Public Works Department
Engineering Services Division

REQUEST FOR PROPOSAL (RFP) NUMBER 150694

FOR PROFESSIONAL SERVICES

CHARLESTON / ARASTRADERO CORRIDOR PROJECT

RFP submittal deadline:	**3:00 P.M.** **TUESDAY, July 02, 2013**
Contract Administrator: **(Email address)**	**John Montenero**

CITY OF PALO ALTO
PURCHASING/CONTRACT ADMINISTRATION
250 HAMILTON AVENUE
PALO ALTO, CA 94301
(650) 329-2271

REQUEST FOR PROPOSAL (RFP) NO. 150694
FOR PROFESSIONAL SERVICES

TITLE: Charleston / Arastradero Corridor Project

1. INTRODUCTION

The City of Palo Alto is seeking proposals from qualified firms to provide professional services for streetscape and pedestrian improvements along Charleston / Arastradero corridor. The required services and performance conditions are described in the Scope of Work (or Services). The City has budgeted a maximum of $250,000 for these services in the 2011/2012 Fiscal Year.

2. ATTACHMENTS

The attachments below are included with this Request for Proposals (RFP) for your review and submittal (see asterisk):

Attachment A – Proposer's Information Form*
Attachment B – Scope of Work/Services
Attachment C – Sample Agreement for Professional Services
Attachment D – Sample Table, Qualifications of Firm Relative to City's Needs
Attachment E – Cost Proposal Format
Attachment F – Insurance Requirement

The items identified with an asterisk (*) shall be filled out, signed by the appropriate representative of the company and returned with submittal.

3. INSTRUCTIONS TO PROPOSERS

3.1 Pre-proposal Conference

No pre-proposal conference scheduled.

3.2 Examination of Proposal Documents

The submission of a proposal shall be deemed a representation and certification by the Proposer that they:

3.2.1 Have carefully read and fully understand the information that was provided by the City to serve as the basis for submission of this proposal.
3.2.2 Have the capability to successfully undertake and complete the responsibilities and obligations of the proposal being submitted.

3.2.3 Represent that all information contained in the proposal is true and correct.

3.2.4 Did not, in any way, collude, conspire to agree, directly or indirectly, with any person, firm, corporation or other Proposer in regard to the amount, terms or conditions of this proposal.

3.2.5 Acknowledge that the City has the right to make any inquiry it deems appropriate to substantiate or supplement information supplied by Proposer, and Proposer hereby grants the City permission to make these inquiries, and to provide any and all related documentation in a timely manner.

No request for modification of the proposal shall be considered after its submission on grounds that Proposer was not fully informed to any fact or condition.

3.3 Addenda/Clarifications

Should discrepancies or omissions be found in this RFP or should there be a need to clarify this RFP, questions or comments regarding this RFP must be put in writing and received by the City no later than 1:00 p.m., Wednesday (*the one before the proposal deadline*), 06/26/2013, 2010. Correspondence shall be addressed to John Monternero, Contract Administrator , City of Palo Alto, 250 Hamilton Avenue, Palo Alto, CA 94301 or e-mailed to john.montenero@cityofpaloalto.org. Responses from the City will be communicated in writing to all recipients of this RFP. Inquiries received after the date and time stated will not be accepted and will be returned to senders without response. All addenda shall become a part of this RFP and shall be acknowledged on the Proposer's Form.

The City shall not be responsible for nor be bound by any oral instructions, interpretations or explanations issued by the City or its representatives.

3.4 Submission of Proposals

All proposals shall be submitted to:

City of Palo Alto
Purchasing and Contract Administration
250 Hamilton Avenue, Mail Stop MB
Palo Alto, CA 94301

Proposals must be delivered no later than 3:00 p.m. on Tuesday, July 02, 2013. All proposals received after that time will be returned to the Proposer unopened.

The Proposer shall submit 3 copies of its proposal in a sealed envelope, addressed as noted above, bearing the Proposer's name and address clearly marked, **"**RFP NO. 150694 FOR PROFESSIONAL SERVICES: Charleston / Arastradero Corridor Project." The use of double-sided paper with a minimum 30% post-consumer recycled content is strongly encouraged. Please do not submit proposals in plastic binders.

3.5 Withdrawal of Proposals

A Proposer may withdraw its proposal at any time before the expiration of the time for submission of proposals as provided in the RFP by delivering a written request for withdrawal signed by, or on behalf of, the Proposer.

3.6 Rights of the City of Palo Alto

This RFP does not commit the City to enter into a contract, nor does it obligate the City to pay for any costs incurred in preparation and submission of proposals or in anticipation of a contract. The City reserves the right to:

- Make the selection based on its sole discretion;
- Reject any and all proposals;
- Issue subsequent Requests for Proposals;
- Postpone opening for its own convenience;
- Remedy technical errors in the Request for Proposals process;
- Approve or disapprove the use of particular subconsultants;
- Negotiate with any, all or none of the Proposers;
- Accept other than the lowest offer;
- Waive informalities and irregularities in the Proposals and/or
- Enter into an agreement with another Proposer in the event the originally selected Proposer defaults or fails to execute an agreement with the City.

An agreement shall not be binding or valid with the City unless and until it is executed by authorized representatives of the City and of the Proposer.

4. PROPOSED TENTATIVE TIMELINE

The tentative RFP timeline is as follows:

RFP Issued	June 04, 2013
Pre-Proposal Meeting	N/A
Deadline for questions, clarifications	June 26, 2013
Answers provided to questions	June 28, 2013
Proposals Due	July 2, 2013
Finalist Identified	July 9. 2013

Consultant Interviews	TBD
Consultant selection and contract preparation	July 15, 2013
Contract awarded	August 5, 2013
Work commences	TBD via NTP

5. INFORMATION TO BE SUBMITTED (to be submitted in this order only)

These instructions outline the guidelines governing the format and content of the proposal and the approach to be used in its development and presentation. The intent of the RFP is to encourage responses that clearly communicate the Proposer's understanding of the City's requirements and its approach to successfully provide the products and/or services on time and within budget. Only that information which is essential to an understanding and evaluation of the proposal should be submitted. Items not specifically and explicitly related to the RFP and proposal, e.g. brochures, marketing material, etc. will not be considered in the evaluation.

All proposals shall address the following items in the order listed below and shall be numbered 1 through 8 in the proposal document.

5.1 Chapter 1 – Proposal Summary

This Chapter shall discuss the highlights, key features and distinguishing points of the Proposal. A separate sheet shall include a list of individuals and contacts for this Proposal and how to communicate with them. Limit this Chapter to a total of three (3) pages including the separate sheet.

5.2 Chapter 2 – Profile on the Proposing Firm(s)

This Chapter shall include a brief description of the Prime Proposer's firm size as well as the proposed local organization structure. Include a discussion of the Prime Proposer firm's financial stability, capacity and resources. Include all other firms participating in the Proposal, including similar information about the firms.

Additionally, this section shall include a listing of any lawsuit or litigation and the result of that action resulting form (a) any public project undertaken by the Proposer or by its subcontractors where litigation is still pending or has occurred within the last five years or (b) any type of project where claims or settlements were paid by the consultant or its insurers within the last five years.

5.3 Chapter 3 – Qualifications of the Firm

This Chapter shall include a brief description of the Proposer's and sub-Proposer's qualifications and previous experience on similar or related

projects. Provide in a table format (see Sample Table, Attachment D) descriptions of pertinent project experience with other public municipalities and private sector that includes a summary of the work performed, the total project cost, the percentage of work the firm was responsible for, the period over which the work was completed, and the name, title, and phone number of client's to be contacted for references. Give a brief statement of the firm's adherence to the schedule and budget for the project.

This chapter shall include information regarding any relationships with firms and/or individuals who may submit proposals in response to the RFPs being developed.

5.4 Chapter 4 – Work Plan or Proposal

This Chapter shall present a well-conceived service plan. Include a full description of major tasks and subtasks. This section of the proposal shall establish that the Proposer understands the City's objectives and work requirements and Proposer's ability to satisfy those objectives and requirements. Succinctly describe the proposed approach for addressing the required services and the firm's ability to meet the City's schedule, outlining the approach that would be undertaken in providing the requested services.

5.5 Chapter 5 – Proposed Innovations *(Optional – use for technical solicitations)*

The Proposer may also suggest technical or procedural innovations that have been used successfully on other engagements and which may provide the City with better service delivery. In this Chapter discuss any ideas, innovative approaches, or specific new concepts included in the Proposal that would provide benefit to the City.

5.6 Chapter 6 – Project Staffing

This Chapter shall discuss how the Proposer would propose to staff this project. Key project team members shall be identified by name, title and specific responsibilities on the project. An organizational chart for the project team and resumes for key Proposer personnel shall be included. Key personnel will be an important factor considered by the review committee. Changes in key personnel may be cause for rejection of the proposal.

5.7 Chapter 7 – Proposal Exceptions

This Chapter shall discuss any exceptions or requested changes that Proposer has to the City's RFP conditions, requirements and sample contract. If there are no exceptions noted, it is assumed the Proposer will accept all conditions and requirements identified in the Attachment C –

"Sample Agreement for Services." Items not excepted will not be open to later negotiation.

5.8 Chapter 8 – Proposal Costs Sheet and Rates (Optional to provide in separate sealed envelope)

The fee information is relevant to a determination of whether the fee is fair and reasonable in light of the services to be provided. Provision of this information assists the City in determining the firm's understanding of the project, and provides staff with tools to negotiate the cost, provide in a table (See Table, Attachment E).

This Chapter shall include the proposed costs to provide the services desired. Include any other cost and price information, plus a not-to-exceed amount, that would be contained in a potential agreement with the City. The hourly rates may be used for pricing the cost of additional services outlined in the Scope of Work.

PLEASE NOTE: The City of Palo Alto does not pay for services before it receives them. Therefore, do not propose contract terms that call for upfront payments or deposits.

6. CONTRACT TYPE AND METHOD OF PAYMENT

It is anticipated that the agreement resulting from this solicitation, if awarded, will be a not-to-exceed budget per task form of contract. A Sample Agreement of Services is provided as Attachment C. The method of payment to the successful Proposer shall be on a per task basis with a maximum "not to exceed" fee as set by the Proposer in the proposal or as negotiated between the Proposer and the City as being the maximum cost to perform all work. This figure shall include direct costs and overhead, such as, but limited to, transportation, communications, subsistence and materials and any subcontracted items of work. Progress payments will be based on a percentage of project completed.

Proposers shall be prepared to accept the terms and conditions of the Agreement, including Insurance Requirements in Attachment F. If a Proposer desires to take exception to the Agreement, Proposer shall provide the following information in Chapter 7 of their submittal package. Please include the following:

- Proposer shall clearly identify each proposed change to the Agreement, including all relevant Attachments.
- Proposer shall furnish the reasons for, as well as specific recommendations, for alternative language.

The above factors will be taken into account in evaluating proposals. Proposals that take substantial exceptions to the proposed Agreement may be determined by the City, at its sole discretion, to be unacceptable and no longer considered for award.

Insurance Requirements

The selected Proposer(s), at Proposer's sole cost and expense and for the full term of the Agreement or any extension thereof, shall obtain and maintain, at a minimum, all of the insurance requirements outlined in Attachment F.

All policies, endorsements, certificates and/or binders shall be subject to the approval of the Risk Manager of the City of Palo Alto as to form and content. These requirements are subject to amendment or waiver if so approved in writing by the Risk Manager. The selected Proposer agrees to provide the City with a copy of said policies, certificates and/or endorsement upon award of contract.

7. REVIEW AND SELECTION PROCESS

City staff will evaluate the proposals provided based on the following criteria:

7.1 Quality and completeness of proposal;
7.2 Quality, performance and effectiveness of the solution, goods and/or services to be provided by the Proposer;
7.3 Proposers experience, including the experience of staff to be assigned to the project, the engagements of similar scope and complexity;
7.4 Cost to the city;
7.5 Proposer's financial stability;
7.6 Proposer's ability to perform the work within the time specified;
7.7 Proposer's prior record of performance with city or others;
7.8 Proposer's ability to provide future maintenance, repairs parts and/or services; and
7.9 Proposer's compliance with applicable laws, regulations, policies (including city council policies), guidelines and orders governing prior or existing contracts performed by the contractor.

The selection committee will make a recommendation to the awarding authority. The acceptance of the proposal will be evidenced by written Notice of Award from the City's Purchasing/Contract Administration Division to the successful Proposer.

8. ORAL INTERVIEWS

Proposers may be required to participate in an oral interview. The oral interview will be a panel comprised of members of the selection committee.

Proposers may only ask questions that are intended to clarify the questions that they are being asked to respond.

Each Proposer's time slot for oral interviews will be determined randomly. Proposers who are selected shall make every effort to attend. If representatives of the City experience difficulty on the part of any Proposer in scheduling a time for the oral interview, it may result in disqualification from further consideration.

9. PUBLIC NATURE OF MATERIALS

Responses to this RFP become the exclusive property of the City of Palo Alto. At such time as the Administrative Services Department recommends to form to the City Manager or to the City Council, as applicable, all proposals received in response to this RFP becomes a matter of public record and shall be regarded as public records, with the exception of those elements in each proposal which are defined by the Proposer as business or trade secrets and plainly marked as "Confidential," "Trade Secret," or "Proprietary". The City shall not in any way be liable or responsible for the disclosure of any such proposal or portions thereof, if they are not plainly marked as "Confidential," "Trade Secret," or "Proprietary" or if disclosure is required under the Public Records Act. Any proposal which contains language purporting to render all or significant portions of the proposal "Confidential," "Trade Secret," or "Proprietary" shall be regarded as non-responsive.

Although the California Public Records Act recognizes that certain confidential trade secret information may be protected from disclosure, the City of Palo Alto may not accept or approve that the information that a Proposer submits is a trade secret. If a request is made for information marked "Confidential," "Trade Secret," or "Proprietary," the City shall provide the Proposer who submitted the information with reasonable notice to allow the Proposer to seek protection from disclosure by a court of competent jurisdiction.

10. COLLUSION

By submitting a proposal, each Proposer represents and warrants that its proposal is genuine and not a sham or collusive or made in the interest of or on behalf of any person not named therein; that the Proposer has not directly induced or solicited any other person to submit a sham proposal or any other person to refrain from submitting a proposal; and that the Proposer has not in any manner sought collusion to secure any improper advantage over any other person submitting a proposal.

11. DISQUALIFICATION

Factors such as, but not limited to, any of the following may be considered just cause to disqualify a proposal without further consideration:

11.1 Evidence of collusion, directly or indirectly, among Proposers in regard to the amount, terms or conditions of this proposal;

11.2 Any attempt to improperly influence any member of the evaluation team;

11.3 Existence of any lawsuit, unresolved contractual claim or dispute between Proposer and the City;

11.4 Evidence of incorrect information submitted as part of the proposal;

11.5 Evidence of Proposer's inability to successfully complete the responsibilities and obligation of the proposal; and

11.6 Proposer's default under any previous agreement with the City, which results in termination of the Agreement.

12. NON-CONFORMING PROPOSAL

A proposal shall be prepared and submitted in accordance with the provisions of these RFP instructions and specifications. Any alteration, omission, addition, variance, or limitation of, from or to a proposal may be sufficient grounds for non-acceptance of the proposal, at the sole discretion of the City.

13. GRATUITIES

No person shall offer, give or agree to give any City employee any gratuity, discount or offer of employment in connection with the award of contract by the city. No city employee shall solicit, demand, accept or agree to accept from any other person a gratuity, discount or offer of employment in connection with a city contract.

14. FIRMS OR PERSONS NOT ELIGIBLE TO SUBMIT A PROPOSAL

In order to avoid any conflict of interest or perception of a conflict or interest, Proposer(s) selected to provide professional services under this RFP will be subject to the following requirements:

14.1 The Proposer(s) who works on the procurement will be precluded from submitting proposals or bids as a prime contractor or subcontractor in the ultimate procurement.

14.2 The Proposer(s) may not have interest in any potential Proposer for the ultimate procurement.

~ End of Section ~

Attachment A
Proposer's Information Form

PROPOSER (please print):

Name: _____

Address: _____

_____

Telephone: _____ **Fax:** _____

Contact person, title, email, telephone and email: _____

_____

_____

Proposer, if selected, intends to carry on the business as (check one):

☐ **Individual** ☐ **Joint Venture**

☐ **Partnership**

☐ **Corporation**

When incorporated? _____

In what state? _____

When authorized to do business in California? _____

☐ **Other (explain):**_____

ADDENDA

To assure that all Proposers have received each addendum, check the appropriate box(es) below. Failure to acknowledge receipt of an addendum/addenda may be considered an irregularity in the Proposal:

Addendum number(s) received: ☐1; ☐ 2; ☐ 3; ☐ 4; ☐ 5; ☐ 6;

Or, ☐ _____ _____No Addendum/Addenda Were Received (**check and initial)**.

2 PROPOSER'S SIGNATURE

No proposal shall be accepted which has not been signed in ink in the appropriate space below:

By signing below, the submission of a proposal shall be deemed a representation and certification by the Proposer that they have investigated all aspects of the RFP, that they are aware of the applicable facts pertaining to the RFP process, its procedures and requirements, and they have read and understand the RFP. No request for modification of the proposal shall be considered after its submission on the grounds that the Proposer was not fully informed as to any fact or condition.

Attachment A – Proposer Information continued…

1. If Proposer is **INDIVIDUAL**, sign here

Date:_____ _____
Proposer's Signature

_____
Proposer's typed name and title

2. If Proposer is **PARTNERSHIP** or **JOINT VENTURE;** at least two (2) Partners shall sign here:

_____
Partnership or Joint Venture Name (type or print)

Date:_____ _____
Member of the Partnership or Joint Venture signature

Date:_____ _____
Member of the Partnership or Joint Venture signature

3. If Proposer is a **CORPORATION**, the duly authorized officer shall sign as follows:

The undersigned certify that he/she is respectively:

_____ and _____
Signature Title

Of the corporation named below; that they are designated to sign the Proposal Cost Form by resolution (attach a certified copy, with corporate seal, if applicable, notarized as to its authenticity or Secretary's certificate of authorization) for and on behalf of the below named CORPORATION, and that they are authorized to execute same for and on behalf of said CORPORATION.

_____
Corporation Name (type or print)

By:_____ Date: _____

Title:_____

Attachment B

Scope of Work

Charleston / Arastradero Corridor Project
Scope of Work

1. GENERAL INFORMATION

The City of Palo Alto is seeking a consultant team to provide design and construction administration services for the Charleston Road-Arastradero Road Corridor Project. This Charleston Road-Arastradero Road corridor serves as a primary east-west residential street for the Palo Alto community serving multiple schools, public parks and other public facilities, as well as commute traffic between Highway 101 and the Stanford Research Park. The corridor is approximately 2.3 miles long with several key intersection crossings for the community including Middlefield Road, Alma Street with adjoining Caltrain operations, El Camino Real, and Foothill Expressway-Miranda Avenue.

The Charleston Road-Arastradero Road Corridor Project scope of work will include preparing plans and specifications for phased implementation of community-focused streetscape improvements that will provide preferential bicycle-pedestrian measures for improved resident safety that support Safe Routes to School and Traffic Calming goals of the community. The City anticipates several phases of construction and bid plan sets based on existing construction funding constraints including:

No.	Street	Street Section	Funding Status
1.	Charleston Rd	Fabian Way to Middlefield Rd	No Funding
2.	Charleston Rd	Middlefield Rd to Alma St	Partial Funding
3.	Charleston Rd	Alma St to El Camino Real	No Funding
4.	Arastradero Rd	El Camino Real to Alma Mesa	No Funding
5.	Arastradero Rd	Alta Mesa to Georgia Av	No Funding
6.	Arastradero Rd	Georgia Av to Miranda Av	Partial Funding
7.	Los Altos Trail	Adobe Creek to Arastradero Rd	Partial Funding

Each phase of the project may include, but not be limited to, surveying, constructing new landscaped median islands and intersection bulb out facilities, landscape treatments, irrigation systems, intersection improvements to enhance pedestrian and bicycle accessibility, street lighting, traffic signal modifications , traffic calming measures such as speed feedback signs, and innovative bicycle design treatments such as green bike lane treatments and bicycle boxes, and street resurfacing. Traffic studies to measure left turn storage capacity at intersections will also be required as part of the project and to verify intersection capacity options.

The Charleston Road-Arastradero Road Corridor varies from 80 to 86 feet of right-of-way width (which includes the 60 foot curb to curb street width plus existing sidewalks and vegetation strip areas). The consultant will be required to conduct a field survey of the project corridor to develop design plans for the project. The corridor includes ten existing signalized intersections and railroad gate controls immediately west of Alma

Street. The new center medians are proposed to regulate traffic, provide attractive landscaping treatments and to serve as pedestrian refuge areas with bike box measures at key intersection locations. The Charleston Road-Arastradero Road Corridor Project construction cost is estimated at $10.0M.

The Consultant shall examine the site and carefully determine all work within this scope needed and include cost estimates, value engineering, conceptual, preliminary and final design, and construction documents for the project. To comply with the California Environmental Quality Act (CEQA), an environmental assessment (Initial Study and Mitigated Negative Declaration) for the improvements along the Corridor was completed in 2004 but depending on requested community improvements and design alternatives, an updated Environmental Assessment may be required.

The City has received two grants for various phases of the project including a $450,000 Caltrans Safe Routes to School (SR2S) grant awarded in 2012 for construction of improvements on Charleston between Middlefield Road and Alma Street and a Valley Transportation Authority – Vehicle Emissions Reductions Based at Schools (VERBS) grant award in 2013 in the amount of $1,000,000 for construction of improvements on Arastradero Road between Georgia Avenue and Maybell Avenue, including repaving of the Los Altos Trail between Arastradero Road and Adobe Creek.

The design phase of the Charleston Road-Arastradero Road Corridor project will be continuous between Charleston Road and Fabian Way and Arastradero Road and Miranda Avenue but improvements allowing the project to be built in phases developed around funding availability.

2. DESCRIPTION OF PROJECT

Consultant services for this project include meeting with staff; preparing informational materials for public meetings; incorporating staff and public comments in the process of developing the design; and producing the construction documents for the project. Preparation of construction document shall include but not be limited to field surveys, design, bid documents, construction drawings, details, and specifications for intersections, roadway delineations, signage, medians, shoulder and landscape and street lighting and traffic signal modification improvements along the Charleston Road – Arastradero Road Corridor from Fabian Way to Miranda Avenue.

3. CHARLESTON ROAD-ARASTRADERO ROAD CORRIDOR PLAN

City Council adopted the Charleston Road-Arastradero Road Corridor Plan in 2004 and the Citiy has since implemented two trial restriping projects that were ultimately approved for final retention. The original 2004 Charleston Road-Arastradero Road

Corridor Plan and Concept Plan Lines developed for recent grant proposals are included in the following attachments:

- Attachment A: 2004 Charleston Road-Arastradero Road Corridor Plan
- Attachment B: 2013 Charleston Road Multi-Modal Corridor Plan Line Concept One Bay Area Grant (OBAG) Grant Proposal
- Attachment C: 2013 Arastradero Road Schoolscape Plan Line Concept One Bay Area Grant (OBAG) Grant Proposal
- Attachment D: 2013 Arastradero Road Schoolscape – Multiuse Trail VERBS Proposal (Hetch Hetchy Los Altos Trail to Miranda Av)

The Consultant shall use the various Concept Plan Line Alignments as a starting point to develop a continuous plan line alternative for presentation to the community as part of the design phase of the project. The grant proposals are available at: http://www.cityofpaloalto.org/news/displaynews.asp?NewsID=2190&TargetID=287

4. DETAILED SCOPE OF WORK

The Project scope of work shall consist of the following tasks:

TASK A Site Analysis and Field Survey

1. The Consultant shall attend a kick-off Meeting with City staff to review the project scope and general field conditions.
2. The Consultant shall review and analyze the existing data augmented by discussion with City staff including review of City-provided information.
3. Consultant shall provide a field survey of site for purposes of use as a base plan. The survey shall contain the following: curb and gutter, flow lines, sidewalks, edge of pavements, edge of sidewalks, edge of pavement way (gutter line), drainage structures, street lights, signage, roadway delineation, traffic signal standards, trees, railroad facilities, and visible utility boxes and valves within the roadway and sidewalk zones in order to prepare improvements along the Charleston Road-Arastardero Road Corridor between Charleston Road and Fabian Way, and Arastradero Road and Miranda Avenue. Field elements and drainage information not collected by the Consultant during this task that may be identified in future tasks as required for the completion of design plans for the project will be completed by the Consultant without additional payment.
4. The Consultant shall provide a site investigation including observation and research, identifying all utilities, easements, right-of-way and signage and striping/ median lane geometry, lighting and soil and tree conditions.
5. The Consultant shall develop site plans and cross sections show existing and new grades, topography, location of trees, utilities, lights and structures including

intersections, road frontages and medians, invert elevations and direction of flow to storm drains in the project area.

6. Plans shall be in AutoCAD 2012 format. Consultant shall also provide 5 hard copy sets of the field survey (1 DRAFT Set/1 FINAL Set upon City Approval of Survey) - 24" x 36" sheets of consecutive plan views of roadway, including center medians and sidewalk frontage planning areas and all intersections of the project corridor from Fabian Way to Miranda Avenue at a scale of 1"=20'.
7. Consultant Survey and Base Mapping for the work described above will serve as the Project Topographic Base Map. Survey Control will be provided to the design team in both the hard copy and electronic version. Consultant will distribute project base mapping to all design team members and make accessible readily upon each design state. This topographic base map will be the uniform "x-reference" for all design work. Topographic base mapping will be updated for all subconsultants at the beginning of each design phase.
8. Consultant shall provide a 2 page technical report summarizing findings.

TASK B Environmental Assessment and Traffic Design Considerations

1. The consultant shall review the 2004 Initial Study and Mitigated Negative Declaration and provide a recommendation for a potential addendum.
2. The City anticipates a Traffic Study to be required to allow for the consideration of additional safety and roadway capacity configurations not included in the original 2004 Corridor Study at the following intersections, the Consultant shall be responsible for collecting peak-hour turning movement count and 7-day tube count data to respond to the following design alternatives:

   - Charleston Road & Fabian Way
     - Charleston Road Left Turn Signal Phasing Option
     - Measure left turn storage capacity requirements

   - Charleston Road & Louis Road-Montrose Avenue
     - Reconfiguration of Median Island Access and Pedestrian Improvements

   - Charleston Road & Middlfield Road
     - Reconfigure Bicycle Lanes and consider option for Dedicated WBRT lane
     - Measure left turn storage capacity requirements
     - Consider Bicycle Box Treatments

   - Charleston Road & Nelson Drive
     - Bicycle Box or Intersection Bulb-Out Improvements
     - Measure left turn storage capacity requirements

   - Charleston Road & Hoover School Driveway

- Existing break in painted median island, validate Charleston Road Left storage capacity requirements

- Charleston Road & Carlson Court
  - Measure left turn storage capacity requirements
  - Bicycle Box or Intersection Bulb-Out Improvements

- Charleston Road & Mumford Pl
  - Existing uncontrolled Crossing, consider Enhanced Crosswalk Improvements
  - Measure left turn storage capacity requirements

- Charleston Road & Wright Place
  - Existing uncontrolled crossing with transit operations, consider Enhanced Crosswalk Improvements

- Charleston Road & Alma Street
  - Existing adjacent Caltrain operations
  - Evaluate opportunities to clearly designate bicycle lane facilities across intersection and trackway

- Charleston Road & Park Boulevard
  - Evaluate opportunity for median islands across intersection providing limited right turn only access from Park Boulevard
  - Evaluate Enhanced Crosswalk Improvement opportunities across Charleston Road

- Charleston Road & Ruthelma Avenue
  - Existing uncontrolled crosswalk across Charleston Road, evaluate for Enhanced Crosswalk Treatments

- Charleston Road & Wilkie Way
  - Existing traffic signal facility, evaluate for permitted left turn lanes on Charleston Road or with exclusive left turn signal phasing
  - Wilkie Way is a Bicycle Boulevard crossing, consider special intersection improvements including exclusive microwave bicycle detection and roadway markings

- El Camino Real & Charleston Road-Arastradero Road
  - Caltrains maintained intersection, evaluate intersection for bicycle-pedestrian focused treatments including intersection bulb-outs to support future Bus Rapid Transit (BRT) operations planned by the VTA
  - Consider removal of existing Free Right Turn “Slip Lanes” at intersection

- Arastradero Road & Alta Mesa-McKellar Lane
  - Evaluate intersection for median island improvements to restrict left turn access out of Alta Mesa-McKeller but allow left turns off of Arastradero Road
  - Evaluate Transit Shelter/Bike Station at westbound approach of intersection

- Arastradero Road & Clemo Drive-Suzanne Drive
  - Existing Enhanced Crosswalk location, consider additional bicycle-pedestrian safety measures including widening of sidewalk widening at Briones Park
  - Study alternative to provide permanent No Parking Restrictions along the South side of Arastradero Road westerly from Suzanne Drive
  - Protect fire station access at intersection and along Arastradero Road frontage

- Arastradero Road & Los Palos Avenue
  - Evaluate opportunities to improve left turn egress access from Los Palos Avenue to westbound Arastardero Road

- Arastradero Road & Coulombe Drive
  - Evaluate options for Bike Box facilities at intersection
  - Evaluate option for Cycle Track with Sidewalk Widening along the South side of Arastradero Road westerly to Terman Drive-Donald Drive
  - Existing signal with permitted-protected signal phasing, study appropriate left turn capacity storage requirements
  - Consider intersection bulb-out treatments along North side of intersection

- Arastradero Road & Pomona Avenue-King Arthur Court
  - Evaluate opportunities left turn egress access from side streets onto Arasradero Road
  - Measure left turn storage capacity requirements
  - Evaluate intersection bulb-out treatments at Pomona Avenue
  - Evaluate sidewalk widening along the South side of Arastradero Road west of Pomona Avenue to Terman Drive-Donald Drive

- Arastradero Road & Donald Drive-Terman Drive
  - Evaluate opportunities for intersection bulb-out treatments
  - Evaluate Terman Drive operations and provide recommendations for improvements to improve circulation out of Terman Drive

- Evaluate opportunity to provide dedicate EBRT movement at the intersection
- Measure left turn storage capacity requirements

- Arastradero Road – Georgia Avenue to Donald Drive-Terman Drive
  - Measure left turn storage capacity requirements, protect two-way left turn access for side streets along North side of Arastardero Road

- Arastardero Road – West of Georgia Avenue
  - Evaluate options to provide Cycle Track or Improved sidewalk access along the north side of Arastradero Road to Gunn High School
  - Evaluate options to provide decorative guard rail and widened sidewalk treatments along the South side of Arastradero Road to Miranda Avenue
  - Measure left turn storage capacity requirements to Georgia Avenue, Arastradero West Apartments, and Alta Mesa Cemetary Driveway
  - Evaluate trail integration options at Hetch-Hetch Los Altos Trail intersection on South side of Arastaradero Road; no trail crossing along the North side of Arastradero Road

- Arastradero Road & Gunn High School Driveway
  - Consider Bike Box treatments at intersection
  - Evaluate left turn storage requirements at intersection and consider traffic signal phasing improvements to improve intersection capacity

- Arastradero Road & Miranda Avenue
  - Evaluate opportunities to provide WBLT lane to Southbound Miranda Avenue

3. Provide required documentation for NEPA certification as required by Caltrans Local Assistance including Traffic Assessment, Visual Impact Assessment, Technical Memorandums for Air Quality, Biology, Hydraulic Study, Land Use and Cultural Impact, Hazard Materials, Historical Resources, Temporary 4(f) Impact, Tree Preservation/Removal, Construction Staging, etc.
4. Consultant shall provide value engineering report to help determine project elements and limits of work for each phase.
5. Consultant shall provide an arborist report per the City's Tree Technical Manual for trees in the public-right-of-way along with corridor.
6. Consultant shall provide innovative storm drain study for water conservation and irrigation design.
7. Coordination with Caltrans and prepare a Project Study Report (PSR) for traffic signal/intersection modification at El Camino Real & Charleston Road-Arastradero Road

TASK C Plan Line Development and Public Meetings

Immediately upon survey of the project area and collection of traffic data, the Consultant shall begin development of Plan Line Alternatives for presentation to the community. The Consultant shall develop up to five Plan Line Alternatives and begin an extensive public outreach process to develop a Preferred Community Plan Line Alternative that will serve as the basis for the development of Plans, Specifications, and Cost Estimates (PS&E) for the project. The Consultant should allow up to six months of community outreach for the development of the Preferred Community Plan Line Alternative.

The City anticipates the following community outreach meeting schedule for development of the Preferred Community Plan Line:

- General Community Outreach Meetings (3 Total)
- Neighborhood Specific Focused Outreach Meetings (4 Total)
    - Green Meadow/Walnut Grove
    - Monroe Park/Charleston Meadows
    - Barron Park
    - Palo Alto Orchard/Green Acres I/II
- Study Session with Planning & Transportation Commission
- Study Session with Palo Alto Bicycle Advisory Committee
- Study Session with City-School Traffic Safety Committee
- Study Session with City Council
- Presentation Planning & Transportation Commission

1. Consultant shall prepare all outreach, notices and meeting and presentation materials for stakeholder, community and public meetings. Each meeting should be scheduled for four hours including travel time.
2. Deliverables:
    - Community Preferred Plan Line Alignment for Charleston Road-Arastardero Road Corridor Project

TASK D Conceptual and Preliminary Designs

Upon approval the Community Preferred Plan Line Alignment, the Consultant shall begin development of Conceptual and Preliminary Design to engage the community on the identification of Streetscape Treatments along the corridor including development of Commmunity-Preferred Landscape and Streetscape Furniture Palette's.

1. The conceptual and preliminary design task includes selecting the locations of the new crosswalks, signs, street lighting & traffic signal standards, and

intersection improvements, medians and curb bulb-outs. Prepare presentation boards for City staff to use at public meetings. Consultant to provide section and elevation concept plans.

2. Prepare all noticing, presentation materials, plan sets copies, meeting summaries for public meetings to present preliminary design proposals, and act as facilitator of the meetings.
3. Meet and confer with City Staff to respond to and address City, stakeholder and Community comments.
4. Present the plans to the stakeholder, community, Public Art Commission, Architectural Review Board and to the Planning and Transportation Commission and address comments. Each meeting should be scheduled for four hours including travel time.
5. Collect comments received during Conceptual and Preliminary Designs to include in project specifications.
6. Refined cost estimates based on value engineering.

Public Art Programming & Coordination
Provide consultation and technical input on the solicitation of offers for public art, the selection of qualified artists and selection of public art proposals.

- Coordination with Arts Commission during the early design stages
- Work with City, users and design team in the selection art sites available within the project area

TASK E Final Design and Cost Estimates

1. The final design includes plans and specifications for the removal of existing asphalt, adjustment of utilities, installation of new crosswalks, signs, safety and pedestrian lighting, signal modifications and video detection, curb bulb-outs, concrete medians, landscaping, irrigation, and roadway resurfacing After the City approves the design, the Consultant shall prepare and submit draft design documents including 30%, 60% and 95% plans, specifications and cost estimates for review and comment by City staff. Eight (8) full size sets and two (2) half size sets of each submittal shall include the following documents:
    a. Title Sheet and Site Plan for each bid package
    b. Site Improvement Plans
    c. Lighting plan
    d. striping and signage plans
    e. signal modification plans
    f. utility relocation and protection plan
    g. Irrigation Plans
    h. Landscape (median and park strip)Plans
    i. Storm Water Pollution Prevention Plan
    j. Construction Phasing, Construction Details, and Typical Cross Sections

k. Technical specifications that incorporate the City's General Conditions
l. Total Project Cost estimates
m. Construction management plan

2. Meet and confer with City Staff to respond to and address City and Community comments.

TASK F Construction Documents (100%) and Bid Support

1. Consultant shall develop all construction plans, details, specifications and a construction cost estimate based on completion of Task E including incorporation of all review comments and value engineering decisions.
2. Consultant shall provide one signed set of 100% bid documents including technical specifications, details, plans and estimates for review and comment by City staff. Project specifications shall be in CSI format. Consultant shall incorporate staff comments and changes to the bid documents, including but not limited to, selection of bid items and add alternates.
3. Consultant shall assist staff in bid document preparation, answering questions and providing addendum specification and plan changes as necessary during the one month bidding process. Consultant shall provide one (1) unbound reproducible set of bid and construction documents (complete plans and specifications) that includes incorporating addendum changes for City's distribution.

TASK G Construction Services

1. Consultant shall attend one preconstruction meeting to be conducted by the City.
2. As requested by the City, Consultant shall review and respond to Contractor submittals and requests for substitution, and contractor's requests for information and clarification.
3. Consultant shall attend one final inspection, and review and comment on the punchlist.
4. After completion and acceptance of the construction project, the Consultant shall prepare As-Built record drawings including one copy of the AutoCAD.dwg format called a Metadata file that includes the date, company name, contract information and technician who prepared them. The technical project specifications shall be in current version of MS Word document files.

