

CITY OF SANTA ROSA
CITY COUNCIL

TO: MAYOR AND CITY COUNCIL
SUBJECT: HUMBOLDT STREET BIKE BOULEVARD PROJECT
ALTERNATIVES
STAFF PRESENTER: NANCY ADAMS, TRANSPORTATION PLANNER
PUBLIC WORKS DEPARTMENT

AGENDA ACTION: RESOLUTIONS

ISSUE(S)

Should the City Council provide staff direction on project alternatives 1) traffic circles, one speed table and diverter at Pacific Avenue, 2) traffic circles and one speed table, 3) speed tables and one traffic circle, and 4) no project, which can be evaluated in the California Environmental Quality Act (CEQA) document?

BACKGROUND

1. On April 14, 2009, the City Council approved a pilot project for the Humboldt Street bike boulevard and directed staff to conduct a six month review period once the project was installed. The pilot project was installed in August 2009.
2. The Humboldt Street Bike Boulevard is included in the City's Bike and Pedestrian Master Plan.
3. The following are Bike Boulevard characteristics:
 - A roadway that has been modified as needed to enhance bicyclist's safety, comfort, and convenience. They are designed as places where bicycles and motorized vehicles can share the road. These modifications typically calm traffic and improve pedestrian safety.
 - A roadway that has low traffic volumes and low speeds.
 - An alternative parallel route to busy arterial roads that can serve the bicycling needs of all ages and experience levels.
4. The pilot project included the following elements:

Traffic circles at the intersections of Humboldt Street and Silva Avenue, Humboldt Street and Carr Avenue, Humboldt Street and McConnell Avenue, Humboldt Street and Spencer Avenue.

Bulb outs at the intersection of Humboldt Street and Benton Avenue.

Colored stamped asphalt concrete crosswalks at the intersection of Humboldt Street and Cherry Street.

Pavement markings (bicycle stencil and bike boulevard) and bike boulevard signs: Staff installed 10 pavement markings on Humboldt Street between Lewis Street and Fifth Street (5 in the southbound direction and 5 in the northbound direction). The existing street name signs at the intersections and the advanced street name signs on College Avenue and Pacific Avenue were replaced with "Humboldt Street Bike Boulevard" signs. Directional signs were installed at the project beginning and end points on Lewis Street and Fifth Street along with wayfinding signs indicating distances to various places, such as the Downtown and the Santa Rosa Junior College

5. The review period was extended to consider other traffic calming devices including potential diversion and a recent survey of Humboldt Street residents to install speed tables. The review period including the following meetings:

October 8, 2009 – Community Meeting #1

December 2, 2009 – Redwood Empire Council of Blind - Walkabout

December 10, 2009 – Community Meeting #2

December 15, 2009 – City Council Meeting – Vehicle Movement Prohibitions

December 17, 2009 – Bicycle and Pedestrian Advisory Board (BPAB) Meeting

February 4, 2010 - Bicycle and Pedestrian Advisory Board (BPAB) Special Study Session

February 17, 2010 – Santa Rosa Charter School for the Arts Meeting

February 18, 2010 - Bicycle and Pedestrian Advisory Board (BPAB) Meeting

March 18, 2010 – Bicycle and Pedestrian Advisory Board (BPAB) Meeting

April 2010 – Conducted speed table survey for Humboldt Street

June 17, 2010 - Bicycle and Pedestrian Advisory Board (BPAB) Meeting

July 15, 2010 - Bicycle and Pedestrian Advisory Board (BPAB) Meeting

August 19, 2010 - Bicycle and Pedestrian Advisory Board (BPAB) Meeting

September 16, 2010 - Bicycle and Pedestrian Advisory Board (BPAB) Meeting

6. During the community meeting on December 10, 2009, staff heard roughly an equal number of residents supporting and opposing the proposal to install pilot diversion at Pacific Avenue and Humboldt Street.
7. On December 15, 2009, the City Council directed staff to go back to the BPAB for further discussion of the traffic diversion and a recommendation. City Council heard roughly an equal number of speakers supporting and opposing the proposal to install diversion on Pacific Avenue and Humboldt Street.

8. In February 2010, the City received a petition signed by approximately 300 residents opposing the pilot project.
9. The City received a petition signed by 10 residents supporting the pilot project.
10. During the evaluation period, staff received approximately 580 phone calls, emails and letters related to the pilot project. Generally, there was a balance between the number of residents supporting and opposing the pilot project.
11. Staff conducted a Special Study Session with the BPAB on February 4, 2010 to discuss the traffic diversion and other traffic calming techniques.
12. On February 17, 2010, staff conducted a meeting at the Santa Rosa Charter School for the Arts to discuss the traffic diversion.

Speed Tables -

13. In April 2010, Public Works Department mailed out 258 surveys to property owners and residents on Humboldt Street between Lewis Road and College Avenue. Of the 88 responses, 45 supported the speed tables within their block and 43 opposed the speed tables within their block. (See Attachment A)
14. There was one segment (Lewis Road and Silva Avenue) based on the total number of responses within the block where a majority (79%) of the residents were in support of the installation of the speed tables within their block.
15. The Public Works Department has discussed the speed table design with the Fire Department. Both Departments have developed a design concept that will allow emergency vehicles access across the tables to minimize impacts to the emergency vehicle response times.

Diversion -

16. Traffic diversion is a traffic calming concept that can potentially reduce the amount of cut-through traffic on a residential street. The concept can also be used in conjunction with other measures to create bike boulevards. Traffic diverters are physical barriers installed at an intersection that restrict vehicle movements in selected directions. Paths or cut throughs are provided to allow bicyclists and pedestrians access across the closure. (See Attachment B).
17. One of the goals identified by the Junior College Neighborhood Association (JCNA) was to reduce the amount of cut through traffic on the neighborhood streets.
18. Left turns at the intersection of Pacific Avenue and Humboldt Street are currently permitted when there are gaps in traffic. Through movements in both directions are currently permitted at the intersection. There is one travel lane in each direction at the intersection.

