

SAFE ROUTES TO MARIEMONT ELEMENTARY

Improving Conditions for Walking and Bicycling



Prepared for

Sacramento County Department of Transportation
San Juan Unified School District
California Department of Transportation

Prepared by

WALKSACRAMENTO
Sacramento Area Bicycle Advocates

Draft Report
October 2010

ACKNOWLEDGMENTS

Walk Audit Participants

Daneen Benningson, parent
Lisa Burke, parent
Ted Davini, parent
Virginia Dowd, parent
Wendy Finnecey, parent
Amy Halloran, parent
Deana Hegland, parent
Ethan Hoff, Safe Schools Manager, San Juan Unified School District
Julie Holt, parent
Trish Kotal, President, Mariemont PTA
Paula Lawrence, parent
Jodi LeFebre, parent
Marianne McMorris, parent

Sacramento County Department of Transportation Staff

Ron Vicari, Principal Civil Engineer Bill Irving, Associate Civil Engineer

Sacramento Area Bicycle Advocates Staff

Walt Seifert, Executive Director

WALKSacramento Staff

Anne Geraghty, Executive Director Alexis Kelso, Safe Routes Coordinator
Chris Holm, Project Analyst Terry Preston, Complete Streets Coordinator

EXECUTIVE SUMMARY

This report presents the findings of a walkability assessment and the recommendations for improvements around Mariemont Elementary School.

A walk audit was held on April 21, 2010. Participants included *WALKS*Sacramento staff and parents at Mariemont Elementary including members of the PTA. Key findings among participants were that:

- there is a need for safe walking space on streets leading to school, especially on Las Pasas Way between Corta Way and Las Cruces Way, and
- there is a need for increased visibility of pedestrians and yield rate by motorists at crosswalks near school.

Recommendations for improvements were drafted following the walk audit discussion. The priority of recommendations was discussed on May 12, 2010 with parents interested in Safe Routes to School, many of whom attended the walk audit. At the meeting, every recommendation was reviewed and prioritized based on the need, potential use, and increase in safety. Key recommendations are to:

1. Install sidewalk along school frontage on Chica Way (replace decomposed granite).
2. Mark high-visibility crosswalks on:
 - north crosswalk at intersection of La Sierra Drive and Las Pasas Way,
 - south crosswalk at intersection of La Sierra Drive and Berrendo Drive, and
 - east crosswalk at intersection of Las Cruces Way and Las Pasas Way.
3. Prune vegetation at intersection of La Sierra Drive and Berrendo Drive, and other locations throughout the attendance area as needed to keep sight lines clear for drivers, pedestrians, and cyclists.
4. Provide pedestrian and bicycle safety education to students.
5. Encourage parents to increase visibility of walking and biking to school by walking or riding in groups, wearing bright colors, or carrying bright signs.

It is the intent of *WALKS*Sacramento that these recommendations be considered by SacDOT, the school and school district, and parents in order to increase the safety and numbers of students walking and biking to school.

TABLE OF CONTENTS

ACKNOWLEDGMENTS.....	1
EXECUTIVE SUMMARY	3
INTRODUCTION	5
THE NEED FOR SAFER STREETS.....	5
FUNDING SAFE ROUTES TO SCHOOL	6
SACRAMENTO COUNTY'S SAFE ROUTES TO SCHOOL FIVE E'S PROGRAM	7
THE IMPORTANCE OF THE FIVE E'S.....	7
SCHOOL SELECTION	8
THIS REPORT.....	8
SCHOOL AUDIT LOCATION	9
LOCATION AND NEIGHBORHOOD	9
LOCAL ROADWAY NETWORK.....	9
THE FOUR STEPS OF THE FIVE E'S PROCESS	11
1. SELECTION OF SCHOOL	11
2. SURVEY OF CURRENT TRAVEL MODES AND ATTITUDES	12
3. IDENTIFICATION OF EXISTING PEDESTRIAN AND BICYCLE FACILITY CONDITIONS	12
4. MAKING RECOMMENDATIONS.....	14
FINDINGS	14
1. SURVEY OF CURRENT TRAVEL MODES AND ATTITUDES RESULTS	14
2. WALK AUDIT RESULTS.....	15
RECOMMENDATIONS.....	19
1. COUNTY ENGINEERING IMPROVEMENTS	20
2. SCHOOL PROGRAM IMPROVEMENTS	21
DISCUSSION	24
CONCLUSION	25
WORKS CITED	26
APPENDIX A: RANKING WORKSHEET	27
APPENDIX B: ATTENDANCE BOUNDARY	29
APPENDIX C: IN-CLASS STUDENT TRAVEL MODE SURVEY FORM.....	30
APPENDIX D: PARENT SURVEY FORM.....	31
APPENDIX E: ENGINEERING RECOMMENDATIONS BY PHASE	33
APPENDIX F: SACRAMENTO AREA BICYCLE ADVOCATES BIKE AUDIT REPORT	35



Kids walking to school in Arden Park .

INTRODUCTION

THE NEED FOR SAFER STREETS

The national Safe Routes to School movement is an effort to encourage children to walk and bicycle to school and make it safe for them to do so. Obstacles to safe routes include a lack of infrastructure providing a safe place for walking and cycling and lack of knowledge of how to be a safe pedestrian or cyclist. The Safe Routes to School movement seeks to improve both the physical environment to make walking and cycling safer as well as instill confidence and safe practices in children who walk and bike to school.

Bicycle and pedestrian safety is a priority in Sacramento County. By creating a safe way for children to walk and bike in their neighborhood, Safe Routes to School can decrease the number of people hurt in collisions. From 2000 to 2006, 284 pedestrians ages five through fifteen were hospitalized with a non-fatal injury and eighteen were killed from a collision with a vehicle (EPICenter, Pedestrian Injuries in California n.d.). During that same time, 423 bicyclists ages five

through fifteen were hospitalized with a non-fatal injury and four were killed from a collision with a vehicle (EPICenter, Bicycle-Related Injuries in California n.d.). Kids aren't the only population to benefit from the improvements made as part of the Safe Routes to School program—all users of the road can benefit from improved walking and cycling conditions.

Improving walking and cycling conditions would promote physical activity and a healthful lifestyle among children. The decrease in the percentage of children walking to school in the United States has been dramatic: in 1969 forty-two percent of kids between the ages of five and eighteen walked or biked to school; in 2009 only thirteen percent did. Concurrently there has been a 300% increase in the number of children ages six through eleven considered to be overweight. Promoting walking and cycling to school will establish in children the lifelong importance of health and fitness and teach them how it can be incorporated into everyday activities.

The time to be establishing safe routes to school is now. School districts throughout Sacramento County are facing budget cuts, school consolidation, attendance boundary shifts, and reduced or eliminated busing. Schools are being expanded to hold more students, more classrooms, and more grade levels while the opportunity to ride the school bus decreases and private-vehicle congestion increases. Walking and biking to school relieves congestion, is economical, and creates safer, healthier, and more active communities.

FUNDING SAFE ROUTES TO SCHOOL

There are two distinct Safe Routes to School funding sources: the California SR2S program and the federal SRTS program. Both programs are intended to increase the number of children walking and bicycling to school by making it safer for them to do so. Differences between the two programs are outlined in Figure 1 below.

PROGRAM FEATURES	STATE SR2S	FEDERAL SRTS
ELIGIBLE PROJECTS	Infrastructure	Infrastructure and non-infrastructure
LOCAL MATCH	10% Required	None
TARGETED BENEFICIARIES	Grades K-12	Grades K-8
MAX PROJECT FUNDING AWARD	\$500,000 to \$1 million (including 10% match)	\$500,000 to \$1 Million

Figure 1 Distinctions between state and federal Safe Routes to School programs

The state (SR2S) and federal (SRTS) grant funding cycles have historically opened up every one to three years to receive grant applications. The pool of funding available statewide is generally in the range of \$40-50 million. The high demand for funds that can be used for physical infrastructure makes the applications very competitive. Local jurisdictions are limited to submitting three grant applications per funding cycle, with no guarantee of any being awarded.