TIMELINE:

Conceptual Public Outreach & Conceptual Design	Fall 2013
Complete Preliminary Design, Value Engineering & Cost Estimates	Winter 2013
Complete Final Design	Summer 2014

Complete Construction Documents for First Phase	Fall 2014
Begin Construction First Phase	Winter 2014
Begin Construction Documents for 2nd & 3rd Phase (dependent on funding)	Fall 2014

5. ADDITIONAL SERVICES: SUBJECT TO ADDITIONAL COMPENSATION

Additional services may be required and services are subject to project manager approval. Examples of services are as follows:

- Additional meetings with ARB, Council and the public and associated materials
- additional plan drawings and revisions

6. INFORMATION and SERVICES PROVIDED BY The City of Palo Alto

The City will provide the following during the design phase:

- Base Map from GIS for use in Identifying City-Owned Utility Information
- 2004 Charleston/Arastradero Corridor Plan
- 2004 Initial Study and Mitigated Negative Declaration
- AutoCAD title block
- Plan line drawings submitted as part of the OBAG and VERBS Grant Applications
- City standard construction details and technical specifications for irrigation work, asphalt, concrete, sidewalk, curb and gutter, tree planting, landscaping and median details in AutoCAD 2012;
- Environmental documents;
- City staff shall assist in obtaining design review comments from City staff;

The City will provide the following during the Bid and Construction phase:

- City shall advertise, provide bidders list, assist in obtaining bid document review comments and reproduce copies of bid and construction documents to contractors.
- City shall provide general and supplementary conditions and City's boilerplate specifications (work hours, duration, truck routes, etc.)

Consultant is responsible for reviewing and verifying all supplied information.

January 2004

CITY OF PALO ALTO

CHARLESTON/ARASTRADERO CORRIDOR PLAN




Prepared by the City of Palo Alto
with assistance from
Bottomley Associates Urban Design & City Planning
TJKM Transportation Consultants
Nelson / Nygaard Consulting Associates

January 2004

CHARLESTON/ARASTRADERO CORRIDOR PLAN

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CHARLESTON/ARASTRADERO CORRIDOR PLAN

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I. Introduction

In April 2003, the Palo Alto City Council mandated preparation of a Charleston-Arastradero Corridor Plan to address school commute and other travel safety concerns for pedestrians, bicyclists and drivers, as well as to incorporate residential amenities along the corridor, without inducing traffic to shift onto nearby residential streets. As part of the City Council's mandate for the preparation of the Plan, it provided that applications for certain development permits along the Corridor would not be formally considered, heard or approved by the City during the period of the preparation of the Plan.

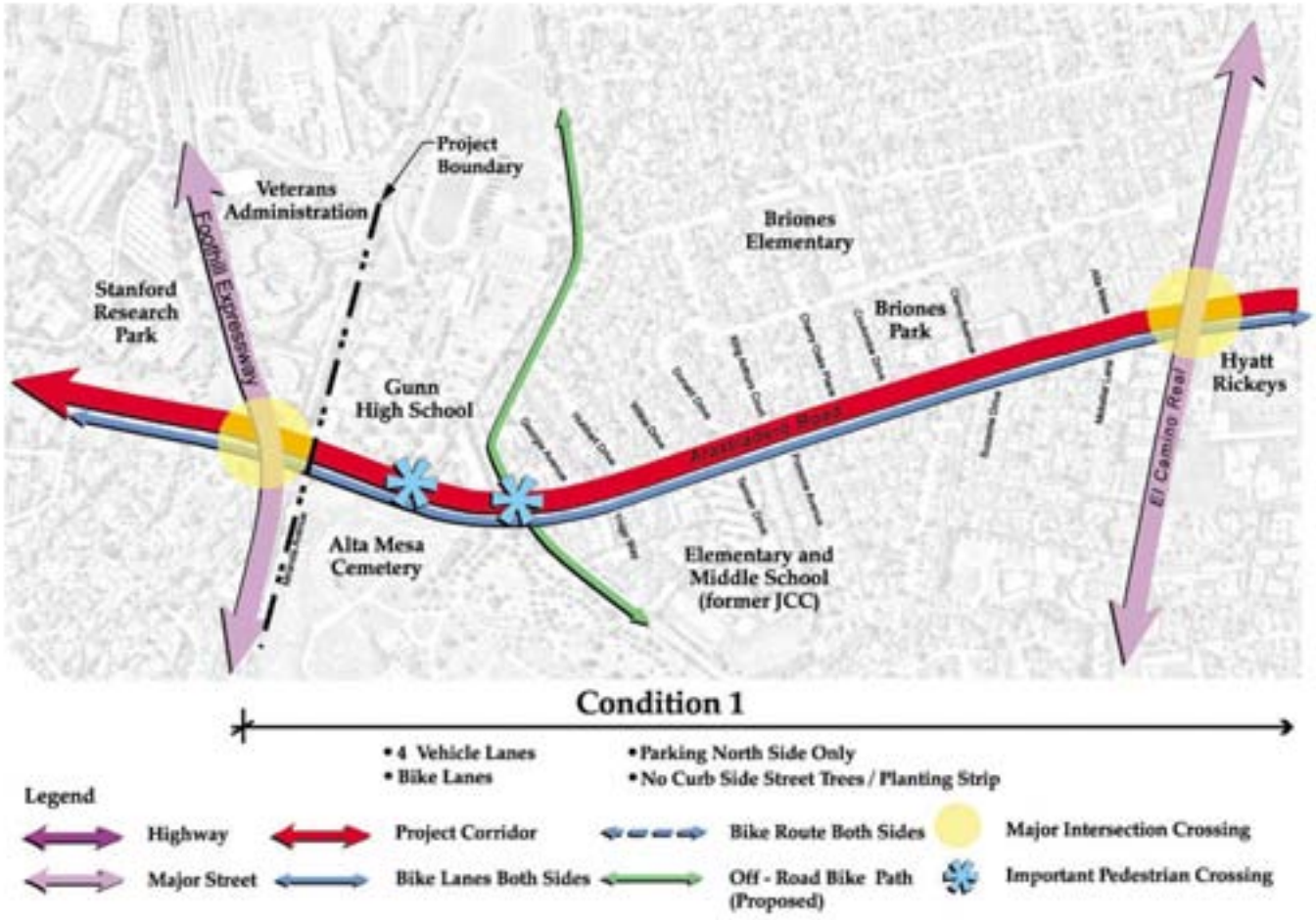
The Charleston-Arastradero Road Corridor Plan area, as shown by the Project Area Diagram map on the following page is located in the southern portion of the City of Palo Alto. The Corridor begins on Charleston Road approximately 1/3 mile from Interstate Highway 101 at Fabian Way, and continues 2.3 miles southwest as Charleston Road, crossing the railroad tracks near Alma Street and State Highway 82 (El Camino Real) where the road continues as Arastradero Road and ends at Miranda Avenue. The roadway improvements proposed in the Corridor Plan are contained within the existing 80'-86' right-of-way (60-foot curb-to-curb plus existing sidewalks and vegetation strip areas) along Charleston/Arastradero Road corridor and the existing rights-of-way at each of ten signalized intersections.

Some of the plan's proposed improvements are already part of the "Travel Smart, Travel Safe" Residential Arterial program approved by Council and for which funding is being pursued. Elements of the "Travel Smart, Travel Safe" Residential Arterial program include advanced traffic detection, traffic-adaptive system, communication system upgrade, adjusted signal timing, V-calm electronic speed signs, and enhanced crosswalks. A traffic adaptive signal system allows signaling to be responsive to real-time changes in the traffic conditions.

The Plan's foremost priority is to safely coordinate all modes of travel.

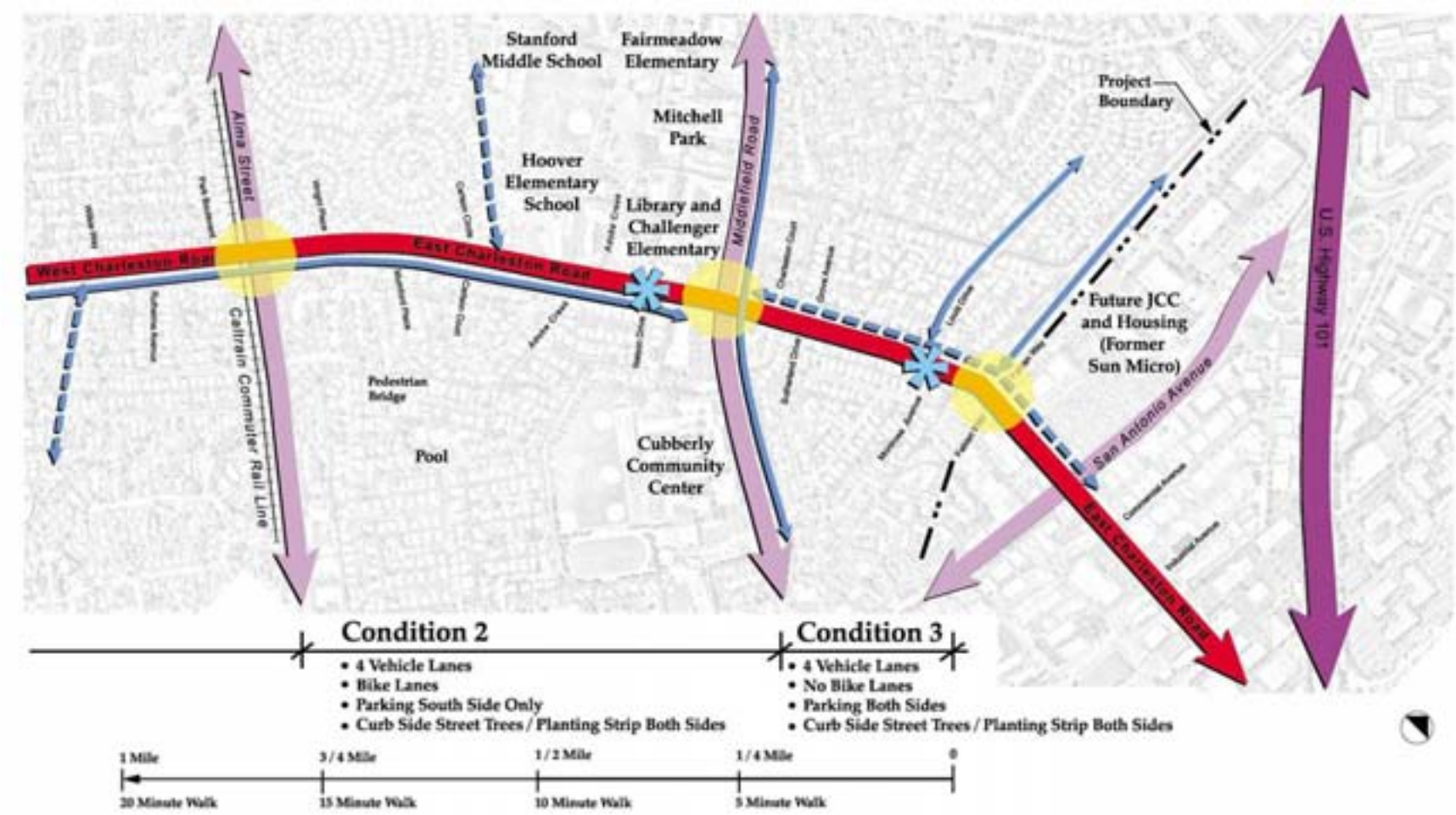
Existing and projected future traffic conditions have been modeled as part of the Corridor Plan, and the results are included in the Initial Study and the Appendix A Technical Memorandum. Although the Comprehensive Plan EIR modeled all known developments at that time, potential new development such as Hyatt Rickey's and the former Sun site, among others, have been identified. Therefore the traffic analysis for the Corridor Plan also includes modeling of land uses for proposed growth within the project area of impact beyond that anticipated in the Comprehensive Plan.

Once the Corridor Plan is approved and funding is acquired for specific plan area improvements, temporary placements of improvements using paint, barriers, and modifications of traffic flow patterns will be studied for a period of time before more permanent improvements are installed. The traffic adaptive system, since it reduces delay at intersections during peak periods is an essential precondition to the installation of most of the proposed improvements of the Corridor. Some aesthetic improvements to existing facilities could occur, such as sidewalk improvements, installing speed monitoring signs, and painting existing bike lanes. However, reconfiguration of the street or installation of safety elements could not proceed. Additionally, the City will continue to work with the schools along the corridor and the School District to increase alternative mode trips to and from their facilities and to adjust start times of the schools to reduce morning peak time traffic.



Project Area Diagram

The Plan includes a funding assessment. It addresses a variety of financing options, including federal, state, and regional grants, traffic impact fees, and other sources. Project implementation would proceed within the context of the City's capital improvements planning process. City staff has initiated applying for grant funding for installation of traffic-adaptive technology on Charles-



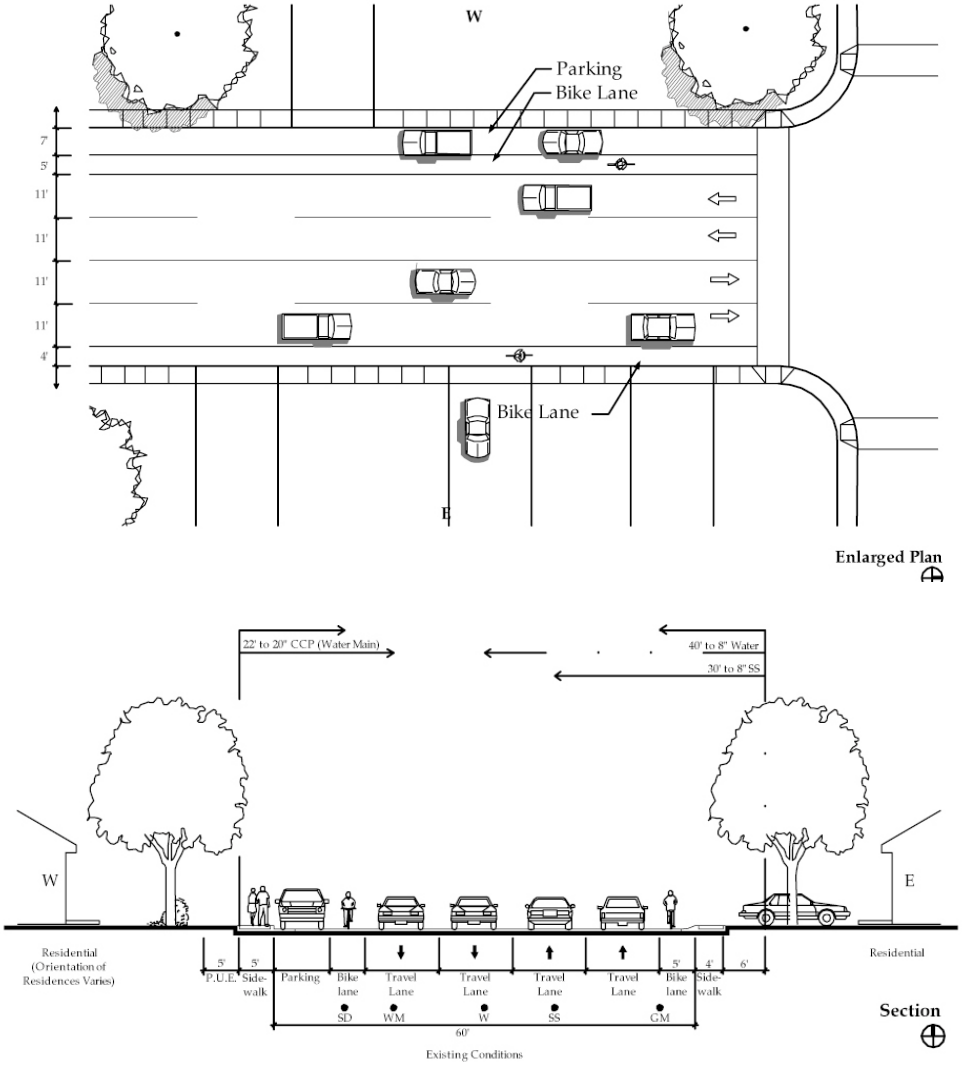
ton and Arastradero Road (CMR:454:03). Both traffic-adaptive technology and bicycle and pedestrian facility improvements are included in a draft expenditure plan for a proposed citywide traffic impact fee. Such a fee and expenditure plan, if adopted by City Council, could partially fund bicycle and pedestrian improvements on the Corridor. Selected other potential funding sources are the following grant programs: the Metropolitan Transportation Commission's Transportation for Livable Communities, Caltrans' Safe Routes to School, the California Office of Traffic Safety, the Bay Area Air Quality Management District's Transportation Fund for Clean Air, the US Department of Transportation's Congestion Management and Air Quality Improvement and Enhancements, and future calls for projects from the Santa Clara VTA's Local Streets and County Roads.

II. Corridor Conditions

The length of Charleston Road and Arastradero Road within the Corridor Plan Area (to be referred to henceforth as "the Corridor") is approximately 2.3 miles. Charleston Road and Arastradero Road each have four through lanes within the Corridor Plan reach and there are ten signalized intersections along the Corridor. The typical curb-to-curb pavement width along the Corridor is 60 feet.[1] Eighty-fifth percentile vehicle speeds along the corridor range from 34.7 mph (Charleston Road, near Carlson) to 36.9 mph (Arastradero Road, near Pomona) and 37.3 mph (Charleston Road, west of Fabian).[2] Charleston Road average daily motor vehicle volumes (both directions) range from approximately 13,600 just west of Fabian Way to 14,300 just west of Middlefield.[3] Arastradero Road average daily motor vehicle volume (both directions) is approximately 20,500. Existing conditions for the Corridor's two major subareas are summarized below:

Arastradero Road/West Charleston Road from Miranda Avenue to Alma Street: This segment of the proposed improvements extends from Miranda Avenue to Alma Street where the existing conditions, include:

- Four travel lanes
- Two bicycle lanes
- Minor landscaping strips
- Sidewalks
- 24-hour parking on the north side and evening/overnight parking on the south side of the street
- Street trees and planting strips
- Rolled curbs on some sections of Arastradero Road



Existing Condition - Miranda Avenue to Alma Street

[1] Charleston Road Corridor Traffic Management and Safety Study, Wilbur Smith Associates, December, 2000, p. 2.1 and City of Palo Alto Transportation Division.

[2] Engineering and Traffic Surveys, City of Palo Alto Transportation Division, October 2001.

[3] Charleston Road Corridor Traffic Management and Safety Study, Wilbur Smith Associates, December 2000, p. 1.2.



Wide expanses of roadway (left) encourage speeding during non-commute hours. Although the corridor is lined by mature trees in many stretches, infill street trees (center) are needed to maintain the neighborhood environment. Bike lane striping is provided for most of the corridor (right), but is not visible enough to send a strong "bike-friendly" message to motorists.

Charleston Road from Alma Street to Fabian Way: This segment of the corridor improvements is from Alma Street to Fabian Way where existing conditions include:

- Four travel lanes
- No bike lanes from Middlefield to Fabian
- Two bike lanes from Alma to Middlefield
- Small median island located at Louis Street
- 24-hour parking on south side and evening / overnight parking on the north side of street between Alma and Middlefield
- 24-hour parking on both sides of the street from Middlefield to Fabian
- Street trees and planting strips

Bicycle lanes are marked on both sides of the Corridor section between Nelson and Miranda. There are no striped bicycle lanes on Charleston Road between Middlefield and Fabian Way and the bicycle lanes between Nelson Drive and Mumford Place are only in force during the day. Long distances between pedestrian crossings characterize both Charleston Road and Arastradero Road; for example, there is an approximately 1,100-foot distance between the crossings along Charleston at Wilkie Way and Alma Street.[4]

Transit service along the corridor includes the Palo Alto Shuttle and the Santa Clara Valley Transportation Authority (VTA) bus routes. The Palo Alto Shuttle serves two sections of the Corridor: from Middlefield to Carlson (Route C) and from El Camino Real to Gunn High School (Route G).[5] The VTA provides service on most of the Corridor, from Louis Road to Miranda (en route to the VA Hospital) within the Corridor (Route 88).[6]

Land uses along the corridor include Residential zones, several public and private schools, some commercial areas and community facilities including city parks. The Corridor is frequently used by all grades as a commute to and from local schools.

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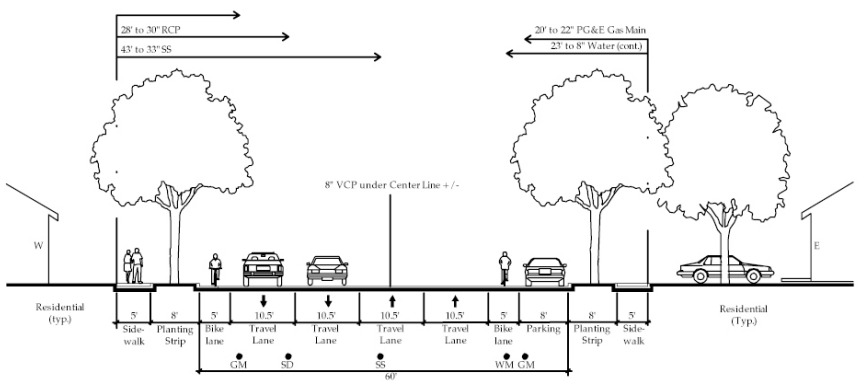
[4] Charleston Road Corridor Traffic Management and Safety Study, Wilbur Smith Associates, December 2000, p. 2.2.

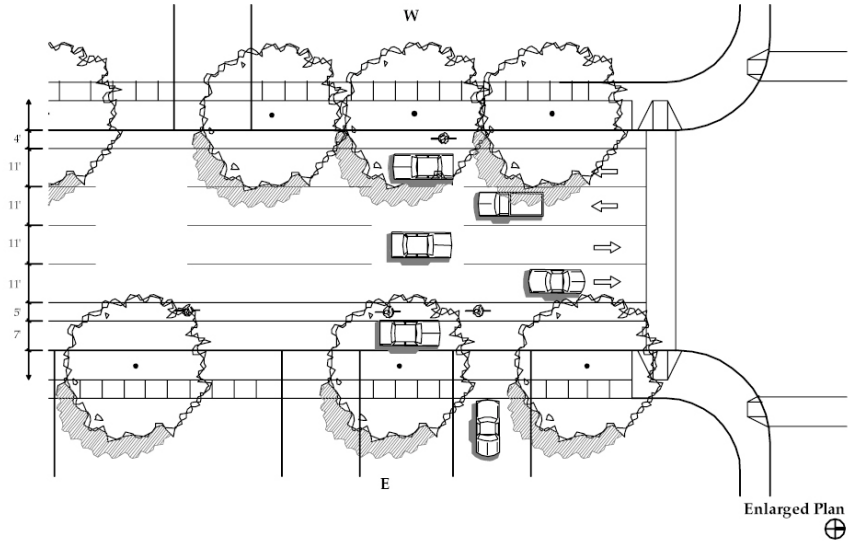
[5] Palo Alto Shuttle Timetables, City of Palo Alto Transportation Division, July 2003.

[6] Santa Clara Valley Bus & Rail Map, Santa Clara Valley Transportation Authority, July 2002.

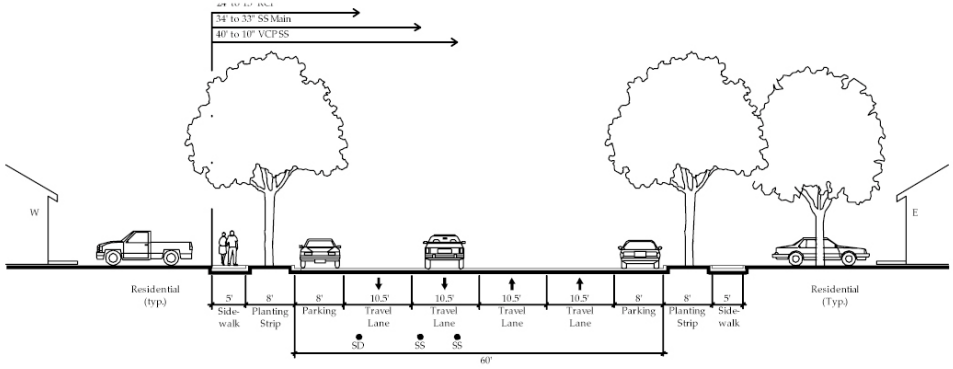


Existing Condition - Alma Street to Middlefield Road

Section

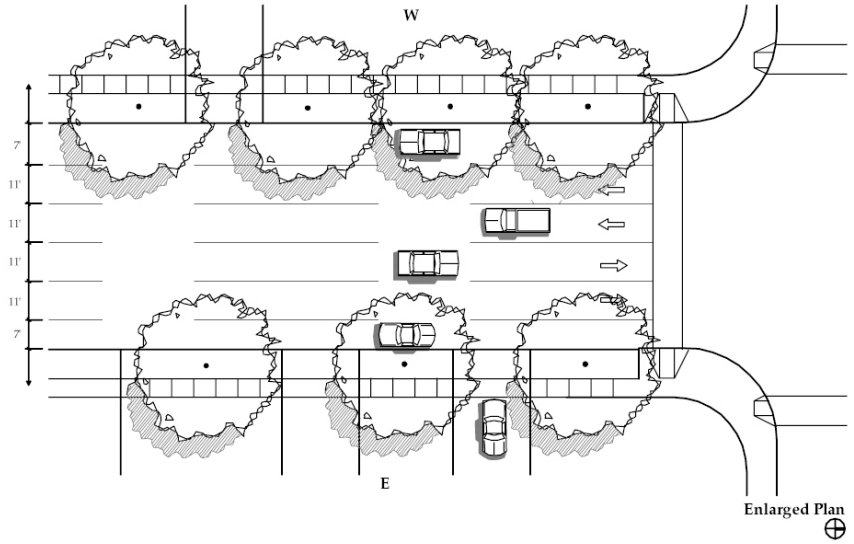


Enlarged Plan



Existing Condition - Middlefield Road to Fabian Way

Section



Enlarged Plan

III. Proposed Project

The project goals and objectives include the following:

- Maintain existing travel time on the corridor to minimize diversion to other residential streets
- Reduce accidents on the corridor
- Improve conditions for pedestrian and bicycle travel
- Improve quality of life along the corridor
- Enhance visual amenities of the corridor

The Plan's Performance Measures include not increasing travel time along the corridor, reducing crash rates, increasing pedestrian and bicycling volumes by 20% by 2010, and increasing transit volumes by 50% by 2010.

The Corridor Plan addresses both small and larger scale improvements in the public right-of-way. Conceptual designs of the proposed improvements on the corridor are attached. Further design with area specific conditions (such as nearby trees, utility locations, etc.) will be needed as plans are refined.

The recommended project includes frontage improvements and amenities along the entire corridor (lighting, signage, etc.) as well as larger scale improvements (medians, landscaped islands) that are proposed for specific segments. The project also includes specific improvements at such locations as schools and major intersections. What is now a typical arterial would become a multiuse street with tree-lined median islands along its full length. The number of lanes would be decreased from two to one continuous lane in each direction along approximately 50% of the corridor, with dedicated left turn lanes at all intersections. Bike lanes will be installed on both sides of the street, with their presence strongly signified by colored pavement. Daytime parking would be limited in much of the corridor, but overnight parking would be allowable in the bike lanes. The project also includes landscape treatments along the entire street frontage, including the addition of street trees.

Many of the improvements focus on making the street safer and more convenient for pedestrians. Bulb outs and half-bulb outs will be extended to make travel along the corridor easier. Planted median islands will incorporate pedestrian refuges at crosswalks, allowing much greater safety in crossing from one side of the corridor to the other. Other improvements would heighten the driver's awareness of pedestrians, with lighted and textured crosswalks that prompt drivers to proceed more cautiously. Finally, landscaping and gateway treatments communicate that this stretch of roadway is different than a normal arterial, and also prompts drivers to be more vigilant in general.

Some improvements, such as a median island, or wider bike lanes, could be substituted with other improvements such as curbside parking. As an example, with four 10' travel lanes, 20' of the 60-foot curb-to-curb width are available for bike lanes, medians, or parking lanes. The City has the option of choosing which facilities are most desirable for different stretches of the corridor without changing the impacts that are analyzed in the Initial Study.

The overall Corridor Street Improvement Concept and Design Concepts for Arastradero Road, West Charleston, and East Charleston are provided in the following pages.

Landscaped median islands will break up wide stretches of asphalt and provide crossing refuges for pedestrians

Aesthetic & Transit Service Improvements

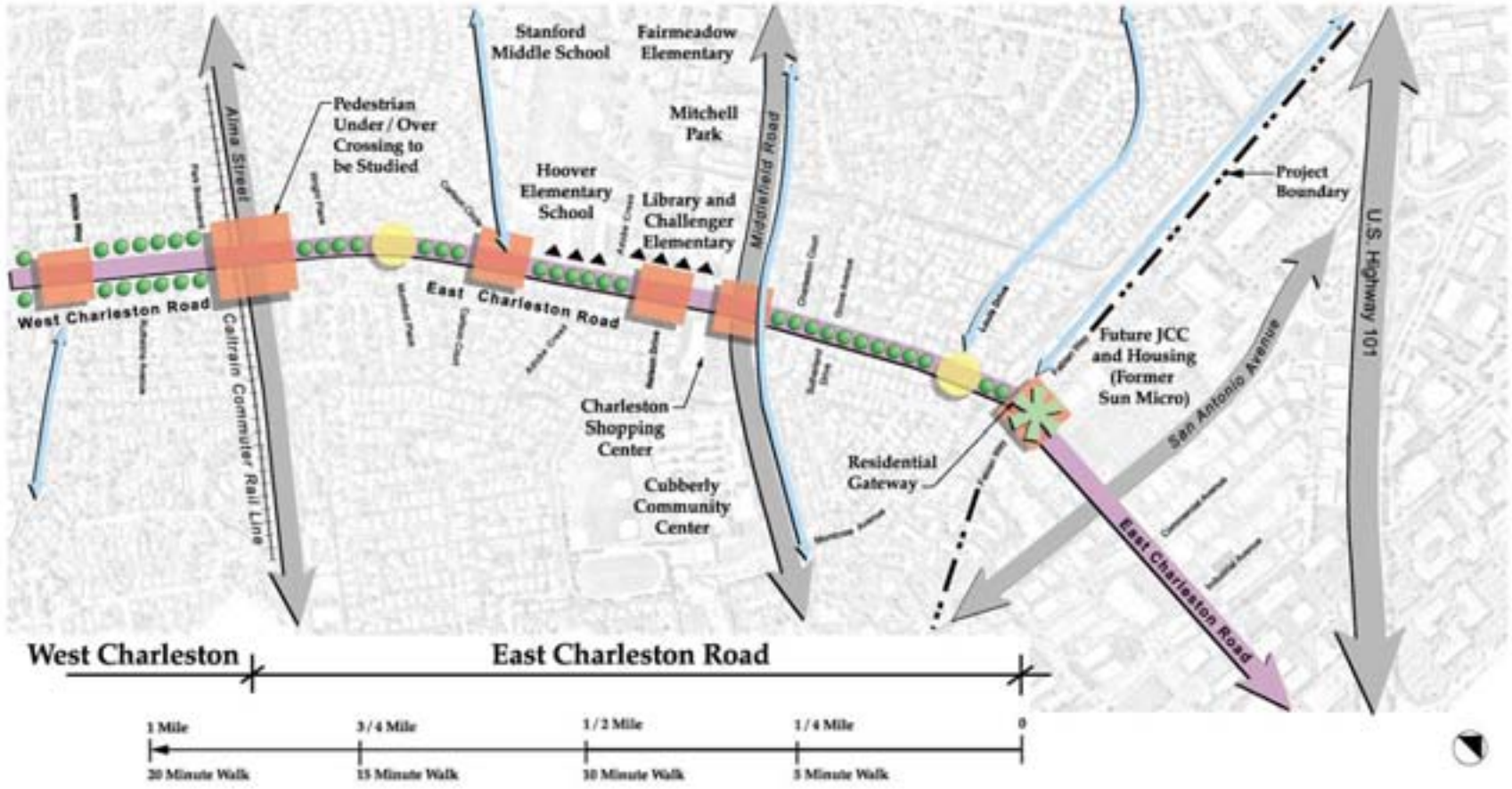
Consistent throughout the corridor the project proposes frontage and visual amenities improvements. These include a signage program to install warnings to motorists that the corridor is a "Residential Boulevard" or a "School Commute Corridor". These will be implemented throughout the corridor to enforce the message to reduce speeds and to increase the overall safety for alternate modes of travel. Vehicle speed monitoring and notification signs, such as "school zone" signs at school locations, are typical of the types of signage proposed. Pedestrian scale lighting, street trees, and neighborhood amenities such as street furniture would be added along the corridor, where utilities and space allow. Installing such elements would increase the residential appearance of the corridor, making it easier to slow vehicular traffic and increase awareness of alternate modes of travel along the corridor.

Street Improvements Concept

To increase transit use along the corridor, the city shuttle will be expanded. Expanding and improving bus service along the corridor will include improvements to existing bus stops, and possibly adding or relocating city bus stops. Bus stop improvements would likely include adding or enhancing shelters, benches, and lighting as conditions permit. Other, more structural improvements and specific area improvements to enhance safety are discussed below.

Basic Project Improvements

The proposed improvements, as shown in the attached Design Concept cross-sections and plans include:



- Transition from four vehicular travel lanes to three travel lanes (10-11' in width) for Charleston Road from Alma to Fabian, and possibly on Arastradero from Miranda Avenue to El Camino Real.
- Three travel lanes sections will include one travel lane in each direction with a central 16' wide median island with 10' left turn pockets embedded within the median island in sections. The median island will include left turn pockets at all residential streets.
- Option for three or four vehicular travel lanes on Arastradero from Miranda Avenue to El Camino Real.
- Retain the four vehicular travel lane configuration on Charleston from El Camino Real to Alma Street.
- Some small (6') landscaped median islands may be possible for the four-lane section.
- 24-hour parking retained on the south side of the street from Alma to Fabian.
- 24-hour parking will be on the north side of the street from Miranda to Alma.

Source: Pedestrian & Bicycle Information Center

A variety of methods will be employed to improve cycling safety and comfort. For example, median islands will slow automobile traffic, tinting and enhanced striping will make bike lanes highly visible.

- Parking would be allowed only in evening hours on the north side 8' bike lane on Charleston from Alma Street to Fabian Way. On Arastradero/Charleston from Miranda Avenue to Alma Street evening parking would be on the south side.
- Colored and wider (7-8') bike lanes will also be installed on both sides of the street throughout the corridor. In constricted areas, such as intersections, the bike lanes will be 5'.
- Landscaping, lighting, sidewalk and signage improvements will be made in the existing right-of-way/public utilities easement on both sides of the street throughout the entire corridor.
- Replacing the rolled curbs on Arastradero with vertical curbs to prohibit parking on sidewalks.

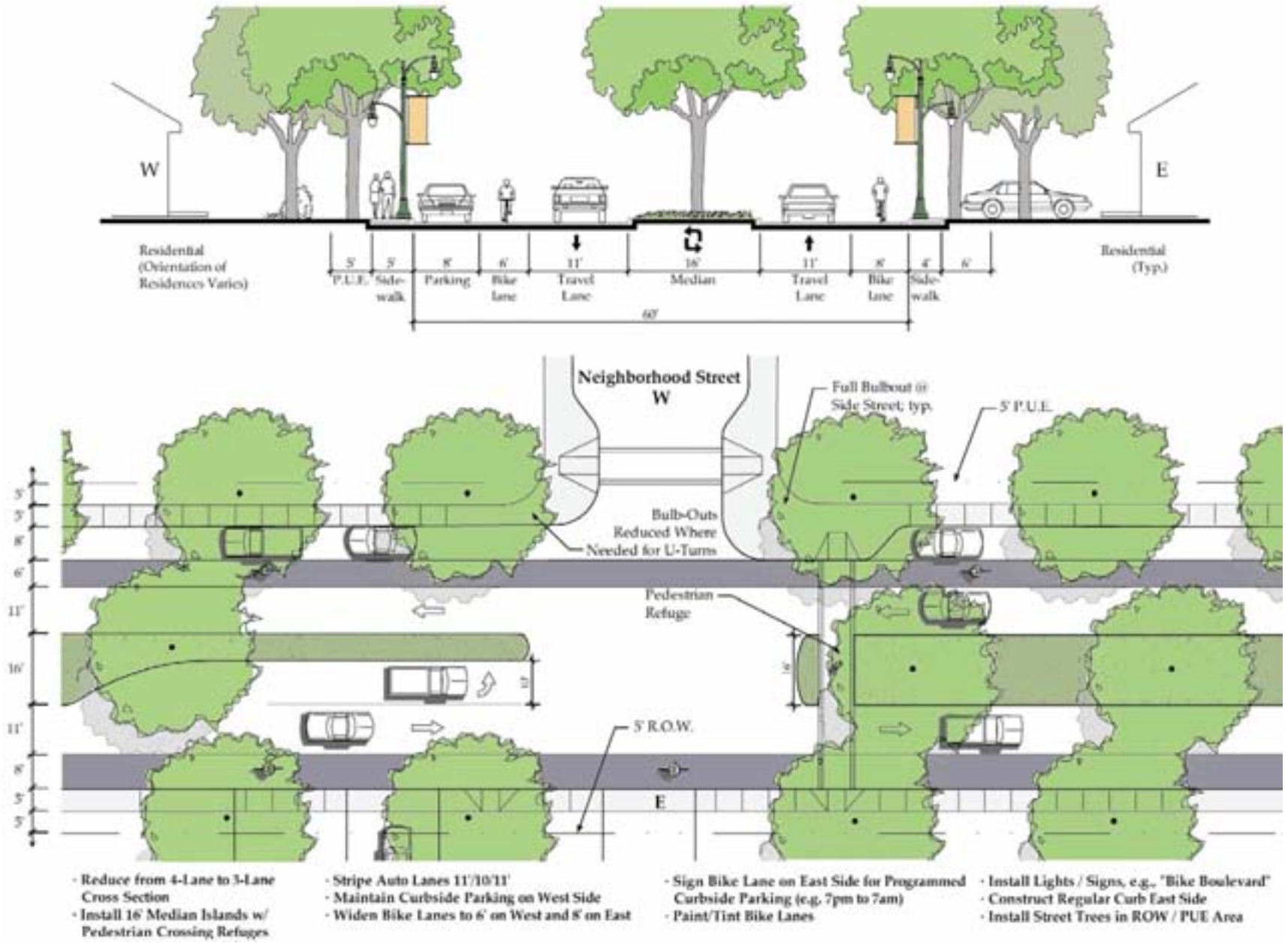
Improvements for Specific Areas

Conceptual Designs of these improvements are illustrated by the Design Plan and Enlarged Plan Segments diagrams on the following pages.