19. The California Vehicle Code states that local authorities adopt resolutions prohibiting entry to, or exit from, or both from any street by means of islands, curbs, traffic barriers or other roadway design features.
20. The partial diversion at Pacific Avenue and Humboldt Street would prohibit north and south through vehicle movements on Humboldt Street and all left turn vehicle movements at the intersection.
21. Bicyclists and pedestrians would be allowed access across the closure at the intersection.
22. The Public Works Department has discussed the partial diversion concept with the Fire Department. Both Departments have developed a design concept that will allow emergency vehicles access across the closure to minimize impacts to the emergency vehicle response times.
23. After considerable discussion at the Bicycle and Pedestrian Advisory Board meetings on February 18, 2010 and March 18, 2010, the BPAB passed the following motions at their June 17, 2010 meeting:
 - (1) support the Department of Public Works recommendation as follows:
 - Retain circles at Silva Avenue, Carr Avenue and Spencer Avenue
 - No stop controls at traffic circles as the Humboldt Street bike boulevard standard, exception being east-west stops provided until new crosswalks can be installed setback from the intersections.
 - Do not remove the traffic circle at McConnell Avenue and Humboldt Street
 - Do not re-instate all way stop control at McConnell Avenue and Humboldt Street
 - Install speed table on Humboldt Street between Lewis Road and Silva Avenue
 - Install additional bike boulevard pavement legends
 - Install colored stamped asphalt concrete crosswalks and bulb outs at the intersection of Humboldt Street and Benton Avenue
 - Install bulb outs at the intersection of College Avenue and Humboldt Street
 - Install colored stamped asphalt concrete crosswalks at the intersections of Humboldt Street and Seventh Street
 - Install radar speed feedback sign on Humboldt Street between Pacific Avenue and Spencer Avenue for the southbound traffic
 - If concurrence is not reached, install a radar speed feedback sign
 - Install bike boxes at the intersection of College Avenue and Humboldt Street
 - (2) install pilot diverters at the intersection of Pacific Avenue and Humboldt Street.

ANALYSIS

Project Alternatives –

1. Listed below are possible project alternatives for the Humboldt Street Bike Boulevard:
 - Alternative 1 – Traffic circles at Silva Avenue, Carr Avenue, and Spencer Avenue, one speed table between Lewis Road and Silva Avenue and a diverter at Pacific Avenue. (Attachment C)
 - Alternative 2 – Traffic circles at Silva Avenue, Carr Avenue, and Spencer Avenue and one speed table between Lewis Road and Silva Avenue. (Attachment D)
 - Alternative 3 – Six speed tables (one between Lewis Road and Silva Avenue, one between Silva Avenue and Carr Avenue, two between Carr Avenue and Pacific Avenue, one between Pacific Avenue and Spencer Avenue, and one between Benton Street and College Avenue) and one traffic circle at Spencer Avenue. (Attachment E)
 - Alternative 4 – No project.
2. Alternative 1, 2 and 3 also include installing additional pavement legends, striping, traffic signal detection improvements, crosswalk treatments, and radar speed feedback sign.
3. If it is the desire of the City Council to pursue Alternative 3, then staff would recommend re-surveying the parcels that did not respond to the speed table survey.
4. If it is the desire of the City Council to install the pilot diverters at Pacific Avenue and Humboldt Street, then staff would recommend that the pilot period conclude within six months of installation. Staff would anticipate returning to Council with the results of the pilot period, including traffic data (indicating potential increases on adjacent parallel and perpendicular streets, such as Slater Street and Spencer Avenue and potential reduction of traffic volume on Humboldt Street) and community responses/sentiment.
5. The Bicycle and Pedestrian Advisory Board and staff recommend that Alternative 3 also be considered along with the other two alternatives.
6. During the evaluation period, staff heard several concerns from the residents, Bill's Community Market and the disabled community about pedestrian safety at the intersections where the traffic circles were installed. Based on the pedestrian count data, the intersection of Humboldt Street and McConnell Avenue experiences high pedestrian volumes. The intersection of Humboldt Street and Benton Avenue where the school is located is an all way stop controlled intersection enabling pedestrians a familiar condition to cross. By removing the traffic circle and re-instating the all way stop control at Humboldt Street and McConnell Avenue, it would provide pedestrians with that familiar condition of an all way stop to cross. Instead of having three traffic circles in close proximity,

pedestrians intimidated by the circles would have an option available to cross Humboldt Street at McConnell Avenue.

7. The cost estimate for Alternative 1 and 2 is \$809,000 (see Attachment F). The cost estimate for Alternative 3 is \$275,000. The City will seek outside funding to implement the permanent project, such as Bicycle Transportation Account funds, Transportation for Clean Air Funds and TDA Article III funds.
8. Staff is recommending that the following modifications be made to the existing pilot project, until the city can secure funding for the permanent design proposal:
 - Striping of crosswalks with paint;
 - Adding temporary planters at the intersections where the traffic circles have been installed and removing the vertical delineators;
 - Remove the traffic circle at Humboldt Street and McConnell Avenue
 - Install speed table on Humboldt Street between Lewis Road and Silva Avenue
 - Install additional bike boulevard pavement legends
 - Install radar speed feedback signs on Humboldt Street
 - Bike Boxes

The colored stamped asphalt concrete crosswalks at the intersection of Humboldt Street and Cherry Street were installed May 2010.

9. The project will need to obtain a California Environmental Quality Act (CEQA) clearance before the Council makes a decision. It is estimated that the CEQA clearance for the project will take six weeks. Once it is complete, staff will ask Council to adopt the CEQA document and approve the project.
10. Attachment G is a memorandum from the Bicycle Pedestrian Advisory Board regarding recommendations for Humboldt Street Bike Boulevard.

RECOMMENDATION

It is recommended by the Department of Public Works that the Council provide staff direction on project alternatives 1) traffic circles, one speed table and diverter at Pacific Avenue, 2) traffic circles and one speed table 3) speed tables and one traffic circle, and 4) no project, which can be evaluated in the California Environmental Quality Act (CEQA) document.