SACRAMENTO COUNTY'S SAFE ROUTES TO SCHOOL FIVE E'S PROGRAM

Safe Routes to School Five E's (Five E's) is a three-year program sponsored by the County of Sacramento, Department of Transportation (SacDOT), funded by a \$500,000 federal Safe Routes to School grant. The purpose of the project is to provide support for increasing walking and biking to elementary and middle schools throughout the unincorporated county.

To assist with implementing the scope of the grant, SacDOT contracted the services of *WALKS*Sacramento in June 2008. *WALKS*Sacramento is a community-based non-profit organization dedicated to building walkable communities. *WALKS*Sacramento works with community organizations, public agencies, and individuals on policy change, public education, and review of commercial and residential development to create a pedestrian-friendly environment.

The primary objectives of *Five E's* are to:

- Conduct walkability and bikeability audits to identify barriers preventing students from walking or biking to school at fifteen K-8 schools within unincorporated Sacramento County,
- Encourage schools to initiate walking and bicycling events and programs,
- Hold regional conferences and workshops to encourage, educate and support the development of the *Five E's* and SRTS programs at the school and school district levels,
- Convene a Safe Routes to School Advisory Committee that will meet periodically over the three-year period to provide input to the project, and
- Submit an annual progress report to the Sacramento County Board of Supervisors.

THE IMPORTANCE OF THE FIVE E'S

The *Five E's* project takes its name from the five E's used to identify the different approaches used in building Safe Routes to School: Evaluation, Engineering, Education, Encouragement, and Enforcement.

Evaluation establishes an understanding of the current conditions. This can involve examining transportation facilities as well as identifying attitudes and behaviors related to walking and bicycling. Evaluation focuses how the other four E's can be used to increase walking and bicycling to school. Evaluation should be repeated after implementation of other E's to determine the effectiveness of improvements.

Engineering modifies streets to make them safer for walking and bicycling. Often, pedestrian and cyclist safety-enhancing facilities such as sidewalks, crosswalks, bike lanes, signage, and lighting are absent or do not provide the intended level of safety and need to be remedied before pedestrians and cyclists can safely navigate the area.

Education provides pedestrians and cyclists as well as drivers with knowledge that makes them safe and courteous users of the road. It is important for children to learn their rights and responsibilities.

Encouragement makes walking and bicycling fun for kids. This is often done through providing incentives such as goodie bags, prizes, or class parties to those who walk or bike to school. Getting kids excited about walking and biking can increase the numbers wanting to do so.

Enforcement utilizes the law and law enforcement professionals to remind people of their responsibilities. This approach often targets drivers in school zones to remind them to drive the speed limit, watch for pedestrians, and yield to pedestrians in crosswalks.

As part of the *Five E's* project, *WALKS*Sacramento is using evaluation to assess conditions for walking and bicycling to school and make recommendations which are informed by all five E's. Used individually or in combination, the five E's approach results in safer and more frequent walking and biking.

SCHOOL SELECTION

There are approximately 160,000 students enrolled at 302 K-8 schools in the unincorporated county. Because project funding is limited to assessing fifteen schools, SacDOT and *WALKS*Sacramento developed a ranking worksheet to prioritize schools that have expressed interest in the project (see Appendix A).

Each interested school had to pre-qualify for an audit with a high ranking score resulting from having strong school district and parent and/or teacher support. The schools were scored on a variety of factors including the percentage of students living within one mile of the school, the strength of the school community's connections with the neighborhood residents, the importance of improvements to the school district, and status as a Safe Routes to School Capital Improvement Program project in Sacramento County's Pedestrian Master Plan.

THIS REPORT

This report presents the findings of a walkability assessment around Mariemont Elementary School and the recommendations for improvements based on those findings. It is the intent of *WALKS*Sacramento that these recommendations be considered by SacDOT, the school and school district, and parents in order to increase the safety and numbers of students walking and biking to school. It is also the intent that the process of identifying barriers and making recommendations is clearly outlined and can act as a guide to others, such as school districts, interested in similarly improving walking and biking to schools at other locations.

SCHOOL AUDIT LOCATION

Mariemont Elementary School is a kindergarten through sixth grade school located in an unincorporated area of Sacramento County. 515 students were enrolled during the 2009-2010 school year.

LOCATION AND NEIGHBORHOOD

Mariemont Elementary is located at 1401 Corta Way in the neighborhood of Arden Park. Surrounding land use is single-family homes and was primarily developed in the 1950s.

Mariemont Elementary’s attendance area is bounded by Watt Avenue, Fair Oaks Boulevard, Arden Way, Eastern Avenue, and Maryal Drive (see Appendix B). The school is located near the center of its attendance area.

Cresta Park is less than a quarter mile from Mariemont Elementary. Both Arden Park and Arden Middle School are approximately ¾ mile from Mariemont Elementary and within the Arden Park neighborhood.

LOCAL ROADWAY NETWORK

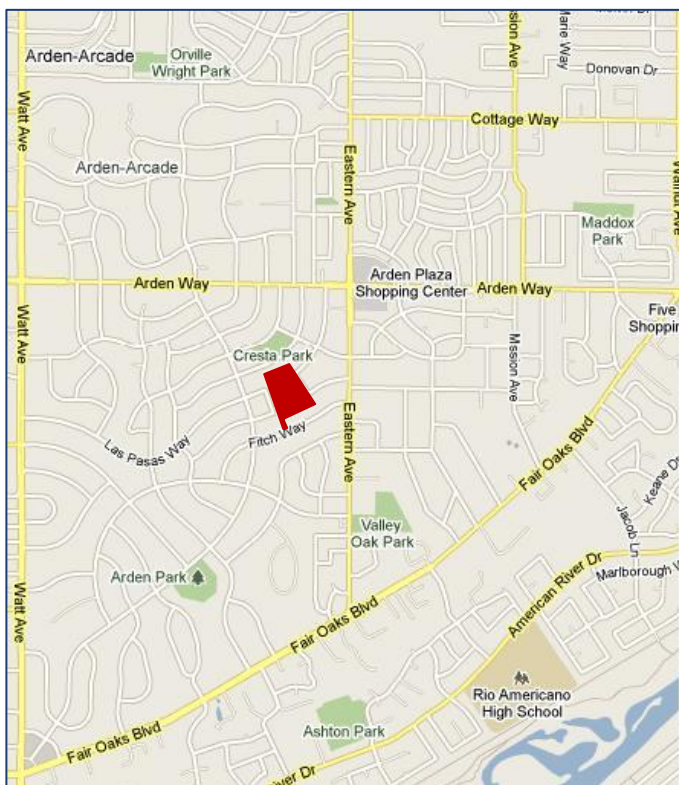


Figure 2 The street network surrounding Mariemont Elementary School

Arden Way and Eastern Avenue are arterials bisecting Mariemont Elementary’s attendance area. In 2009, Arden Way carried 15,397 vehicles daily east of Eastern Avenue and Eastern Avenue carried 16,344 vehicles daily north of Fair Oaks Boulevard (County of Sacramento Department of Transportation 2009). La Sierra Drive is a central roadway for the Arden Park neighborhood. In 2007, La Sierra Drive carried 2,342 vehicles daily north of Arroyo Grande Drive (County of Sacramento Department of Transportation 2009).

The speed limit within the Arden Park neighborhood is 25 MPH. Vehicle speed directly impacts pedestrian safety: 5% of pedestrians involved in collisions with vehicles suffer injuries that are fatal when hit at 20 mph; the chance of fatality jumps to 45% at 30 mph and 85% at 40 mph (National Cooperative Highway Research Program 2004).

Between January 1, 2006 and December 31, 2009 there were eight pedestrian-involved collisions and fourteen bicycle-involved collisions on the segments of Arden Way, Fair Oaks Boulevard, Eastern Avenue, and La Sierra that are within Mariemont Elementary's attendance area (County of Sacramento Department of Transportation 2009). Of these twenty-two collisions, eleven were very near to the intersection of Arden Way and Watt Avenue or Arden Way and Eastern Avenue.