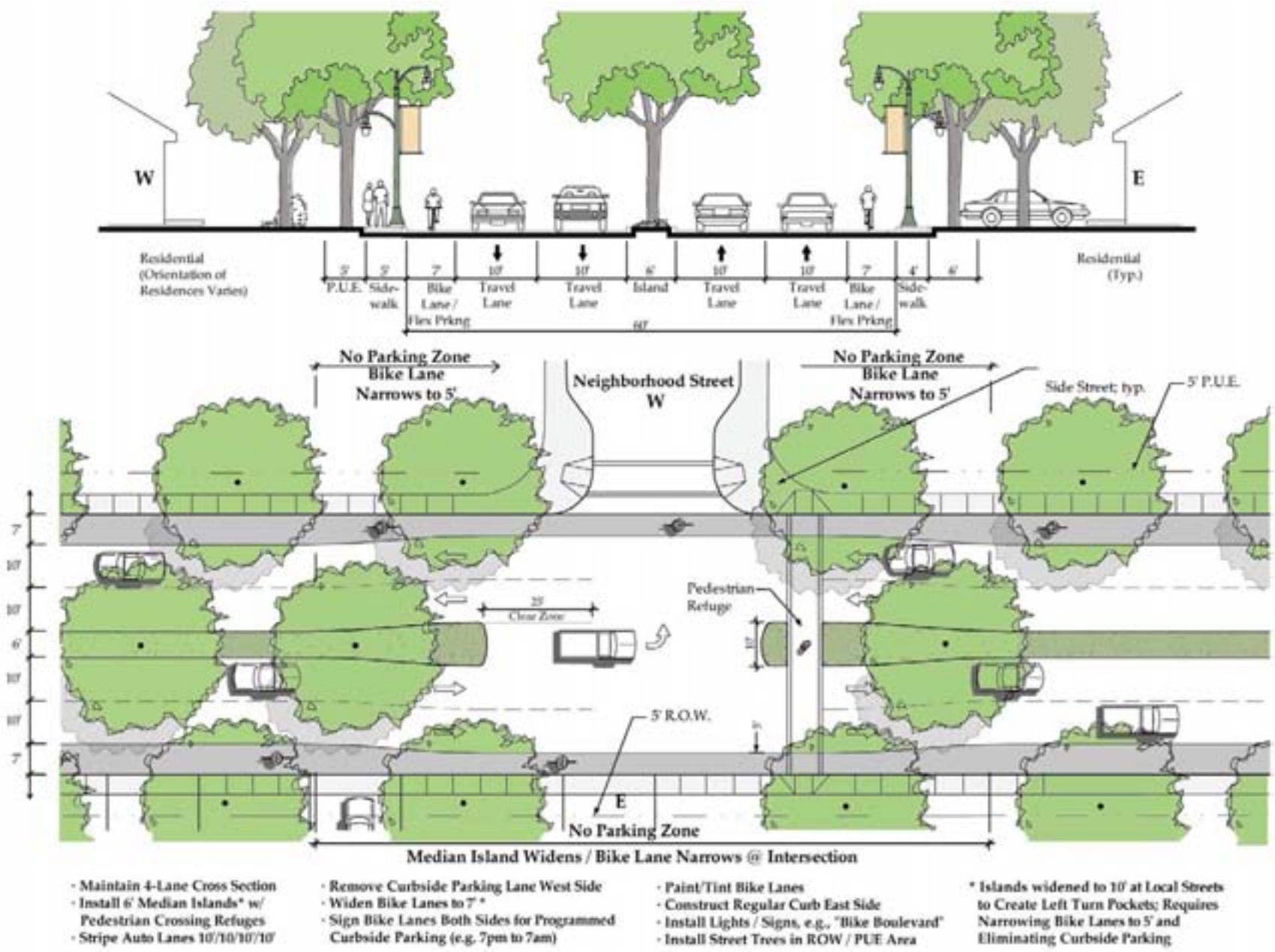
Gunn High School: The proposed improvements on Arastradero Road address the following specific issue of high school access by:

- Retaining the four 10' travel lanes and the 5th 10' left turn lane for eastbound traffic turning into high school
- Add a 10' right turn lane on westbound Arastradero into the high school driveway.
- Improve the right turn to increase efficiency and enhance the movement by installing markings or a "pork chop" to direct traffic into the outside lane of the driveway. The left turn movement from Arastradero Road eastbound would turn into the inside school driveway lane.
- The roadway would be widened by 5', removing some existing sidewalk on the south side and an existing planting strip on the north side of Arastradero Road.
- The existing intersection island will also be removed with this reconfiguration.
- The bike lanes at this location would remain 5' wide, but the pavement would be colored and the westbound bike lane at the school would be relocated between the westbound travel lane and the proposed right turn lane.

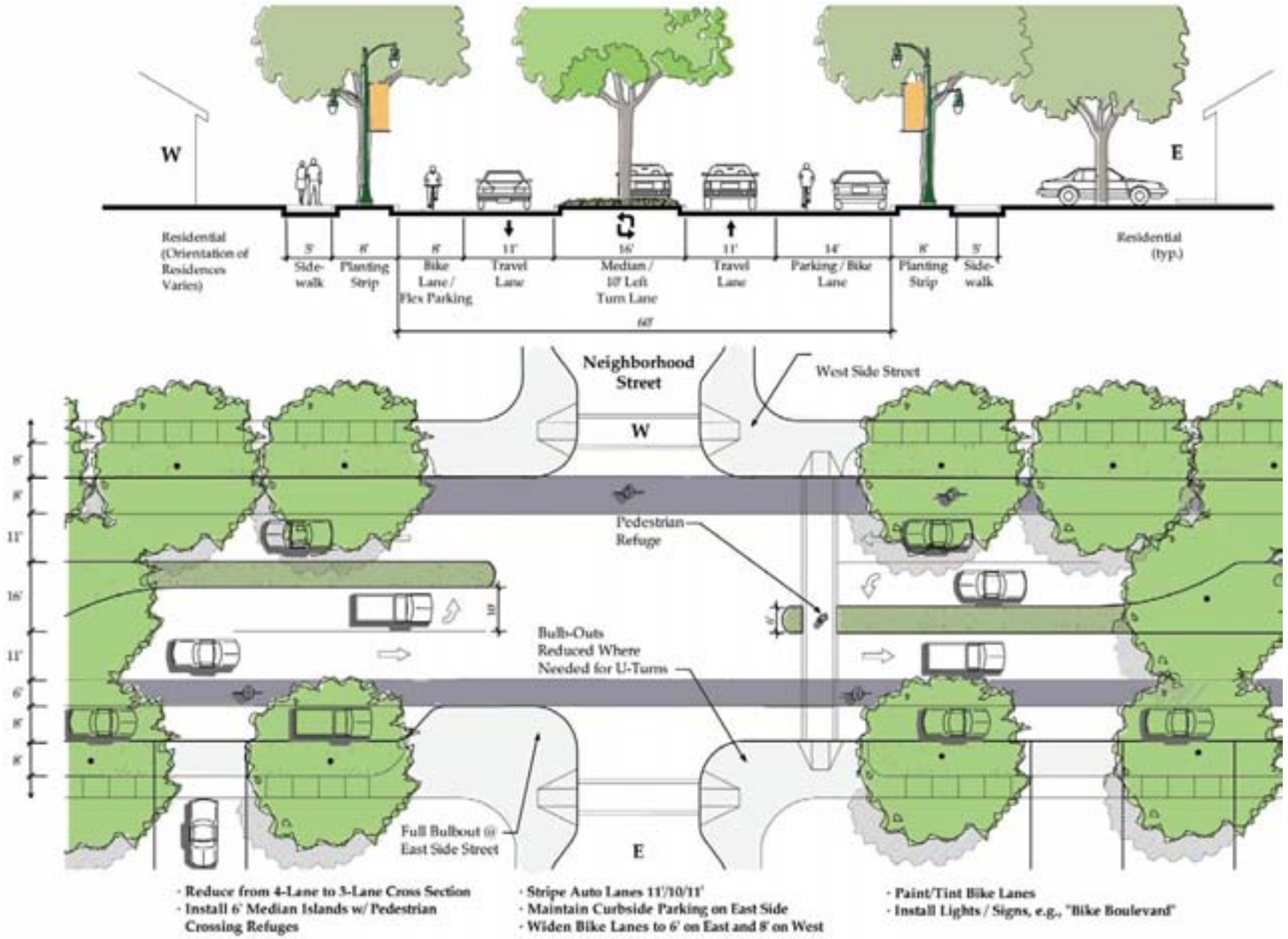
A bike boulevard sign program will help raise pedestrian and cyclist awareness



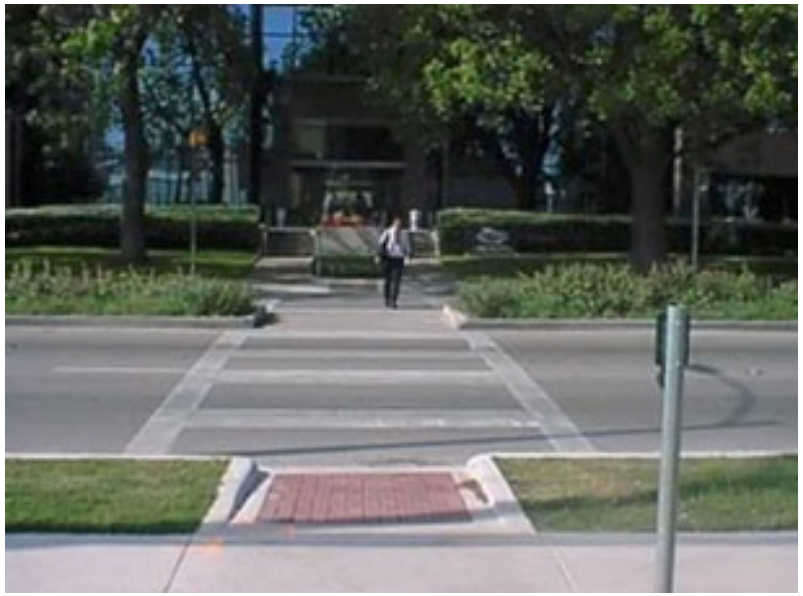
Arastradero Road - Design Concept



West Charleston Road - Design Concept



East Charleston Road - Design Concept



Source: Pedestrian & Bicycle Information Center

Source: Pedestrian & Bicycle Information Center

Pedestrian refuges, special paving treatments, and pedestrian actuated signals are proposed to increase crosswalk safety and visibility.

El Camino Real Intersection: At the El Camino Real (ECR) Intersection, the following improvements are proposed:

- Remove small separated right turn lanes and concrete "pork chops" from northbound ECR and Charleston and from eastbound Charleston at ECR. This will shorten the pedestrian crossing of El Camino Real on the south side of the Charleston intersection.
- Extend curb line of adjacent streets to create more typical corner configuration.
- Extend the 5' bike lanes to and across the intersection.
- Add countdown signals to the pedestrian crossings.
- Improve the existing pedestrian median island on the east side of the intersection, as well as provide pedestrian refuges for pedestrians crossing El Camino Real.
- Add colored pedestrian crosswalk pavements at the intersection.

El Camino Real is a State Route and therefore proposed improvements are dependent on California Department of Transportation (CalTrans) review and approval.

Hoover Elementary School: To further accommodate traffic into Hoover Elementary School the following improvements are proposed:

- Parking on the south side of the street would be retained to accommodate additional turn movements.
- With School Board approval, traffic flow for Hoover Elementary traffic will be reversed and a median island two-way left-turn lane installed between Carlson Court and the easternmost driveway of Hoover Elementary allowing eastbound traffic to make a left-turn movement into Hoover Elementary (into what is now the exit).
- The westbound 8' bike lane near the Hoover Elementary driveway will be dashed to indicate it's use as right turn lane into the easternmost Hoover Elementary driveway.

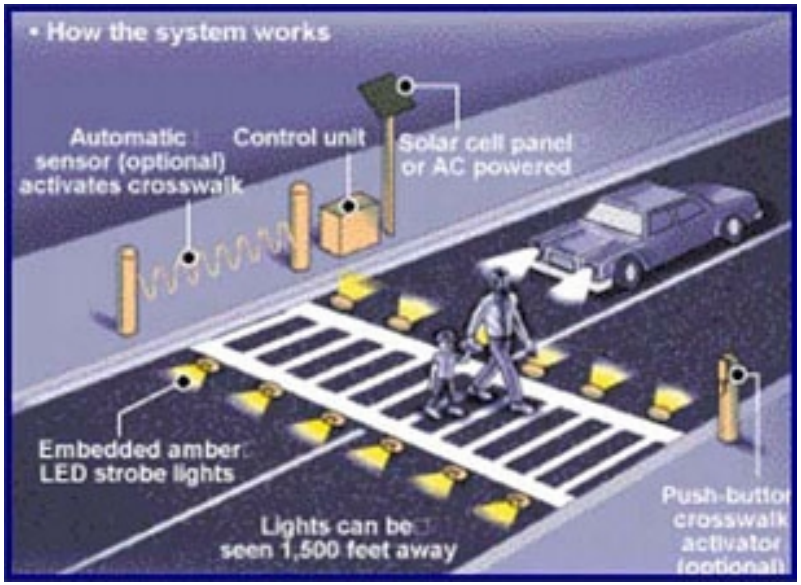
Traffic improvements at Hoover Elementary require Palo Alto Unified School District (PAUSD) review and approval.

Middlefield & Charleston Intersection: The existing configuration will essentially remain, retaining the existing 4-lane and left turn lane configuration. Existing pedestrian crossings will be enhanced through colored pavement markings and countdown pedestrian signals. The bike lanes will be extended to and through the intersection, as well as adding colored pavement markings. The bike lanes can be extended through the intersection within the existing right-of-way by moving the curbs and removing the existing planter strips at this intersection.

Island Median at Louis & Montrose: The proposed median island would replace the existing island at this location, however the existing turn movements will be retained and designed into the new median island.

Additional Pedestrian Crossings: Additional pedestrian crossings will be added throughout the corridor at several locations. These crossings will be well-marked including, lighting and signage. Additionally, some major pedestrian crossings, which would be pedestrian actuated or with embedded lights (lighted crosswalk) are also proposed. From west to east they include one lighted crosswalk just west of Georgia Avenue, which would serve pedestrians accessing the bike path along the San Francisco Water District right-of-way; one proposed between Suzanne Drive and Clemo Avenue providing easier pedestrian access to Juana Briones Park and Juana Briones Elementary School; one near Mumford Place and one near Louis Road.

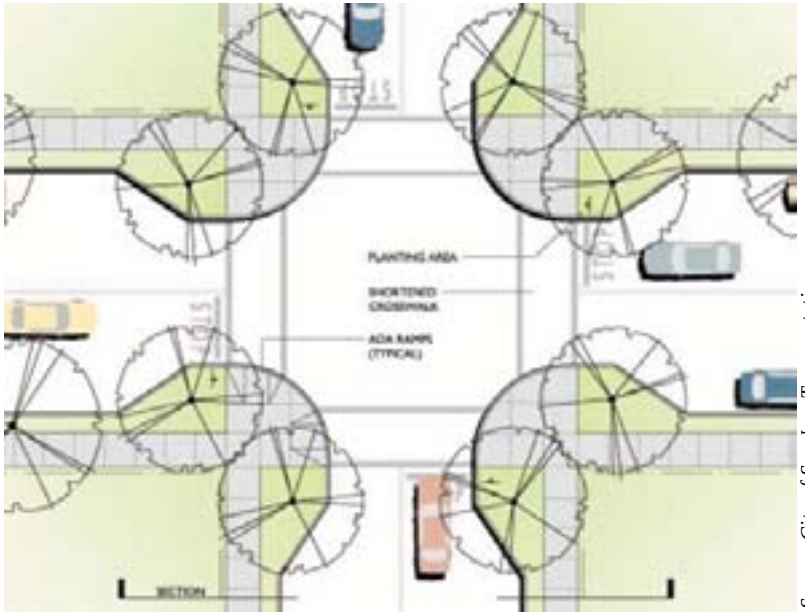
Signalized Intersections & Side Streets: Improvements at all the signalized intersections, including those discussed above, would include highlighting pedestrian crossings by using alternate materials or coloring. Additionally, countdown pedestrian traffic signals are proposed as part of signalized intersections improvements. Pedestrian refuges can also be added where space allows. Because of turn lane constrictions noted above, refuges are not proposed at Terman Middle School, Gunn High School, the Charleston/Arastradero Road pedestrian crossings at El Camino Real, the Middlefield intersection or Alma Street intersection. Bicycle improvements at intersections would include extending bike lanes across the intersections.



Source: Light Guard Systems, Inc.

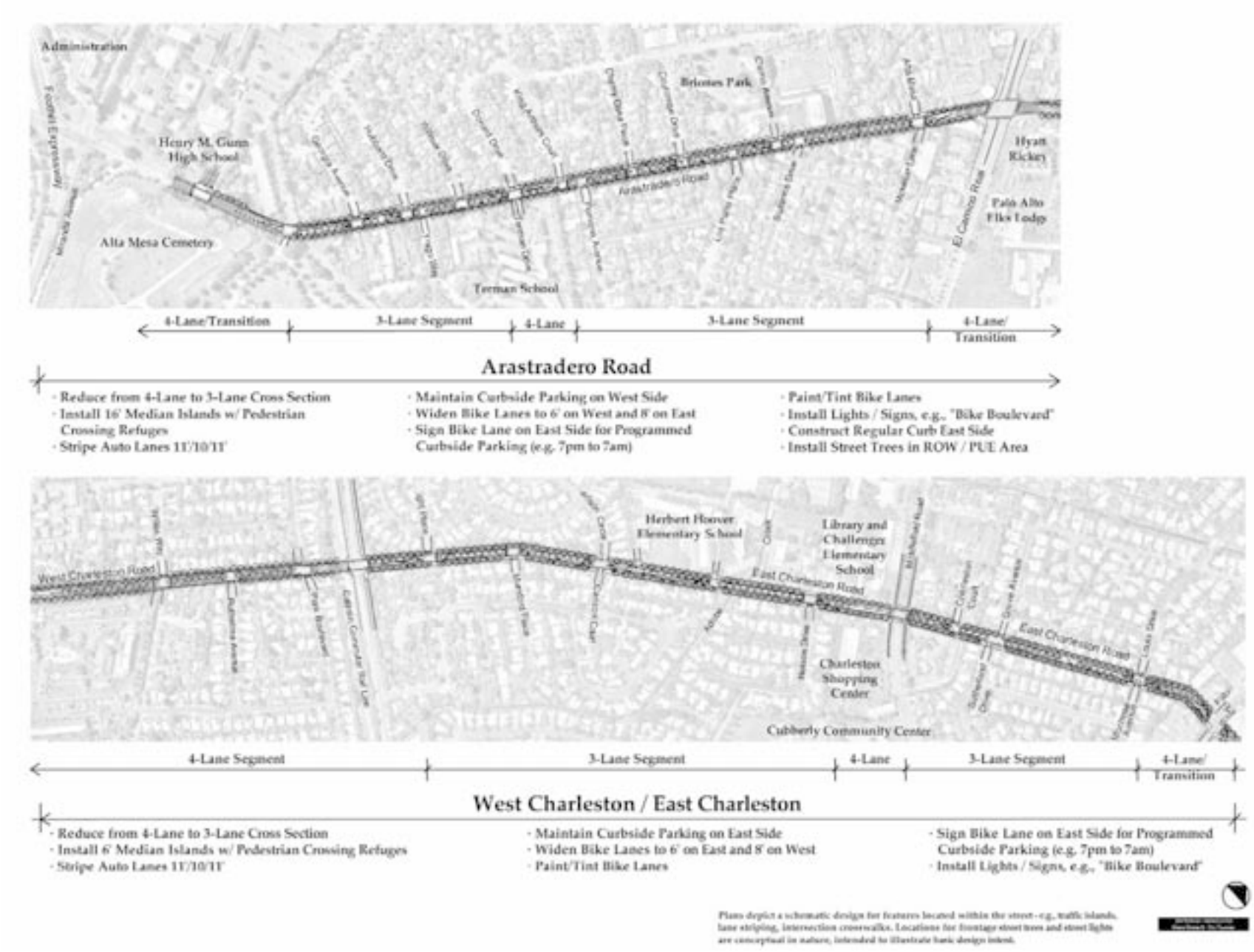
Enhanced pedestrian crossings are recommended at special locations, such as Juana Briones Park, Gunn High School, and the bike path along the San Francisco Water District right-of-way. Lights embedded in crosswalks could be activated by pedestrians to increase their visibility

Concurrent with these physical improvements will be changes in the signal timings at all ten signalized intersections to make traffic flow more efficiently. Other pedestrian improvements at intersections and side streets could include adding full or half pedestrian bulbouts to the Corridor or side streets as space and turn movements allow. For example, along West Charleston/ Arastradero, half bulb outs can likely be located on local side streets along, but not extending into the Charleston/Arastradero corridor (with the exception of the school driveways). In the eastern portion of Charleston, half bulb outs can likely be located on the north side of the corridor, but full bulbouts can occur into the corridor or on side street sides of the corridor where space allows and no major right turn movement off the corridor is needed. Side street improvements would also include the continuation of marked bicycle lanes and improved marking of pedestrian crossings.

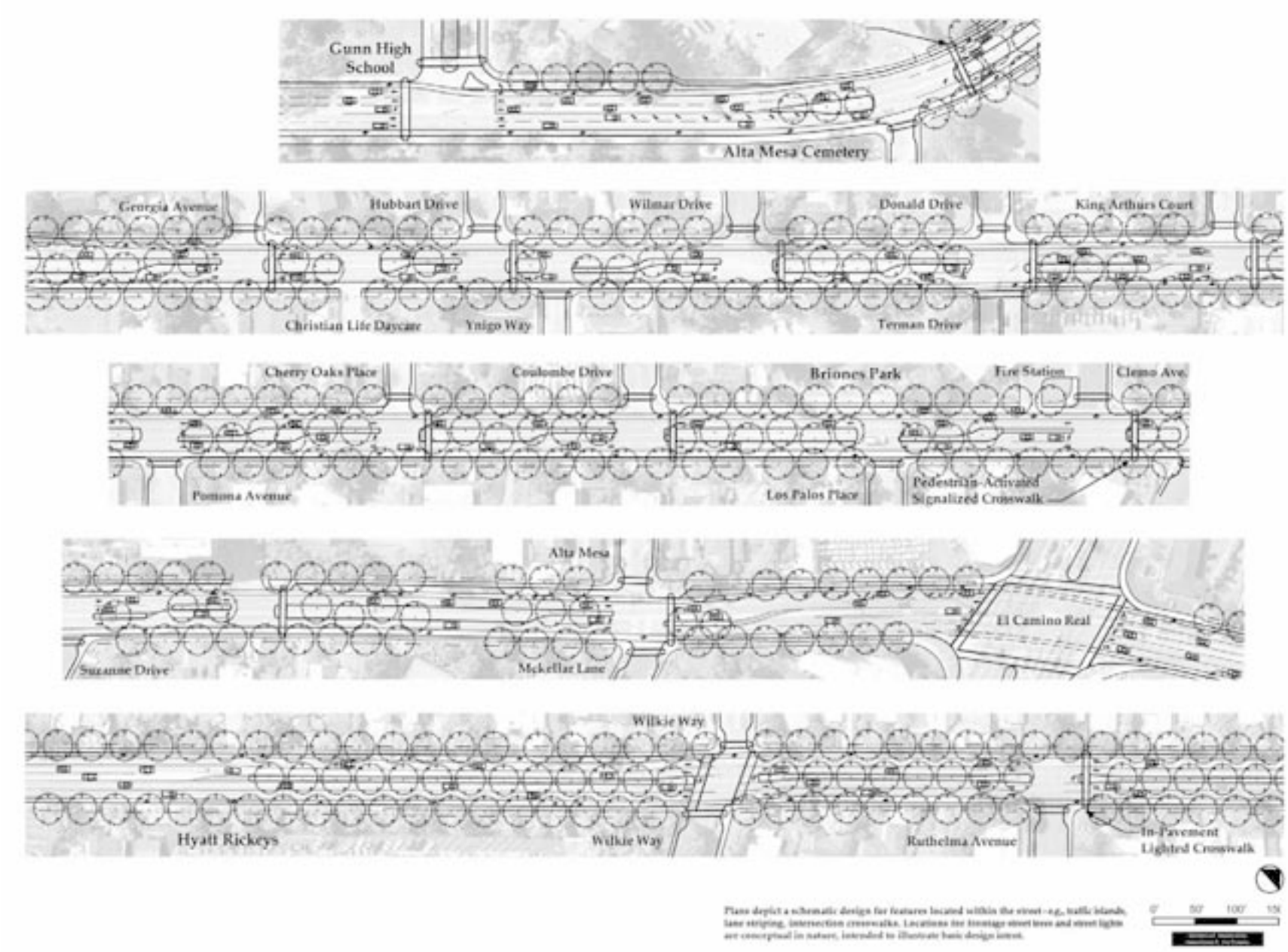


Source: City of San Jose Transportation Department / Fehr & Peers

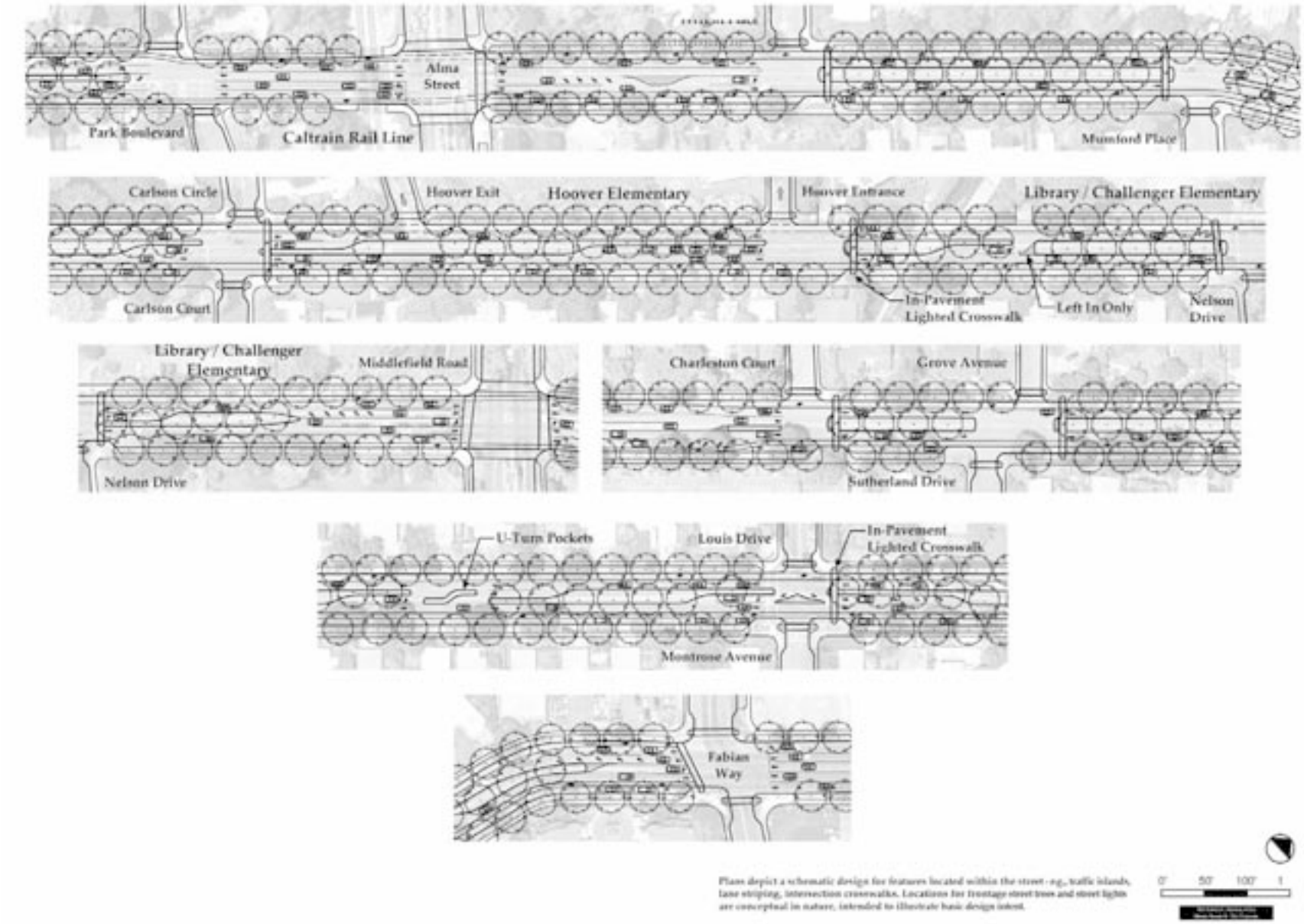
Pedestrian bulbouts will be provided to shorten crossing distances and cue motorists to local neighborhoods. A combination of half and full bulb outs will be implemented as space and turn movements allow.



Street Design Plan



Enlarged Plan Segments - Gunn to Ruthelma



Enlarged Plan Segments - Park to Fabian

Project Elements Overview

The table below summarizes the advantages and disadvantages of major elements of the proposed project.

ELEMENT	ADVANTAGES	DISADVANTAGES
Traffic Adaptive System	+ Increase efficiency of street and intersections + Reduce peak hour travel times	- cost
Wide 16′ Island installation *For 3-lane alternatives*	+ Reduce vehicle speeds + Retain or improve traffic flow + Increase pedestrian safety (center refuge) + Reduce traffic accidents (potential for up to 25%) + Room for continuous & wider bike lanes + Provides dedicated LT lanes for all side streets + Adds vegetation	- prevents some LT access from driveways - cost
Small 6′ medians, "vegetation islands", or center median islands *Where space allows*	+ Increased vehicular safety + Adds vegetation, which adds to visual component + At pedestrian crossings adds pedestrian refuges + Slows traffic	- Cannot provide LT lanes - Prevents some LT access from driveways - Not as effective as larger median island element - Requires space reallocation
Painted or Tinted Bicycle Lanes	+ Increase bicyclist safety + Increases presence of corridor as bicycle commuting area + Other communities have shown success of this element	- New application here, so would likely need to do demonstration project - May confuse drivers at first, particularly at intersections
Widen bicycle lanes	+ Increase safety for bicyclists + Perhaps increase bicycle use	- Will reallocate space from other uses, such as parking & lane widths in some areas
Pedestrian bulbouts on side streets & intersections *Where does not interfere with significant turning traffic*	+ Shortens pedestrian crossing widths + Increase pedestrian feel of corridor + Slow traffic speeds	- Needs careful design – will not be located where interfere with significant traffic movements (such as RT movements) - May require changing curbline, drainage, etc.
Enhanced Pedestrian Crossings Includes "countdown" signals at major intersections	+ Increases pedestrian safety and perhaps use + Many options to enhance visual nature of Residential corridor	- Can be expensive, depending on type of treatment
Sidewalk Improvements	+ Increases pedestrian safety and perhaps use + Repairs damaged, cracked, or uneven sidewalks	- Must take precautions to not impact roots of trees as per Tree Technical Manual
Electronic calming signs	+ Relatively inexpensive	- Driver awareness may lessen over time

Project Elements Summary Table

ELEMENT	ADVANTAGES	DISADVANTAGES
	+ Reduces traffic speeds + High public acceptance	
Increase residential, school and bicycling signage on the corridor	+ Increased drivers awareness of shared mode & residential corridor	- Must be designed to be attractive along the corridor - If gateway element, would require public/City consensus on design
Enhanced roadside planting scheme	+ Enhanced visual component + May slow traffic	- Cost - Placements shall not compete with adjacent trees
Replace "pork chop islands" on ECR with traditional curb	+ Increase bicycle safety + Increase pedestrian safety	- Delay RT movements slightly
WB Right turn lane at Gunn High School	+ Reduce queues + Reduce intrusion on residential streets	- Not clear whether sufficient ROW available - Would need to implement Mitigation as discussed under Biological section
EB Left turn lane at Hoover School (into what is now school exit)	+ Increase access to Hoover for both WB and EB traffic + Reduce U-turn traffic now on residential streets	- Would require School Board approval - Would involve some adjustments by parents

IV. Funding Assessment

Funding for the implementation of the Charleston Arastradero Corridor Plan may come from a variety of programs. These include federal, state and local transportation grants, formula funds, and potential fees and exactions that could be levied by the City of Palo Alto.

Funding requirements, the amount of funding available, and the likelihood that the funding could be available to implement the Charleston Arastradero Corridor Plan vary from one funding source to another. Though all potential sources are identified in this section, some are less likely due to lack of project competitiveness for discretionary grant sources or local funding constraints. A funding matrix summarizes the sources available.

Several funding sources available to the City of Palo Alto are very appropriate candidates, and a funding strategy can be devised to build the improvements as planned. The timing of funding depends largely on Palo Alto's prioritization of this project in the overall Transportation Improvement Program for the city as a whole. Because of the cost, the project will have to be a very high priority for available funding, or it will need to be broken into smaller phases for gradual implementation.

Project Costs

The total costs for completing the Charleston Arastradero Corridor Plan have preliminarily been estimated at approximately $7.4 million (in 2003 dollars). The costs of the basic project include the costs to install an irrigated, planted median, reorganize the travel lanes, add a painted or tinted bike lane in each direction, add pedestrian bulb-outs and median island refuges, install lighting, and add signage throughout the corridor. With contingencies, design, and management costs, the streetscape portion of the project totals $6.2 million. In addition to the streetscape portion, some additional improvements are proposed. These are part of the "Travel Smart, Travel Safe" Residential Arterial program approved by the Palo Alto City Council, and funding for them is being pursued already. These improvements primarily are comprised of a traffic adaptive system (which comprises both hardware and software) to coordinate signals along the corridor. This coordination can increase throughput by 20%, and is required to meet the city's objective of no loss of capacity, even though traffic calming is projected to slow speeds somewhat through the corridor. This system adds another $1.2 million in costs, resulting in the $7.4 million grand total cost.

These costs suggest that the project may be installed in phases. Preliminarily, it is expected that a first phase will include the traffic adaptive signalization of the corridor, along with pedestrian controlled crossings at select locations, turning lanes and bike lanes. Temporary (trial) restriping of the street and installation of temporary medians and bulbouts could also be included. A second phase would make permanent the medians and corner bulbouts, and would include installation of the median landscaping. Finally, in a third phase frontage improvements, including installation of street trees and lighting, would complete the project.

Figure 1 Project Costs

Roadway and Median Improvements	$2,530,500
Frontage Improvements	$1,980,000
Contingency @ 15%	$676,575
Construction Subtotal	**$5,187,075**
Architecture & Engineering @ 15%	$778,061
Project Management @ 5%	$259,354
Project Total	**$6,224,490**
Traffic Adaptive Signals	$1,200,000
Grand Total	**$7,424,490**
Source: Bottomley Design & Planning, TJKM	

Funding

Funds to provide the traffic calming benefits proposed in the Charleston Arastradero Corridor Plan will need to come from a variety of sources, and may also be phased in over several years in a sequence of products through full plan implementation.