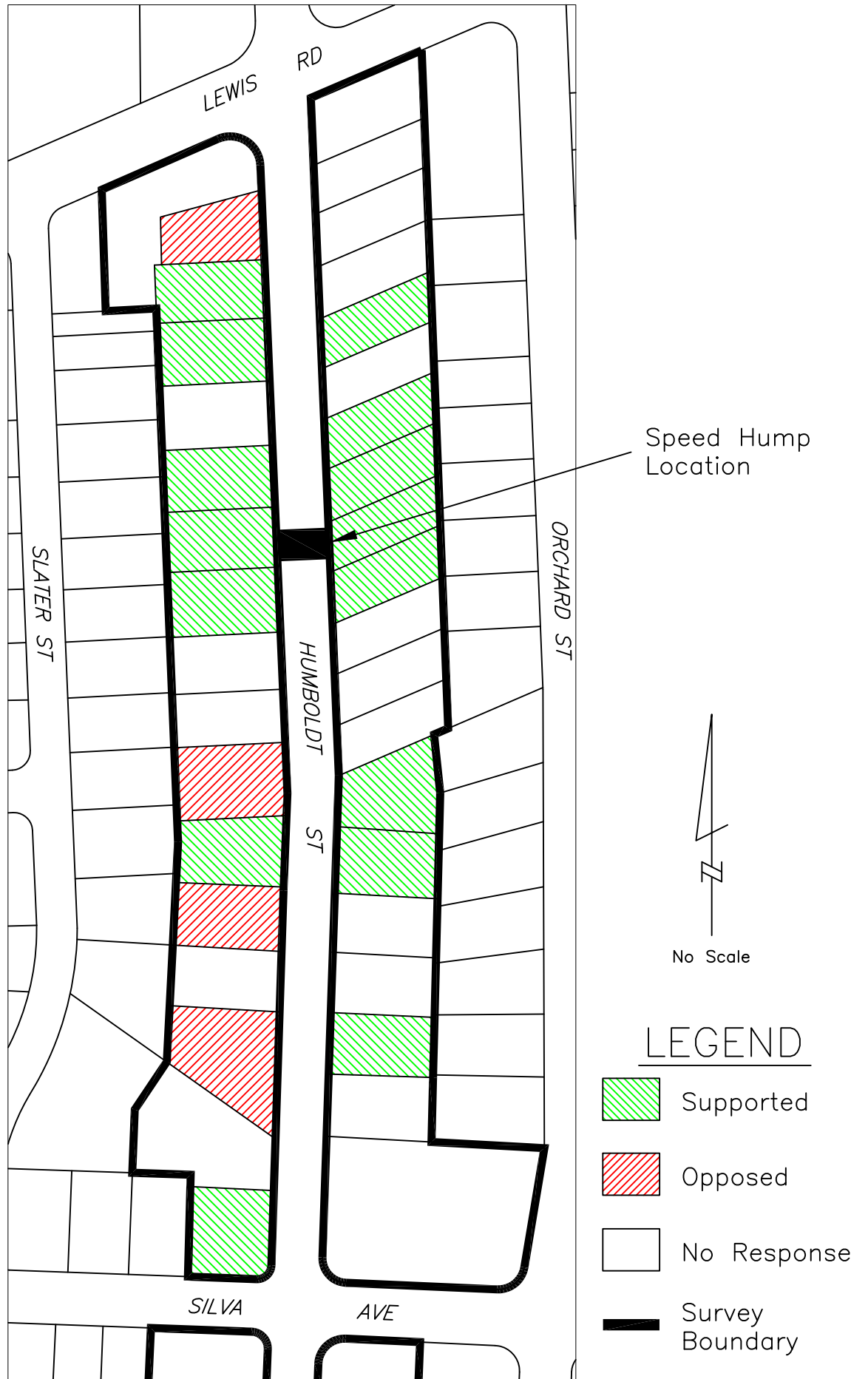
Author: Nancy Adams

Attachments:

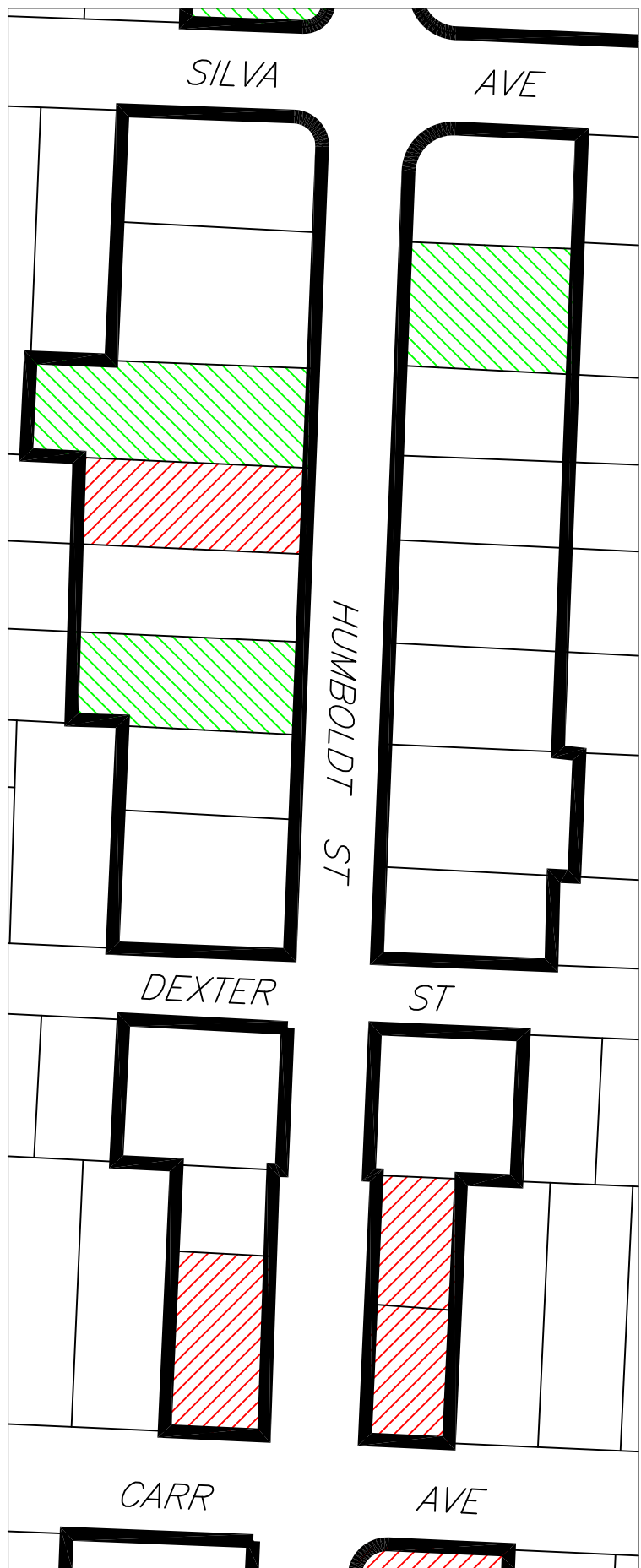
- Map – Speed Table Survey Results – Attachment A
- Humboldt Street Bike Boulevard – Traffic Diversion Example – Attachment B
- Humboldt Street Bike Boulevard Alternative 1 – Attachment C
- Humboldt Street Bike Boulevard Alternative 2 – Attachment D
- Humboldt Street Bike Boulevard Alternative 3 – Attachment E
- Humboldt Street Bike Boulevard Cost Estimate – Attachment F
- Bicycle Pedestrian Advisory Board memorandum – Attachment G