NEARBY PLANNED PEDESTRIAN AND BICYCLE PROJECTS

The Sacramento County Pedestrian Master Plan (PMP) identifies pedestrian infrastructure projects in the County's Capital Improvement Program (CIP), the following of which are near to Mariemont Elementary (Figure 3); location within the PMP is noted in parenthesis:

- Sidewalk on Arden Way, Eastern Avenue, Watt Avenue, Mission Avenue, and Fair Oaks Boulevard (Table 22, Sidewalk or Asphalt Walkway CIP Projects)
- Lighting at San Ysidro Way and Buena Vista Drive, at Watt Avenue and Barrington Road, and on Arden Way (Table 28, Lighting Projects)
- Pedestrian countdown signal at Watt Avenue and San Ysidro Way, Watt Avenue and Northrop Avenue, Watt Avenue and Arden Way, Fair Oaks Boulevard and Jacob Lane, Fair Oaks Boulevard and Wilhaggin Drive, Fair Oaks Boulevard and Lake Oak Court, and Fair Oaks Boulevard and Watt Avenue (Table 26, Pedestrian Countdown Signal Pedestrian CIP Projects)
- Cresta Way path improvement (Table 30, Pathways by Community Area)

Sacramento County's Draft Bicycle Master Plan recommends class II bike lanes be added to La Sierra Drive, Stewart Road, Mission Avenue, and where they are missing on Watt Avenue, Fair Oaks Boulevard, and Arden Way. The plan also recommends a class III bike route be marked on Winding Creek Road.



Figure 3 Portion of Figure 27 from the Sacramento County Pedestrian Master Plan highlighting pedestrian projects near Mariemont Elementary.

THE FOUR STEPS OF THE FIVE E'S PROCESS

This report written for the Sacramento County *Safe Routes to School Five E's* project is the result of a process that involves the following four steps: 1) selection of school, 2) survey of travel modes and attitudes, 3) identification of existing pedestrian and bicycle facilities, and 4) making recommendations.

1. SELECTION OF SCHOOL

As discussed in the introduction, the initial selection of schools for the *Five E's* project was based on a ranking criteria that includes: strong school district and school site interest, and parent and/or teacher support; high percentage of students living within one mile of the school; strength of the school community's connections with the neighborhood residents and organizations; the importance of improvements to the school district; and status as a project in the Pedestrian Master Plan.

Schools were also given points for the degree to which they have the following pedestrian and bicycle deterrents: a high-traffic arterial within the attendance boundary, recent vehicle collisions with pedestrians and/or cyclists near the school, missing sidewalks, an intersection nearby that is not pedestrian- and bicycle-friendly, and pick-up/drop-off issues. Additionally, schools with existing *Safe Routes to Schools* activities were given points for each "E" approach being utilized.

Mariemont Elementary scored high (36 out of 70, see Appendix A) because:

- at least 50% of students live within one mile of the school,
- the school has strong partnerships within the community,
- there are high traffic arterials within the attendance zone,
- there are missing sidewalks near the school,
- there are pick-up/drop-off concerns at the school, and
- the school encourages walking and biking to school through a walk to school program.

Mariemont Elementary was also favorable for a walk audit for having a strong parent leader, Virginia Dowd. Virginia attended the first Sacramento *Safe Routes Five E's* conference in October 2009 and the Starr King K-8 walk audit in November 2009. She initiated Mariemont Elementary's Walk and Roll Wednesday program and can be found every Wednesday morning handing out stickers to students who walked or biked to school. She has also been the liaison between school administration, parents, and *WALKS* Sacramento throughout the walk audit process. Having an enthusiastic parent leader like Virginia makes a walk to school program, a walk audit, and seeking improvements much more likely to be successful and sustainable.

2. SURVEY OF CURRENT TRAVEL MODES AND ATTITUDES

Two surveys were used to collect data on current transportation modes to school and parent attitudes. These surveys were created by the National Center for Safe Routes to School and are available for download on their website (<http://www.saferoutesinfo.org/data>).

A daily in-class survey collected data on how a student traveled to school each day, for a period of three days (see Appendix C). The in-class survey was conducted by the teacher while taking attendance. Students were asked if they walked or biked to school on that particular day. Students responded by show of hands. The teacher then recorded how many students were present that day, how many walked, and how many biked. Surveys are conducted on days with weather conditions suitable for walking. Counts do not include school staff or faculty. The goal of this Five E's program is to increase the number of students who walk and bike to school.

To obtain information on parental attitudes toward walking and biking to school, a two-page survey was provided to Mariemont Elementary parents (see Appendix D). The survey, which was sent home with all students, asked parents how their child gets to school and their reasons for choosing a particular mode. Answers included things such as child's grade, distance from the school, parental concern for safety, and suggestions for street improvements needed before parents will allow the child to bike.

Parents participating in the walk audit process and those who walk or bike with their child to school were also provided a form to inform *WALKSacramento* about obstacles they encounter on their trip to school.

Survey results are discussed in Findings on pages 13 and 14.

3. IDENTIFICATION OF EXISTING PEDESTRIAN AND BICYCLE FACILITY CONDITIONS

Identification of the existing conditions from many perspectives is key to making recommendations that address the needs of all users of the roadway. A range of audit participants allows for the greatest number of obstacles to walking and biking to be identified. Pedestrian and bicycle facility conditions were identified and documented primarily through a process organized by *WALKSacramento*. The walk audit process was completed in four stages: promotion, route surveying, the walk audit, and a post-audit discussion, as detailed below.

Walk Audit Promotion

The walk audit was promoted to encourage input from as many stakeholders as possible. Outreach efforts included phone calls to parents from Principal Dismukes and a flyer sent home with students.

Route Surveying

WALKSacramento reviewed the area around Mariemont Elementary prior to the walk audit. The route for the audit was chosen by parents on the day of the audit. Parents chose a walk featuring all entrance points to school and showed WALKSacramento staff where the obstacles to walking and biking are.

The Walk Audit

The audit was held on Wednesday, April 21, 2010. Participants included three WALKSacramento staff, six Mariemont Elementary parents, and Safe Schools Manager Ethan Hoff.

The walk audit started on Corta Way at the school's main entrance. Participants walked along Berrendo Drive, Eastern frontage road, Fitch Way, La Sierra Drive, Berrendo Drive, Chica Way, on the school path to Cresta Way, Las Cruces Way, and Las Pasas Way back to the front of school.

Parent and transportation engineer Ted Davini, though unable to attend the walk audit, was involved during the process at other meetings and provided WALKSacramento and other walk audit attendees his eleven page assessment of the walking and biking conditions and suggestions for solutions. Ted's report is an informed look at the neighborhood's current obstacles and proposes context sensitive and innovative ideas which can serve as a conversation-starter between the Mariemont Elementary community, Arden Park residents, and SacDOT.

Post-Audit Discussion

After completing the walk, participants reconvened in the multipurpose room to discuss their findings. Parents used notes they made on their walk to annotate a large aerial photo with the problems they observed and possible solutions.



Figure 4 Walk audit participants

After a recommendations review meeting between WALKSacramento and parents, Virginia convened a meeting with Principal Dismukes and the PTA to discuss priorities and next steps.

Staff of Sacramento Area Bicycle Advocates (SABA) independently conducted a bicycle audit of the cyclist

facilities around Mariemont Elementary in June 2010. SABA's report is in Appendix F.

4. MAKING RECOMMENDATIONS

The fourth and last step in preparing this report is to develop recommendations for improvements to pedestrian and bicycle facilities and school site programs which encourage walking and bicycling.

The major obstacles and possible solutions identified during the walk audit process by the community are seriously considered by WALKSacramento when making recommendations for infrastructure improvements. Community input is key because of their familiarity with the neighborhood.