Based on a review of the broader funding environment and the regional transportation funding process, 13 possible funding sources are available. These are reviewed below, with the emphasis on the process of allocating the funds, the appropriateness of each source for projects in this plan, and strategies for successfully securing competitive sources. Funding sources are categorized by grant programs, formula allocations, and possible local sources; the latter are essential to winning competitive funds.

Funding Context

Transportation Funding in Transition – "SAFETEA" and State Deficits

For two major reasons, this is an uncertain time to evaluate funding sources and opportunities. First, the federal law that currently governs transportation spending, known as TEA-21, was set to expire in the fall of 2003. It was extended for five months in its current form into early 2004, but the replacement law, now referred to as "SAFETEA",[7] has yet to be finalized and passed. Both the level of funding for and the ability to fund projects in the region's Transportation Implementation Plan will be significantly impacted by the terms of SAFETEA. However, the two previous federal transportation bills have generally been considered popular successes and it is likely that most programs will not be radically changed. Therefore, this analysis is generally based on TEA-21 provisions.

A second uncertainty is the current State financial crisis, which not only makes new state funding programs for transportation projects unlikely, but also threatens existing sources. However, the fiscal picture will change over time and transportation is a sector that benefits from a number of "lock-boxed" sources that cannot easily be used for other purposes, such as filling general fund deficits.

Trends in Funding that Support the Charleston Arastradero Corridor Plan

Despite these reasons for concern regarding transportation funding, there are many trends and developments that bode well for the funding and implementation of the Charleston Arastradero Corridor Plan. These trends include growth in funding opportunities for projects focusing on bicyclists and pedestrians, as this one does. Examples of programs targeting funds towards bicycle/pedestrian projects include the federal **Transportation Enhancement Activities Program (TEA)**, the state **Safe Routes to School Local Assistance Program**, and the regional **Transportation for Livable Communities Program**. In addition, these programs often emphasize community based planning processes, which fits well with Palo Alto's planning philosophy and practice.

The Regional Process

The majority of federal and state funding sources are programmed at the regional level, overseen by the Metropolitan Transportation Commission (MTC). The two primary processes for funding that take place at MTC are the Transportation Improvement Program (TIP) and the Regional Transportation Plan (RTP). For Palo Alto, the county CMA – the Valley Transportation Authority (VTA) – is the key point of entry into the regional transportation planning process. For its preferred projects to receive outside funding, the City must impress their importance upon VTA.

[7] Safe, Accountable, Flexible, Efficient Transportation Equity Act

Recommended Funding Sources

This section specifies the federal, state and local sources that are most applicable to funding the Charleston Arastradero Corridor Plan. Sources are considered in two broad categories: Federal and State funded grant programs, and local sources.

State and Federal Grant Programs

The most relevant grant sources are briefly discussed below and summarized in detail in Figure 7.

1. Transportation for Livable Communities

MTC created this innovative program to fund community-oriented transportation projects. Capital projects are funded using regional Transportation Enhancement Activities funding from the federal Surface Transportation Program (STP) of TEA-21 (and its eventual successor). Funding has also come from the Congestion Mitigation Air Quality program (CMAQ). MTC is revising the current project evaluation criteria and application process and the next call for projects is tentatively scheduled for February 2004. The planning grant cycle is expected to begin in spring 2004, and the next capital grant cycle for the Spring 2005. The intent of the program is to improve neighborhood livability and coordinate transportation and land use. Project sponsors are encouraged to submit proposals that improve bicycling, and walking, and encourage transit ridership through transit-oriented development. Current evaluation criteria for capital projects include community involvement, benefits to bicyclists and pedestrians, support for community redevelopment activities, and improved internal community mobility. The Charleston Arastradero Corridor Plan fits many of these criteria, placing the project in a very good position to receive this funding.

Examples of projects currently funded by the TLC program in the MTC 2003 TIP in Santa Clara County are presented in Figure 3. Grants awarded through this source range from several hundred thousand to well over one million dollars, and are often awarded on a multi-year, multi-phase basis which could be very appropriate for the Charleston Arastradero Corridor Plan.

Figure 2 Transportation for Livable Communities - Sample Projects

	2003 TIP Funding	Funding Source
Fruitvale Station Area Streetscape	$400,000	STP funds
River Oaks Bike/Pedestrian Bridge	$1,000,000	CMAQ funds
San Fernando Light-Rail Station Plaza	$885,000	CMAQ funds
Source: MTC 2003 TIP -- http://www.mtc.ca.gov/publications/tip/tipind.htm		

2. Surface Transportation Program (STP)

The Surface Transportation Program is a funding program governed by the TEA-21 legislation and administered by the Federal Highway Administration (FHWA) *a*nd Caltrans. The funds can be used for a wide variety of capital purposes across all modes. The approximately $680 million in annual funding for California STP funds must be distributed as follows:

Allocation	Category (Approx. Annual Statewide Funding)
10%	Safety Construction ($68 m)
10%	Transportation Enhancement Activities (STP-TEA) ($68 m)
50%	Regional STP and rural areas guaranteed return ($340 m)
30%	State Discretionary ($204 m)

The Safety Construction allocation and the State Discretionary allocation would generally not fund projects like the Charleston Arastradero Corridor Plan. However, the STP Transportation Enhancements and the Regional STP portions are potential sources for Charleston Arastradero.

Figure 3 Transportation Enhancement Activities - Sample Projects

	2003 TIP Funding
Oakland Bay Trail: Mandela Parkway	$836,000
Bay Trail (Baumberg Track Trail segment)	$293,000
San Pablo Ave Smart Corridor - Phase II	$31,000
Source: MTC 2003 TIP -- http://www.mtc.ca.gov/publications/tip/tipind.htm	

STP Transportation Enhancement Activities (STP-TEA) – 10%

Of particular interest to the implementation of the Charleston Arastradero Corridor Plan is the STP Transportation Enhancement Activities programming. Examples of Bay Area projects funded from this program in the most recent TIP are listed in Figure 4.

Control over this funding source is divided between the region and the state. Regional agencies – MTC in the Bay Area – control the funding of 75% of the statewide funds for the STP-TEA program (i.e. 75% of the 10% allocated for this category), with the state controlling the remaining 25%. The state's 25% share is further divided into three areas: the Caltrans Share (11%), the Statewide Environmental Enhancement Share (11%), and the Conservation Lands Share (3%). Only very high profile projects would be expected to attract the state share.

The regional enhancement's share is allocated during the regional Transportation Improvement Program process. In recent years, MTC has chosen to allocate the 75% regional share via the **Transportation for Livable Communities** program, discussed previously.

Figure 4 STP Regional 50% Share - Sample Projects

	2003 TIP Funding
Evelyn Ave Class II bike Lane	$170,000
Sunnyvale North-South Bikeways	$150,000
Palo Alto Medical Foundation Bike/Ped Crossing	$500,000
Source: MTC 2003 TIP -- http://www.mtc.ca.gov/publications/tip/tipind.htm	

STP Regional– 50%

Half of STP funds are allocated to regional entities that allocate these highly flexible funds during the regional Transportation Improvement Program process. In Santa Clara County, this source has helped fund a number bicycle and pedestrian oriented projects like the Charleston Arastradero Corridor Plan (Figure 5) in the range of $100,000-500,000.

3. Congestion Mitigation and Air Quality Improvement Program (CMAQ)

This flexible funding source for transportation is allocated primarily through the regional planning processes described earlier. Transit agencies and local governments both compete for these funds and in the short term these funds are oversubscribed. The Charleston Arastradero Corridor Plan seeks to calm traffic, but does not seek to remove SOV's from the roadways. However, by making it easy to bicycle or walk in the community (particularly to local schools) the overall impact of the plan could reduce vehicle congestion. To acquire funding for the Charleston Arastradero Corridor Plan, it will be important to articulate these benefits of the project to MTC and VTA. In recent years, MTC has chosen to allocate a portion of CMAQ funding via the Transportation for Livable Communities program, discussed previously.

4. Safe Routes to School Local Assistance Program

Caltrans uses federal funds from the Hazard Elimination/ Safety program for this local grant program. Originally a pilot program, the Safe Routes to School Local Assistance Program was extended for three years until 2005. Each round of funding has distributed more than $20 million in funding to cities around the state, in grants ranging up to $500,000. Applications for the final scheduled round of funding are due in February, 2004. While fiscal uncertainties may threaten this program, it has been highly popular and is likely to be continued in some form after its sunset. Its popularity, however, has also made it a highly competitive application process, and an oversubscribed funding source. The large number of schools in the Charleston Arastradero Corridor Plan area, combined with the street improvements and traffic calming concepts that Palo Alto wishes to implement would make this a strong candidate for funding under the Safe Routes To School Local Assistance Program.

Figure 5 Safe Routes to Schools - Sample Projects

	2003 TIP Funding
Belmont – in pavement crosswalk lights and radar signs	$372,700
Los Gatos – new sidewalks and sidewalk gap closures	$306,900
Mountain View – speed warning signs and countdown pedestrian signals	$232,000
Source: http://www.dot.ca.gov/hq/LocalPrograms/SafeRTS2School/4thCycleProgramPlan.pdf	

5. Bicycle Transportation Account (BTA)

Through the Bicycle Transportation Account, Caltrans provided $7.2 million in 2003 to local communities for capital projects intended to improve and increase bicycle commuting, and despite the budget crisis that same amount will be distributed in upcoming 2004/5 funding cycle. This source is highly competitive, usually providing funding for bikeways of regional importance (generally Class 1 and Class 2 facilities), and providing grants from $100,000 to over $1,000,000 in rare instances. To be competitive for this source, the City of Palo Alto will need to articulate the regional and local benefits of the Charleston Arastradero Corridor Plan.

6. Transportation Fund for Clean Air (TFCA)

Using a regional surcharge on motor vehicles, the Bay Area Air Quality Management District provides grants to public agencies for a wide variety of transportation projects with a focus on projects that minimize or reduce single-occupant vehicle trips, such as bicycle projects, ride-sharing and transit shuttles. Bicycle projects have often scored well under the criteria for this source, which ranks project applications based on their projected cost-effectiveness in reducing air pollution: one project partially funded by a TFCA grant was the Alma Street Bicycle Bridge between Palo Alto and Menlo Park. However, because the project improves existing bicycle facilities, rather than creating entirely new ones, demonstrating that increased bicycling will result will be somewhat more difficult, though some evidence does demonstrate the link between traffic calming and increased levels of bicycling and walking.

7. Transportation Community and System Preservation Program (TCSP)

The federal TEA-21 legislation created TCSP as a pilot program. During the four-year program, federal agencies awarded grants totaling $120 million for smart growth projects intended to reduce the need for costly new infrastructure. Projects funded under the program ranged from bike paths to highway widening, with budgets from the tens of thousands to over $1 million. The administration's initial proposal under SAFETEA would incorporate the TCSP program into the Surface Transportation Program, delegating equal amounts of funding to each of the states, which would set up

an allocation process including regional transportation planning agencies. Until the future direction of the program is established, it will not be clear whether this source will be available for the Charleston Arastradero Corridor.

Formula-Based Sources

1. Transportation Development Act - Article 3 (Bicycle/ Pedestrian)

The Transportation Development Act (TDA) levies a statewide 1/4-cent sales tax to generate revenue for transportation. TDA Article 3 funds are allocated to Santa Clara County by formula and generate about $1.4 million annually. The county uses the funds to implement the Bicycle Element of the Valley Transportation Plan 2020, which was adopted in 2002. The Bicycle Element consists of the Santa Clara Countywide Bicycle Plan and a $31 million Bicycle Expenditure Program (BEP). The California Avenue Undercrossing is allocated $1 million in the BEP and is the sole Palo Alto project on the list. The list of priority projects of the BEP (Tier 1 list), is reviewed and revised by the Valley Transportation Authority (VTA) Board of Directors every two years, at which time jurisdictions that do not currently have a project in Tier 1 receive priority consideration.

A number of other counties distribute a share of TDA Article 3 funds to cities. Palo Alto could work with other cities to press VTA to do the same for local bike/pedestrian projects, and the city should also be prepared to propose and advocate for projects during the BEP revision processes. In that scenario, the Charleston Arastradero Corridor Plan could receive some funding from this source, but otherwise, funding is currently unlikely.

2. Local Subvention of the State Gas Tax

Of California's 18 cents per gallon fuel tax, 6.46 cents are allocated to cities and counties for local streets and roads. This important source provides revenue for Palo Alto to maintain and rehabilitate its streets. Local subventions are generally inadequate however, because the rate has not kept up with inflation. The current state fiscal crisis, and the stress it puts on Palo Alto's general fund, makes this source very important to simply try to keep up with road maintenance, and it is therefore an unlikely source for funding capital improvements associated with the Charleston Arastradero Corridor Plan. In some cases, however, communities have built traffic calming improvements as part of rehabilitation, reconstruction and / or restriping projects: these range from narrowing traffic lanes (e.g. Stanford's Campus Drive bicycle lanes, created by narrowing travel lanes to 10.5' width as part of a resurfacing project) to major changes during full reconstruction. For example, the genesis of Mountain View's Castro Street traffic calming improvements was the need to replace a major sewer line under the street. Savings can sometimes, but not always, be realized with this technique.

Other Local Sources

Finding outside funds for projects is naturally a more attractive option for any city, compared to raising revenue locally. However, not only are outside funds competitive, uncertain, and threatened by larger fiscal issues, but they also almost always call for a local "match." Therefore, Palo Alto will best be able to fund the Charleston Arastradero Corridor Plan if it can maximize its own contribution. Below is a short list of sources that could be considered in order to advance project implementation and make the City more competitive for outside funding.

1. Assessment District

An Assessment District has been discussed as a potential mechanism to raise funds for the Charleston Arastradero Corridor Plan. Assessment districts delineate a defined geographic constituency and provide benefits to those residents, such as roads, water, parks, and recreational facilities. Assessment Districts are a common mechanism to pay for community infrastructure in California because they are not subject to Proposition 13 limits. The districts typically place a

levy on a property in such as way that the benefit is comparable to the assessment.

Benefit assessment districts come in several different forms, and depending on their enabling legislation have a different set of requirement on what they may fund and how they are established. An assessment district created under the Improvement Act of 1911 or the Municipal Improvement Act of 1913, for instance, is normally initiated by petition by owners of property within the proposed district and then formed by a sponsoring local agency. Property owners can protest the district before it is formed. Other districts require a direct vote of property owners, such as a 1982 Act Benefit Assessment Districts (majority) and Mello Roos Community Facilities Districts (2/3rds). Once it is formed, assessments can be paid either in a lump sum or over a period of years (generally 15-20). Cities often bond against the income stream to pay for improvements.

Figure 7 Grant Funding Source Matrix

Source	Funding Purpose / Description	Eligible Uses
Transportation for Livable Communities (TLC)	Community-oriented transportation projects that improve neighborhood livability and coordinate transportation and land use. (Funded by CMAQ and STP programs.)	Capital projects and planning studies. Project sponsors are encouraged to submit proposals that improve bicycling, and walking, encourage transit ridership through transit-oriented development, and generally improve neighborhood livability.
Surface Transportation Program (STP) – Regional 50% Share, excluding TLC funding	A flexible federal transportation funding source administered by the FHWA and Caltrans. The regional 50% share is programmed by MTC.	Highly flexible. A wide variety of capital projects for all modes including transit projects and transportation enhancement activities.
Congestion Mitigation and Air Quality Improvement Program (CMAQ), excluding TLC funding	Transportation projects that improve air quality	Typical projects: public transit improvements; HOV lanes; employer-based transportation management plans and incentives; shared ride services; bicycle and pedestrian facilities
Transportation Fund for Clean Air (TFCA)	To fund cost-effective transportation projects and programs to reduce motor vehicle travel and vehicle emissions. The TFCA is funded by a $4.00 per vehicle surcharge on motor vehicles registered in the Bay Area	Ridesharing programs; Feeder/ shuttle bus service; Local arterial management; Rail/bus integration; Regional transit information systems; Clean air vehicles; Demonstration of congestion pricing, Smoking vehicles complaint line; Vehicle Buy Back program; Bicycle facilities; Smart Growth projects
Safe Routes to School Local Assistance Program	A capital grant program administered by Caltrans to support bike/ped safety projects linked to travel to and from schools with the inclusion of the school community. Two funding cycles remain in this program until it sunsets at 1/1/05	Sidewalk improvements; Traffic calming and speed reduction; Ped/bike crossing improvements; On-street bike facilities; Off-street bike/ped facilities; Traffic diversion improvements
Bicycle Transportation Account	Aid to cities and counties for projects that improve safety and convenience for bicycle commuters	Any bicycle related facility that is expected to be used by bicycle commuters and has the potential to increase bicycle commuting
Transportation Community and System Preservation Program	A federally administered pilot program under TEA-21; as proposed under SAFETEA, states will control this source. The purpose is to reduce the demand for new infrastructure via Smart Growth projects	Local governments and MPOs eligible for discretionary grants to plan/ implement strategies to improve efficiency of transportation system; reduce environmental impacts of transportation; reduce the need for costly infrastructure; and ensure efficient access to jobs, services, and trade centers.

2. **Exactions of Development** pose project-specific exactions on new development for certain elements of the Charleston Arastradero Corridor Plan, such as enhanced bus shelters, urban design improvements or intersection capacity improvements. In larger development projects, such exactions are often negotiated during the approvals process, often driven by the findings of an environmental analysis of the proposed project showing that the project will have impacts on local roadways and other infrastructure.

In the case of the Charleston Arastradero Corridor Plan, there are several large-scale developments in the pipeline, including those proposed for the Hyatt Rickey's site, the Elks Club, the proposed Jewish Community Center, and Alma Plaza. It

Application / Approval Process	Lead Time	Likelihood of Success	Sample Project
Apply to **MTC**. The program and funding criteria are currently being reworked	TBD. Next Capital Grant Cycle in Spring 2005.	**Good** if program emerges in a similar structure. Currently competitive and well-subscribed	Los Gatos Creek Bike/Ped Trail, $750,000
Programmed through **MTC** TIP process with county **CMAs**	2 Years	**Good**. Source is competitive and currently oversubscribed, but viable funding option in the long-term.	Palo Alto Medical Foundation Bike/Ped Crossing, $500,000
Grant application process through **MTC** working with county **CMAs**	2 years	**Fair**. Popular flexible funds but competitive and currently over-subscribed. Requires demonstration of vehicle trip reduction and air quality improvement. Since Plan focuses primarily on calming rather than trip reduction, it must make a good case that it will reduce auto trips to schools, etc.	Pedestrian Access Improvements Near Tasman Light Rail, $500,000
Apply to **Bay Area Air Quality Management District**. 60% disbursed by BAAQMD through competitive process. 40% through county **CMAs**	1 Year. (Applications Due 6/30)	**Fair**. Plan focus on calming, not trip reduction. Project must demonstrate benefit to air quality by increased bike and ped use.	Los Altos, Traffic Calming of El Monte Avenue, $40,000
Grant application to **Caltrans**	1 Year. 5th Cycle applications due 2/30/04	**Good.** Palo Alto Neighborhood Traffic Calming Program is foundation for successful application.	Cupertino, In-pavement crosswalk lights, bicycle detectors, signage, and raised crosswalk, $405,000
Grant application to **Caltrans**	1 Year. Applications due in December	**Fair.** Palo Alto has required bicycle plan but limited funds make source competitive.	Emeryville, Bicycle Commuter Corridor (Class I and III Bikeways), $350,000.
Proposal under SAFTEA would require states to establish distribution process with MPOs.	TBD. Likely 1 year cycle.	**Fair**. Charleston Arastradero Corridor Plan tangentially fundable, although signal coordination could qualify as a transportation efficiency improvement. However, the small size of SAFTEA program will require projects that 'stick-out'	Ortega Street ped over-crossing gateway, $124,000

is expected that each of these projects will be required to undergo an impact analysis, and that the project proponents may be required to mitigate some of their impacts on the transportation infrastructure. Depending on the timing of both the projects and the implementation of the Charleston Arastradero Corridor Plan, there may be some elements of the plan that could be directly funded as a part of the development process. More formal exactions on new development, in the form of impact fees, require study and legal clearance to determine that there is a rationale for the application of the fees. A traffic impact fee could be developed specifically for the Charleston Arastradero Corridor Plan area, as has been done for Stanford Research Park and the San Antonio/West Bayshore, but the proceeds of this fee would be limited by the amount of new development in the project area. As Palo Alto is currently considering the adoption of a citywide Transportation Impact Fee (described below), creation of an area-specific fee, which could be duplicative of the citywide fee and complicate its adoption, does not appear to be a fruitful path at this time.

3. Palo Alto Transportation Impact Fee

The City of Palo Alto is currently formulating a new development fee that will be used to fund citywide transportation improvements. It is broader than a typical traffic impact fee in that it recognizes that Palo Alto has a very high priority to enhance the ease of transportation for pedestrians, bicyclists and transit as well automobiles, and therefore focuses on bicycling, walking and transit projects. Transportation impact fees are commonly used by local jurisdictions in California to account for the impact of new growth on transportation resources. The proposed projects in the Charleston Arastradero Corridor area would

all pay into this citywide fund, if it were approved, based on their projected generation of peak hour automobile trips.

Use of the Transportation Impact Fee will be limited to improvements specified in the fee ordinance. Revenues will be dependent on the rate of new development, which tends to fluctuate markedly from year to year. At the current proposed rate of $2,458 per PM peak hour vehicle trip, the Traffic Impact Fee is predicted to generate $7.2 million (in 2003 dollars) over its 22-year life. Generating about $330,000 per year for Palo Alto projects, it will provide a good source of local match for implementing the Charleston Arastradero Corridor Plan.

The advantages of the use of this source for the Charleston Arastradero Corridor Plan over a more narrowly drawn neighborhood traffic impact fee is that the project will be able to draw on fees generated in the entire city, smoothing year to year variations in local development cycles. More importantly, under the proposed Transportation Impact Fee, major aspects of the Charleston Arastradero Corridor project are fundable, including computerized traffic management, bike routes, and pedestrian improvements. The Charleston Arastradero Corridor bike lanes and ped/bike intersection improvements are specifically named in the draft expenditure plan for the fees.

4. Palo Alto General Fund

The General Fund is a flexible, yet overcommitted resource that is critical to supporting community services, police, fire, public works and other core governmental functions in the City of Palo Alto. In recent years, the General Fund has totaled over 100 million dollars, but less than $1 million of that, on average, has been committed to transportation capital projects. Currently, given the severe recession, General Fund revenues are down dramatically and the City has had to significantly decrease budgets across the board, and has put off capital expenditures whenever possible. At this point, the city conservatively does not expect receipts to return to their 2000 levels for another five years. Governor Schwarzenegger's first act in office, to repeal the Vehicle License Fee, presents another immediate crisis to the city's General Fund, which stands to lose another $2.4 million from this source. Given the great demands on the General Fund, and the prospect of a slow turnaround in tax receipts flowing into Palo Alto, this source of funding is not a likely one for the Charleston Arastradero Corridor Plan.

Conclusion

There are several funding sources available to the City of Palo Alto which are very appropriate candidates for funding the Charleston Arastradero Corridor Plan, and a funding strategy can be devised to build the improvements as planned, even in the current difficult funding environment.

The nature of the Corridor Plan makes it highly fundable from a number of competitive grant pools that focus on pedestrian and bike improvements, school safety, and smart growth. It is likely that these programs will continue under a reauthorized federal transportation bill ("SAFETEA"), which should be passed by Congress in the coming months. Importantly, there are feasible sources of local match money, particularly if the Transportation Impact Fee is adopted. A firm source of local match will be important to attract competitive grants.

The timing of funding depends largely on Palo Alto's prioritization of this project in the overall Transportation Improvement Program for the city as a whole. Because of the cost the project will either have to be a very high priority for available funding, or, more likely, it will need to be broken into smaller phases for gradual implementation as funding is obtained.

Appendices

Appendix A - Travel Time / LOS Analysis Memo
Appendix B - Street Design Plan: 4-Lane Option
Appendix C - Enlarged Segments: 4-Lane Option
Appendix D - Alma Street Undercrossing Concept
Appendix E - Street Design Options
Appendix F - Community Meeting Notes
Appendix G - Utilities Conditions

Appendix A - Travel Time / LOS Analysis Memo

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DRAFT TECHNICAL MEMORANDUM

January 13, 2004

To:	Joe Kott, City of Palo Alto	**Project No.:**	42-023
From:	Christopher Thnay, PE, AICP	**Jurisdiction:**	Palo Alto
Subject:	Future Roadway Alternative, Travel Time and LOS Analysis		

Existing Traffic Condition

The existing peak direction traffic volumes for the study corridor varies from a low of approximately 400 vehicles per hour (vph) to highs of approximately 1,200 vph. The roadway segment between Fabian Way and Alma Street are generally below 900 vph in the peak direction. The average is approximately 770 vph during the am peak hour and 790 during the pm peak hour.

Since a residential collector street can generally carry approximately 900 to 1,000 vph per lane per hour, this segment provides the most opportunity to create a three-lane section with median left-turn lane at intersections. A typical collector street could carry higher volumes, but the available gaps for pedestrian crossing would be much reduced.

The existing peak hour volumes on Arastradero Road (west of El Camino Road) in the peak direction generally carries between 900 and 1,200 vph. This higher volume does not lend itself to comfortably accommodate a three-lane section due to reduce gaps for pedestrian crossing. However, if future design provides for positive control that facilitate safe crossing for pedestrians, the impact of reduce gaps for pedestrians could be reduced.

Besides carrying higher volumes, this segment also includes several roadway and operational characteristics that are different from the East Charleston Road (Alma to Fabian). Arastradero Road serves both Gunn High School and Terman Middle School. During the morning school commute traffic queues could be quite long and sometimes extend over several blocks towards Terman Drive.

In addition there are more side streets that intersect with Arastradero Road than at East Charleston Road. A total of 14 streets intersect with Arastradero Road verses eight on East Charleston Road (Alma Street to Fabian Way). Consequently, there will be many more conflicts with side street traffic on Arastradero Road. A three-lane section will also mean more U-turns in this section. Lastly, there is a long 800-foot section adjacent to the Hoover Elementary School that provides for some queuing in the westbound direction without blocking any side streets.

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Future Traffic Projections

TJKM has been working for the past several months on the City's Travel Forecasting Model. Before TJKM is able to make any model forecast, the model needs to be calibrated. Model calibration is a process to ensure that the model accurately replicates the existing traffic condition.

For this project, TJKM used the regional CMA travel demand model as a base. To better reflect the local streets and land use access and loading onto the network, TJKM work with City staff to create finer zones for the whole City. The City provided the 2025 local land use while the regional land use was obtained from the CMA model. Demand forecasting models need to be demonstrably reliable and credible after the model calibration before being used on a project. A central point of many public hearings and meetings concerning city and private development plans and projects focus on the credibility of the forecasting models. It is important that the analysis tools not become a point of contention, so that the real issues can be properly understood and addressed. The results of our model calibration are shown in Table I below.

Table I
Model Calibration Results

Period	Volume	A	B	STD	R2
AM	Turn	-2.98	1.02	37.76	0.98
	Link	-45.26	0.99	146.08	0.95
PM	Turn	-0.11	0.99	24.21	0.99
	Link	-19.63	0.99	159.5	0.98

Note:
A: Intercept of the regression line between the observed volumes and the computed volumes
B: Slope of the regression line between the observed volumes and the computed volumes
STD: Standard deviation of the regression line between the observed volumes and the computed volumes
R2 : R-Square

In addition to obtaining satisfactory parameters for A and B values, TJKM has calibrated the link and turning movement traffic volumes to within two percents of observed counts. TJKM concluded the model calibration was completed with a high level of accuracy.

Working with City staff TJKM devoted an extensive amount of effort to develop the model forecasts. Two future scenarios were analyzed in this study: namely, 2015 Comp Plan and 2015 with Known Proposed Projects.

2015 Comp Plan

This scenario includes all the land use in the Comprehension Plan. In addition, the Terman Middle School was included in the scenario.

The Charleston-Arastradero Road corridor covers approximately a 2.2-mile section. Within the corridor, there are some distinct roadway and land use characteristics. For ease of comparison, the corridor has been divided into four roadway segments as shown in Figure 1 and briefly described as follows:

Segment 1: Fabian Way to Middlefield Road
Segment 2: Middlefield Road to Alma Street
Segment 3: Alma Street to El Camino Real (ECR)
Segment 4: ECR to Gunn High

The results of the model forecasts for these segments are shown in Table I.

2015 with Known Proposed Project

This scenario includes all the known proposed projects including the Terman Middle School, Hyatt Rickey's, Elks Club and the Sun site. As shown in Table II, compared to the 2015 Comp Plan scenario, it is projected that there is generally a slight increase of approximately three to ten percent for most roadway links.

Potential Three-Lane Sections Based on the Projected Volumes

As mentioned earlier, the existing average am peak hour traffic volumes on Arastradero Road are approximately 1,100 vph, almost 50% higher than the average peak hour volumes of approximately 770 vph on East Charleston Road.

As shown previously in Table II, based on the 2015 model forecasts it is projected that the two roadway segments would be carrying almost an equal amount of traffic in the future. In the am peak hour, it is projected that the peak directional flow is approximately 1,100 vph while in the pm peak hour the peak directional flow is approximately 900 vph.

Table II
Projected Link Level Peak Hour Roadway Volumes

Scenarios/Link Segments	Existing		2015 Comp Plan		2015 Known Proposal	
	AM	PM	AM	PM	AM	PM
1. Segment I: Fabian to Middlefield	866/477	502/692	1,111/654	793/821	1,121/711	803/778
2. Segment II: Middlefield to Alma	765/693	582/944	1,120/1,119	927/1,016	1,129/1,182	937/1,022
3. Segment III: Alma to ECR	838/537	597/730	995/995	1,081/788	1,004/1,112	1,139/817
4. Segment IV: ECR to Gunn High	846/1,136	828/903	1,142/1,052	1,051/806	1,163/1,142	1,071/815

Note: 866/477 = Eastbound/Westbound peak hour volumes

Therefore, based on the volume alone it seems like a case might be made for a three-lane treatment. However, based on the different roadway characteristics as mentioned above, it is still our opinion that a three-lane section is more appropriate on East Charleston Road. The current volume on Arastradero Road is much higher and the access to Gunn High School should be resolved before any three-lane segment could be considered. As part of this project, a design has been proposed to redesign the intersection to include a westbound right-turn lane on Arastradero Road at Gunn High driveway that will provide queuing distance for vehicles waiting to make a right-turn into Gunn High. Additional improvements at the intersection will improve the operations at the intersection.

In addition three or four additional crosswalks would be added to the corridor. These crosswalks would probably include special colored pavement treatment and be fitted with a lighted crosswalk. Instead of lighted crosswalks, the City might consider installation of pedestrian signals. If pedestrian signals were installed at all major crosswalks, pedestrians and bicyclists would be able to safely cross the street regardless of the available gaps. Under this scenario, a three-lane section could be considered on Arastradero Road. That is our best judgment based on the information available. Of course, City Council or staff might decide to install a three-lane segment in the whole corridor based on other information or priorities that we are unaware.

Projected Travel Times

A comparison of the travel times and delays for the 2015 forecasts were conducted. The evaluation is based on the travel time from San Antonio Road to the Foothill Expressway.

As a part of the study, it is our understanding that the City has applied for funds to install traffic signal adaptive capability on the whole corridor. Traffic signal adaptive technology has been proven to increase the signal efficiency by as much as 20 percent over current time of day signal timing. The details are contained in Appendix A.

Four future scenarios were analyzed: 2015 Comp Plan, 2015 Proposal, 2015 Known Proposal (meets non-auto mode criteria) and 2015 Known Proposal (three lane section from Alma to Fabian). The results of the analysis are shown in Table III. Based on our analysis, applications of traffic adaptive technology shows that compared to the existing conditions, the travel time through the study corridor under the four scenarios will be reduced from one to three minutes.

Besides the 2015 Comp Plan and 2015 Known Proposal forecasts scenarios, two additional alternatives have been developed based on the 2015 Known Proposal forecasts.

The 2015 Known Proposal (Meets Non-Auto Mode Criteria) was developed to meet the bike, walk and transit non-auto mode performance criteria. Based on the Gunn High mode shares information provided by the City, it was determined that the current non-auto mode use is approximately 39 percent (14 percent walk, 12 percent bike and 13 percent transit).

In addition, mode share information was also obtained for Terman Middle School. It was determine that approximately 63 percent of the students biked, walked or took the bus on the first Monday following the start of school.

As part of this study, bike and walk connectivity would be substantially improved. Full bike lanes would be provided throughout the whole corridor and either lighted crosswalks or pedestrian signals would be provided as well. To be conservative, TJKM only estimated that the combined increased of bike, walk and transit use would increase by no more than 20 percent at Gunn High. The potential increases at Terman Middle School and from the regular commuter traffic were not considered.

The analysis of the Embarcadero Ridership data between 2000 and 2002 shows almost 20 percent increase in rideship. And the Crosstown Weekday Ridership shows increase of approximately 45 percent (based on available 3rd/4th Quarter data in 2001 and 2002). Therefore, the potential for mode shifts to transit and bike use could be substantial with good service routes and improved bike lanes.

The 2015 With Known Proposal (Three Lane Section) scenario assume a three-lane segment with left-turn pocket on East Charleston Road from Alma Street to Fabian Way.

Table III
Charleston/Arastradero Road Corridor Study
Travel Time and Delay Comparisons

Scenarios		Travel Time (s) EB	WB	Ave Time	Change (min)	% Change		Signal Delay (s) EB	WB	Ave Time	Change (min)	% Change
Existing	AM	678	726	702	-	-	AM	294	336	315	-	-
	PM	716	749	733	-	-	PM	332	360	346	-	-
2015 Comp Plan (A)	AM	657	658	658	-1	-6%	AM	353	350	352	1	12%
	PM	566	592	579	-3	-21%	PM	261	283	272	-1	-21%
2015 Known Proposal (B)	AM	670	667	668	-1	-5%	AM	364	358	361	1	15%
	PM	577	600	588	-2	-20%	PM	272	290	281	-1	-19%
2015 Known Proposal	AM	606	609	607	-2	-14%	AM	300	299	300	0	-5%
(Meets Non-Auto Mode Criteria)	PM	531	580	556	-3	-24%	PM	226	270	248	-2	-28%
2015 Known Proposal	AM	607	585	596	-2	-15%	AM	306	278	292	0	-7%
(Three Lane Section) *	PM	614	578	596	-2	-19%	PM	248	301	274	-1	-21%
2015 Known Proposal	AM	627	600	614	-1	-13%	AM	327	293	310	0	-2%
(Three Lane Section) **	PM	534	584	559	-3	-24%	PM	239	276	258	-1	-26%

Note:

* Three lane section from Alma St to Fabian Way.

** Three lane section for whole corridor.

Include effects of traffic adaptive system along the corridor

All change statistics are as compared with existing conditions.

As shown in Table III, due to the improved signal coordination provided by traffic signal adaptive system, it is expected that the travel times for the corridor for all the future traffic scenarios would improve. The travel time savings range from one to three minutes. It is also expected that the total signal delay for the corridor range from one minute increase to a reduction of two minutes.

If the three-lane section is extended from Miranda Avenue to Fabian Way, it is expected that travel time and delay might increase marginally over the results of the three-lane section from Alma Street to Fabian Way. The biggest difference might be that the available gaps for pedestrian to cross the street would be reduced. Since the project will include more pedestrian crosswalks with refuge islands as well as potentially several pedestrian signals, the impact on pedestrians would likely be less than significant.

Intersection Levels of Service Analysis

Table III as shown previously details the travel time and signal delay for the whole study corridor. As such, the change in travel time and delays include both the intersection as well as the mid block travel time in the corridor.

The 2015 Comp Plan and 2015 Known Proposal intersection levels of service (LOS) analysis results are shown in Table IV. The levels of service shown in Table IV do not include the signal efficiency effects of implementing a traffic adaptive system. This would be the future base without the proposed study that will include the implementation of a traffic adaptive system.

As mentioned earlier, traffic signal adaptive technology has been proven to increase the signal efficiency by as much as 20 percent over current time of day signal timing. Factoring the effects of a traffic signal adaptive system, the resulting LOS is shown in Table V. Compared to the 2015 future base without the effects of traffic adaptive system, the proposed study project shows LOS improvements at two intersections from LOS E to LOS D and other general delay improvements in the corridor.