Attachment A – Humboldt St Speed Hump Survey Results

Lewis Rd to Silva Ave







Attachment A – Humboldt St Speed Hump Survey Results
Silva Ave to Carr Ave

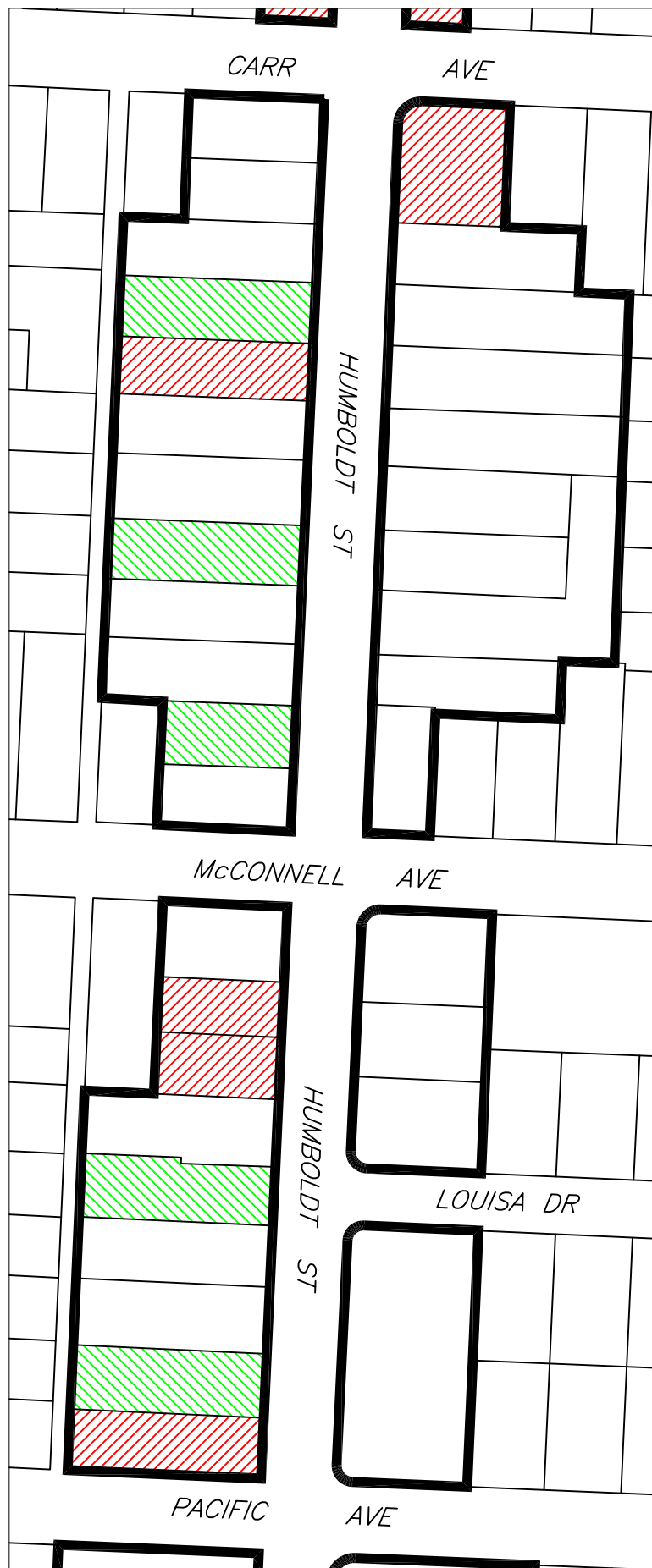


No Scale

LEGEND





-  Supported
-  Opposed
-  No Response
-  Survey Boundary

Attachment A – Humboldt St Speed Hump Survey Results
Carr Ave to Pacific Ave

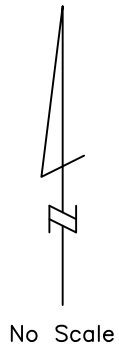


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



LEGEND

-  Supported
-  Opposed
-  No Response
-  Survey Boundary

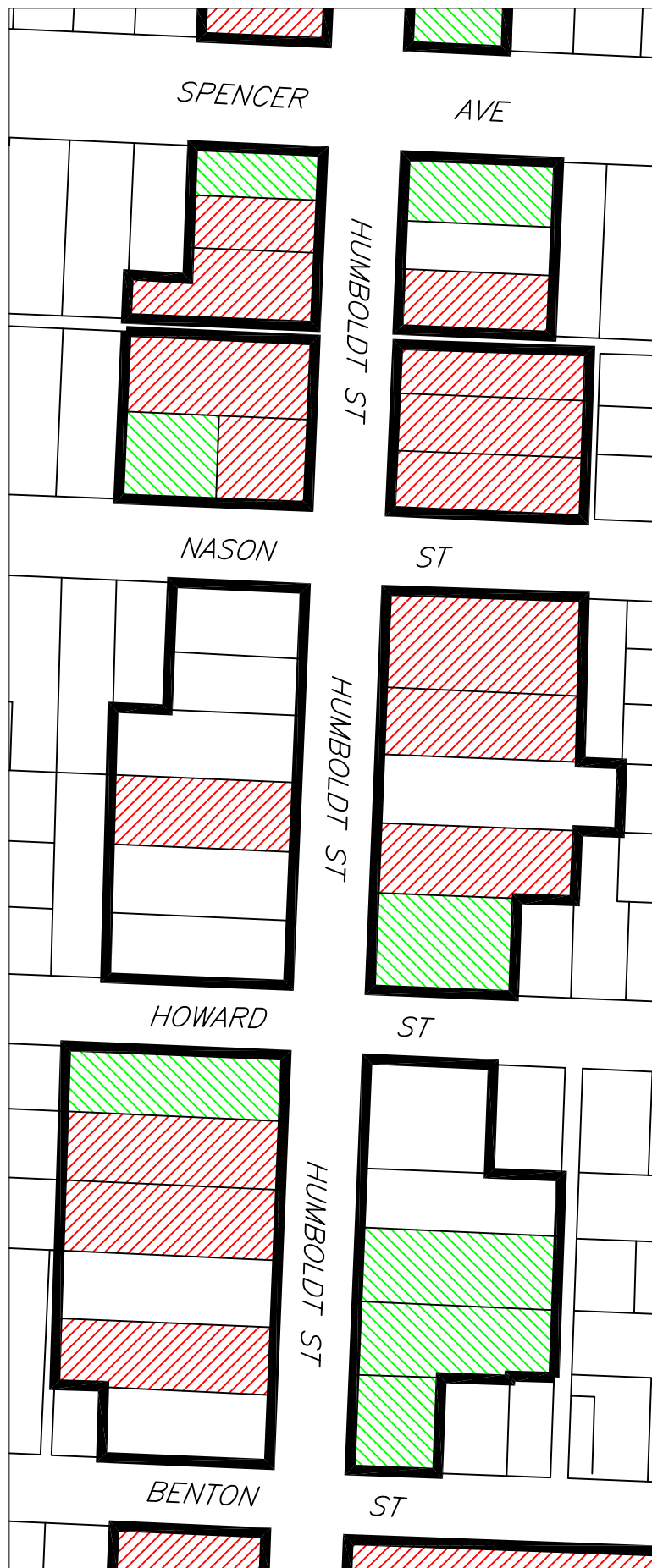
Attachment A – Humboldt St Speed Hump Survey Results
Pacific Ave to Spencer Ave