WALKSacramento advocates improvements that incorporate pedestrian design principals. The Sacramento County Pedestrian Design Guidelines identifies the need for the street network to be safe, accessible, easy to use, and inviting to all pedestrians.

Other Sacramento County plans were also consulted, including the Pedestrian Master Plan and the Bicycle Master Plan.



Figure 5 Participants discuss their findings

The priority of recommendations was discussed on May 12, 2010 with Mariemont parents, many of whom attended the walk audit. At the meeting, every recommendation was reviewed and prioritized based on the need, the potential use, and increase in safety. Primary concerns of the group were the lack of defined walking space on heavily traveled routes to school and the safety of crossing at intersections.

FINDINGS

1. SURVEY OF CURRENT TRAVEL MODES AND ATTITUDES RESULTS

In-Class Results

14 classrooms returned student travel mode surveys during March 2010. The student survey results for arrival mode to school on the three reported days are shown in Figure 4 below.

	FAMILY VEHICLE	WALK	BIKE	SCHOOL BUS	CARPOOL	OTHER
TUESDAY	72%	10%	4%	3%	7%	5%
WEDNESDAY	64%	17%	7%	2%	6%	3%
THURSDAY	72%	10%	6%	2%	6%	4%

Figure 6 Travel mode to school results from the In-class Student Travel Mode Survey

Mariemont Elementary has a Walking Wednesday program, which may account for the decrease in use of the family vehicle and increase of walking and biking on Wednesdays.

Parent Results

There were 191 parent surveys returned. Key findings of the parent surveys are shown below. Respondents were allowed multiple responses for most questions so totals may not add up to 100.

- 43% of respondents live within ½ mile of school.
- 14% report that their child typically walks to school.
- 7% report that their child typically bikes to school.
- 125 children have asked to walk to school, 56 have not.
- The top three concerns for parents who do not let their child walk to school are:
 - The amount of traffic along the route to school (65%)
 - The speed of traffic (57%)
 - The safety of intersections and crossings (54%)
- 92% of parents feel the school either encourages or strongly encourages walking and biking to school.
- 81% of parents report that walking and biking to school is either fun or very fun for their child.
- 96% of parents feel that walking and biking to school is either healthy or very healthy
- Many parents commented that they would like to walk or bike, but the need to cross Arden Way or Eastern Avenue prevents them from doing so.

2. WALK AUDIT RESULTS

The walk audit was the primary means of identifying existing conditions in the built environment. The walk audit provided community members a chance to walk the routes to school with *WALKS* Sacramento staff followed by a discussion of specific issues and potential solutions. During the discussion, parents voiced their concern for the lack of safe walking space and inadequate crossing facilities.

Sidewalks and walkways

School access

Mariemont Elementary's campus is unique in that it is accessible from its four sides and access is not restricted by locked gates.

The front of the school and its two parking lots are accessed from Corta Way. Sidewalks are adjacent to most of the parking lot area with the exception of approximately 50 feet in the 1-6 grade lot which was improved during summer 2009. The parking lot sidewalks are designed for access onto campus from within the lots and do not extend along the roadway between driveways or beyond the school frontage.

The back of campus is accessed from Chica Way. This is a very popular access point for students who live west of campus and for parents driving their child to school. A chain link fence with four points of entry onto campus spans the length of Chica Way. Of these four openings only one is gated, though it is never locked. On the street side of the fence, the PTA has installed a decomposed granite path in an effort to create walking space. The decomposed granite path slopes towards the street, collects water in its undulations, and stray granules make the adjoining rolled curb slippery. Of the four openings in the back fence, the outside two have concrete paths through the school's field area to campus buildings.

Campus may also be accessed from Fitch Way. Between two homes on Fitch Way is an approximately 30 feet wide parcel with a concrete path connecting to the on-campus path from Chica Way.

An easement between two homes provides access from Cresta Way. This narrow and lumpy asphalt path is set between the high fences of the adjacent properties. In the middle of the path at its entrance from Cresta Way is a tall metal pole. The asphalt path connects to a concrete path on campus which in turn joins a path from Chica Way.

Neighborhood conditions

The neighborhood of Arden Park does not have sidewalks. Some Arden Park residents strongly opposed the installation of sidewalks when it were proposed by Sacramento County, citing that sidewalks would detract from the aesthetics of the neighborhood and decrease safety.

Streets within Arden Park are bi-directional with on street parking allowed in most locations, the notable exception being on Berrendo Drive between Corta Way and Eastern Avenue where parking is not allowed during school hours. The centerline is marked only on La Sierra Drive. Streets are winding which limits line of sight. Also hindering line of sight is front yard vegetation which, without sidewalks, is grown to the street edge.



Figure 7 The newly constructed sidewalk does not reach the road. Walk audit participants, seen through the fence in orange, are standing at the end of the school driveway on Corta Way.



Figure 8 The decomposed granite path on Chica Way and a concrete path to campus buildings.

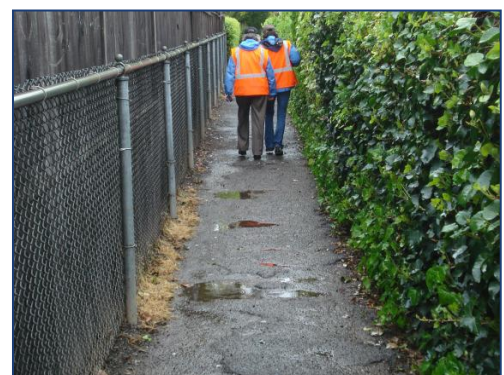


Figure 9 The asphalt path to Cresta Way

Students and other residents were observed walking in the vehicle lane or, where possible, the parking lane. Not all pedestrians walk facing traffic. During morning commute and school drop-off times, a large number of people are walking, biking, and driving in shared space.

Berrendo Drive, Las Pasas Way, Corta Way, and Chica Way are routes leading to campus and the most trafficked by all modes. While sensitive to the character of the neighborhood and intentional lack of sidewalks, parents participating in the walk audit were in favor of a defined walking space on these streets at least during school commute times, particularly on Las Pasas Way between Corta Way and Las Cruces Way. However, due to the history of resident opposition, the constraints of a fully built-out neighborhood, and safety concerns, SacDOT feels that engineering a dedicated walking space is unlikely to occur in the near future without strong demand from residents and support from the Board of Supervisors. Arterials within and bounding the attendance area are generally lacking sidewalks.

Intersections and Crosswalks

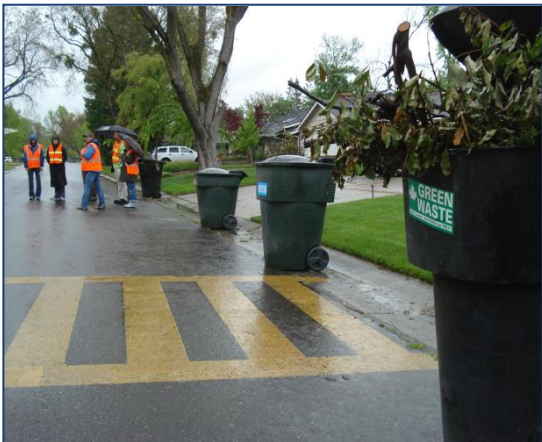


Figure 10 Waste bins obstruct visibility of the midblock crossing on Fitch Way

Many of the intersections in the project area present obstacles for young pedestrians. Most crosswalks are unmarked. Vegetation at some intersections obstructs views of pedestrians and motorists.

For parents on the walk audit, the intersections of highest concern were those nearest the school where Berrendo Drive, Las Pasas Way, and Fitch Way intersect with La Sierra Drive and where Las Pasas Way intersects with Las Cruces Way. Parents would like a higher rate of motorists yielding to pedestrians at the intersection of La Sierra Drive with Berrendo Drive. Midblock high-visibility yellow crosswalks are at the paths from Cresta Way and Fitch Way. Because there are no sidewalks in the neighborhood the crosswalks

lead from the school's paved paths to the curb and front lawn of yards. On Fitch Way, the residents of the home the crosswalk is in front of store their waste bins on either side of the crosswalk which obstructs walking space and view of children waiting to cross. Parents on the walk audit report the waste bins are stored on the street and never brought in.