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TABLE IV: EXISTING, 2015 COMP PLAN AND 2015 KNOWN PROPOSAL LEVELS OF SERVICE
(WITHOUT TRAFFIC ADAPTIVE SYSTEM)

	Location	Existing				2015 Comp Plan				2015 Known Proposal			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1.	San Antonio Rd/Charleston Rd	36.4	D	35.7	D	69	E	48	D	69	E	55	D
2.	Fabian Way/Charleston Rd.	9.1	A	18.2	B	12	B	11	B	16	B	11	B
3.	Middlefield/Charleston Rd	43.5	D	35.3	D	67	E	59	E	72	E	60	E
4.	Nelson Dr/Charleston Rd	4	A	3.3	A	6	A	5	A	6	A	5	A
5.	Alma St/Charleston Rd	53.7	D	68	E	122	F	118	F	131	F	120	F
6.	Wilkie Way/Charleston Rd	10.1	A	3.3	A	13	A	8	A	25	C	4	A
7.	El Camino Real/Arastradero/Charleston Rd	40.3	D	38.8	D	53	D	49	D	59	E	51	D
8.	Coulombe Dr/Arastradero	5.1	A	2.7	A	5	A	5	A	5	A	6	A
9.	Donald Dr/Terman/Arastradero	4.1	A	3.2	A	6	A	5	A	9	A	5	A
10.	Gunn High School/Arastradero	16.2	B	5.5	B	6	A	6	A	21	C	5	A
11.	Foothill Expwy/Charleston Rd.	47.7	D	46.7	D	48	D	30	C	43	D	30	C

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TABLE V: EXISTING, 2015 COMP PLAN AND 2015 KNOWN PROPOSAL LEVELS OF SERVICE
(WITH TRAFFIC ADAPTIVE SYSTEM)

	Location	Existing				2015 Comp Plan				2015 Known Proposal				2015 Known Proposal (Meets Non-Auto Mode Criteria)				2015 Known Proposal (Three Lane Section) [1]			
		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour		A.M. Peak Hour		P.M. Peak Hour	
		Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS	Delay (sec)	LOS
1.	San Antonio Rd/Charleston Rd	36.4	D	35.7	D	55	D	39	D	55	D	44	D	52	D	40	D	54	D	44	D
2.	Fabian Way/Charleston Rd.	9.1	A	18.2	B	9	A	8	A	13	B	8	A	8	B	12	B	13	B	10	B
3.	Middlefield/Charleston Rd	43.5	D	35.3	D	54	D	47	D	57	E	48	D	50	D	44	D	56	E	49	D
4.	Nelson Dr/Charleston Rd	4	A	3.3	A	5	A	4	A	5	A	4	A	6	A	4	A	9	A	5	A
5.	Alma St/Charleston Rd	53.7	D	68	E	97	F	94	F	105	F	96	F	97	F	91	F	103	F	90	F
6.	Wilkie Way/Charleston Rd	10.1	A	3.3	A	11	B	6	A	20	B	3	A	13	B	4	A	17	B	3	A
7.	El Camino Real/Arastradero/Charleston Rd	40.3	D	38.8	D	42	D	39	D	47	D	41	D	42	D	34	C	45	D	37	D
8.	Coulombe Dr/Arastradero	5.1	A	2.7	A	4	A	4	A	4	A	5	A	2	A	3	A	3	A	5	A
9.	Donald Dr/Terman/Arastradero	4.1	A	3.2	A	5	A	4	A	7	A	4	A	5	A	4	A	6	A	4	A
10.	Gunn High School/Arastradero	16.2	B	5.5	B	5	A	5	A	17	B	4	A	14	B	5	A	16	B	4	A
11.	Foothill Expwy/Charleston Rd.	47.7	D	46.7	D	38	D	24	C	34	C	24	C	35	C	24	C	35	C	24	C

Note:
1. Three-lane section on East Charleston Rd from Alma St to Fabian Way.
2. Include effects of traffic adaptive system along the corridor.

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APPENDIX A

Traffic Adaptive

TRAFFIC ADAPTIVE COORDINATION

Traffic Adaptive Control – Latest & Greatest Strategy for Traffic Control Systems

New control strategies and concepts have been lurking on the fringes of the mainstream traffic control system arena since the 1980s. The predominant "other" strategy is collectively known as traffic adaptive control. The main players in this category include SCOOT (Split Cycle and Offset Optimization Technique), SCATS (not an acronym for anything), and more recently Adaptive Control Systems (ACS). Less well-known players include Urban Traffic Optimization by Integration Automation (UTOPIA), Signal Progression Optimization Technology (SPOT), ContROl of Networks by Optimization of Switchovers (CRONOS), and (PRODYN). SCOOT was developed in England by the Transportation Road Research Laboratory of the U.K. government. SCATS was developed in Australia by the New South Wales Department of Main Roads government. Starting in the mid-1990s, the FHWA has partially funded the development of a collection of three competing traffic adaptive control strategies, ACS, previously called RT-TRACS (Real-time Traffic Adaptive Signal Control System). The common aspect of government sponsorship is not coincidence. Rather, it is out of necessity because the task of producing a workable, viable, marketable signal system based on a traffic adaptive strategy was clearly beyond the capability of any private enterprise. SCATS is available through TRANSCORE. RT-TRACS is available as an optional control strategy of PB Farradyne's MIST system. SPOT and UTOPIA, developed in Italy, are available through Peek Traffic. PRODYN, developed in France, has not been deployed yet in the U.S.

The concept of most traffic adaptive control is that the supervising system monitors traffic flows on (a whole lot of) critical links in the system on a minute-by-minute (or even more frequent) basis. Given this much analytical information, it crunches numbers and decides on a cycle-by-cycle basis what each signal under its control needs to do. The system can require an intersection to revise its green splits, to use a different cycle length, to shift its end-of-coordinated-green offset value, or any combination of the three. Traffic adaptive systems, therefore, typically don't utilize the UTCS concept of a "timing pattern". They sort of *look* like timing patterns, but they stretch and shrink and bend and adjust on each subsequent cycle, all dancing at the behest of the master traffic system computer's software program. In fact, there may not even be any stored patterns in the system that it pulls from. That library of stored patterns is a hallmark of all traditional traffic control systems.

Rather than the classic pattern matching process of comparing link flows to a look-up table in order to pick a 'best' pattern, the traffic adaptive system continually runs an optimization routine using those current flows. "*The algorithm systematically evaluates combinations of phase termination points to determine the optimum time at which to end the arterial's phases. The optimum set of phase termination times is defined as the combination that minimizes a weighted function of total intersection delay and stops, accumulated over the horizon in a simulation of traffic flow. The user selects the delay and stops*

weighing factors. For each combination, the algorithm begins with initial conditions for the intersection and then simulates traffic over the user-specified horizon, calculating queues and accumulating delay and stops. The combination that minimizes the function of delay and stops is chosen for implementation. This phase termination selection is reevaluated every interval with updated head and tail arrival patterns and timing information for each phase." [Note: this phraseology is straight from a MIST document.]

Slightly different is SCATS, which decentralizes the optimization routine. SCATS calculates and implements the next intersection's cycle length using the detectors at the stop line. SCATS allows for phase skipping. Offsets between adjacent intersections are predetermined and adjusted with the cycle time and progression speed factors. [Note: This class almost used SCATS rather than SPOT-Utopia for the virtual signal laboratory. The adaptation of the system for virtual operation could not be completed in time.]

An extraordinary amount of system detection is required for a traffic adaptive system. Unlike traditional systems that use system detectors (on maybe 5 percent of the system's links) to determine when to change from pattern 11 to pattern 48 as an assist on making a pattern change that would have occurred anyway as a result of a time-of-day command, the traffic adaptive system needs all of these detectors (on maybe 25 percent of the system's links?) in good operating condition all the time. Most signal system managers know that system detectors are notoriously flaky or defective, which have relatively lower maintenance priority. This simply cannot happen with a traffic adaptive system, or the system's much sought after improved traffic flow will quickly disappear. The great benefit, on the other hand, of a traffic adaptive system, is that it is continually refining and improving its own plans. There are no timing plan libraries that contain ever more stale coordination plans, so there is no need to mount a major retiming effort every few years. Also, a properly operating traffic adaptive system produces better traffic flow than a traditional, classic traffic pattern-based system.

In this regard, traffic adaptive is significantly different from traffic responsive. A signal system that has traffic responsive operation engaged is actively and continually seeking to find the best coordination pattern (from its library) to implement. Because each pattern change will result in some degree of transition, as manifested in the green times presented to drivers, the pattern change can often take 2 or 3 cycles to complete. During this transition period, the signal operation is quite often not, well, great. As a result, a system that is in traffic responsive mode needs to be constrained so that it is not making a new pattern selection every several cycles. Otherwise, the intersections will be transitioning a greater percentage of the time than they are cycling in the new, better, optimum pattern.

Base on field implementation data, it has been estimated that a traffic adaptive system could achieve travel time savings in many practical situations of 20 percent or more depending on the quality and age of the previous fixed time plan and on the rapidity with which flows change.

The following is a summary of several major traffic adaptive systems.

Real-time Traffic Adaptive Signal Control System (RT-TRACS) - In 1991 the FHWA solicited proposals for the development of a real-time, traffic adaptive signal control system called RT-TRACS. Shortly thereafter, the FHWA contracted with PB Farradyne to develop and implement RT-TRACS. The RT-TRACS control logic assesses the current status of the network with forecasting capabilities, allowing proactive, not reactive, response. The most fundamental requirement of this system is to effectively

manage and respond to rapid variations in traffic conditions. RT-TRACS consists of a number of real-time control prototypes that each function optimally under different traffic and geometric conditions. When conditions dictate, RT-TRACS can automatically switch to another strategy. The FHWA realizes that this control logic must be integrated with freeway performance data and provide network wide control. A thorough understanding of past experience with advanced traffic signal control strategies is critical to the development of effective RT-TRACS strategies for ITS. Features of the RT-TRACS design include:

- both distributed and centralized traffic control;
- dynamic priority control on selected routes;
- capability to interact with dynamic traffic assignment to implement proactive control;
- improved fallback capabilities in case of surveillance system failure;
- effective use of the accumulated experience with real-time control.

Five prototype strategies are currently being developed and evaluated for use in the RT- TRACS program. The FHWA awarded five separate contracts to develop these real-time prototype strategies. The contracts were awarded to the University of Arizona, the University of Minnesota, the University of Massachusetts (Lowell)/ PB Farradyne, Wright State University in Ohio, and the University of Maryland/University of Pittsburgh. Kaman Sciences Corporation is responsible for evaluating these prototypes using the CORSIM simulation model. In late 1997, the FHWA and the University of Arizona teamed to develop and field test one of these prototypes, RHODES, an open architecture version of RT-TRACS that will utilize an alternative database management system and NTCIP protocol.

Three of these prototypes, the RHODES prototype from the University of Arizona, OPAC (Optimization Policies for Adaptive Control) from PB Farradyne/ University of Massachusetts (Lowell), and RTACL from the University of Pittsburgh/University of Maryland, are at an advanced state of development. Initial simulation testing showed that these prototype strategies produced statistically significant improvements in traffic throughput and reduced average delay. The results of the laboratory evaluation of the RHODES prototype have indicated a reduction in delay, stops, and fuel consumption of 24 percent, 9 percent, and 6 percent, respectively, while maintaining the same throughput as the baseline case (vehicle actuated control). A 16-intersection arterial in Reston, Virginia has been selected for the field implementation. Instrumentation of the arterial is in progress. Further testing is expected to occur in Seattle, Washington, and Chicago, Illinois.

Detailed System Descriptions

SCATS

Operation of the SCATS System: The SCATS system controls signals in groups, known as sub-systems, where the critical intersection for each subsystem is specified by the traffic engineer. Sub-systems are grouped together and a regional computer can control signals at up to ten intersections. Systems can expand by the addition of extra regional computers that control traffic in their own area, but a central monitoring computer usually controls data input and traffic monitoring to the different regional computers.

Range of Operation: SCATS has been used in Sydney, Australia since about 1975 and has a user base of 26 systems in Australia and New Zealand and further systems in Shanghai, Shenyang (China),

Singapore, Sandakan (Malaysia), Rauia Lumpur and Dublin (Ireland). According to SAIC (consulting company) there are three installations in the United States: Oakland County, MI (350+ signals), Hennepin County, MN (71 signals), and Durham, NC.

System Evaluation: A survey carried out in Paramatta in 1981 by the Australian Road Research Board showed no significant reduction in travel times compared with operation using TRANSYT; however there was a large reduction in the number of stops, some 9 percent in the central area and 25 percent on arterial roads. Other studies have indicated improvements in travel times but compared to the original systems that were of unknown efficiency.

The SCOOT System

Introduction: SCOOT is a fully adaptive traffic control system which uses data from vehicle detectors to optimize traffic signal settings so as to reduce vehicle delays and stops. It was developed in the United Kingdom by the Transport and Road Research laboratory together from three UK signal companies.

Range of Operation: SCOOT has been operational in the UK since 1980 in Coventry. There are now around forty implementations within the UK, with the largest controlling the central part of London and other parts of Greater London. There are also systems in Bejing, Hong Kong, Santiago, Durban and Port Elizabeth. Further systems are proposed in Madrid, Cyprus and Nijmegen (Netherlands). There are four systems in North America; these are Toronto, Red Deer and Halifax (Canada) and Oxnard, California in the USA. [A separate reference lists three installations: Arlington, VA, Minneapolis, MN, and Anaheim, CA.]

System Evaluation: The effectiveness of the SCOOT strategy has been assessed by major trials in five cities as shown in Table D-3. The trials in Glasgow and Coventry were conducted by TRL and those in Worcester, Southampton and London by consultants, a university, and the local traffic authority, respectively. In most cases, comparisons were made against a good standard of up to date fixed time plans, usually produced by TRANSYT. The following table shows that the largest benefits are achieved in comparison with isolated vehicle actuation but, of course, part or this benefit could be achieved by a good fixed time system. The relative effectiveness of SCOOT varies by area and time of day, but overall it is concluded that SCOOT achieved an average saving in delay of about 12 percent compared with good fixed time plans. Since SCOOT does not "age" in the way typical of fixed time plans, it follows that SCOOT should achieve savings in many practical situations of 20 percent or more depending on the quality and age of the previous fixed time plan and on the rapidity with which flows change. On the basis of the surveys and subsequent experience, SCOOT is likely to be of most benefit where vehicular flows are heavy, complex and vary unpredictably.

Review of the UTOPIA System

Introduction: UTOPIA was developed in Italy with the objective of improving private and public transport efficiency. Characteristics of the system are described in the sections which follow.

Range of Operation: UTOPIA was first used in 1985 in Turin. This is the only current operational system, but there are plans to implement UTOPIA in Gothenburg and Salerno. The Gothenburg system will be designed using its own central controller and UTOPIA SPOT units.

System Evaluation: It is believed that research to asses the benefits of UTOPIA have not been carried out against fixed time control. The improvements attributed to UTOPIA in Turin are believed to have been calculated against some other control strategy previously installed there. Trials on the Turin network were carried out over many months. After implementing UTOPIA, private traffic speeds were found to increase 9.5 percent in 1985 and 15.9 percent in 1986, following system tuning. In peak times the speed increases were 35 percent. Public transport vehicles, which were given absolute priority, showed a speed increase of 19.9 percent in 1985.

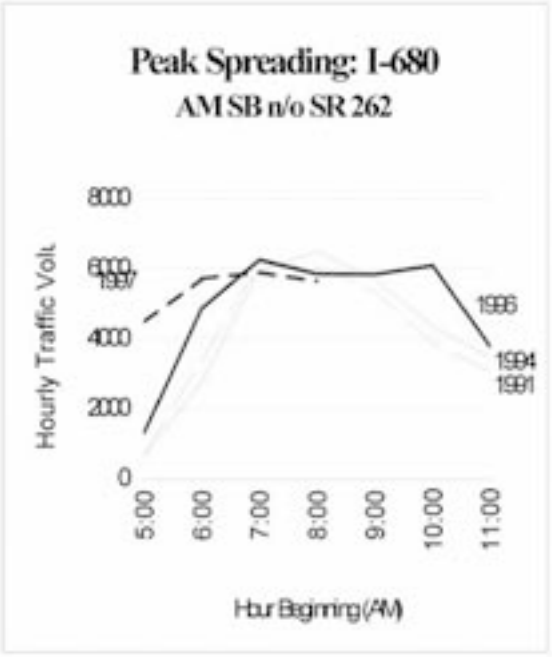
TJKM
Transportation Consultants

Appendix B

Peak Spreading

As commute traffic on highway facilities reaches congested levels, commuters begin to change their travel patterns by either finding less-congested routes or commuting during off-peak hours. This second phenomenon, known as peak spreading, has begun to occur on Bay Area area freeways. It is becoming especially pronounced on I-680, for which no uncongested reasonable alternative route exists. The graph at right illustrates peak spreading on I-680.

On I-680, the southbound a.m. peak period essentially lasted from 7:00 to sometime after 9:00 in 1991 and 1994. The 1996 data indicate the peak had extended well past 10:00, with traffic volumes also growing during the hours before 7:00. By 1997, the start of the a.m. peak period was close to 5:00. (TJKM's 1997 counts ended at 8:00, so 1997 data for the end of the peak period are unavailable.) Between 1994 and 1997, the I-680 southbound volume between 5:00 and 9:00 a.m. increased from 15,854 to 21,698 (a 37 percent increase). Essentially all of this traffic growth occurred between 5:00 a.m. and 7:00 a.m. Note that in 1996 and 1997 the peak-hour volumes have *decreased* even while the total peak-period volumes have increased. Note also that I-680 was widened from 4 to 6 lanes between 1991 and 1994.



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925-463-0611 phone 925-463-3690 fax www.tjkm.com SANTA ROSA

Appendix B - Street Design Plan - 4-Lane Option

Arastradero Road

- Maintain 4-Lane Cross Section
- Install 6' Median Islands* w/ Pedestrian Crossing Refuges
- Stripe Auto Lanes 10'/10'/10'/10'
- Remove Curbside Parking Lane West Side
- Widen Bike Lanes to 7' *
- Sign Bike Lanes Both Sides for Programmed Curbside Parking (e.g. 7pm to 7am)
- Paint/Tint Bike Lanes
- Construct Regular Curb East Side
- Install Lights / Signs, e.g., "Bike Boulevard"
- Install Street Trees in ROW / PUE Area
- * Islands widened to 10' at Local Streets to Create Left Turn Pockets; Requires Narrowing Bike Lanes to 5' and Eliminating Curbside Parking

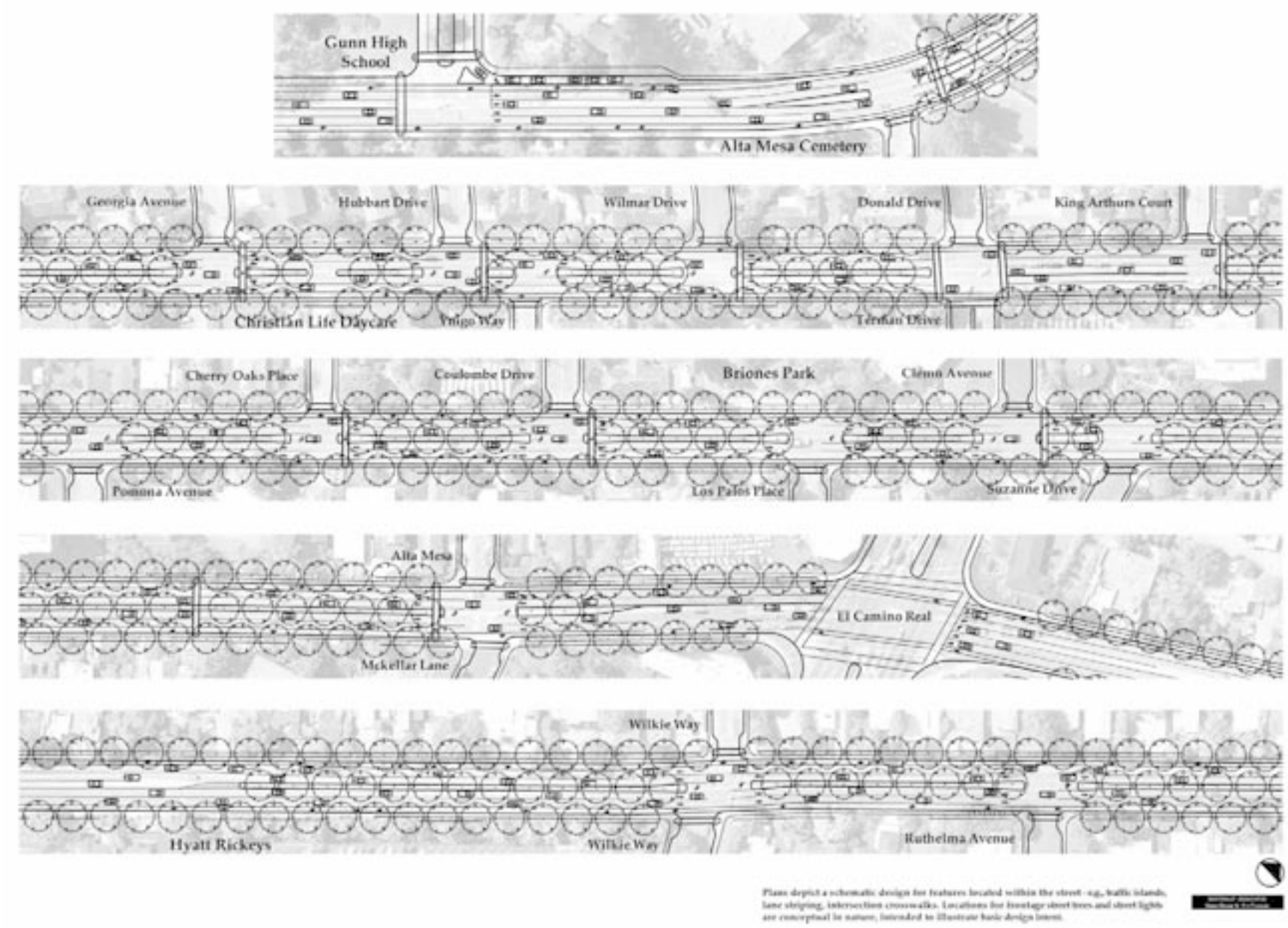
West Charleston / East Charleston

- Reduce from 4-Lane to 3-Lane Cross Section
- Install 6' Median Islands w/ Pedestrian Crossing Refuges
- Stripe Auto Lanes 11'/10'/11'
- Maintain Curbside Parking on East Side
- Widen Bike Lanes to 6' on East and 8' on West
- Paint/Tint Bike Lanes
- Sign Bike Lane on East Side for Programmed Curbside Parking (e.g. 7pm to 7am)
- Install Lights / Signs, e.g., "Bike Boulevard"

Plans depict a schematic design for features located within the street--e.g. traffic islands, lane striping, intersection crosswalks. Locations for frontage street trees and street lights are conceptual in nature, intended to illustrate basic design intent.

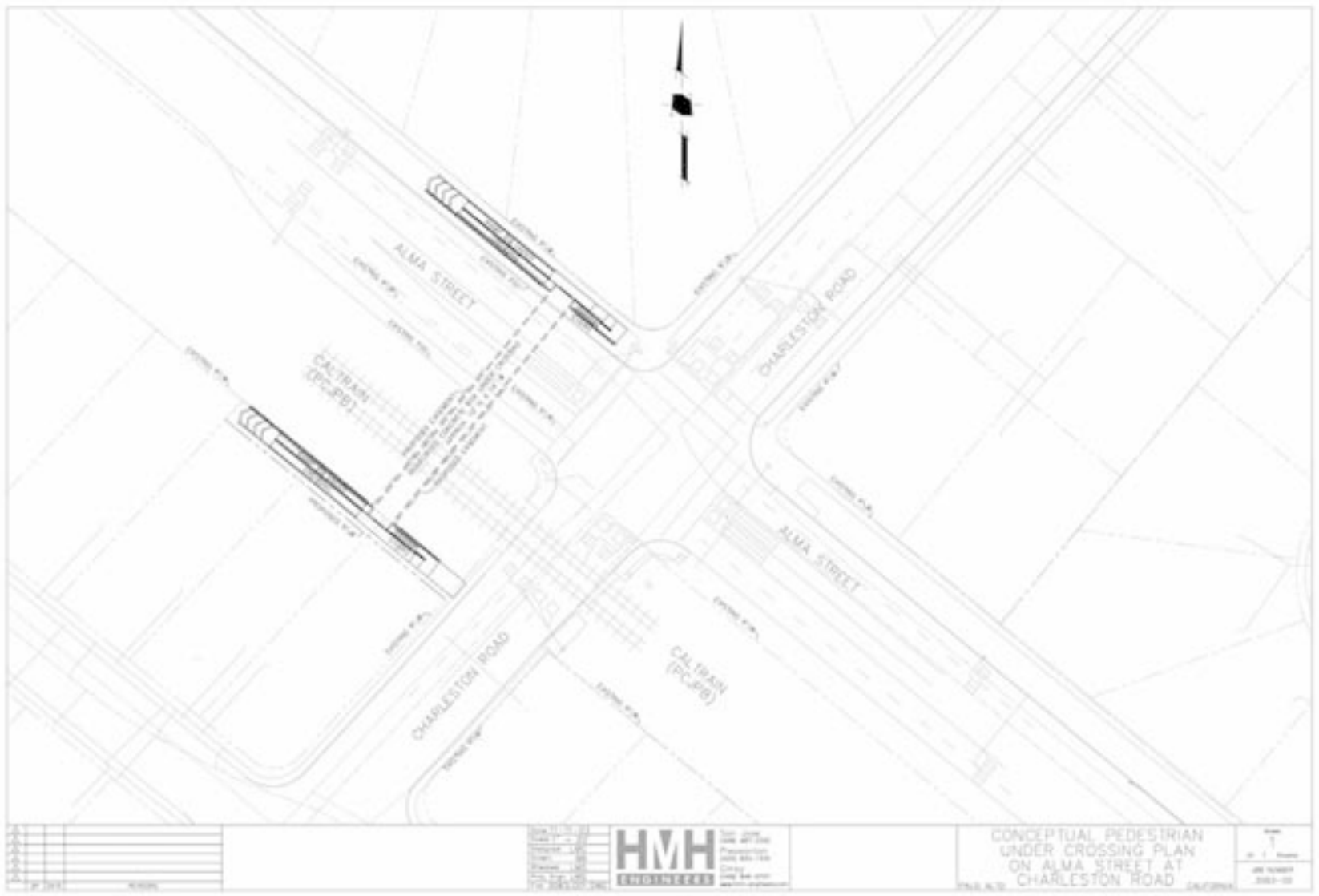
Street Design Plan - 4-Lane Option

Appendix C - Enlarged Plan Segments - 4-Lane Option



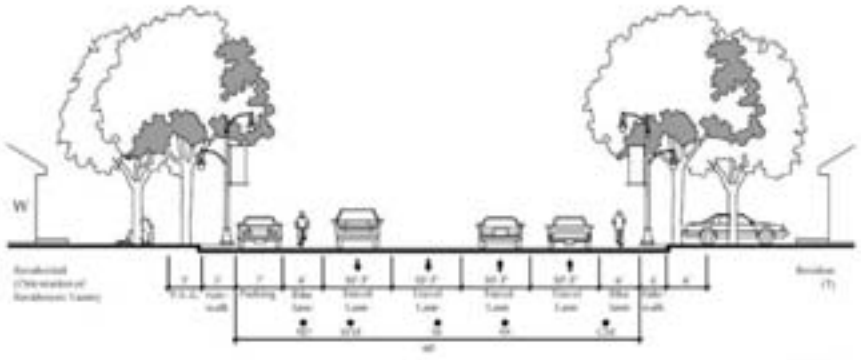
Enlarged Segments - 4-Lane Option - Gunn to Ruthelma

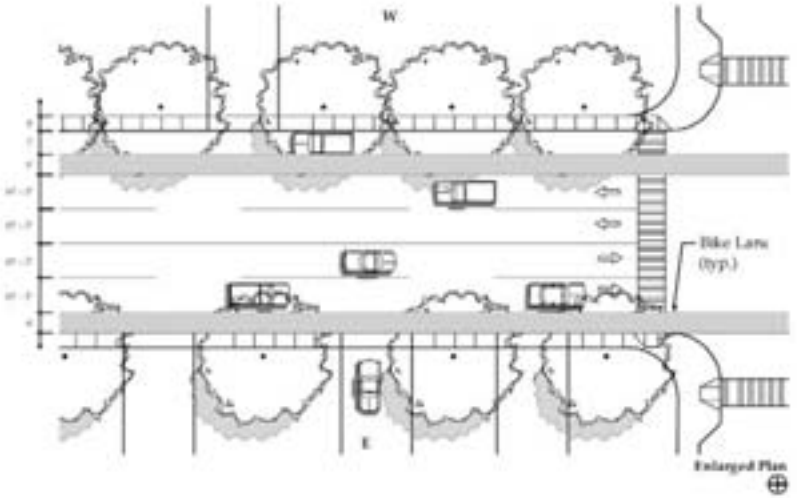
Appendix D - Alma Street Undercrossing Concept



Alma Street Unercrossing Concept

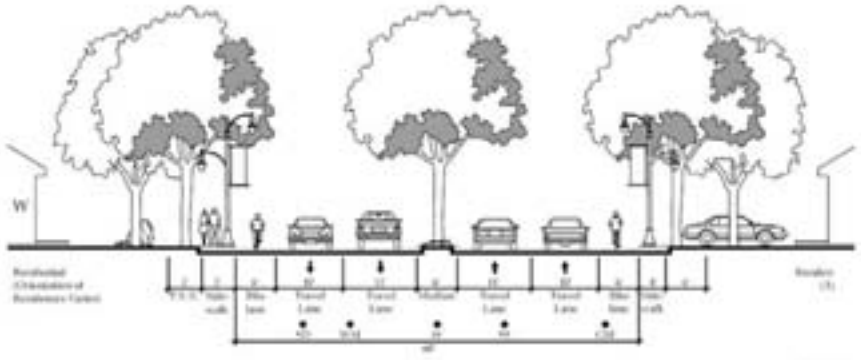
Appendix E - Street Design Options

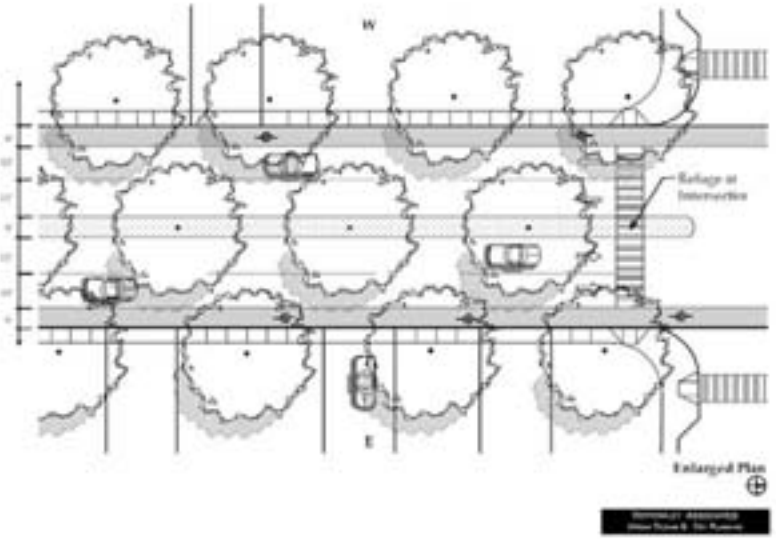




Option 1: Enhanced Bike Lanes

- Remove Parking Lane West Side
- Narrow Lanes to 10'/11'/11'/10'
- Paint/Tint Bike Lanes
- Install Lights/Signs (Bike Blvd.)
- Consider Curbside Parking Off Peak
- Install 6' Median w/Refuges
- Widen Bike Lanes to 6'
- Construct Regular Curb East Side
- Install Street Trees in ROW/PUE

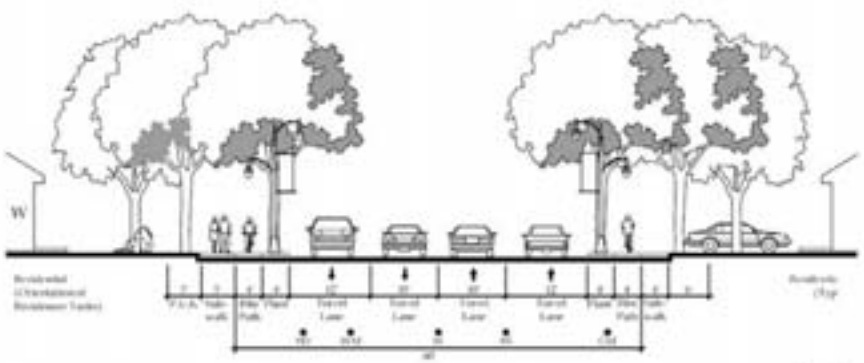




Option 2 : Median w/Enhanced Bike Lanes

- Remove Parking Lane West Side
- Narrow Lanes to 10'/11'/11'/10'
- Paint/Tint Bike Lanes
- Install Lights/Signs (Bike Blvd.)
- Install Street Trees in ROW/PUE
- Install 6' Median w/Refuges
- Widen Bike Lanes to 6'
- Construct Regular Curb East Side
- Consider Curbside Parking Off Peak

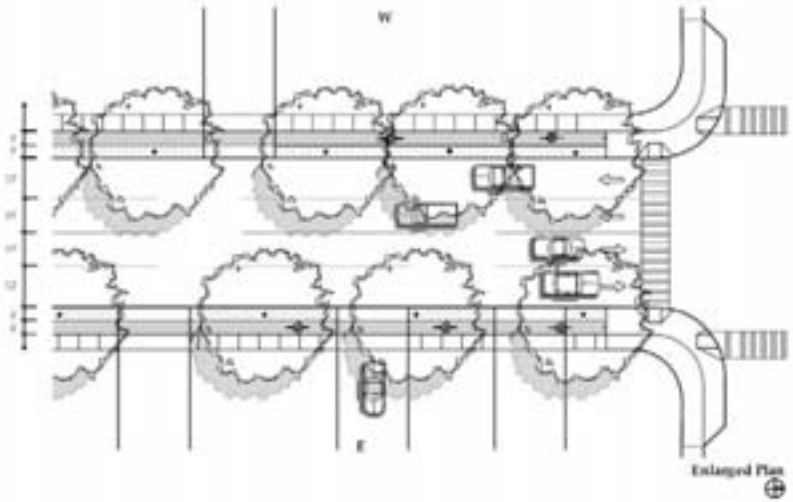
Arastradero / West Charleston Options



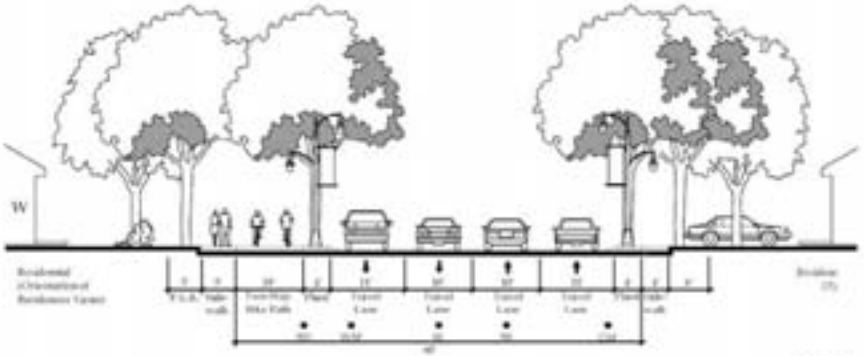
Section

Option 3 : Expanded Frontages w/One-Way Bike Paths

- Remove Parking Lane West Side
- Widen Frontages: New Curb/Gutter with Grade Separated Bike Path, 4' Planting Strip w/Street Trees
- Install Lights/Signs (Bike Blvd.)
- Narrow Lanes 12'/10'/10'/12'
- Install Street Trees in ROW/PUE
- Consider Curbside Parking Off Peak
- Commuter Bicyclists Ride in Street?



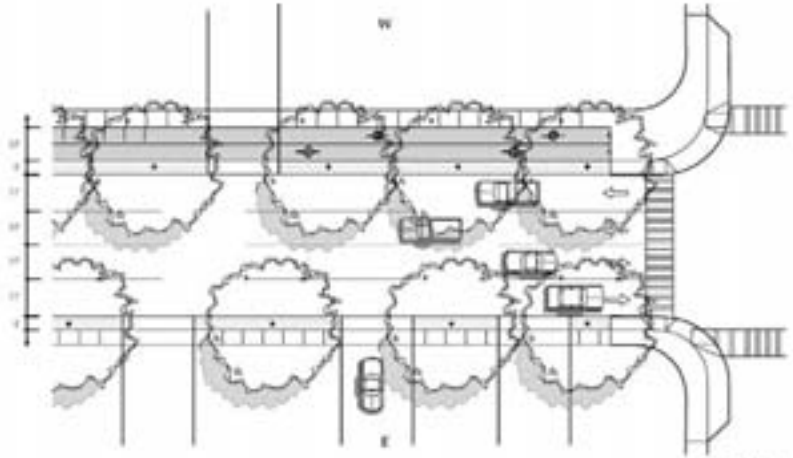
Enlarged Plan



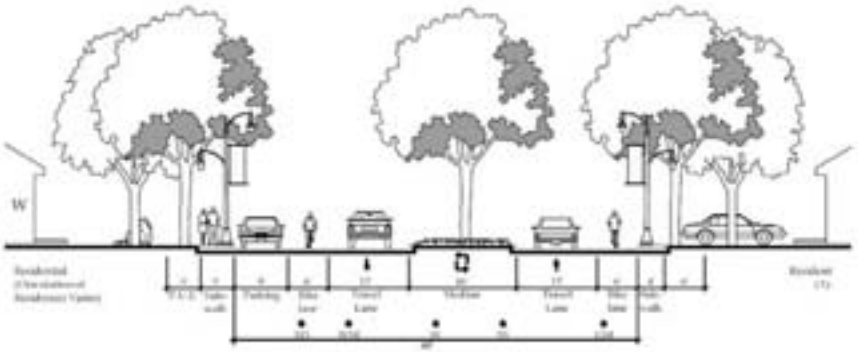
Section

Option 4 : Expanded Frontages w/Two-Way Bike Path

- Remove Parking Lane West Side
- Widen East Frontage: New Curb/ Gutter, 4' Planting Strip w/ Street Trees
- Widen West Frontage: New Curb/ Gutter, 10' Bike Path, 4' Planting Strip w/Street Trees
- Narrow Lanes to 11'/10'/10'/11'
- Install Lights/Signs (Bike Blvd.)
- Install Street Trees in ROW/PUE
- Consider Curbside Parking Off Peak
- Commuter Bicyclist Ride in Street?