LEGEND





-  Supported
-  Opposed
-  No Response
-  Survey Boundary

Attachment A – Humboldt St Speed Hump Survey Results Spencer Ave to Benton St

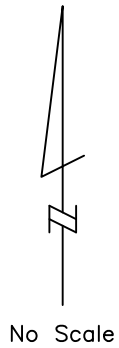
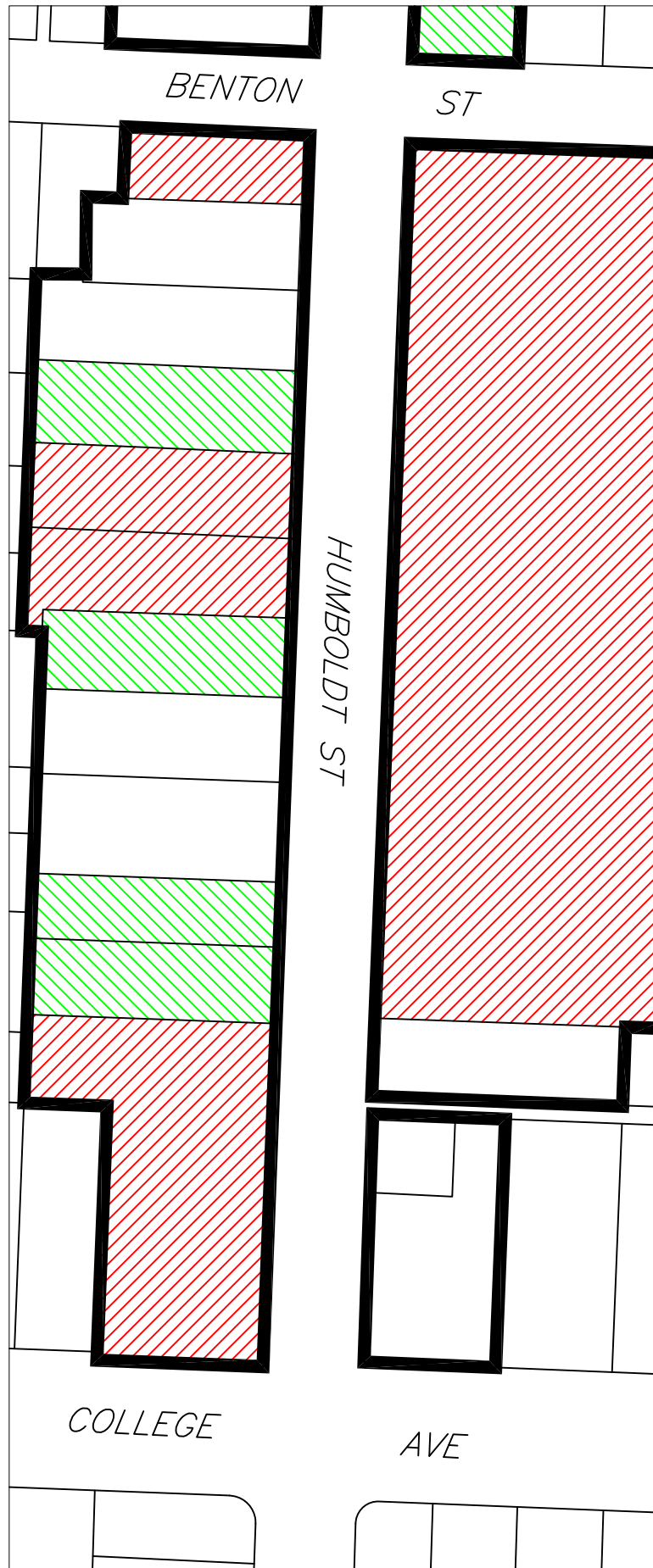


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



LEGEND

-  Supported
-  Opposed
-  No Response
-  Survey Boundary

Attachment A – Humboldt St Speed Hump Survey Results
Benton St to College Ave



LEGEND

-  Supported
-  Opposed
-  No Response
-  Survey Boundary

Attachment B

Diverter Island

Median Island

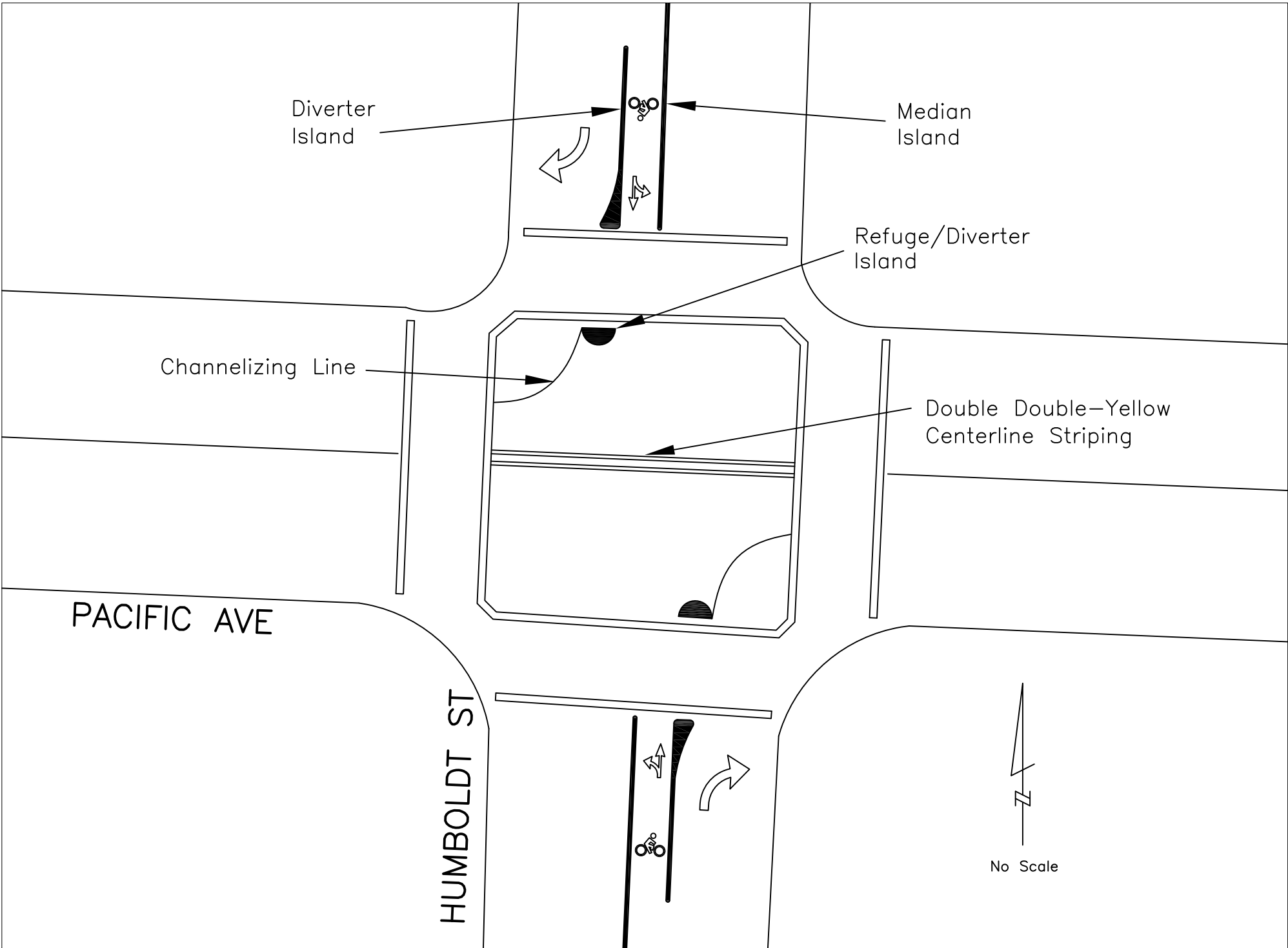
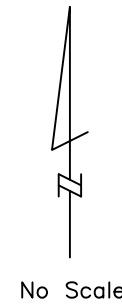
Refuge/Diverter Island