Bicycle Facilities

There are bike lanes on portions of Watt Avenue, Fair Oaks Boulevard, Eastern Avenue, and Arden Way.

Within in the Arden Park neighborhood, speed limits are low enough to be comfortable for most bicyclists sharing a lane with cars. During WALKSacramento's observations of the neighborhood, La Sierra Drive was seen as a main route for students and their parents bicycling to school, as well as being used by recreational and commuter cyclists.

Many student bicyclists access campus from Chica Way. The paths which lead to campus buildings do not go directly to the bike storage compound. The bike storage compound is surrounded by a tall chain link fence with a gate that is locked during school hours. The compound can hold 190 bikes in the bike racks.

Students are not allowed to bicycle on campus.

Pick up and drop off

Pick up and drop off for kindergarteners occurs in the small parking lot near the school's main office. Grades 1 through 6 pick-up and drop-off occurs in the larger lot to the south. Many parents, particularly those living in Arden Park, drop off their children at the back of campus on Chica Way.

The roads which access the front and back of campus form loops which parents are encouraged to drive counterclockwise. Because streets are narrow and shared by vehicles, pedestrians, and cyclists, when all drivers travel counterclockwise congestion and conflict are reduced. Though there are no restrictions to travelling both directions, most drivers comply with the practice. However, some drivers are not aware of this encouraged practice. The parking restrictions on the south side of Berrendo Drive east of Corta Way make driving counterclockwise inconvenient for parents who want to park and walk their child onto campus.

The practice of driving counterclockwise is an effort to reduce conflict and increase safety of pedestrians and cyclists, but conflict remains when a driver travelling clockwise meets a driver travelling counterclockwise and treating the road as though it were officially one-way and because appropriate places for stopping, parking, and driving are not defined. Parents participating in the walk audit were interested in pursuing one-way restrictions on these loops during school commute hours, particularly in conjunction with establishing a defined walking space.

Parents dropping off children on Chica Way tended to do so as close as possible to the first opening to



Figure 11 Bikes, scooters, and skateboards locked in the compound on International Walk to School Day (also a Walk and Roll Wednesday at Mariemont), October 6, 2010.



Figure 12 Space for stopping, parking, and driving is not defined in the counterclockwise use of Chica Way.



Figure 13 The back up of cars on Berrendo Drive and students walking between cars to the first entrance on Chica Way

campus even though there is another paved path at the opposite end of Chica Way. This caused back up onto Berrendo Drive and parents began letting their children out *before* the first entrance. Those children had to navigate between cars, some attempting to pull to the right to drop off their children while others vehicles continue without stopping, having already dropped off their children.

RECOMMENDATIONS

The goal of the *Five E's* project is to provide recommendations for engineering and program improvements that will increase the safety and number of kids walking and bicycling to school. The engineering recommendations include improvements for safe and inviting places to walk and bicycle, safe crossings, signage and sightlines, and school site traffic flow. The school program recommendations include suggestions for engineering on the school site, education, and encouragement. Appendix E contains a table of engineering recommendations organized by phase.

In a perfect world, there would be no obstacles to making streets safe for everyone, but due to the realities of funding availability, improvements are recommended in phases. While all the following recommendations, including recommendations for school programs, are important to improve the safety of children walking and biking to school, *WALKS* Sacramento has identified improvements which would greatly increase the safety of children based on the present lack of facilities and the number of students using these routes to school. Key improvements for safety are:

1. Install sidewalk along school frontage on Chica Way (replace decomposed granite).
2. Mark high-visibility crosswalks on:
 - north crosswalk at intersection of La Sierra Drive and Las Pisas Way,
 - south crosswalk at intersection of La Sierra Drive and Berrendo Drive, and
 - east crosswalk at intersection of Las Cruces Way and Las Pisas Way.
3. Prune vegetation at intersection of La Sierra Drive and Berrendo Drive, and other locations throughout the attendance area as needed to keep sight lines clear for drivers, pedestrians, and cyclists.
4. Provide pedestrian and bicycle safety education to students.
5. Encourage parents to increase visibility of walking and biking to school by walking or riding in groups, wearing bright colors, or carrying bright signs.

These recommendations reflect the needs of the Mariemont Elementary community at the time of writing and should be reexamined by the community as funding opportunities arise. School program recommendations follow the engineering recommendations below. While making roads safe for children enables them to walk and bike to school, the other four E's are crucial components of a successful walking and biking culture at any school. Frequently, programmatic improvements alone can make the walk to school safer through such things as pedestrian and bicycle education for students and proper pick-up/drop-off procedure education for parents. In the event that Safe Routes to School funding is pursued, including funding for programs (i.e., non-infrastructure projects) would be a natural component and *WALKS* Sacramento urges the School Name community to insure its inclusion.

1. COUNTY ENGINEERING IMPROVEMENTS

1.A Safe and Inviting Spaces to Walk and Bicycle

Just as cars need designated travel lanes, pedestrians need safe places to walk and bicyclists need safe places to ride. Research has shown roads with sidewalks on both sides to be safer than roads with no sidewalks or a sidewalk on only one side (Campbell, et al. 2003).

The Board of Supervisors recently approved Street Improvement Standards that set requirements for sidewalks and bike lanes. These new standards require sidewalks with vertical curbs separated from the roadway by planter strips and bike lanes on all major roadways. The planter strips protect pedestrians from higher volumes and speeds on major roads and create an inviting place for pedestrians. While the new standards do not always apply to existing roadways, it is the County's intent that improvements to existing roadways provide for safety for all users of the road including pedestrians, bicyclists, and the disabled community.

1.A Existing Conditions

- Drivers dropping off students hinder access to campus via Chica Way for pedestrians and cyclists.
- Decomposed granite path on Chica Way is slippery and does not drain well; path is underutilized.
- Parent request for sidewalk on Eastern Avenue.
- High speeds on Eastern Avenue encouraged by excess lanes and width of roadway pose barrier to young pedestrians and cyclists.
- Request from Mariemont Elementary parents for safe walking space in Arden Park is sensitive to history of resident opposition to sidewalk installation.

1.A Recommendations

- Restrict parking on Chica Way at access to paved paths.
- Install sidewalk along school frontage on Chica Way (replace decomposed granite).
- Install sidewalk on Eastern Avenue between Castec Drive and Entrada Road.
- Consider road diet for Eastern Avenue between Surita Street and La Salle Drive.
- Continue to provide resources for the Mariemont Elementary community to increase the safety of walking and biking to school.

1.B Safe Crossings

Safe places to cross streets are essential to a well-connected pedestrian network. Whether marked or unmarked, a crosswalk is the extension of the walkway across an intersection. The California Vehicle Code states, "The driver of a vehicle shall yield the right-of-way to a

pedestrian crossing the roadway *within any marked crosswalk or within any unmarked crosswalk at an intersection* [emphasis added] (State of California Department of Motor Vehicles 2010). However, more drivers and pedestrians recognize the pedestrian's right of way in marked crosswalks than those knowing that pedestrians also have the right of way in unmarked crosswalks (Ragland and Mitman 2007). For this reason many it is beneficial for crosswalks on routes to school to be marked. Whether as a driver or a pedestrian, it is good practice to use care when approaching intersections and crosswalks.

1.B Existing Conditions

- Lack of marked crosswalks in vicinity of school.
- Curb barrier obstructs access at marked crosswalk to Eastern Avenue for wheeled users.
- Need for speed reduction and increased driver awareness at midblock crosswalks on Cresta Way and Fitch Way.
- Vegetation obstructs line of sight at intersection of La Sierra Drive and Berrendo Drive, and at intersections throughout Arden Park.