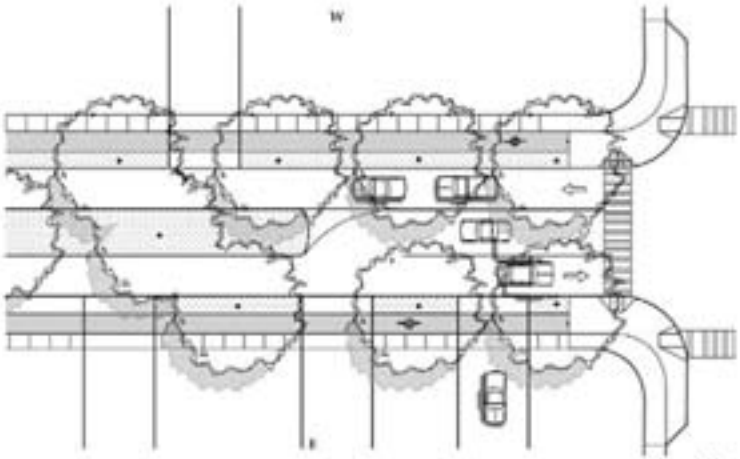
Enlarged Plan



Section

Option 5 : Three Lanes w/Median and Enhanced Bike Lanes

- Reduce to Three Lanes, 12'/10'/12'
- Widen Bike Lanes to 6'
- Construct Regular Curb East Side
- Install Street Trees in ROW/PUE
- Install 16' Median w/Refuges
- Paint/Tint Bike Lanes
- Install Lights/Signs (Bike Blvd.)



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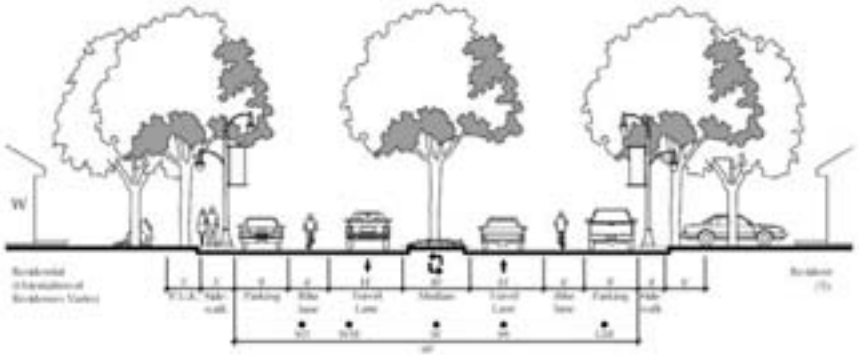
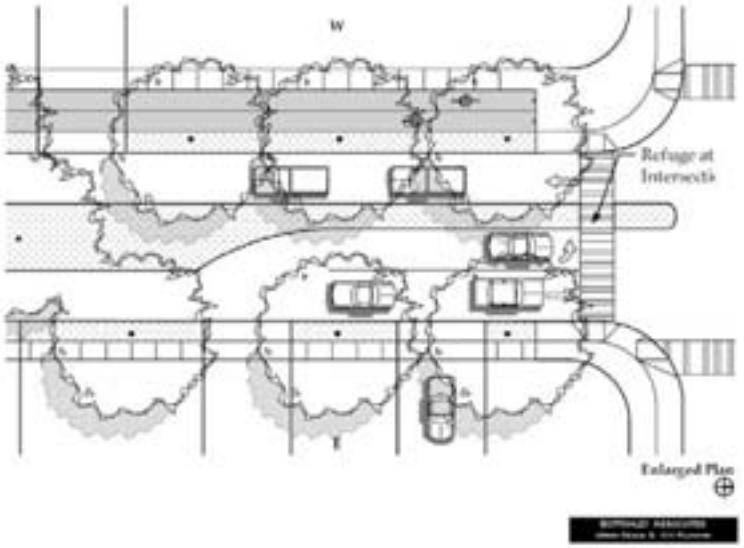


Section

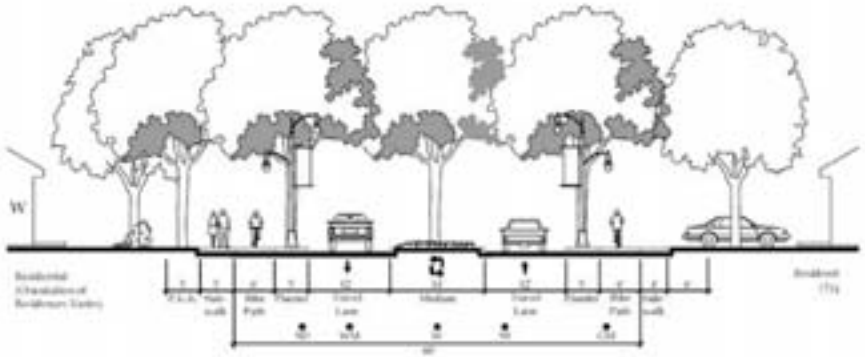
Option 6 : Three Lanes w/Median, Parking Both Sides, Enhanced Bike Lanes

- Reduce to Three Lanes, 11'/10'/11'
- Stripe for 14' Parking/Bike Lane
- Construct Regular Curb East Side
- Parking/Bike is a "Flex Zone" During Peak Hours
- Install 10' Median w/Some Refuges
- Paint/Tint Bike Lanes
- Install Lights/Signs (Bike Blvd.)
- Install Street Trees in ROW/PUE



Enlarged Plan

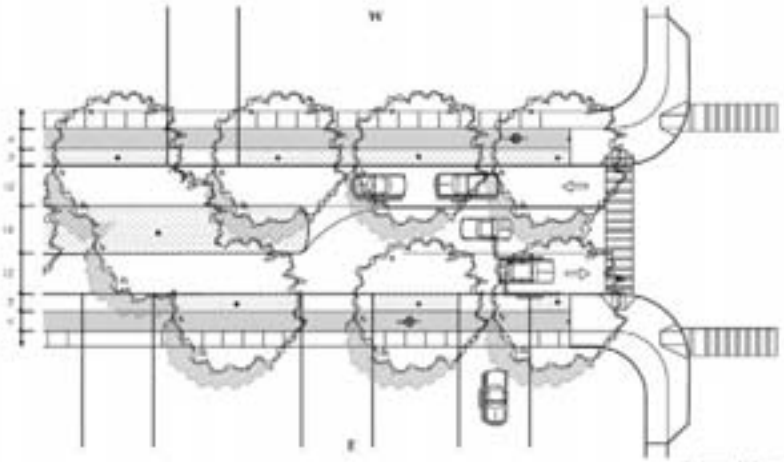
Arastradero / West Charleston Options



Section

Option 7 : Three Lanes w/Median, Expanded Frontages, One-Way Bike Paths

- Remove Parking Lane West Side
- Install 14' Median w/Some Refuges
- Widen West Frontage; New Curb/ Gutter, 6' Grade Separated Bike Path, 5' Planting Strip w/Street Trees
- Reduce to Three Lanes, 12' each
- Install Lights/Signs (Bike Blvd.)
- Install Street Trees in ROW/PUE
- Commuter Bicyclists Ride in Street



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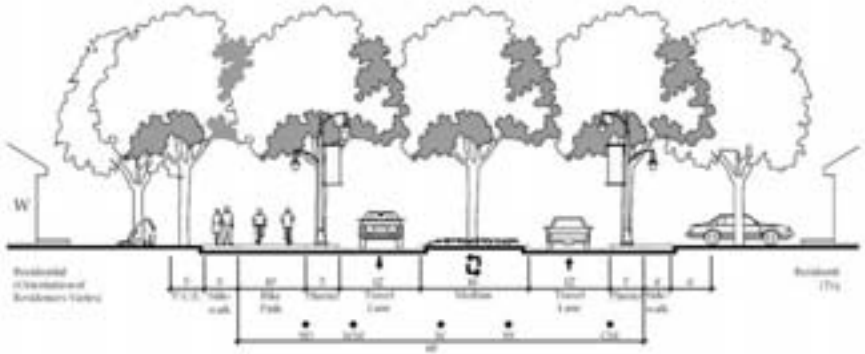
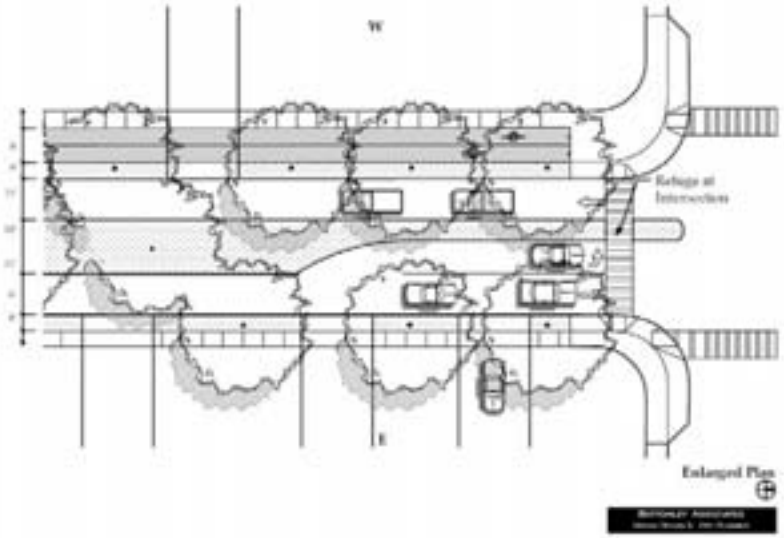


Section

Option 8 : Expanded Frontage w/ Two-Way Bike Path

- Remove Parking Lane West Side
- Install 16' Median w/Refuges
- Widen East Frontage; New Curb/ Gutter, 5' Planting Strip w/ Street Trees
- Install Lights/Signs (Bike Blvd.)
- Reduce to Three Lanes, 12'/10'/12'
- Widen West Frontage; New Curb/ Gutter, 10' Bike Path, 5' Planting Strip w/Street Trees
- Commuter Bicyclists Ride in Street



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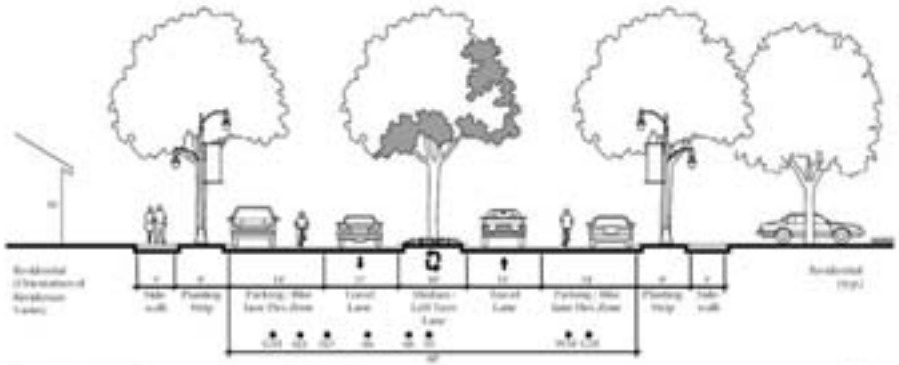
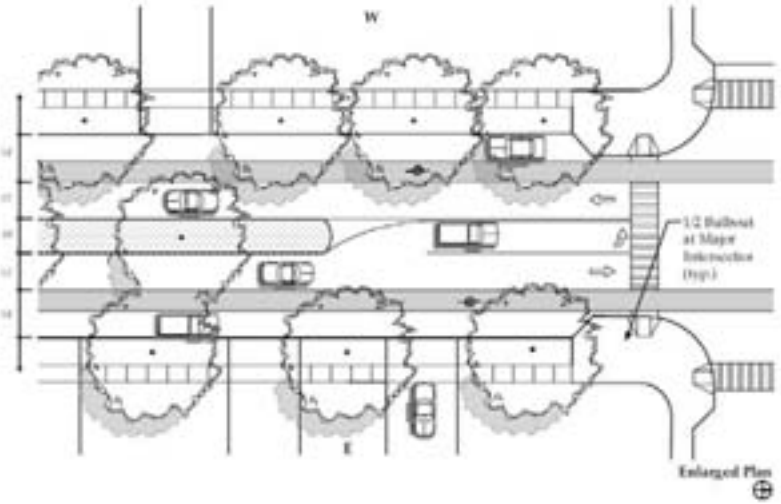


Option 1: Three Lanes w/ Median, Parking Both Sides, Enhanced Bike Lanes

- Reduce to Three Lanes, 11'/10'/11'
- Install 10' Median w/Some Refuges
- Paint/Tint Bike Lanes
- Parking/Bike is a 'Flex Zone' During Peak Hours?
- Add Parking Lane to West Side (Alma to Middlefield)
- Stripe for 14' Parking/Bike Lane
- Install Lights/Signs (Bike Blvd.)



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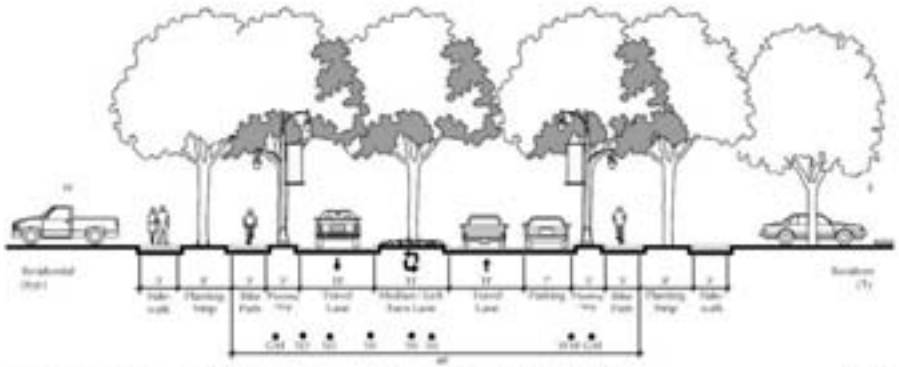
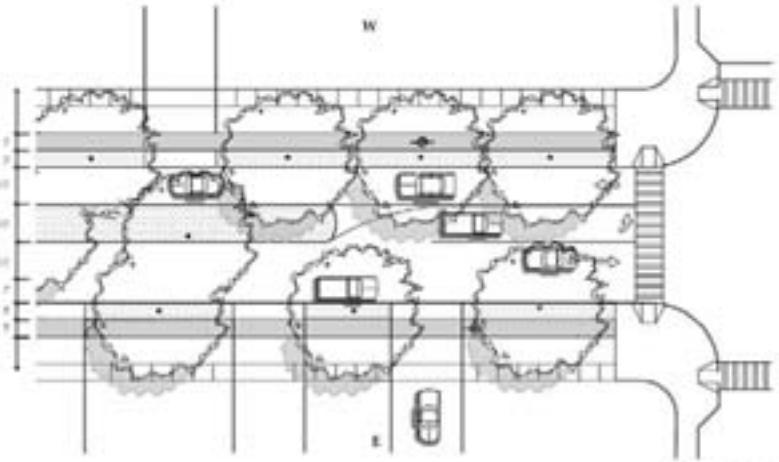


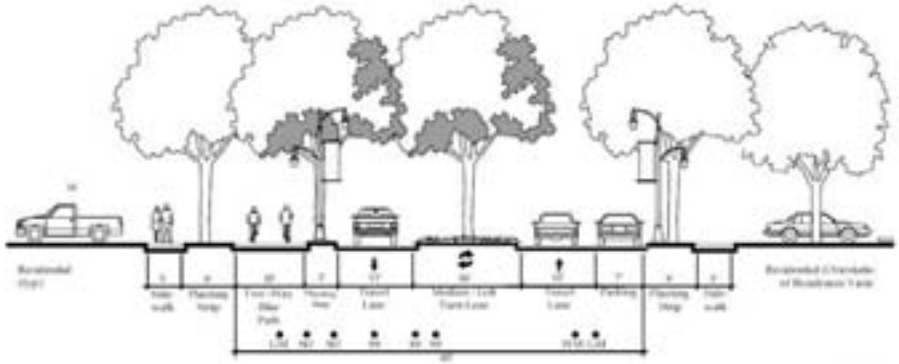
Option 2: Expanded Frontage w/ One-Way Bike Paths

- Reduce to Three Lanes, 11' Each
- Widen Frontages: New Curb/ Gutter, 5' Grade Separated Bike Path, 5' Planting Strip w/ Street Trees
- Parking East Side of Street
- Install 11' Median w/Some Refuges
- Install Lights/Signs (Bike Blvd.)
- Commuter Bicyclists Ride in Street?



Enlarged Plan

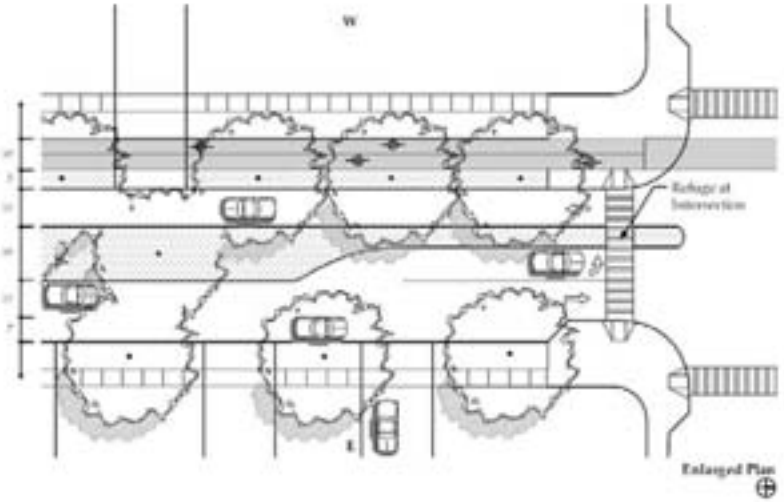
East Charleston Road Options



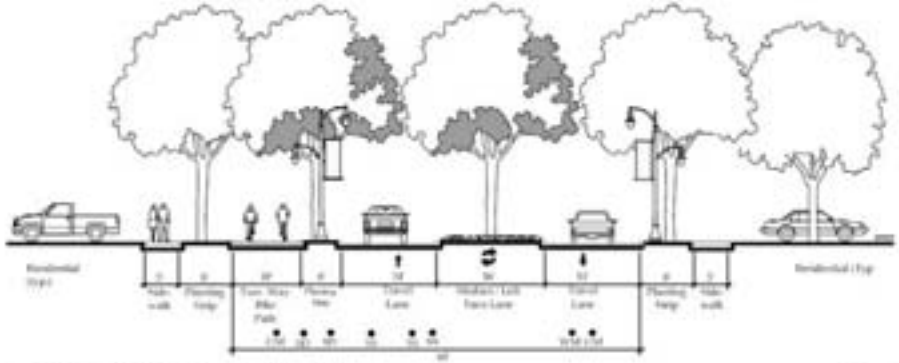
Option 3: Expanded Frontage w/Two-Way Bike Path

Section

- Reduce to Three Lanes, 11'/10'/11'
- Widen West Frontage: New Curb/Gutter, 10' Bike Path, 5' Planting Strip w/ Street Trees
- Install 16' Median w/Refuges
- Install Lights/Signs (Bike Blvd.)
- Commuter Bicyclists Ride in Street?



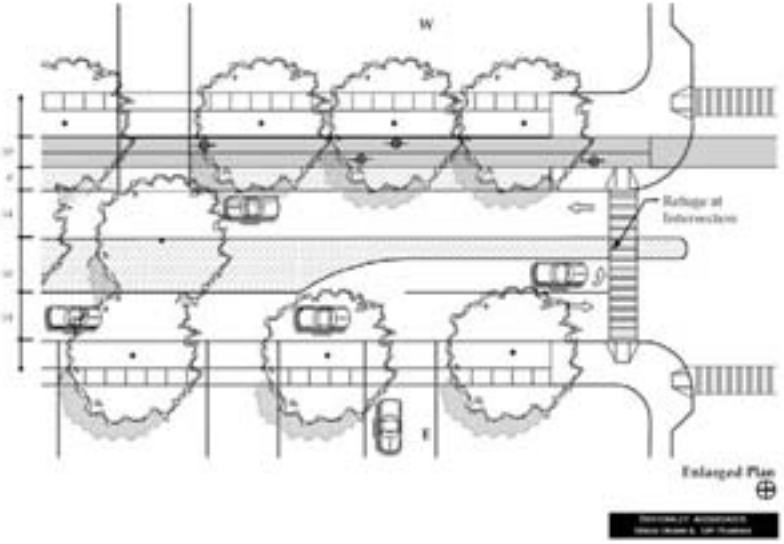
Enlarged Plan



Option 4: Expanded Frontage w/Two-Way Bike Path, No Parking

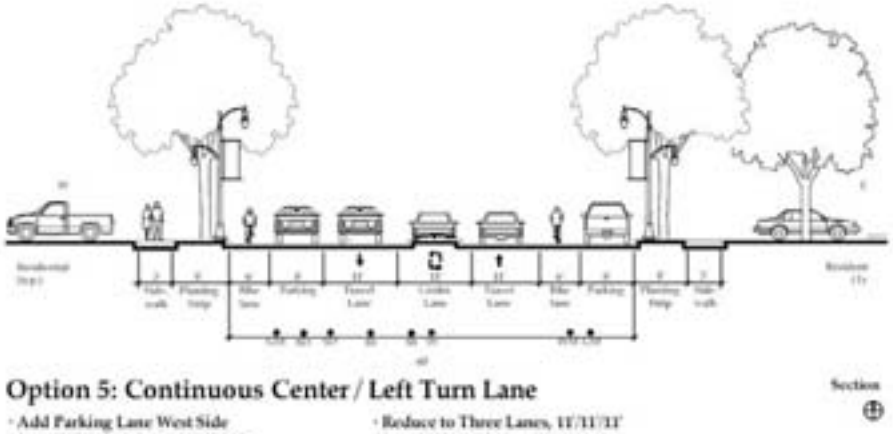
Section

- Remove Parking Lane East Side
- Widen West Frontage: New Curb/ Gutter, 10' Bike Path, 6' Planting Strip w/ Street Trees
- Reduce to Three Lanes, 14'/11'/14'
- Install 16' Median w/Refuges
- Install Lights/Signs (Bike Blvd.)
- Commuter Bicyclists Ride in Street?



Enlarged Plan

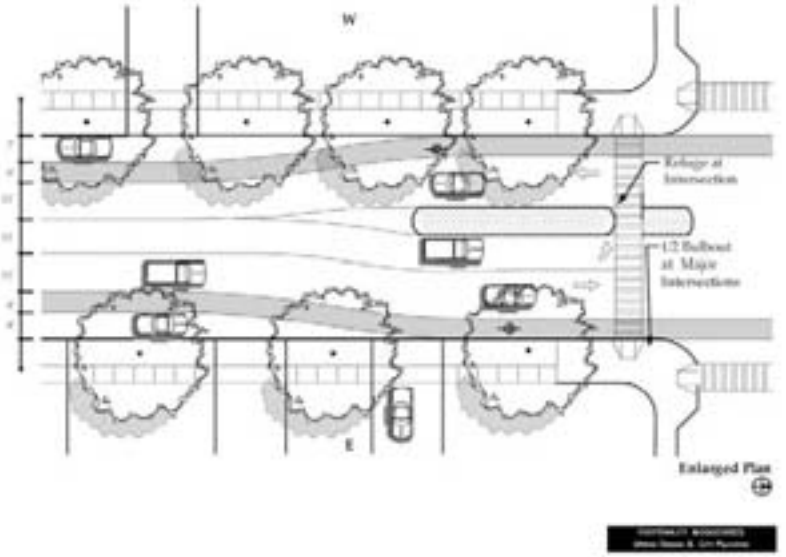
East Charleston Road Options



Option 5: Continuous Center / Left Turn Lane

- Add Parking Lane West Side
- Install Traffic Island w/Refuges
- Reduce to Three Lanes, 11'/11'/11'
- Install Lights/Signs (Bike Blvd.)

Section



Enlarged Plan

Appendix F - Community Meeting Notes

City of Palo Alto
Arastradero / Charleston Corridor Study
Community Meeting #1 – 7/10/03
Comments Summary

The comments summarized below were made by participants and recorded during the course of the meeting. (R) indicates a response by City staff or consultants. "Sticky-back" comments were added to study area plans by participants.

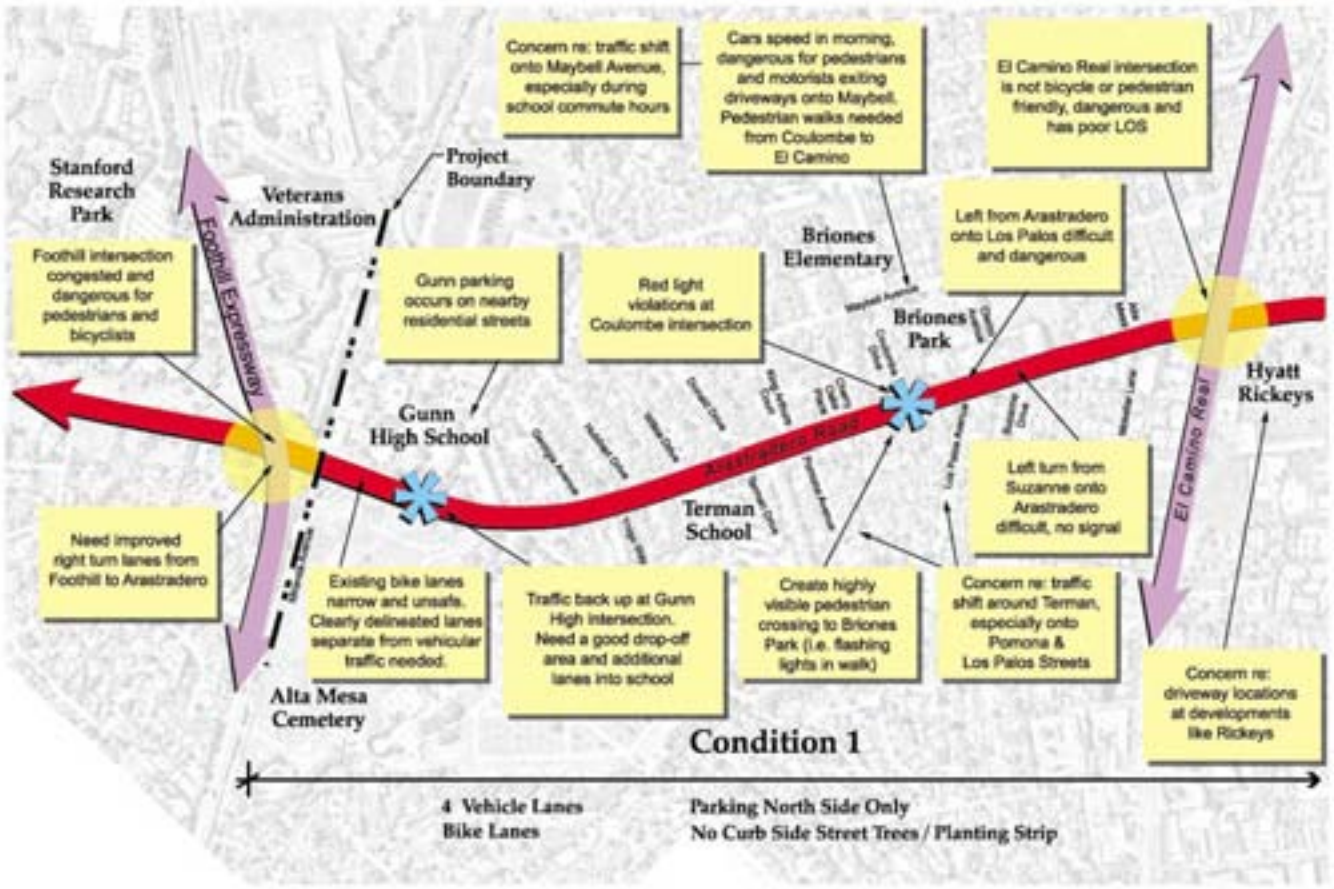
Open Discussion Comments:

- Raised pedestrian crossings and medians are a good way to slow traffic.
- Is there a school by the Elk's club? (R) Yes.
- The intersection of Foothill and Arastradero is a serious problem which should not be left out of the project study boundary. (R) We will include Foothill in our study area.
- I am concerned that slowing traffic will increase commute times. (R) Not necessarily the case. Many traffic calming measures make the flow of traffic more consistent and efficient. One of our goals is to maintain trip time as it is, not increase it.
- Turning left from Suzanne Drive onto Arastradero heading toward Gunn High School is very difficult because there is no signal.
- The current bike lane width is too narrow and unsafe. Many bikers ride double in the lane. Also sometimes children have trouble staying within the lines if the lane is too narrow.
- Turning left from Arastradero onto Suzanne Drive is difficult and dangerous because there is no signal. It is also difficult to get to Briones Park from Suzanne Drive.
- If traffic is slower it may be easier to turn left onto Arastradero from the side streets.
- Turning left onto Los Palos is dangerous.
- I am concerned that a traffic shift may occur behind Terman School onto Los Palos and Pomona. (R) One solution to that problem may be to create an inviting drop-off at Terman School.
- I heard rumors that there may be parent-sponsored buses and a turn around at Terman School. (R) There will be school buses transporting students from the hills. If there is available capacity these may include additional students. The buses will unload behind Terman at the park.
- I am concerned that a traffic shift may occur at Maybell. What is the efficiency of a roundabout? (R) High efficiency and safety, however not real popular in Palo Alto at present.
- Flashing light up signs before crosswalks are a potential solution to slow traffic. (R) Agree.
- What is the timeline for project implementation? (R) Implementation will occur in phases over 5, 10, 20 years. It depends on available funding, much of which will come from grants and redevelopment projects.
- There is a Christian preschool between Gunn High and Terman School. It is difficult to turn left onto Arastradero.
- How do electronic speed signs work? (R) Believed to work very well and we intend to implement more.
- The Charleston Center near Nelson is a mess and needs traffic calming.
- The Louis Drive crossing is dangerous. There is no visibility. There needs to be signaling coming from San Antonio to Fabian alerting drivers to pedestrians.
- Is the School Improvement Plan a priority? (R) Yes.
- I tried biking with my kids to school and it was a scary and inconvenient experience.
- Are there studies to determine if there is through traffic from U.S. HWY 101 to Stanford Research Park? Why don't people take the Oregon Expressway instead? (R) There are no studies of this yet, but there will be in a few months. Our traffic engineer suspects that there is a lot of through traffic on Arastradero / Charleston.
- Page Mill Road is congested.

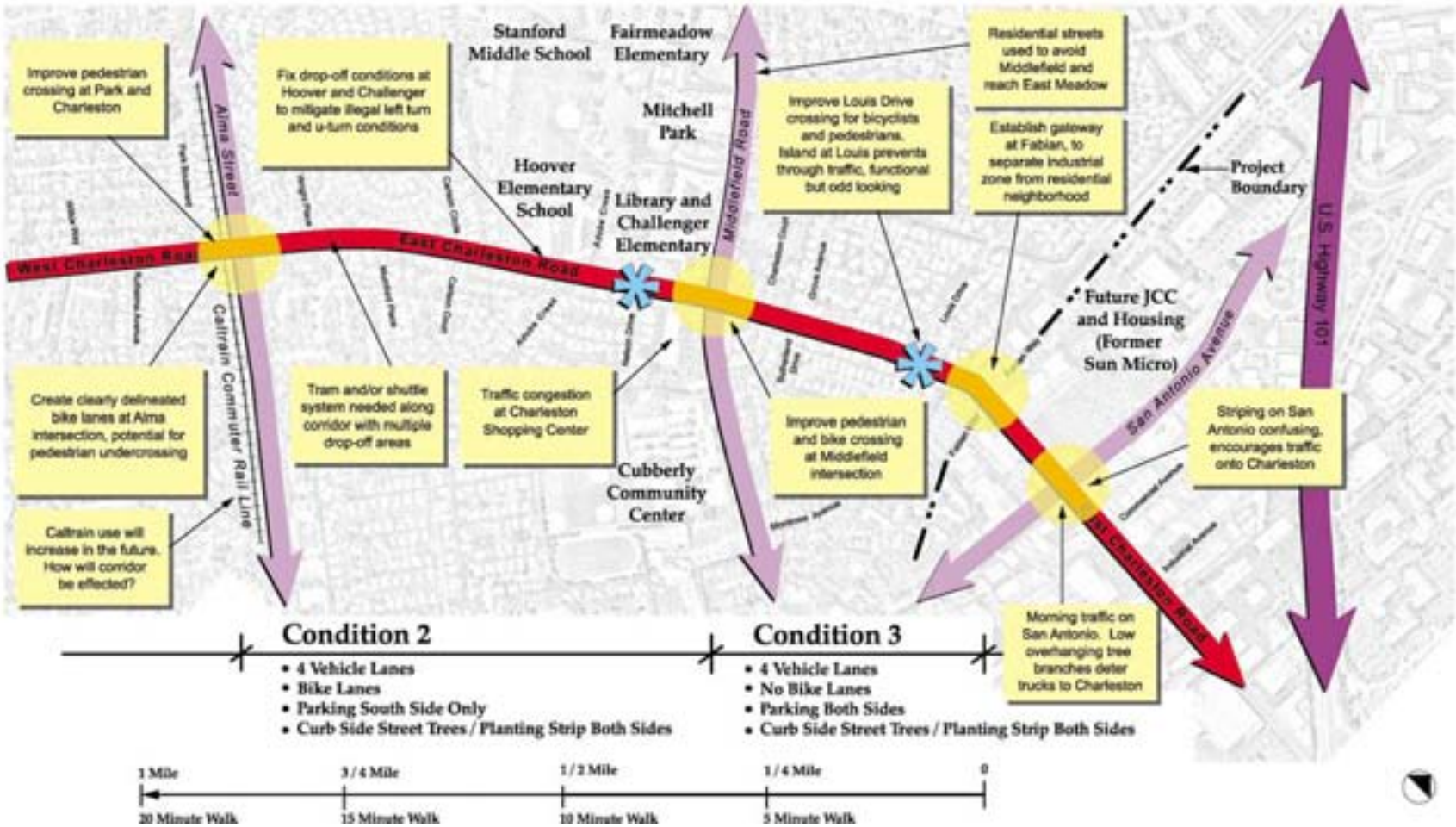
- I live on the corner of Alma and Charleston and it is very difficult to get out of my driveway.
- Are school start times currently staggered? (R) Yes.
- I believe that the majority of corridor traffic is through traffic . Commuters should use the Oregon Expressway.
- Walking across Arastradero to Briones Park is very dangerous especially on Sundays when traffic is less and cars go faster.