Channelizing Line

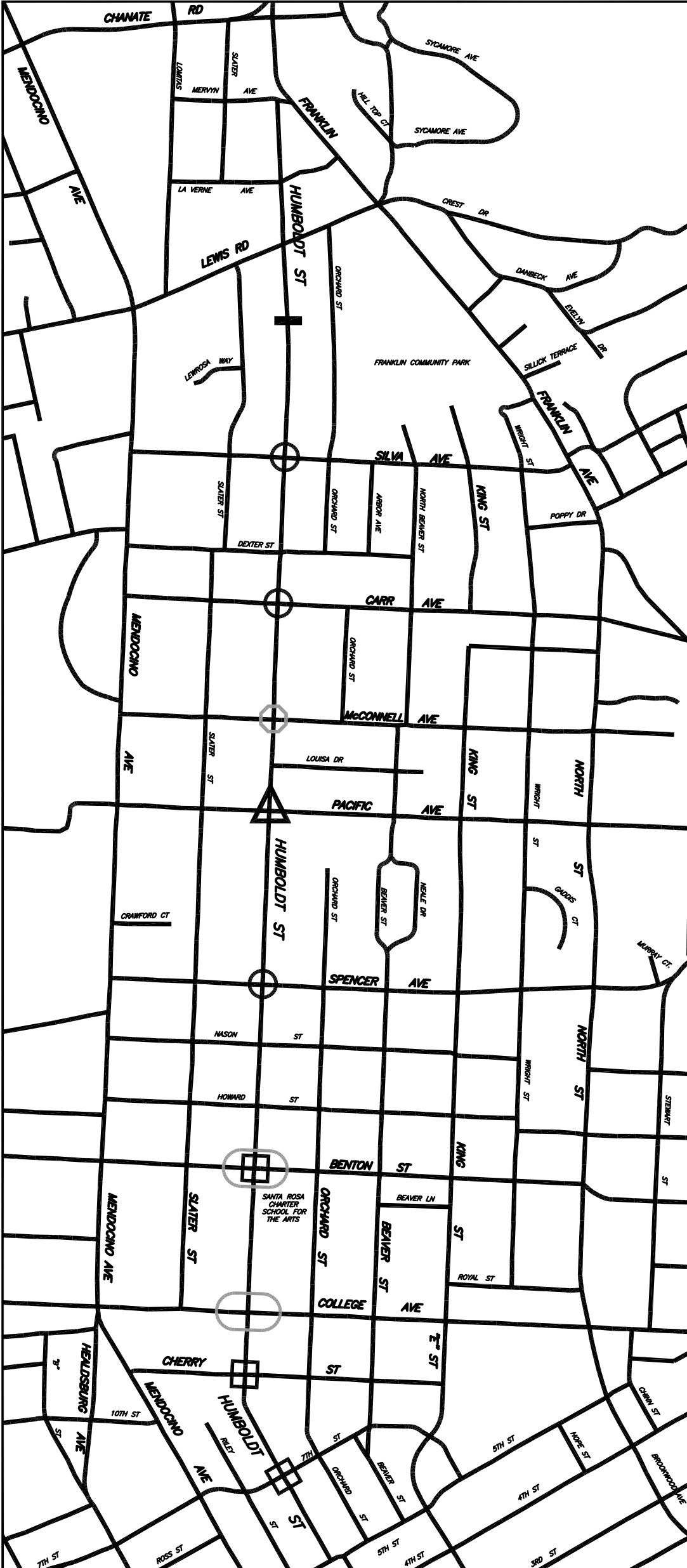
Double Double-Yellow
Centerline Striping