1.B Recommendations

- Mark high-visibility crosswalks on:
 - north crosswalk at intersection of La Sierra Drive and Las Pajas Way,
 - south crosswalk at intersection of La Sierra Drive and Berrendo Drive, and
 - east crosswalk at intersection of Las Cruces Way and Las Pajas Way.
- Mark crosswalks on:
 - west, south, and east crosswalks at intersection of La Sierra Drive and Las Pajas Way,
 - west and east crosswalks at intersection of La Sierra Drive and Berrendo Drive,
 - all crosswalks at intersection of La Sierra Drive and Fitch Way,
 - north and south crosswalks at intersection of Las Cruces Way and Las Pajas Way, and
 - west crosswalk at intersection of Berrendo Drive and Eastern Avenue frontage road.
- Consider speed humps near midblock crosswalks on Cresta Way and Fitch Way.
- Prune vegetation at intersection of La Sierra Drive and Berrendo Drive, and other locations throughout the attendance area as needed to keep sight lines clear for drivers, pedestrians, and cyclists.

2. SCHOOL PROGRAM IMPROVEMENTS

Existing Conditions

- Mariemont Elementary has good participation from students and parents in a Walk and Roll Wednesday program.
- Strong parent group has experience with an interest in Safe Routes to School.

2.A Engineering and physical improvements

- Replace decomposed granite path on Chica Way with sidewalk
- Extend sidewalk in school parking lot to Corta Way.
- Ask residents to relocate waste bins on Fitch Way.

2.B Education

- **Pedestrian/Bicycle Safety Education:** Mariemont Elementary should work with SacDOT, *WALKS* Sacramento, Sacramento Area Bicycle Advocates (<http://www.sacbike.org>), and Safe Kids Coalition of Greater Sacramento (<http://www.safekids.org/in-your-area/coalitions/greater-sacramento.html>) to conduct pedestrian and bicycle safety classes. Such a program could be held after school or incorporated into the school day and include such things as safety assemblies, lessons during physical education classes, and bike training courses. The National Safe Routes to School Partnership (<http://www.saferoutespartnership.org>) and the National Center for Safe Routes to School (<http://www.saferoutesinfo.org>) offer information on safety instruction and resources on their websites.

Because parents often walk their children to school and Arden Park residents walk recreationally, Mariemont Elementary should consider partnering with neighborhood organizations to make pedestrian safety education available to adults within the school community.

- **Parent/Driver Education and Enforcement:** Because parents are encouraged to travel counterclockwise by the school during pick-up and drop-off, and because of the backup that occurs when parents stop at the first available place instead of pulling all the way forward, maps detailing preferred pick-up and drop-off procedure should be given to parents at the beginning of the school year and as needed for reminders.
- **School Safety Plan and School Safety Planning Committee:** Each school is required by California law to have a Comprehensive School Safety Plan developed by a School Safety Planning Committee or the School Site Council. The safety plan must include procedures for ingress and egress of students, parents, and school employees. It is recommended that this plan include the safety of walking and bicycling to school through identification of needed infrastructure improvements around the school, as well as a plan for implementation of programmatic measures such as driver-pedestrian-cyclist education and traffic enforcement. Several other schools in local districts have done this and *WALKS* Sacramento can provide model language.

Parents who participated on the walk audit should consider joining the School Safety Planning Committee or School Site Council and should meet with SacDOT and San Juan Unified School District to review high-priority improvements identified in this report such as improvements to street crossings and sidewalks, and to develop an action plan to implement recommendations. The committee should also consider ways to increase safety through education, encouragement, and enforcement.

- **Ongoing Training and Support:** The Mariemont Elementary leadership can take advantage of opportunities to expand their knowledge and experience in safe walking and bicycling programs. This includes attendance at the Sacramento Safe Routes 5 E's Conference, viewing webinars provided by America Walks and the National Safe Routes to School Partnership (<http://www.americawalks.org/srts/>) and networking with other schools and local school districts to share ideas and resources.
- **Support relevant Capital Improvement Program projects:** Some pedestrian projects in the County's Capital Improvement Program (CIP) would directly benefit students walking to Mariemont Elementary. The School name community should work with SacDOT to prioritize these projects and pursue funding.

2.C Encouragement

- **Ongoing Walk and Bike to School Activities:** Mariemont Elementary's Walk and Roll Wednesday program has good participation from students and parents. The organizers should consider expanding walk and roll days to more days of the week.
- **Encourage parent participation in making walking to school safe:** Installing dedicated walking space in Arden Park is a challenge. While such facilities are lacking, Mariemont Elementary parents can still do much to increase the visibility of students walking to school and encourage safe driving behavior from Arden Park residents. Parents are encouraged to make themselves and their children visible by wearing bright colors or safety vests, walking in groups, and carrying signs. The signs already in use for Walk and Roll Wednesdays could be made brighter. Parents can talk to neighbors and friends to remind them to be safe and look out for children.
- **Walking school buses and bike trains:** Like their motorized counterpart—the school bus—walking school buses and bike trains have fixed routes and scheduled stops. Adults lead a group of students walking or biking to school and pick up more students along the way. Walking school buses and bike trains are fun for students, safer than walking alone, and provide a reliable and supervised journey to school.
- **Walking and bicycling route maps:** Development of walking and bicycling maps may encourage parents to allow their children to walk down streets with lower speeds, less traffic, and more sidewalks and safe crossings. These maps can include walking school bus and bike train routes and stops.
- **Encouragement:** Kids will look forward to walking to school with the appropriate motivation. Incentives for walking can include things such as raffling bikes or scooters to

kids who walk or bike, awarding pizza parties to the class with the most students walking or biking, or providing healthy snacks for kids walking home.

For ongoing support and sustainability, a walk/bike to school program should be the responsibility of the walk/bike to school committee within a parent-teacher group, site council, or school safety planning committee. Funding for prizes and other incentives can also be obtained through mini-grants, local businesses and community agencies.

- **International Walk to School Day:** International Walk to School Day is held annually on the first Wednesday in October. Mariemont Elementary already participates in International Walk to School Day and should consider a more robust program such as Walk to School Month. Participation in this event can be encouraged by identifying routes to school and providing pedestrian safety education prior to International Walk to School Day. Consider having class competitions and raffle prizes to encourage student to participate. Parents can support the school's efforts by helping to escort students to school or greeting them as they arrive.
- **May is Bike Month:** May is Bike Month is coordinated by the Sacramento Area Council of Governments (SACOG) and the region's transportation management associations and organizations to encourage more trips throughout the region to be made by bicycle. Activities include numerous events, prizes, meeting other cyclists, and logging miles ridden. Individuals, employers, and schools can pledge to ride any number of miles and then log their progress online (<http://www.mayisbikemonth.com>).

SACOG provides tools and resources to schools for the annual May is Bike Month program. Bookmarks, t-shirts, safety booklets and other materials are available. Schools can securely record students' bicycling trips or they may complete a form and mail it to SACOG. Many schools offer prizes for students or classes who ride the most.

2.D Evaluation

- **Conduct program evaluation:** After walk to school activities are in place, periodic evaluation of the program will help measure the success of walk to school efforts. Evaluation can include travel-mode surveys, parent opinion polls, or even asking students what they like about walking and biking. Evaluation helps make the case for infrastructure improvements and funding.

DISCUSSION

The recommendations contained in this report reflect the objectives to “provide safe and usable pedestrian facilities for all pedestrians” and “to enhance walking as a viable transportation choice to help make Sacramento County a better place to live,” (County of Sacramento Department of Transportation 2005) which are outlined in SacDOT's Pedestrian Design Guidelines, Pedestrian Master Plan, and ADA Transition Plan.

By adding walk to school programs, the increase in walking and biking to school could be high. An example is Mary Deterding Elementary School, a K-6 school in unincorporated Sacramento County in an area without many pedestrian facilities including sidewalks and crosswalks. Promotional efforts generated an increase from 8% to 68% of students walking or biking on special-event walk to school days (County of Sacramento Department of Transportation 2009).