Sticky-Back Comments:

- Are there funds available for more shuttles during school commute times?
- How about a tram running down the center along the entire corridor? It could stop at every street crossing to pick up and drop off. All traffic would stop to allow the children to get safely to the side.
- The influx and pattern of bikers and cars from the Foothill / Arastradero intersection will influence your solution to the Gunn and Terman areas.
- Traffic backup on Arastradero west is *greatly* amplified by the Gunn High School intersection. We need a good drop-off area and more lanes into Gunn as a first priority.
- Maybell- In the morning cars speed on this street and it is dangerous for people who walk to Terman and Briones Parks, and for those who drive cars out of their garage.
- I anticipate that morning Terman traffic will take Maybell west and make a left on Coulombe and Donald. "No left turn" signs and some enforcement could help prevent this.
- There is a high level of red light violators at the Arastradero / Coulombe intersection even when crossing guard is present. Major reason is that parents from Suzanne Drive drive their children to Briones School.
- We need better Sidewalks / pedestrian way on Maybell from Coulombe to El Camino may help encourage more walking and biking to the elementary school.
- During peak times there is no safe way for drivers to make the turn between Arastradero and Suzanne Drive. Same for Greenacres 1 neighborhood.
- I am concerned that there will be increased traffic on Maybell as a cut through to Gunn and Terman. Also Maybell is *not* safe for cyclists or pedestrians.
- A potential solution for pedestrians going to Briones Park from Suzanne Drive is an on-demand crossing with flashing lights in the asphalt near the Clemo Avenue and Suzanne Drive intersections.
- Are there plans to make Arastradero 2 lanes with center left turn lane and R/L turns at major intersections?
- There is no sign indicating the Alma intersection before the train tracks. Drivers turn right without signaling.
- Coming from Alma Street there is no left turn into Hoover School so drivers turn right onto Nelson and make U-turns to get back onto East Charleston.
- The Charleston Plan needs to incorporate some solutions for Middlefield between the Library and San Antonio. There is no bike lane to Cubberly Community Center. Lunch drop-off traffic on Middlefield is a problem.
- Northern Palo Alto has a lot of 4-way stop signs. Put these in on Arastradero / Charleston. It slows traffic and allows access from side streets.
- Ban all trucks from Charleston Road including city and PASCO that are from other areas. San Antonio is a truck route and runs almost parallel to Charleston Road.
- Middlefield is a death zone at the south end of Palo Alto.



Community Comments Diagram



Community Comments Diagram

City of Palo Alto
Arastradero / Charleston Corridor Study
Community Meeting #2 – 7/16/03
Comments Summary

The comments summarized below were made by participants and recorded during the course of the meeting. (R) indicates a response by City staff or consultants. Sticky-back comments were added to study area plans by participants.

Open Discussion Comments:

- Are there plans to widen the street into people's front yards? (R) There will be no change in width between property lines.
- Speeding is a problem on the corridor. The street looks like an expressway so people drive fast. I bike to work in Los Altos. From Mumford to El Camino Real is dangerous.
- At Hoover Elementary better access accommodation is necessary.
- Is there a possibility that Charleston will become two lanes with a left turn lane?
- There are several intersections at Level of Service D: Alma, El Camino Real, Middlefield, and Foothill. These are already a problem.
- Illegal left turns at Hoover and Challenger Elementary back up traffic.
- Will the Charleston / Arastradero project evaluate the new Ricky's development? These traffic models include numbers but not evaluation of the development. (R) The current proposal is plugged into the model. The city is looking at a reduced scale project as well. Plus schools and city growth projections are evaluated in the models.
- Speed is a real issue on the corridor. South of Hoover the walks are used by cyclists. Shouldn't the walks and bike paths be separate?
- The electronic flashing speed signs are good.
- The El Camino Real crossing is scary.
- The island at Louis and Charleston is very odd.
- The Louis island was implemented by the neighborhood thirty or forty years ago to stop through traffic to 101 south.
- The island is ugly. (R) The island is functional, but ugly.
- A gateway between the industrial and residential zones at the Fabian intersection would be nice.
- The effectiveness of the flashing signs has worn off.
- If you scale down the street how will you prevent directing traffic to other streets? (R) That's part of the design challenge.
- We need police to enforce the flashing speed sign. Can we have more police added to the street before project implementation to monitor what is occurring?
- There will be lots of added traffic with three new schools on Arastradero. There have been no environmental studies of these future expansions.
- There is a problem of Gunn students parking on nearby residential streets.
- I disagree that traffic will not be deterred to other streets. We should discourage U.S. 101 to 280 through traffic. We need to seriously consider the possibility of a shift to Page Mill Road and other streets.
- We need more cooperation between the city and the school district. The schools should encourage alternative means of transportation.
- U-turns occur on Nelson and Carlson as a result of "no left turn" into Hoover and Challenger School. This is a problem.
- How is it possible to make such street modifications without increasing traffic? It doesn't add up.
- In regards to performance criteria the intersection Levels of Service (LOS) should be increased to "B." (R) We could make them all LOS "A," but the physical measures necessary to attain the grade would be opposite of pedestrian and bicycle friendly.
- Currently there is a moratorium, but new development will eventually add more traffic. New development will add too much traffic. (R) The city will model a range of scenarios.

- The El Camino Real intersection is *not* bicycle friendly.
- There should be a shuttle running up and down the corridor during the morning commute.
- I am proud to live in a community that can understand a counter-intuitive traffic program.
- How about a bullet train? Is it possible to remove at-grade crossings? (R) They are safer, but they are costly and were not reviewed positively in the Comprehensive Plan process.
- It's hard to believe something good can be done without shifting traffic. It's all going to fall on Charleston. Shuttle use would be great. (R) The 4% bike trip rate in Palo Alto can be improved.
- Will there be a train station in the future? Where do the numbers for the traffic models come from? (R) There are 120 traffic model zones. They are posted on the website. The city tests the maximum scenario per the current Comprehensive Plan and Zoning designations.
- School traffic requires cooperation from the school district. Heavy backpacks make bikes hard to ride. The kids need lockers to store their books so they don't have to bring them home every day. At lunch time traffic from Gunn is wild. Should the gates in back be closed?
- Currently it takes 7-8 minutes to back out of my driveway onto Charleston. Will a steady flow of traffic make this easier or more difficult? (R) We will need to create gaps in the flow.
- Currently less than 7 tons of truck weight is allowable on Charleston. However, this law is not enforced. Large trucks use the corridor as a cross town connection. Should trucks greater than 3.5 tons be banned from the corridor to reduce traffic?
- The traffic signals on the corridor should be synchronized
- In the future Caltrain use will increase as well.
- In the UK, Netherlands, and Scandinavia they have ways to get the flow of traffic moving efficiently. (R) In the Netherlands 30% of transportation is by bike, 20% by public transit / walking, and 50% by car. No matter what people will still drive, but we can do a whole lot better than 4% bike use in Palo Alto.
- Charleston is ideal for bidirectional bike lanes on either one side or both sides of the street. It would be safer for kids and more pleasant for all.
- Turn lane striping from San Antonio onto Charleston is confusing. There are two right turn lanes, which is confusing and actually encourages traffic on Charleston.
- We need a way to stop through industrial park traffic and make the neighborhood more oriented to local residents.
- Is the connection between Charleston and 101 south being considered?
- From Alma to El Camino Real the LOS is actually E. It can take three lights to get through. Thwarted drivers are dangerous. As a community we need to keep an eye on the studies and stay involved in this process.
- We need an alternative to Charleston. How about Page Mill instead? (R) County is conducting a study of the expressway system, including improving Oregon and Page Mill function.
- In 2000 a study found there was Alma Street cut through traffic via side streets, so this is already known.
- Redwood Circle by Hoover Elementary is chaos in the morning.
- Carlson and other residential streets are used to get to East Meadow. It's absurd to have a bike route there with traffic as it is.
- The plan has to address an increase in traffic.
- Foothill north traffic right turn lanes should be expanded to reduce travel time. We need to do better than "jump lanes" for cyclists.
- San Antonio is full in the morning. Low overhanging trees deter trucks from driving on San Antonio.
- • In conducting the traffic models an extra 1,000 units

should be added to be on the safe side. (R) Proposed development as well as development allowed by current city policy will be evaluated.

- After September you should ride a bike at 7:15 a.m. from Fabian to Gunn to observe how impossible it is.
- A non stop shuttle is a great idea.
- An under crossing is needed at Alma. It would slow cars relative to pedestrians and bicyclists too.
- A physical barrier of 2-3 feet high separating the bike lane from the street would be nice.
- How are the entrance / exits to the new developments addressed? Do you know where they will be located? (R) The city will review the entrances / exits to the new developments. The city is uneasy about more drives on Charleston, and Wilkie is a concern as well.
- Where will JCC exit? On Charleston? (R) A detailed site plan has not yet been prepared.
- Will future development be considered? (R) Yes, plus background growth.
- Should add East Meadow from Alma to Middlefield to the study. There should be a school corridor. Check exits on Charleston.
- Kids use walks as bidirectional bike lanes. There should be a rumble strip or raised dots to separate the bike lanes from the street.
- Would it be a good idea to install a street between the Elks Club and the Hyatt? There are local concerns regarding drives onto Wilkie. Should the drives be located on El Camino Real instead?
- Alma Plaza will be the closest shopping destination. A "shopping shuttle" could be helpful. 20 minutes or less headway is best.
- Years ago there was a problem with cut through traffic on Montrose Avenue by Ford employees. The problem was solved by establishing a relationship with the company and its employees. With the new JCC the problem could start again. It would be wise to establish a relationship early with the organization.
- What will the end result of this study be? A proposed redesign? A traffic capacity statement? (R) Yes!
- County buses block Charleston at Middlefield on both sides. The city should work with the county to improve bus system efficiency. The buses are empty! Loops that work and include El Camino Real and Alma should be established. The current express buses travel at high speeds and are very noisy.
- The sidewalks are too narrow and overgrown. There need to be designated drop-offs for schools and future shuttle drop-off.
- There is no lighting at bus stops. Shelters with lighting should be implemented to encourage children to wait at designated drop-offs. (R) The Valley Transportation Authority (VTA) is adding new shelters with lights and advertisements.
- A pedestrian median is needed at Park Boulevard and Charleston.
- From 7:30 – 8:00 a.m. there is traffic backed up on Meadow. Many drivers go down El Verano instead of Meadow.

Sticky Back Comments:

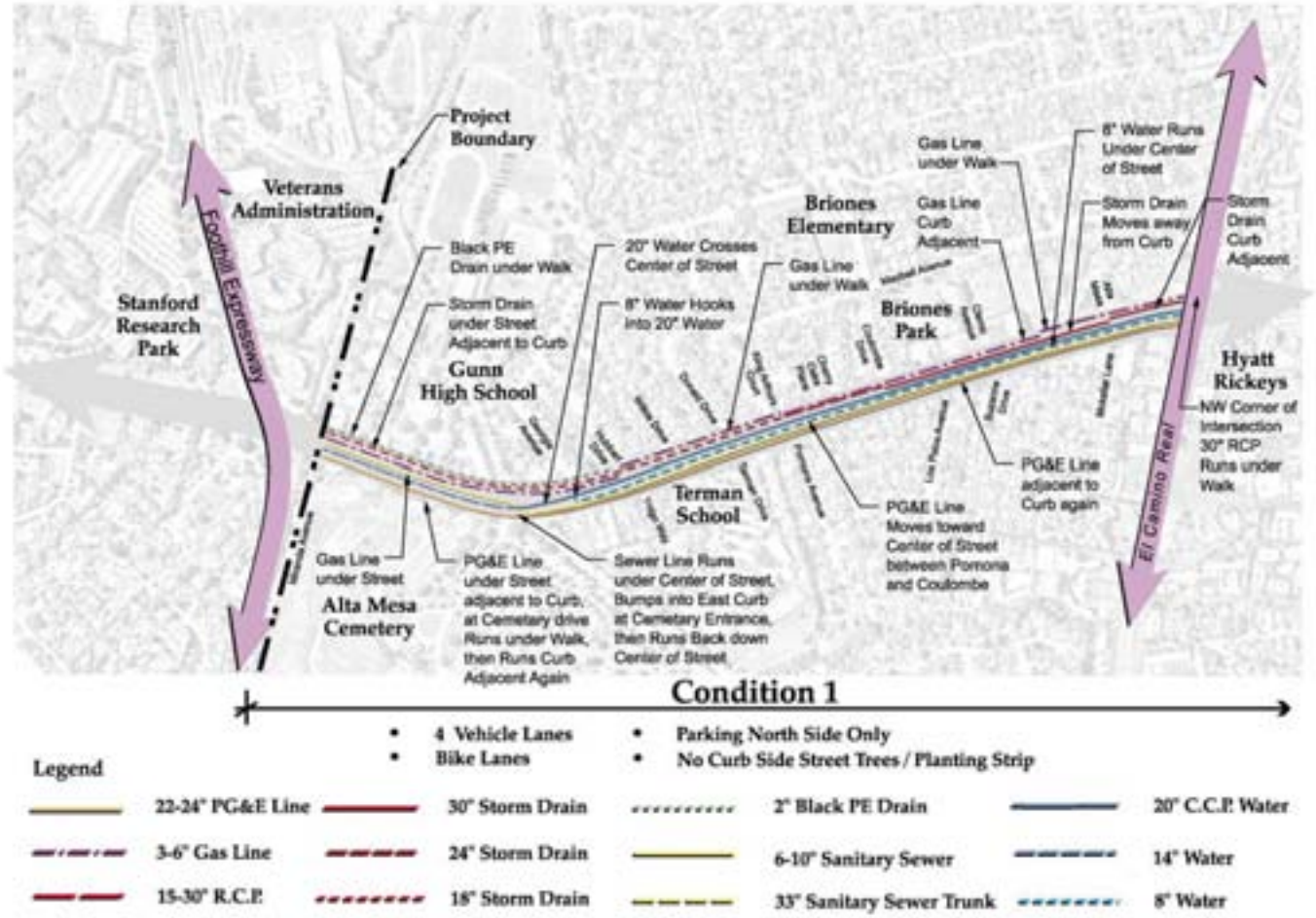
- When bike lanes are too wide drivers use them as right turn lanes. This is very common at Charleston and Alma.
- At Charleston and Alma cars make right turns in the bike lane.
- When traffic backs up on Charleston cars turn right on Wilkie to school down Edlee and cut in at Park.
- Align Wilkie Way as it crosses Charleston. Use dots or lane striping to lead cars.
- 60 KV power lines can be under-grounded. It is done all over the country.
- There are many accidents with traffic turning off Louis onto Charleston (both east and west).
- Traffic is bumper to bumper with a 3-4 signal wait on Alma south bound above East Meadow and Charleston during the late afternoon rush.

Appendix G - Utilities Conditions

Utilities Conditions

Utilities are an important consideration. In particular, underground utilities affect the placement of street trees, which can pose maintenance problems if planted in the wrong location.

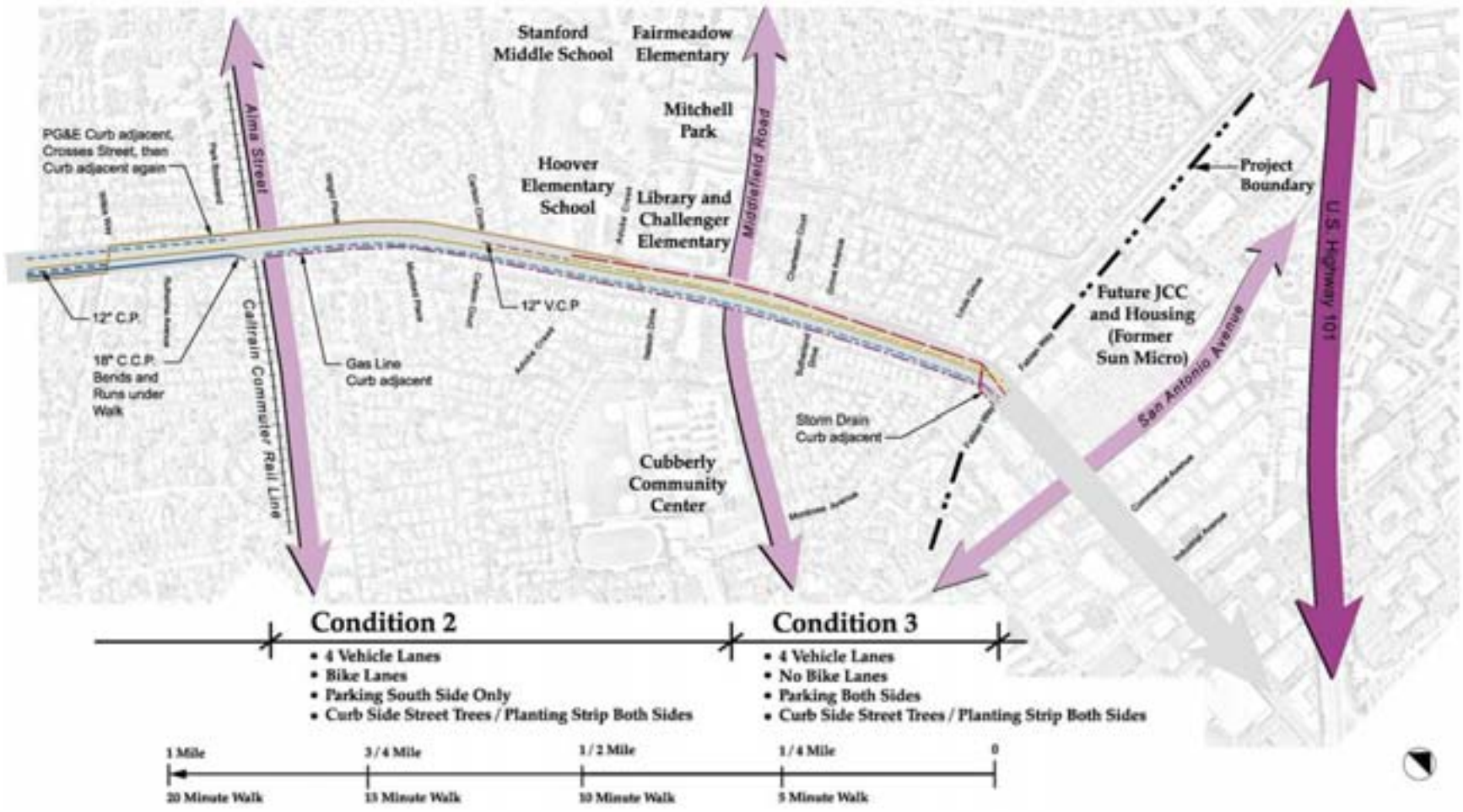
A summary of utilities and street tree related issues is provided below.



Utilities Diagram

1. **Storm Drain Lines**: From Miranda Avenue to El Camino Real, storm drain lines are located adjacent to the northwest curb; between Coulombe Drive and Alta Mesa the line is located slightly away from the curb. Street trees are to be planted in the 5-foot Public Utility Easement behind the walk and storm drain lines will not constrain planting in this area. From Hoover Elementary School to Fabian Way, the storm drain line is located between the northwest curb and the centerline. Just west of Fabian it crosses and runs along the southeast curb line. There are existing street trees in the planting strip, which is adjacent to the sidewalk. Planting infill trees in this strip should not be a problem. However, median tree planting may be restricted where the storm drain crosses under the street near Fabian.

2. **Sanitary Sewer**: Sanitary sewer lines between Miranda Avenue and the Alta Mesa Cemetery entrance are located near the center of the street. No median street trees are proposed in this area. At the cemetery entrance the line is located adjacent to the southeast curb. Street trees will be planted in the public right-of-way, which is behind the walk. Near the cemetery to Fabian Way the sewer line is



under the center of the road with a varying depth depending on the location. Trees must be planted a minimum of 5 feet from mains or services. Some form of root protection may be required.

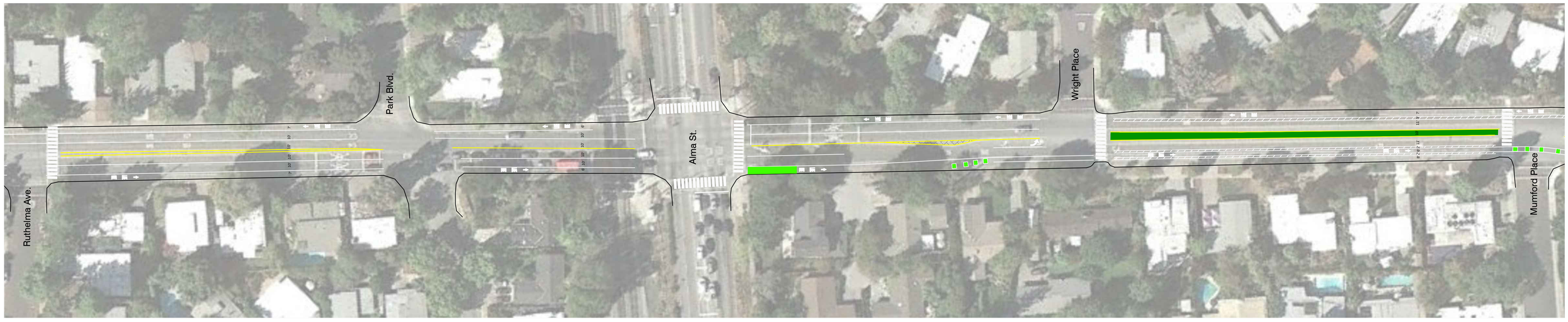
3. **Water Distribution Lines**: From Miranda Avenue to El Camino Real water lines are located along the center of the street. Water mains are a minimum of 36 inches below the surface. Like sanitary sewer lines, trees are not to be planted within 5 feet from the outside diameter of mains. Some form of root protection may be necessary for trees planted in median islands. From El Camino Real to Fabian Way water lines are located along the northwest and southeast curb lines. These lines do not present an obstruction to infill trees in the existing planting strips or to median street trees.

4. **Gas Lines**: From Miranda Avenue to El Camino Real, the location of 6-inch gas lines vary from the northwest curb

to under the northwest sidewalk. Lines are a minimum of 24 inches under the surface of the walk, while the gas meters are a minimum of 30 inches under the street surface. Trees planted in the Public Utility Easement behind the walk may require root protection where gas lines are located under the walk such as between Hubbart Drive and King Arthur's Court and from Alta Mesa to El Camino Real. From El Camino Real to Fabian Way the gas line is adjacent to the southeast curb and existing planting strip. These lines are not anticipated to pose a constraint for infill trees in the planting strip.

5. **PG&E Lines**: From Miranda Avenue to Wilkie Drive the PG&E line is located adjacent to the southeast curb except at the cemetery entrance, where it is located under the walk. Between Pomona Avenue and Coulombe Drive the line is located along the center of the street. In these areas the line poses no restriction to streetscape improvements. There are two exceptions. At Wilkie Drive and near Nelson Drive the line crosses from one side of the street to the other. Median street trees may be a concern and root protection may be required at this location.

SCALE 1"=50'



SCALE 1"=50'

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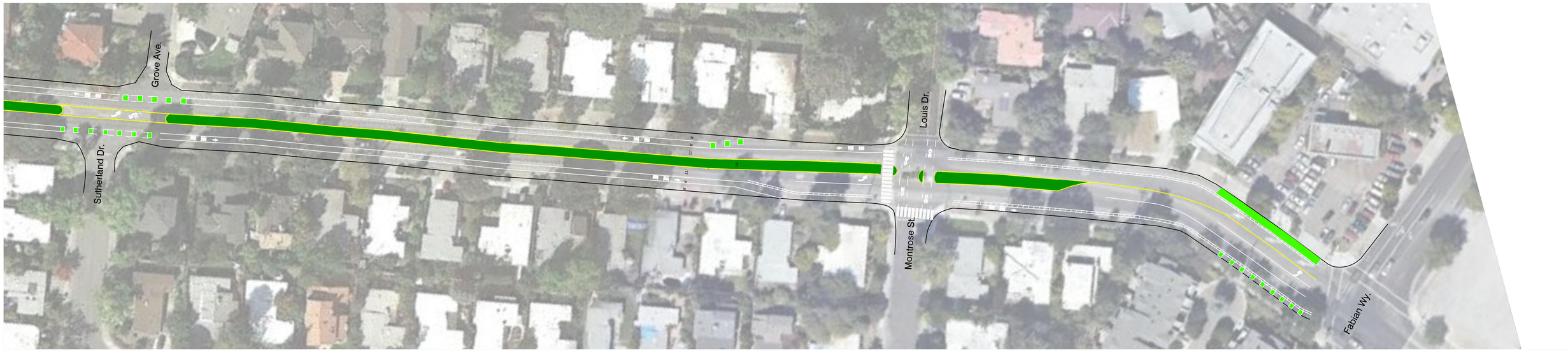
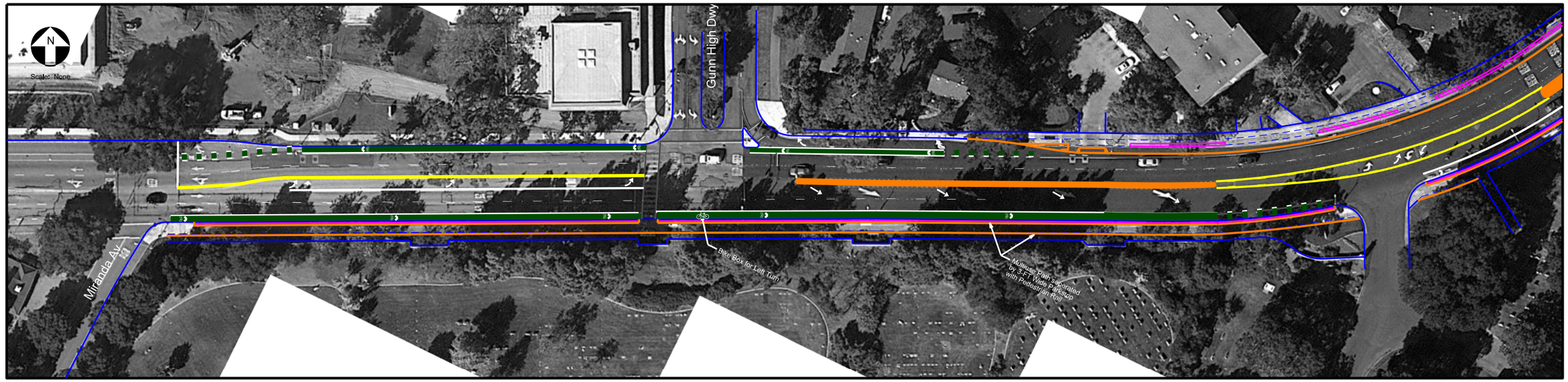
SCALE 1"=50'



SCALE 1"=50'

1. Arastradero Road - Miranda Av to Alta Mesa Cemetary



2. Arastardero Road - Alta Mesa Cemetary to Wilmar Dr

City of Palo Alto
Planning & Community Development Dept.
Transportation Division
250 Hamilton Avenue
Palo Alto, CA 94301
O: (650) 329-2441
F: (650) 329-2154

Engineer's Stamp

REGISTERED PROFESSIONAL ENGINEER JOSE D. RODRIGUEZ TR2284 Exp. 6-30-13 CIVIL TRAFFIC STATE OF CALIFORNIA

Record Drawings

Project Engineer: _____ Date: _____

Designer: _____ Date: _____

Public Works Inspector: _____ Date: _____

Public Improvements Initially Accepted by the City Council on: _____

Submittal Log

NO.	DESCRIPTION	DATE

DRAWN BY: J. Rodriguez Date: 03-02-13

CHECKED BY: J. Rodriguez Date: 03-02-13

DESIGNED BY: J. Rodriguez Date: 03-02-13

Revisions

NO.	DESCRIPTION	DATE

City of Palo Alto
DRAFT Plan Line Concept

Arastardero Road
Schoolscape Project

One Bay Area Grant (OBAG) Grant Program

RECOMMENDED FOR BIDDING BY: _____

DATE: _____

APPROVED FOR BIDDING BY: _____

DATE: _____

PROJECT NO.

DRAWING NO.

E.P. NO.

SCALE None

Sheet 1

3. Arastradero Road - Donald Dr/Terman Dr to Clemo Dr

4. Arastradero Road - Clemo Dr to Suzanne Dr

City of Palo Alto
Planning & Community Development Dept.
Transportation Division
250 Hamilton Avenue
Palo Alto, CA 94301
O: (650) 329-2441
F: (650) 329-2154

Engineer's Stamp

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APPROVED FOR BIDDING BY: _____

DATE: _____

PROJECT NO.

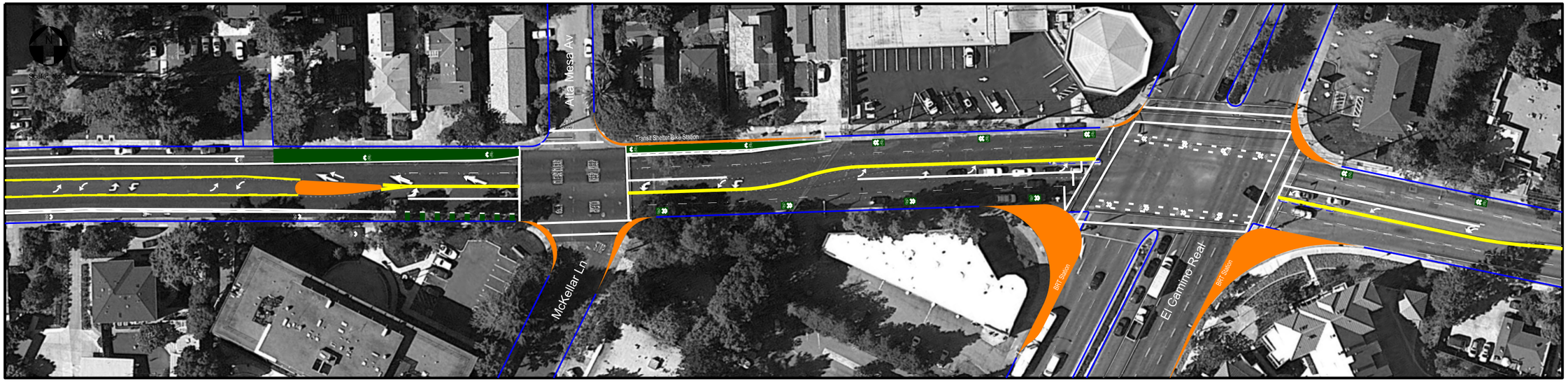
DRAWING NO.

E.P. NO.

SCALE None

Sheet 2

5. Arastradero Road - Alta Mesa/McKellar to El Camino Real



City of Palo Alto
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O: (650) 329-2441
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Engineer's Stamp

REGISTERED PROFESSIONAL ENGINEER
JAIME O. RODRIGUEZ
TR2284
Exp: 6/13
TRAFFIC
STATE OF CALIFORNIA

Record Drawings

Project Engineer: _____ Date: _____

Designer: _____ Date: _____

Public Works Inspector: _____ Date: _____

Public Improvements Initially Accepted by the City Council on: _____

Submittal Log

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DRAWN BY: J. Rodriguez Date: 03-02-13

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Revisions

NO.	DESCRIPTION	DATE

City of Palo Alto
DRAFT Plan Line Concept

Arastardero Road
Schoolscape Project

One Bay Area Grant (OBAG) Grant Program

RECOMMENDED FOR BIDDING BY: _____

DATE: _____

APPROVED FOR BIDDING BY: _____

DATE: _____

PROJECT NO.

DRAWING NO.

E.P. NO.

SCALE None

Sheet 3

SANTA CLARA Valley Transportation Authority

VEHICLE EMISSIONS REDUCTIONS BASED AT SCHOOLS (VERBS) GRANT APPLICATION FY2012/13-FY2015/16

SECTION ONE: PROJECT SUMMARY

Project Title	Arastradero Road Schoolscape – Multi-use Trail
Project Description (Specific goals and objectives that result from VERBS funding. Include how many schools, which grades and how many schools are expected to benefit from this program.)	The Arastradero Road Schoolscape – Multi-use Trail project proposes a reconstruction of the sidewalk along the south side of Arastradero Road between the Hetch Hetchy-Los Altos Pathway and Miranda Avenue to a multi-use trail to support Safe Routes to School activities to Gunn High School and, complimented by Schoolscape treatments, to provide a comfortable environment for the high volume of school-aged users in the corridor. The project includes: • A new .26 mile multi-use pathway along the south side of Arastradero Road between the Hetch Hetchy-Los Altos pathway and Miranda Avenue with pedestrian rails to restrict access across Arastradero Road and complimentary hardscape/landscape treatments • Upgrades to the Hetch Hetchy-Los Altos Trail Path, including low-level lighting in conjunction with trail maintenance and access improvements • Schoolscape measures along Arastradero Road including pedestrian-scaled lighting and landscaped median islands to encourage vehicle speed reductions on Arastradero Road • Schoolscape intersection treatments at Gunn High School including study and consideration of exclusive pedestrian signal phasing, enhanced textured crosswalk treatments, and ADA upgrades.
Grant Funds Requested ($)	$1,000,000

Grant Funds Fiscal Year (FY)	2015
Program Component	☐ Non-infrastructure ☒ Infrastructure
Local Match (11.47% Min)	$501,605 (33%)
Total Project Cost	$1,501,605
Member Agency	City of Palo Alto
Contact Person	Jaime O. Rodriguez
Address	250 Hamilton Avenue, Palo Alto, CA 94301
Email Address	Jaime.Rodriguez@cityofpaloalto.org
Phone	(650) 329-2136
Fax	(650) 329-2154
Other Project Partners	

SECTION ONE: PROJECT SUMMARY CONTINUED

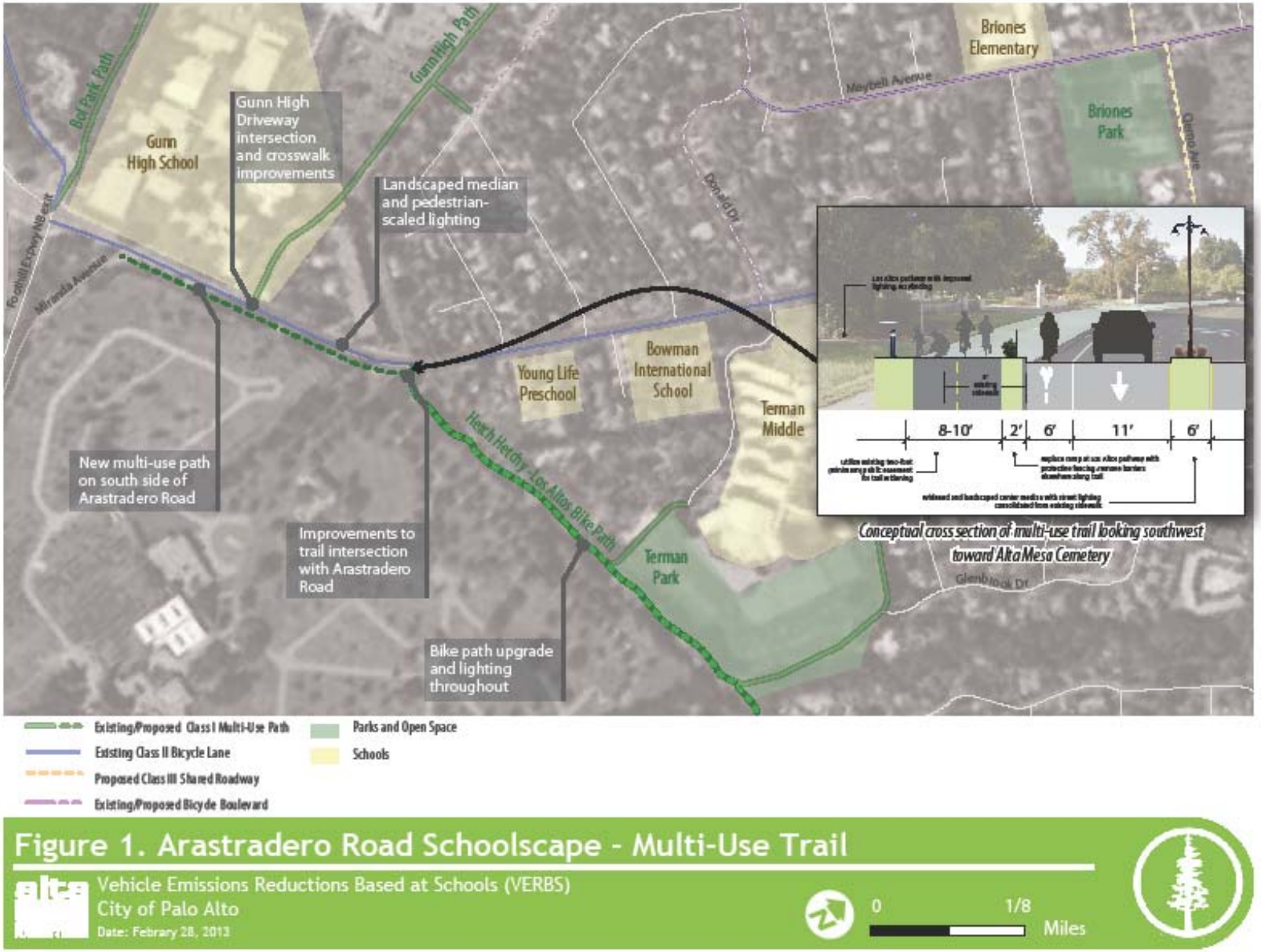
1. A map and/or photos of the project, including the benefiting school location

Project Maps

The Charleston Road/Arastradero Road corridor is a residential arterial on the City's school commute corridor network. The corridor serves as one of three east-west corridors in Palo Alto connecting South Palo Alto and Highway 101 to the east to Los Altos Hills, the Stanford Research Park, Foothill Expressway, and I-280 to the west. Along the way, the entire corridor serves eleven public and private schools, five public parks, two community centers, and three shopping centers while traversing the Caltrain railway at Alma Street.

