - Private School (at Milvia)

### **MAINTENANCE OF BICYCLE BOULEVARDS**

The seven bicycle boulevards will need maintenance of their many components. However maintenance costs can be reduced in some areas by the careful selection of materials and practices. These often incur a higher initial capital cost, but are cost-effective in that they reduce maintenance costs. Therefore, wherever the tradeoff can be made, the design guidelines in Chapter 4 have suggested methods that reduce maintenance costs. For example, pavement marking tape has been shown to last as long as the pavement itself, about fifteen to twenty years. It also is the least slippery material. For these reasons, it has been selected as the first choice, and paint, which usually lasts only two years, is not recommended. Also, only colored asphalt integral to the pavement has been recommended rather than surface sealers which would need reapplication every few years depending on traffic levels. Other components such as signs, thermoplastic pavement markings, and traffic signals would need to be maintained through the city's existing maintenance programs.



## MONITORING PHASE

After the installation of the bicycle boulevard strategies described above, an evaluation of the impacts will need to be made. Especially when STOP signs are removed, traffic volumes and speeds should be monitored to ensure that the street has not become significantly more attractive as a through route for motorists. The following strategies could be used if desired by the neighborhoods after the evaluation phase, to address any potential impacts, including to prevent diversion if necessary:

- Turn restrictions from major street.
- Diagonal Diverters (bikes exempted).
- Forced Right-Turns (bikes exempted).