Additionally, the health of kids who begin walking and biking to school would be maintained or improved. For the 2008-2009 school year, 44% of Mariemont Elementary fifth graders passed all six of the healthy fitness zones in California Physical Fitness Test. Statewide only 23.5% passed all six zones (State of California Department of Education 2010). Mariemont Elementary students have a great start to a healthy life, and daily walk and bike trips can teach them to incorporate activity into their day-to-day routine for life.

The Mariemont Elementary community and school area residents have been interested in improving the safety of their streets for many years. Implementing the recommendations in this report could reinforce the pride and sense of community people have in their neighborhood and school.

CONCLUSION

There is great potential to continue to increase the numbers of students walking and bicycling to Mariemont Elementary. The responsibility of improving the safety of children walking and biking to school and increasing the numbers who do so does not fall on one group. The current obstacles to walking and biking are surmountable through the partnership of community leaders, parents, SacDOT, and School district Unified School District, and partner organizations. Partners should pursue funding as opportunities become available. As a final recommendation, *WALK*Sacramento urges San Juan Unified School District, Mariemont Elementary, and community members to adopt this plan and take action together toward implementation.

WORKS CITED

- Association of Pedestrian and Bicycle Professionals. "Bicycle Parking Guidelines." 2002.
- Campbell, B.J., Charles V. Zegeer, Herman H. Huang, and Michael J. Cynecki. *A Review of Pedestrian Safety Research in the United States and Abroad*. University of North Carolina Highway Safety Research Center, 2003.
- County of Sacramento Department of Transportation. 2009.
- "Americans with Disabilities Act Transition Plan." 2005.
 - "Mary Deterding Elementary State-Legislated Safe Routes to School (SR2S) Application (8th Cycle)." 2009.
 - "Sacramento County Pedestrian Master Plan." 2007.
 - *Traffic Counts Program*. 2009. <http://www.sadcot.com/tools/trafficcounts> (accessed November 6, 2009).
- EPICenter. *Bicycle-Related Injuries in California*.
http://www.applications.dhs.ca.gov/epicdata/content/ST_bicycle.htm (accessed December 9, 2009).
- *Pedestrian Injuries in California*.
http://www.applications.dhs.ca.gov/epicdata/content/ST_pedestrian.htm (accessed December 9, 2009).
- National Center for Safe Routes to School. *Submit Data*. 2010.
<http://www.saferoutesinfor.org/data> (accessed February 18, 2001).
- National Cooperative Highway Research Program. *Report 500 Guidance for Implementation of the AASHTO Strategic Highway Safety Plan*. Transportation Research Board, 2004.
- Ragland, David, and Megan Mitman. *Driver/Pedestrian Understanding and Behavior at Marked and Unmarked Crosswalks*. University of California Traffic Safety Center, 2007.
- State of California Department of Education. *2009 California Physical Fitness Test*. 2010.
<http://www.cde.ca.gov/ta/tg/pf> (accessed September 9, 2010).
- State of California Department of Motor Vehicles. "Section 21950.(a)." In *California Vehicle Code*. 2010.

APPENDIX A: RANKING WORKSHEET

Sacramento County Safe Routes 5 E's

School Assessment Selection Criteria



Please fill out the information below

School: Mariemont Elementary School

Address: 1401 Corta Way Sacramento 95864

Street City/Zip

School District: San Juan USD

Supervisor: Susan Peters

Initial Qualifications *(must score "Yes" in all categories)*

YES - The school district leadership is committed to support the project

YES - The school site leadership is committed to the project

YES - The school site has strong parent and/or teacher support for the project

Ranking and Selection Criteria

Q1. Describe the school's community context (max. 25 pts.)

Q1a. Do a significant number of students live within walking and biking distance of the school? (max 10 pts.)

If 50% or more within 1 mile (10 pts)

If 20 % or more within 1 mile (4 pts.)

Q1b. Does the school site have strong organizational, programmatic or physical links with other community resources; e.g. public park, community center, Boy or Girl Scouts neighborhood association? (Yes = 5 pts)

Please list them here:

Strong PTA, walk to school program, pta member attended 2009 Sacramento Safe Routes 5 Es conference, parent group strongly supportive of walk to school program and pursuing infrastructure improvements

_____ Q - 1b. Is school currently listed as a CIP Project (Table 23) in the Pedestrian Master Plan. (10 pts)

Q2. School district priority (max. 10 pts.)

_____ 1st priority (10 pts)

_____ 2nd priority (7 pts)

X _____ 3rd priority (4 pts.)

Q3. What are the Pedestrian and/or Bicyclist problems to be addressed? (max. 20 pts.)

High traffic arterial within school attendance zone (4 pts)

_____ Recent pedestrian/bicycle collisions near school (4 pts)

Missing sidewalks near school (4 pts.)

_____ A problem intersection is nearby (4 pts)

Pick up/drop off problems (4 pts)

Q4. Are there current Safe Routes 5 E's activities under way? (max. 15 pts.)

_____ Education - i.e. pedestrian/bicycle safety instruction. (5 pts)

Encouragement - i.e. Walk to School programs (5 pts.)

_____ "Enforcement - i.e. traffic guards, law enforcement (5 pts.)"

36 **TOTAL points**

Is this school a candidate for a Walk to School toolkit?

Yes _____

No _____

Reviewed and scored by:

Anne Geraghty, Executive Director, WALKSacramento
Name _____

Terry Preston, Project Coordinator, WALKSacramento
Name _____

Alexis Kelso, Project Coordinator, WALKSacramento
Name _____

February 11, 2010
Date _____

+ +

8. Has your child asked you for permission to walk or bike to/from school in the last year? Yes No

9. At what grade would you allow your child to walk or bike to/from school without an adult?

(Select a grade between PK,K,1,2,3...) grade (or) I would not feel comfortable at any grade

Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box

10. What of the following issues affected your decision to allow, or not allow, your child to walk or bike to/from school? (Select ALL that apply)

11. Would you probably let your child walk or bike to/from school if this problem were changed or improved? (Select one choice per line, mark box with X)

- Distance..... Yes No Not Sure
- Convenience of driving..... Yes No Not Sure
- Time..... Yes No Not Sure
- Child's before or after-school activities..... Yes No Not Sure
- Speed of traffic along route..... Yes No Not Sure
- Amount of traffic along route..... Yes No Not Sure
- Adults to walk or bike with..... Yes No Not Sure
- Sidewalks or pathways..... Yes No Not Sure
- Safety of intersections and crossings..... Yes No Not Sure
- Crossing guards..... Yes No Not Sure
- Violence or crime..... Yes No Not Sure
- Weather or climate..... Yes No Not Sure

+ **Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box** +

12. In your opinion, how much does your child's school encourage or discourage walking and biking to/from school?

- Strongly Encourages Encourages Neither Discourages Strongly Discourages

13. How much fun is walking or biking to/from school for your child?

- Very Fun Fun Neutral Boring Very Boring

14. How healthy is walking or biking to/from school for your child?

- Very Healthy Healthy Neutral Unhealthy Very Unhealthy

+ **Place a clear 'X' inside box. If you make a mistake, fill the entire box, and then mark the correct box** +

15. What is the highest grade or year of school you completed?

- Grades 1 through 8 (Elementary) College 1 to 3 years (Some college or technical school)
- Grades 9 through 11 (Some high school) College 4 years or more (College graduate)
- Grade 12 or GED (High school graduate) Prefer not to answer