PACIFIC AVE







HUMBOLDT ST



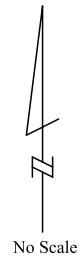
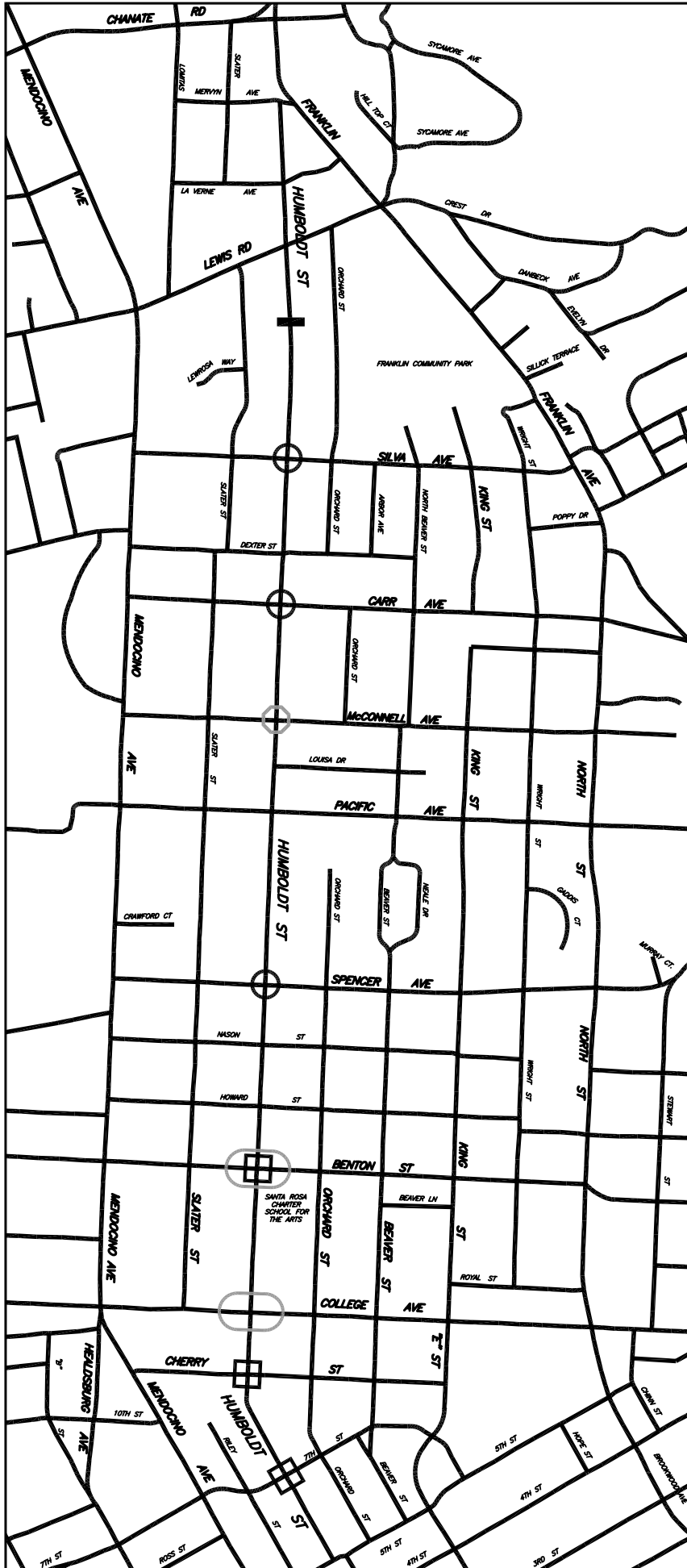
Attachment C
 Humboldt Street Bike Boulevard Alternative 1






LEGEND

-  Proposed Speed Hump
-  Traffic Circle
-  Bulb Out
-  All Way Stop
-  Diverter
-  Stamped Colored AC Crosswalks

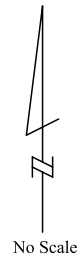
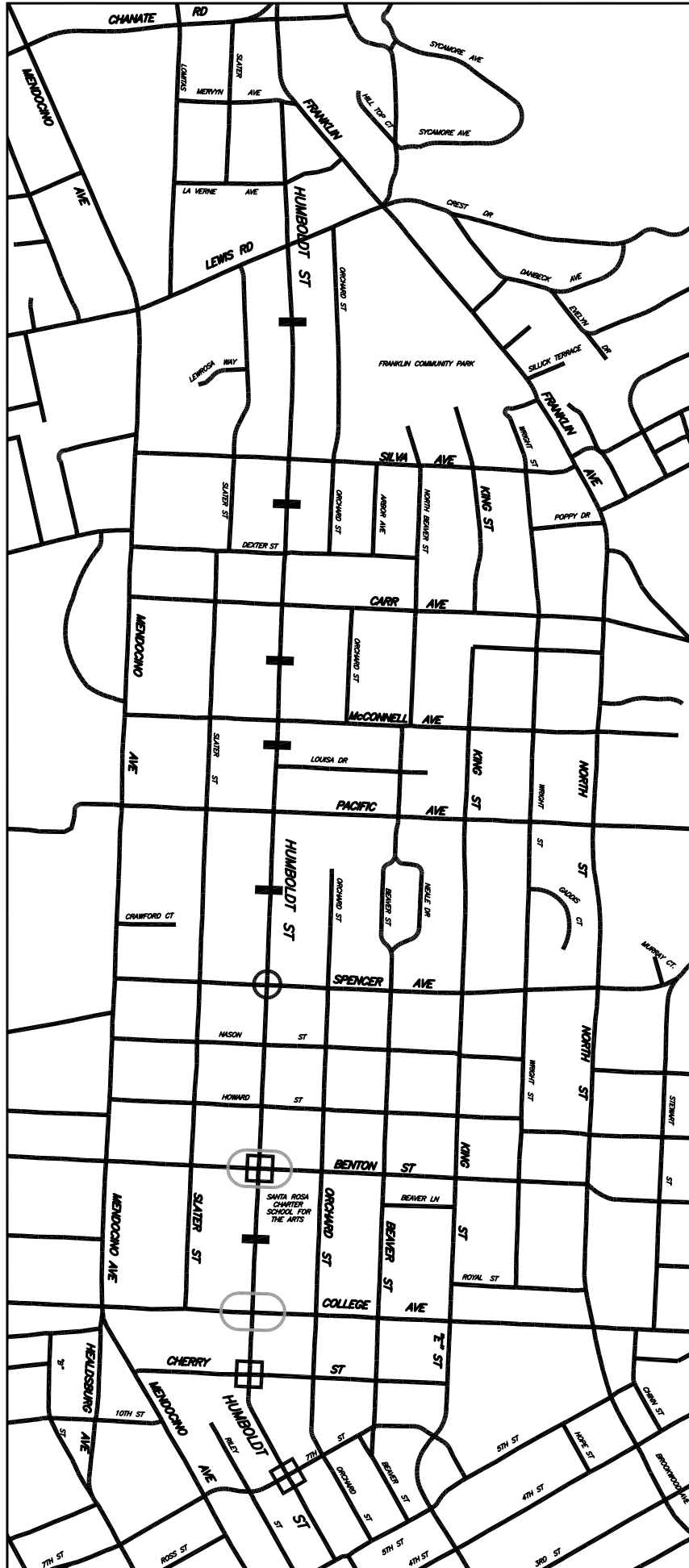
Attachment D
Humboldt Street Bike Boulevard Alternative 2







LEGEND

-  Proposed Speed Hump
-  Traffic Circle
-  Bulb Out
-  All Way Stop
-  Stamped Colored AC Crosswalks

Attachment E
 Humboldt Street Bike Boulevard Alternative 3



LEGEND

-  Proposed Speed Hump
-  Traffic Circle
-  Bulb Out
-  Stamped Colored AC Crosswalks

ATTACHMENT F

Humboldt Street Bike Boulevard Improvements

Traffic Circles at Spencer Avenue, Carr Avenue and Silva Avenue

Item No.	Bid Item	Quantity	Units	Unit Cost	Total Cost
1	Traffic Control	1	LS	10,000.00	10,000.00
2	Type II Catch Basin	4	EA	2,000.00	8,000.00
3	Storm Drain Manhole	2	EA	5,000.00	10,000.00
4	15-inch Storm Drain	120	LF	70.00	8,400.00
5	Roadway Excavation	600	CY	30.00	18,000.00
6	Concrete Curb	80	LF	30.00	2,400.00
7	Bulb-out - Ped Ramp	4	EA	12,000.00	48,000.00
8	Landscaping/Irrigation	1	LS	2,000.00	2,000.00
10	1" Single Water Service on Existing Main	1	EA	5,000.00	5,000.00
12	Water Meter	1	EA	3,300.00	3,300.00
					\$115,100.00