16. Please provide any additional comments below.

APPENDIX E: ENGINEERING RECOMMENDATIONS BY PHASE



Recommendation	Responsibility
<ul style="list-style-type: none"> • Restrict parking on Chica Way at access to paved paths. • Install sidewalk along school frontage on Chica Way. • Install sidewalk on Eastern Avenue between Castec Drive and Entrada Road. • Consider road diet for Eastern Avenue between Surita Street and La Salle Drive. • Continue to provide resources for the Mariemont Elementary community to increase the safety of walking and biking to school. <ul style="list-style-type: none"> • Mark high-visibility crosswalks on: <ul style="list-style-type: none"> ○ north crosswalk at intersection of La Sierra Drive and Las Pasas Way, ○ south crosswalk at intersection of La Sierra Drive and Berrendo Drive, and ○ east crosswalk at intersection of Las Cruces Way and Las Pasas Way. • Mark crosswalks on: <ul style="list-style-type: none"> ○ west, south, and east crosswalks at intersection of La Sierra Drive and Las Pasas Way, ○ west and east crosswalks at intersection of La Sierra Drive and Berrendo Drive, ○ all crosswalks at intersection of La Sierra Drive and Fitch Way, ○ north and south crosswalks at intersection of Las Cruces Way and Las Pasas Way, and ○ west crosswalk at intersection of Berrendo Drive and Eastern Avenue frontage road. • Consider speed humps near midblock crosswalks on Cresta Way and Fitch Way. 	<p style="text-align: center;">SacDOT</p>
<ul style="list-style-type: none"> • Prune vegetation at intersection of La Sierra Drive and Berrendo Drive, and other locations throughout the attendance area as needed to keep sight lines clear for drivers, pedestrians, and cyclists. 	<p style="text-align: center;">SacDOT, Mariemont Elementary</p>
<ul style="list-style-type: none"> • Replace decomposed granite path on Chica Way with sidewalk • Extend sidewalk in school parking lot to Corta Way. • Ask residents to relocate waste bins on Fitch Way. 	<p style="text-align: center;">San Juan USD, Mariemont Elementary</p>

APPENDIX F: SACRAMENTO AREA BICYCLE ADVOCATES BIKE AUDIT REPORT

Mariemont School Report

On site evaluation was done in June 2010.

Key findings

Access to the front of the school for students walking and biking is complicated by the proximity of Eastern Avenue, lack of sidewalks, the lack of connectivity to local, neighborhood streets and the vehicle drop off and pick up zones.

The school's access from the back is near ideal for students biking. Access is fair for students walking but lack of sidewalks makes it less than ideal.

Bicycle access is very good in the close-in area bounded by Eastern, El Camino, Walnut avenues and Arden Way. Distance and crossing these arterials degrades access from the parts of the school enrollment area that lie outside this central zone.

Bicycle parking at the school could be improved.

Existing conditions

General setting

The area around the school is almost entirely residential and suburban. Housing is predominantly single family homes. There are some commercial areas on Arden Way. In general, the surrounding neighborhoods have no sidewalks on local streets.

Except for the Arden Way and Eastern Avenue arterials, all the streets are local, neighborhood streets with a speed limit of 25 MPH. The streets are not on a perpendicular grid pattern with smaller block sizes, so do not connect as well as they could. However, though many of the streets are curvilinear, in general there are multiple routes to the school available, especially the back of the school, since there are few cul-de-sacs or discontinuous streets. On street parking is allowed, but cars parked on the street are uncommon.

Many intersections in the area have corners that do not meet the county's standards for visibility. It's uncertain what this impact has on the safety of child pedestrians. On the one hand, the nonconforming fences and shrubbery can block the sight of a children from a motorist's eyes. On the other hand, many motorists likely drive more slowly and cautiously because a vehicle as well as a child could be around the corner.

Arden Way and Eastern Avenue are busy arterial streets that run through the Mariemont's enrollment boundaries. Both have bike lanes. Crossing either street would be a challenge for an elementary school student so the streets are barriers to walking and bicycling.

School campus

The school is on Corta Way, a very short street between Las Pasas Way and Barendo Drive. It is a block west of Eastern Avenue.

The school has an entrance and exit driveway from each of its two parking lots plus another driveway. The front of the school has paved areas that function as sidewalks but do not have curb cuts.

Other access

There is a paved playground behind the school and grassy playing fields beyond the playground. There are two paved walkways through the grassy area that connect to Chica Way. To the south the walk is asphalt and about 8 feet wide. To the north it is concrete and about 4 feet wide. The northern sidewalk has a spur that connects to Cresta Way near Cresta Park. The inconspicuous narrow spur runs between two homes. It is fenced on both

sides with some encroaching greenery. It has buckled asphalt pavement and there is a tall bollard in the middle at the Cresta Way entrance.

School rules were that students walked bikes on campus.

Walk and Roll Wednesdays banner was up on the schoolyard fence.

Bicycle parking

There is a chain-link fenced bicycle parking compound behind the school. It contains six schoolyard racks properly positioned so they are accessible from both sides. There was ample room for bikes with 190 nominal spaces in the racks. Twenty-one bikes were observed in the compound on June 7 and one bike was parked outside the compound.

Bicycle commuting by faculty and staff

According to office staff, no faculty or staff members commute by bike. There were no showers or clothing lockers available for faculty or staff.

Access from north

The most bike-friendly route from the north would be via Maple Glen Road and La Sierra Blvd.

Arden Way is a barrier from students who live north of it. Northbound and southbound vehicle traffic on Maple Glen and La Sierra are not permitted to proceed straight through the intersection they form with Arden Way. Vehicle traffic must turn right or left onto Arden Way. That means through bicyclists using the intersection must use the crosswalk on the east side of the intersection. To cross the street, they must activate the traffic signal with push buttons.

Near the school there is a marked crosswalk and STOP signs, at Las Pasas and La Sierra. Las Pasas provides access to Chica Way and the back of the school.

Access from east

Primary access from the east is via Barrendo Drive, Las Cruces Way or Arden Way. All these streets are neighborhood streets with low speeds and low traffic volumes. There is little through traffic.

Eastern Avenue is a barrier for students who live east of the school. There are no traffic signals at the intersection of Barrendo Drive or Las Cruces Way with Eastern. However, there is a push-button activated pedestrian signal at the first station on Eastern Avenue that is located between Barrendo and Las Cruces.

Access from south

La Sierra Boulevard is the spine of the superblock formed by Arden Way, Eastern Avenue, Fair Oaks Boulevard and Watt Avenue. It curls up from the southwest corner of the superblock almost at a diagonal towards the northeast and then curves back to the west near Arden Way. La Sierra comes within one block of the back of the Mariemont school campus. Many streets from the south and west connect to La Sierra.

While Sierra is functions as a collector street, traffic speeds and volumes are low. There are many intersections. There are intersections with STOPS at xxx

Parking is allowed on La Sierra and there is one lane in each direction.

Near the school there is a marked crosswalk, but no STOP signs, at Barrendo and La Sierra. Barrendo provides access to Chica Way and the back of the school.

Access from west

El Ricon Way, Las Pasas Way and San Ysidro Way all provide access from the west.

From west of Watt Avenue, San Ysidro or Northrop are logical bicycle routes since they have signalized intersections with Watt. Crossing Watt Avenue at a non-signalized intersection would be very risky for an elementary school student.

Recommendations and discussion

Remove the bollard at the Cresta Way path entrance to the campus.

Widen the north walkway from Chica Way and provide direct access to the bicycle parking compound

Add STOP signs on La Sierra at Barrendo Drive.

Remove the curb along the frontage road on the west side of Eastern Avenue at the signalized crosswalk to the fire station

Install School signs on Berrendo Drive and Las Pasas Way east of La Sierra Blvd.

Install a full or partial cover for the bicycle parking compound.

Check signal timing at Watt Avenue intersections with San Ysidro Way and Northrop Avenue to ensure it is adequate for bicyclists. .

Students should be allowed to bike on campus, at least from the back side, to the bicycle parking compound.

Install BIKES OK ON SIDEWALK signs or similar on the east side of Eastern Avenue between Las Cruces Way and Barrendo Drive.

Rework the La Sierra, Arden Way, Maple Glen intersection so bicyclists can proceed straight through.

Relocate the pushbutton on the pole for the pedestrian signal on the south side of Arden Way at La Sierra Blvd. so that it is on the west side of the pole.

General recommendations for school campuses
See Bicycle Access Model School Campus Guidelines.

In particular for Mariemont, Web site information could be improved.



909 12th Street #122
Sacramento CA 95814

916.446.9255
info@walksacramento.org
www.walksacramento.org