3 locations = **\$345,300.00**

Bulb outs at College Avenue

Item No.	Bid Item	Quantity	Units	Unit Cost	Total Cost
1	Traffic Control	1	LS	5,000.00	5,000.00
2	Type II Catch Basin	4	EA	2,000.00	8,000.00
3	Storm Drain Manhole	2	EA	5,000.00	10,000.00
4	15-inch Storm Drain	120	LF	70.00	8,400.00
5	Roadway Excavation	300	CY	30.00	9,000.00
6	Concrete Curb	80	LF	30.00	2,400.00
7	Bulb-out - Ped Ramp	4	EA	12,000.00	48,000.00
					\$90,800.00

Bulb outs at Benton Street

Item No.	Bid Item	Quantity	Units	Unit Cost	Total Cost
1	Traffic Control	1	LS	5,000.00	5,000.00
2	Type II Catch Basin	4	EA	2,000.00	8,000.00
3	Storm Drain Manhole	2	EA	5,000.00	10,000.00
4	15-inch Storm Drain	120	LF	70.00	8,400.00
5	Roadway Excavation	300	CY	30.00	9,000.00
6	Stamped Asphalt	1,450	SF	10.00	14,500.00
7	Concrete Curb	80	LF	30.00	2,400.00
8	Bulb-out - Ped Ramp	4	EA	12,000.00	48,000.00
					\$105,300.00

Item No.	Bid Item	Quantity	Units	Unit Cost	Total Cost
1	Pavement Legends	6	EA	250.00	1,500.00
2	Radar Speed Sign	1	LS	10,000.00	10,000.00
3	Speed Hump	1	EA	5,000.00	5,000.00
					\$16,500.00

Total Construction Costs = \$557,900.00

Design @ 15% \$83,685.00
 Construction Inspection @ 15% \$83,685.00
 Contingency @15% \$83,685.00

Project Grand Total **\$808,955.00**

Attachment G

CITY OF SANTA ROSA

BICYCLE AND PEDESTRIAN ADVISORY BOARD

MEMORANDUM

DATE: September 16, 2010

TO: CITY COUNCIL

FROM: PAUL KLASSEN, CHAIRMAN, BICYCLE AND PEDESTRIAN ADVISORY BOARD

SUBJECT: Traffic Diverter and Turn Restriction Recommendation

Humboldt Street Bike Boulevard

Background

As a part of the Humboldt Street Bike Boulevard pilot project, the City proposed to install Traffic Diverter at the Humboldt St./Pacific Ave. intersection to preclude left turns and through vehicular movements from Humboldt St., and signed Turn Restrictions precluding left turns onto Humboldt St. from College Ave. The goal of these measures is reducing traffic volumes on Humboldt St. to a level more appropriate for a Bicycle Boulevard. At its December 15, 2009 meeting, the Santa Rosa City Council referred consideration of installing the traffic diversions and imposing the turn restrictions to the City Bicycle and Pedestrian Advisory Board (BPAB) for further evaluation and recommendation.

Review Process

To address this issue, the BPAB held a special study session on February 4, and dedicated portions of the subsequent regular Board meetings to receive public testimony regarding this issue, consider options and refine potential solutions.

The BPAB and Public Works staff evaluated various measures to reduce vehicular speeds and volumes on Humboldt and to reduce conflicts between pedestrians, cyclists and motorists, including speed humps, radar speed signs, additional stop signs on the cross streets and additional pavement markings.

Public and Board Input

Public opinion was divided on the question of diversions, but there was nearly unanimous sentiment in favor of more traffic calming throughout the neighborhood and in favor of speed humps to slow and probably reduce traffic.

The BPAB and virtually all the citizens who participated expressed concerns about the effectiveness of the temporary improvements, especially considering that permanent improvements are not funded and likely several years out.

There was also near unanimity that the temporary circles were unsightly and in need of cleaning up and improvement for them to function until the permanent circles are constructed. Temporary pavement markings at the circles are badly deteriorated and need to be replaced. Likewise, temporary but substantial and attractive planters should be installed in the circle centers right

away. The neighborhood has expressed interest in helping do the plantings. The visual barrier created by planters will help slow traffic, as well as greatly improve the aesthetics of the circles.

Other notable suggestions:

- Monitor vegetation on the corners that might obscure vision of the traffic circles.
- Additional traffic calming and pedestrian safety could be provided by in-street “Yield to Pedestrians in Crosswalk” signs (R1-6) midway across the crosswalks.
- Slight modifications with replacing the existing single curb ramps at these intersections with dual ramps serving each crossing would help provide a safer crossing for pedestrian crossings, at least in the interim until permanent design and improvements can take place.

The Board members felt the diverters were really the last tool to be tried if other measures didn't work and several board members voiced concerns with the lack of effectiveness of the current configurations of the traffic circles, especially with respect to yielding right-of-way and pedestrian safety. As an alternative approach to the diverters and traffic circles, the BPAB's initial recommendations were to remove the traffic circles; install speed humps, two radar speed signs and provide additional pavement markings at locations determined by Public Works staff.

Unfortunately the City process for installing speed humps requires that a 2/3 majority of property owners on each block and the 4 adjacent owners at the humps to consent to the installations.. The City was only able to get consent for one of the 11 locations. Therefore, the project reverted back to keeping the traffic circles and installing a traffic diverter at Pacific Ave. While the public response to diversions was mixed, diverters are a standard measure used to control cut-through traffic as demonstrated by the success of the existing diverter at the north end of Humboldt St.

Conclusion

The BPAB's preference was to install speed humps, radar speed signs and other measures, which could have eliminated the need for traffic circles; however installation of the speed humps did not garner the needed public support, so retention of the traffic circles with some modifications, installation of the diverter at Pacific Avenue and other measures are supported by the Board. The City should consider a revision of current policy or developing a new policy regarding placement of speed humps/tables on high priority bicycle routes such as the Humboldt Bicycle Blvd. The current policy has not been revised since 1991.

The BPAB concurs with the recommendations of Public Works staff with the exception that the Board recommends retention of the traffic circle at McConnell Dr. The BPAB urges the City to make upgrades to the circles and pavement markings as soon as possible and make permanent implementation of the circles a high priority in order to address the safety concerns, particularly for pedestrians

The Board appreciates the opportunity to comment on this project and is especially grateful for the participation and patience of the citizens in the neighborhood.