The Arastradero Road Schoolscape – Multi-use Trail project shown in Figure 1 will improve the connection between the Hetch Hetchy-Los Altos Trail and Arastradero Road by using Schoolscape treatments to guide bicyclists and pedestrians along the south side of the Arastradero Road to improved bicycle and pedestrian facilities at Gunn High School. Gunn High School serves students from Palo Alto, Los Altos, and Los Altos Hills. The proposed multi-use trail improvements extend to Miranda Avenue and support Safe Routes to School activities for students from all three communities. The project also upgrades the Hetch Hetchy-Los Altos path maintained by the City of Palo Alto to provide low-level pedestrian lighting to open the pathway to users during all periods of the day and Schoolscape enhancements to buffer the pathway from the adjacent traffic on Arastradero Road.

Figure 1: Project Map



Project Proximity to adjacent Public and Private Schools

Three public schools and two private schools are in the immediate vicinity of this project:

- **Gunn High School – 0 FT**
  The project traverses immediately adjacent to and provides improvements to the existing traffic signal at Arastradero Road & Gunn High School servicing students from Palo Alto, Los Altos, and Los Altos Hills.

- **Young Life Preschool – 200 FT**
  Young Life Preschool is immediately adjacent to the east end of the Arastradero Road Schoolscape – Multi-use Trail project. The proposed project improves safety of young students accessing the adjacent trail by providing Schoolscape measures along Arastradero Road to buffer the proposed multi-use trail from adjacent Arastradero Road traffic.

- **Terman Middle School – 250 FT**
  Terman Middle School is located on Arastradero Road at Terman Drive which runs parallel to the Hetch Hetchy-Los Altos Trail and provides access to both Terman Middle School and the adjacent Terman Park.

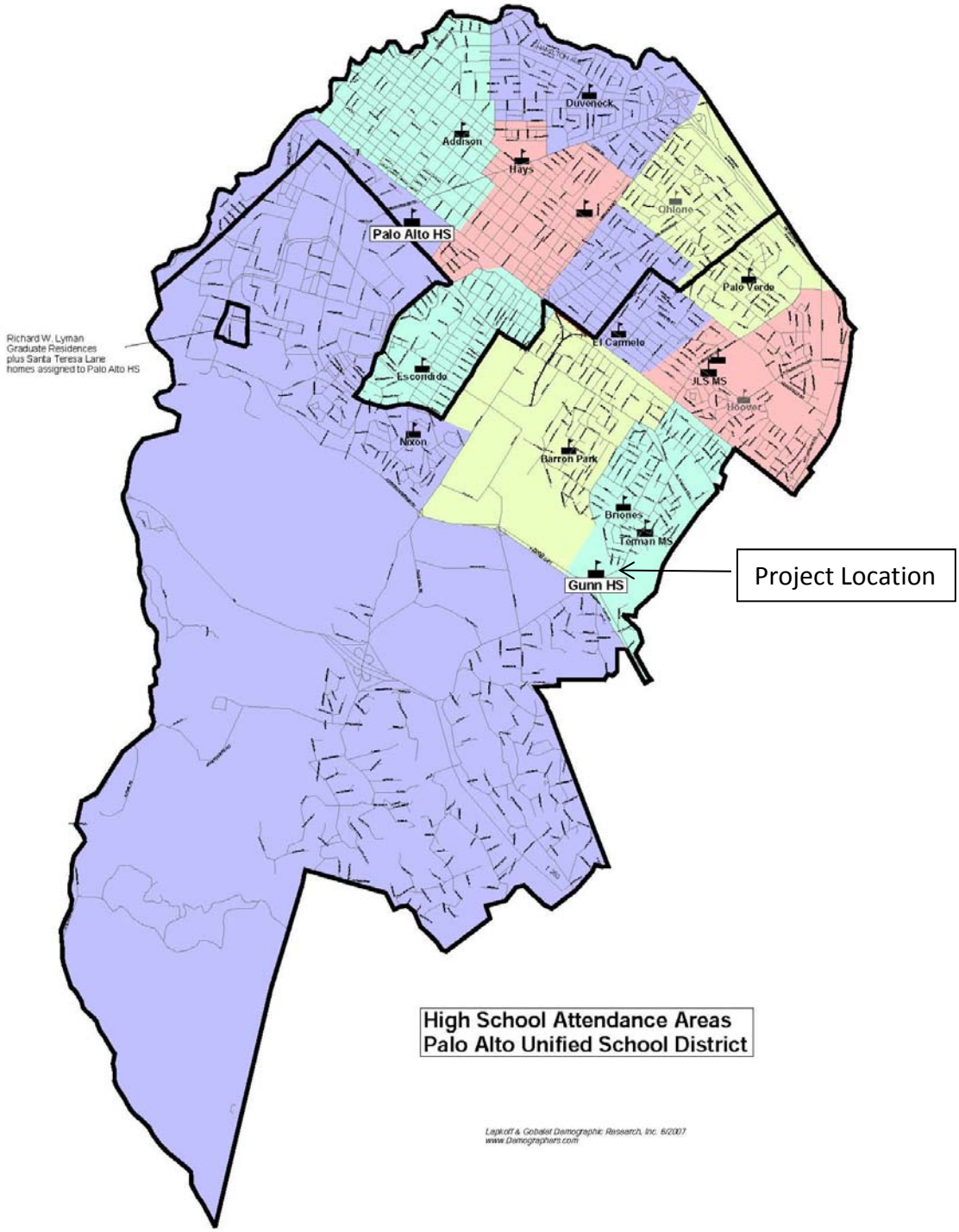
- **Bowman International School – 250 FT**
  Bowman International School is a private institution located immediately adjacent to Terman Middle School and benefits from the same trail access points for the Hetch Hetchy-Los Altos Trail.

- **Juana Briones Elementary School – ¼ Mile**
  Juana Briones Elementary School is located one-quarter mile northeast of the proposed project. Recommended Safe Routes to School commute routes to Juana Briones School include use of Georgia Avenue and Donald Drive located adjacent to the Hetch Hetchy-Los Altos Trail. The proposed project better channelizes student traffic accessing those facilities from the trail, improving bicycle and pedestrian access to the school.

Figure 2: Project Location Adjacent to Public Schools highlights the proximity of the public schools above and their attendance boundaries to the proposed Arastradero Road Schoolscape – Multi-use Trail project. The proposed project supports recently completed Safe Routes to School Walk ‘n Roll map recommendations for each of the three public schools: Gun High School, Terman Middle School, and Juana Briones Elementary School.

SECTION ONE: PROJECT SUMMARY CONTINUED

Figure 2: Project Location Adjacent to Public Schools



SECTION ONE: PROJECT SUMMARY CONTINUED

Project Photos

Photo 1:
Cyclist entering Arastradero Road from Hetch Hetchy-Los Altos Bike Path into Uncontrolled Traffic

Photo 2:
View of Hetch Hetchy-Los Altos Trail from Arastradero Road

Photo 3:
Hetch Hetch-Los Altos Trail Intersection At Arastradero Road

Photo 4:
View of Uncontrolled Arastradero Road Traffic at Hetch Hetchy-Los Altos Trail

Photo 5:
South View of Trail at Los Altos Border

Photo 6:
Proposed Multi-use Path at Gunn High Driveway

Photo 7:
Project Multi-use Path along Alta Mesa

Photo 8:
Project Multi-use Path at Alta Mesa Driveway Showing Narrow sidewalk Facilities to be Improved to a Multi-use Path with Park Strip Buffer

SECTION ONE: PROJECT SUMMARY CONTINUED

2. Proposed project cost estimate and schedule

City of Palo Alto
Contact Name: Jaime Rodriguez
Contact Phone #: (650) 329-2136
Contact email: jaime.rodriguez@cityofpaloalto.org
Project Title: Arastradero Road Schoolscape – Multi-use Trail

FUND TABLE

	PROJECT COST ($1,000s)				PROJECT SCHEDULE (mm/yy)	
PROJECT PHASE	FUNDS REQUESTED	LOCAL MATCH $	LOCAL MATCH %	OTHER FUNDS TYPE/$	START DATE	END DATE
ENV	$0	$35	100%	$ -	7/13	12/13
PSE	$0	$161	100%	$ -	10/13	6/14
ROW	$0	$0	N/A	$ -	N/A	N/A
CON	$1,000	$306	18.9%	$ -	9/14	3/15
TOTAL	$1,000	$502	33%			

BUDGET

Arastradero Road Schoolscape - Multi-use trail					
Item #	**Description**	**Units**	**Quantity**	**Unit Cost**	**Cost**
1	Demolish and remove existing pathway	LS	1	$ 40,000.00	$ 40,000.00
2	1/2" AC pathway @ 2" depth	tons	207	$ 165.00	$ 34,100.00
3	Class II AB @ 6" depth	cy	648	$ 75.00	$ 48,600.00
4	Pressure Treated 2x12 header boards	lf	3,200	$ 4.00	$ 12,800.00
5	Decomposed Granite	SF	6,400	$ 13.00	$ 83,200.00
6	Pedestrian Barrier Rail	LF	1,375	$ 75.00	$ 103,125.00
7	Demo existing curb on sidewalk	LF	1,375	$ 7.00	$ 9,625.00
8	Remove exisitng soil and landscaping	SF	4,125	$ 5.00	$ 20,625.00
9	Install new concrete sidewalk	SF	4,125	$ 10.00	$ 41,250.00
10	Center median concrete curb	LF	2,750	$ 55.00	$ 151,250.00
11	Center Median Landscaping	SF	5,500	$ 6.00	$ 33,000.00
12	Center Median Irrigation	SF	5,500	$ 4.00	$ 22,000.00
13	Illuminated Bollard	EA	60	$ 1,300.00	$ 78,000.00
14	Install New Street Light	EA	6	$ 7,500.00	$ 45,000.00
15	Remove Exisitng Street Light	EA	6	$ 6,000.00	$ 36,000.00
16	Electrical Conduit and wiring	LF	2,000	$ 45.00	$ 90,000.00
17	Textured Crosswalks	SF	1,300	$ 30.00	$ 39,000.00
18	ADA Curb Ramp	EA	7	$ 5,000.00	$ 35,000.00
19	Traffic Control	LS	1	$ 50,000.00	$ 50,000.00
20	Striping & Signage	LS	1	$ 50,000.00	$ 50,000.00
21	Schoolscape Intersection Treatments	LS	1	$ 50,000.00	$ 50,000.00
	SUBTOTAL				$1,072,575.00
	Design (15%)				$ 160,886.25
	Construction Manager (5%)				$ 53,628.75
	Permits (1%)				$ 10,725.75
	Testing (3%)				$ 32,177.25
	Art (1%)				$ 10,725.75
	Contingency (15%)				$ 160,886.25
	TOTAL				$1,501,605.00

SECTION TWO: PROJECT NARRATIVE

(Use Section Two to respond to the Screening Criteria and to the Scoring Criteria categories for either the Non-infrastructure or Infrastructure Improvements as found in Attachment A)

SCREENING CRITERIA

1. Issue statement that clearly identifies the purpose, need and expected outcome(s) of the project.

Purpose of Improvements

The purpose of the Arastradero Road Schoolscape – Multi-use Trail project is to:

- Enhance school commute safety for K-12 student cyclists and pedestrians through infrastructure improvements along City-designated Safe Routes to School Walk 'n Roll routes to Gunn High School, Terman Middle School, and Juana Briones Elementary School.

- Improve the quality of bicycle and pedestrian facilities by installing "Schoolscape" intersection treatments at the Gunn Driveway and buffering facilities more effectively from adjacent streets through innovative hardscape, landscape, and channelizing treatments.

- Enhance access to facilities through pedestrian-scaled streetlight improvements both along Arastradero Road and the Hetch Hetchy-Los Altos Trail to support student use from activities that extend beyond sunset at the adjacent public schools.

- Reduce the amount of very high speed vehicles along Arastradero Road through Schoolscape-focused roadway measures including the installation of new landscaped median island improvements.

- Measure the associated reductions in vehicle miles traveled, emissions, and congestion.

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The ultimate goals of the Arastradero Road Schoolscape – Multi-Use Trail are to increase the number of students and parents using alternative modes of transportation to school (walking, biking, skating, carpooling, bus) and reduce school related vehicle miles traveled and emissions.

Project Need

Safety concerns on Arastradero Road include high vehicular speeds and volumes and the presence of a relatively high number of vulnerable users. The Arastradero Road corridor realizes over 1,000 student-age users daily because of the unusual cluster of public and private schools along the roadway. The City has taken proactive measures to implement traditional traffic calming measures along Arastradero Road that were approved for permanent retention and installation of permanent measures. The Arastradero Road Schoolscape – Multi-use Trail implements innovative Schoolscape measures that build upon the past traffic calming measures and community momentum for the creation of a student-first multi-modal corridor. The Multi-use Trail project is the western anchor of the larger Arastradero Road 'Schoolscape Project' that will extend to El Camino Real.

The Arastradero Road 'Schoolscape Project', of which this Multi-use Trail proposal is the westernmost component, seeks to make permanent recent roadway configuration changes by installing landscaped center medians, pedestrian-scaled lighting, enhanced crosswalks, and bus stop improvements. The corridor project goes beyond typical traffic calming, however, to create a school-focused mobility corridor complete with reconfiguration of the problematic El Camino Real intersection, enhanced bicycle lane treatments, student bicyclist comfort stations at bulb-outs (with repair stands, water fountains, and other amenities), and first-of-their-kind Walk 'n Roll pavement and sidewalk markers to promote coordination with the Safe Routes to School 'Walk and Roll' program. The intersection and trail upgrades included in this proposal, along with the extension of the Hetch Hetchy-Los Altos pathway, are essential parts of the overall Schoolscape initiative at the western end of the corridor.

High Traffic Speeds and Volumes

The 2004 *Charleston/Arastradero Road Corridor Plan*[1] documented high-speed, high volume conditions for Arastradero Road. The existing conditions report identified 85th-percentile vehicle speeds of 36.9 mph on Arastradero at Pomona Avenue, the second-highest speed along the Charleston-Arastradero corridor. The report also observed average daily motor vehicle volume on Arastradero of approximately 20,500 (both directions). Peak hour volumes ranged from 900 to 1,200 vehicles per hour.

The 2008 *Charleston-Arastradero Corridor Trial Improvements Evaluation* documented average vehicle volumes on Arastradero Road at 18,300 vehicles daily, or 18 percent higher traffic volumes than on Charleston Road.

The *Charleston/Arastradero Corridor Traffic Accident Analysis* (2011) found that crashes on the Charleston/Arastradero corridor constitute four to seven percent of the yearly crashes in Palo

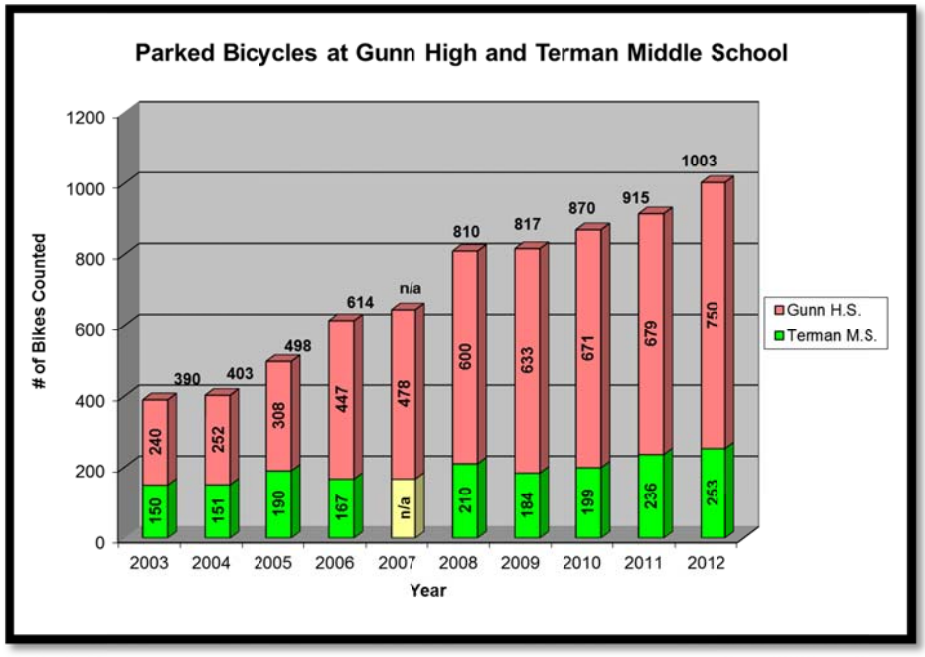
[1] http://www.cityofpaloalto.org/gov/topics/projects/transit/charleston.asp

Alto, and that the number of crashes involving bicyclists and pedestrians on the corridor is slightly higher than in general in Palo Alto.

High Volumes of Vulnerable Users

Arastradero Road has a high proportion of bicyclists; the Palo Alto Transportation Division found that 19 percent of morning peak traffic in the westbound direction was comprised of cyclists.[2] In addition, Arastradero Road has a very high proportion of students using the road, due to the presence of Gunn High, Terman Middle, and Briones Elementary. All of these schools have high rates of walking and bicycling. Student pedestrians are a particularly vulnerable group, as they may be harder for drivers to see (due to shorter stature than adults) and they may behave more erratically, not waiting for an appropriate crossing location or gap.

Figure 3: Parked Bicycles at Gunn High and Terman Middle School



In 2012, the City and PTA counted bicycles parked at schools as part of an annual tally of bicycle ridership throughout the school district. The historical results are graphed in Figure 3. Combined with school enrollment, the count estimates that 41 percent of students at Gunn High School (750 students) and 37 percent at Terman Middle School (253 students) bicycle to school. This adds to over 1,000 students biking to these schools. A 2012 Safe Routes to School Parent Survey conducted for MTC found that 6 percent of Gunn High School students walk to and from school, while 11 percent at Terman Middle School walk.

[2] http://www.paloaltoonline.com/news/show_story.php?id=26994

Despite these high numbers of students walking and bicycling along and across Arastradero and Charleston Roads, walkabouts for the Palo Alto Safe Routes to School Program have identified Arastradero and Charleston Roads as key impediments to walking and bicycling and reasons why parents would not allow their students to walk or bicycle. The proposed improvements along this critical segment of Arastradero Road will calm traffic, minimize conflicts with vehicular traffic, and improve safety.

Phased Re-striping Trials to Implement Road Diet

Efforts to re-design the Charleston/Arastradero Road corridor in south Palo Alto for all types of road users, particularly school-commuting children, began in 2000 with an initial study of Charleston Road. In 2004, the City approved a plan of phased implementation of improvements for the Charleston/Arastradero Corridor. Trial restriping traffic calming projects took place in 2006 and 2010 respectively.

Only the El Camino Real & Arastradero Road-Charleston Road intersection has not realized traffic calming improvements due to operation and maintenance by Caltrans. The City has a concurrent One Bay Area Grant (OBAG) proposal for the Arastradero Road Schoolscape project between El Camino Real and Miranda Avenue; the proposed project implements only a portion of the proposed OBAG project along the west end of the project area.

In summer 2009, the City Council approved the plan for the Phase 2 trial project on Arastradero Road between El Camino Real and Gunn High School for a one-year trial period in 2010 and was extended to two years due to changes in the bell schedules at Gunn High School in 2011 impacting the commute patterns to all schools serviced by Arastradero Road. The trial project included a 4-lane to 3-lane reduction with hardscape treatments via median islands at Arastradero Road & Clemo Drive to support pedestrian crossing activities via an enhanced pedestrian-activated rapid flashing beacon and at Arastardero Road & Ynigo Way to support a dynamic vehicle speed feedback sign. The trial project was approved by permanent retention in 2012 and implementation of permanent

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measures that are an element of the proposed Arastradero Road Schoolscape – Multi-use Trail project.

Expected Outcome

The City of Palo Alto expects the following outcomes of this project:

- Improved bicycle and pedestrian facilities that are safely and more effectively integrated with Arastradero Road
- Reduced vehicle speeds through new landscaped median island treatments
- An increase in bicycle and pedestrian use through Schoolscape amenities between the Hetch Hetch-Los Altos Trail and Miranda Avenue
- Reduced VMT and improved air quality

o access Terman

2. *Proposed method to evaluate the reduction in criteria pollutants and congestion.*

   Reductions in criteria pollutants and congestion will be measured by counting the numbers of parked bicycles at each school to measure mode shift changes and measuring of vehicle speeds through the use of existing vehicle speed feedback signs adjacent to the project area installed as part of the successfully completed trial restriping project.

3. *Letters of Support for the project from school officials and any ancillary information that will inform the evaluation process.*

   Letters of Support

   The City of Palo Alto has formed a local Safe Routes to School local partnership with the Palo Alto Unified School District, the Palo Alto Council of PTAs, and the Parent Teacher Associations at individual schools. In addition, the Palo Alto Housing Corporation, a low-income housing developer who also administers the city's Below Market Rate Purchase Program, has endorsed this application as the Arastradero corridor serves many of the residents they serve. The attached letters indicate substantial support for the proposed infrastructure program. See *Attachment A – Letters of Support.*

Community Support and Engagement

The Charleston-Arastradero corridor has been the focus of many planning efforts in the last decade. As such, the bicycle and pedestrian improvements of this proposed project represent years of public involovement and municipal support. Key documents include the following:

- *Charleston/Arastradero Corridor Plan* (2004)
- *Charleston-Arastradero Corridor Trial Improvements Evaluation* (2008)
- *Charleston/Arastradero Corridor Traffic Accident Analysis* (2010)
- *Palo Alto Bicycle + Pedestrian Transportation Plan* (2012)
- 2012 City Council Vote
- *Palo Alto Capital Improvement Projects* (2012-2016)

Arastradero Road is also a designated School Commute Corridor, as defined by the City/ School Transportation Safety Committee (CSTSC), a partnership between community leaders at each of the public schools in the City, Palo Alto Unified School District (PAUSD) administrators, and City staff.

Charleston/Arastradero Corridor Plan (2004)

The *Charleston/Arastradero Corridor Plan* sought to address school commute and other travel safety concerns for pedestrians, bicyclists and drivers. The Plan included two community meetings in July 2003.

In response to the Plan, the City implemented at "Travel Smart, Travel Safe" Residential Arterial program, which included advanced traffic detection, traffic-adaptive system, communication system upgrade, adjusted signal timing, V-calm electronic speed signs, and enhanced crosswalks.

A trial restriping project on Arastradero Road was identified through stakeholder groups from adjacent neighborhood associations, school staff and Parent-Teacher Associations and implemented in 2012.

Charleston-Arastradero Corridor Trial Improvements Evaluation (2008)

The Evaluation involved a stakeholders group and a meeting in November 2006. The Evaluation considered options for the trial restriping on Arastradero Road, particularly considering the congestion issues around the Gunn High driveway and a midblock crosswalk near Briones Park. Based on the analysis, the Evaluation recommended providing two inbound lanes into the Gunn High parking lot, noting that, "without Gunn High School working correctly, it is unlikely that the public will accept the reduced mobility and poorer operations of Arastradero as a three-lane arterial route." The Evaluation also recommended

installation of a marked crosswalk at Clemo, which was implemented along with a median island.

Charleston/Arastradero Corridor Traffic Accident Analysis (2011)

This report provides an analysis of traffic accident data from the California Highway Patrol between 1995 and 2009. The report does not provide an author, but it was written to encourage the Palo Alto Transportation Division to consider crash data when analyzing potential improvements.

Post-Construction Community Workshops

After a two year trial and evaluation period, the community and city council officially assessed the trial striping improvements for retention. Community support and testimony from 30 residents, most in favor of the restriping, supported the city council's unanimous vote to retain the configuration in October 2012.

Palo Alto Bicycle + Pedestrian Transportation Plan (2012)

The 2012 BPTP recommends this project as BK-1: Charleston/Arastradero Road Enhanced Bikeway. Recommendations include enhanced bike lane striping, installation of permanent median islands, improved pedestrian/bicycle crossings at key north-south bikeway connections, and select spot improvements. The BPTP involved considerable public outreach, including two public open houses and an online survey to solicit input from the general public. The BPTP was also developed in coordination with the Palo Alto Bicycle Advisory Committee (PABAC), the City/School Traffic Safety Committee (CSTSC), and the Planning & Transportation Commission.

2012 City Council Vote

In October 2012, the Palo Alto City Council voted 8-0 in favor of making the trial restriping on Arastradero Road permanent. The street modifications included a "road diet" from four to three lanes in some locations, two-way left-turn lanes, a flashing-beacon crosswalk with a raised median at Clemo Drive, a left-turn signal at Coloumbe Drive for eastbound traffic on Arastradero, and a median island at Hubbart Street.

riping

Thirty residents provided testimony, primarily in support of keeping the reconfiguration. The Transportation Division reported that they have found no significant change in traffic volumes due to the restriping, although they have recorded an increase in bicyclists.

Palo Alto Capital Improvement Projects

Palo Alto supported the recommendation in the BPTP and from previous public engagement efforts by including project PE-13011: Charleston/Arastradero Corridor Project in the City's *Capital Improvement Projects* list for 2012-2016. The program implements a permanent reconfiguration to formalize the Charleston/Arastradero Corridor Plan recommendations.

Safe Routes to School Program

The City of Palo Alto was designated as a Gold level Bicycle Friendly City in 2003, based not only on its well-known bicycle facilities but on the commitment to bicycle safety education. The city is currently expanding its Safe Routes to School program (with the help of VERBS funding) by updating curricula for students and parents, conducting walk and bike audits at all schools, developing school commute maps for all schools, updating adult crossing guard and school speed limit policies, developing a school loading zone policy, improving bicycle and pedestrian data collection methods, and enhancing encouragement and outreach tools.

The Palo Alto Police Department is a strong partner in this SRTS partnership. The traffic sergeant prioritizes enforcement around schools not just during Operation Safe Passage, but all during the school year. The Chief of Police sends home a letter to K-8 parents at the start of every school year. (See the 2012 letter in *Attachment A*).

SCORING CRITERIA

Infrastructure Improvements

1. Gap Closure

   The proposed .26-mile long multi-use trail along Arastradero Road improves an existing substandard sidewalk facility and channelizes uncontrolled access across Arastradero Road between the Hetch Hetchy-Los Altos Trail to Miranda Avenue servicing high volume pedestrian and bicycle demand from the Palo Alto, Los Altos, and Los Altos Hills communities. Student using the Hetch Hetchy-Los Altos Trail currently either ride in the wrong direction on Arastradero Road against high-speed, high-volume traffic or cross uncontrolled in traffic gaps; either condition is unsafe for student commuters.

   The Charleston Road-Arastradero Road corridor is one of only three east-west corridors in Palo Alto. The traffic calming aspects of this project will enhance a connection from the Arastradero Road Trail (west of Foothill Expressway) to El Camino Real and will overcome significant existing obstacles to use of the corridor.

2. Access to/from school

   This project is within one-third of a mile walking distance of two public schools and two private schools: Gunn High (public), Terman Middle (public), Bowman International (private), and Young Life Preschool (private).

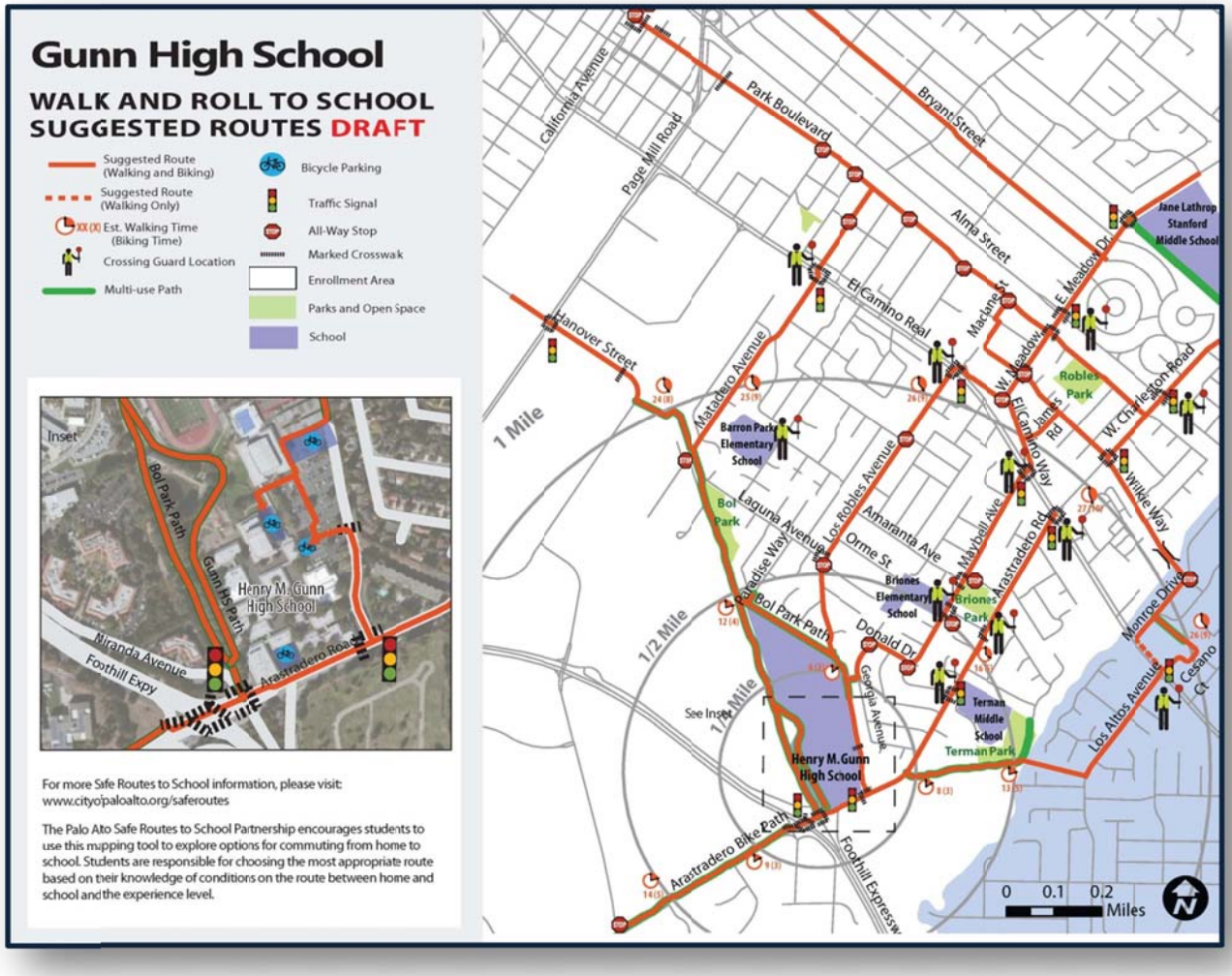
   One of the many benefits of the new multi-use trail is that it constitutes a new link between Gunn High School and Terman Middle School that is essentially free of car traffic. Students using the new multi-use trail and the Hetch Hetchy-Los Altos path will be able to travel between Gunn High and Terman Middle School or Terman Park without interacting with vehicles on the road except at the signalized crosswalk at Gunn High.

   In addition, taken together, the Hetch Hetchy-Los Altos Bike Path and Los Altos Avenue form an alternative low-traffic/low-stress route to Gunn High School or Terman Middle School for less experienced cyclists coming from the east side of El Camino Real. This route is illustrated in Figure 4: Draft Gunn High School Walk and Roll Map. (This map will be finalized in the spring of 2013.)

   Complementing the proposed Arastradero Road Schoolscape – Multi-use Trail project, the City of Palo Alto will dedicate a portion of its One Bay Area Grant – Guaranteed Fund allocation, $950,000, to the improvements to Arastradero Road between Foothill Expressway and the West City Limit near Deer Creek Road including reconstruction of the existing multiluse path in that section. Together with the proposed Arastradero Road

Schoolscape – Multi-use Trial project, a seamless and vehicle free path between Los Altos Hills, Palo Alto, and Los Altos will be created.

Figure 4: Draft Gunn High School Walk and Roll Map



3. Safety

Wrong-Way Riding

Wrong-way riding on Arastradero Road by Gunn and Terman students has been the cause of bicycle-vehicle crashes in this corridor. Since the Phase 2 Trial, collisions on Arastradero have decreased, but when collisions have occurred, they have been shown to involve bicyclists riding in the wrong direction of travel with vehicle traffic. This project will allow students to walk or ride on a side path in either direction between Gunn and the Hetch Hetchy-Los Altos Path.

Uncontrolled Crossing

As noted elsewhere, students reaching the end of the Hetch Hetchy-Los Altos Bike Path at Arastradero must wait for gaps in traffic on this high-volume, high-speed stretch to cross to the high school (north) side of the street. This is an unsafe condition for commuting students. This project will direct trail users to the signalized crossing at Gunn High School.

Poor Cyclist and Pedestrian Visibility

The project will include warning signage for drivers, pavement markings, vegetation removal, and lighting to improve the visibility of cyclists at the Hetch Hetchy-Los Altos bicycle path intersection with Arastradero Road. Cyclists entering the bike lane on Arastradero Road would have improved visibility over the current condition of overgrown trees that obscure signage and create shadows that drivers at speed cannot differentiate from cyclists.

In addition, the Hetch Hetchy-Los Altos path traverses a wooded area, and roots have degraded the pavement condition. This project will bring the portion of the path that is within city limits up to standards for a multi-use pedestrian and bicycle facility and will install low-level lighting for enhanced visibility and safety.

4. Air Quality Improvements

The congestion issues observed around Gunn High and at the intersections of Foothill Expressway and El Camino Real result in higher greenhouse gas emissions (GHGs) due to the numbers of idling automobiles. Promoting alternatives to driving can reduce congestion and improve air quality. In addition, planned operational enhancements at the Gunn Driveway intersection and at other intersections along the corridor will reduce idling time and minimize the number of drivers slowing down suddenly, which also causes pollution.

Arastradero Road is one of the most heavily-used bicycle corridors in Palo Alto. A recent analysis of school-related travel activity estimates over 1,000 daily bicycle and pedestrian trips are supported by Arastradero Road. Bicycle and pedestrian improvements encourage alternatives to driving solo and promote transit use, reducing VMT. As previously discussed, several schools are located along this corridor. Despite the high walking and bicycling numbers, congestion in the morning drop-off and evening pick-up periods decreases safety for all users and leads to greenhouse gas emissions, which decrease air quality. The proposed bicycle and pedestrian improvements encourage alternatives to driving solo, reducing vehicle miles traveled and thereby improving air quality.

The proposed improvements will reach 2,900 public school students at the three campuses adjacent to this project. Based on the 2012 District-wide Parent Survey and tallies of parked bicycles, it is safe to assume approximately 65 percent of students attending neighborhood schools are driven to school in a single-family car: 1,885 students. This represents the target group that may switch to alternative modes as a result of the proposed improvements. The City estimates that 5 percent of the target group will shift to biking and walking. This will result in walking and biking trips replacing 236 motor vehicle miles on a typical school day. This is in addition to the over 2,500 miles already walked, biked or skated by the over 1,000 students who currently walk, bike or skate to school on a normal day. The total annual VMT replaced as a result of the project will be approximately 42,400 miles.

5. Community of Concern

Approximately 560 students from the Ravenswood School District in East Palo Alto and Menlo Park attend PAUSD schools as part of the Voluntary Transfer Program. Each of the six public schools along the Charleston-Arastradero Road corridor serves Communities of Concern identified by the Metropolitan Transportation Commission both within Palo Alto and in adjacent cities such as the City of East Palo Alto. The proposed capital improvements along Arastradero Road will directly benefit low-income families within those neighborhoods as a majority of those students are driven to school or ride a school bus. In addition, over 13% of Juana Briones Elementary students are socioeconomically disadvantaged. The proposed project will create a safe environment while traveling down the corridor to the three public schools and two private schools in the project area.

6. Local Plan(s)

The Hetch Hetchy-Los Altos Path is a key Proposed Multi-Use Trail in the City of Palo Alto's 2012 Bicycle and Pedestrian Transportation Plan (BPTP) and is included in the Plan's Proposed Bikeway Network. In addition, the Arastradero Road and Hetch Hetchy-Los Altos Bike Path improvements are listed in the BPTP as BK-1: Charleston/Arastradero Road Enhanced Bikeway. The upgrades to the Los Altos Path are referenced in the BPTP as TR-4: Bol Park/Gunn HS/Los Altos Path Lighting and Upgrades.

As mentioned earlier, this project has been included in the City's *Capital Improvement Projects* list for 2012-16 as PE-13011: Charleston/Arastradero Corridor Project. The program implements a permanent reconfiguration to formalize the Charleston/Arastradero Corridor Plan recommendations.

7. Local Match

The City estimates the Arastradero Road Schoolscape - Multi-use Trail to cost approximately $1.5M and is proposing a 33% local match of $502,000.

8. Project Readiness

Environmental

The environmental review of this project is included in the Mitigated Negative Declaration for the City of Palo Alto Bicycle + Pedestrian Transportation Plan 2012.

Design

The City will issue a Request for Proposals (RFP) for the design phase of both the Charleston Road-Arastradero Road Schoolscape segments in spring 2013. Since the potentially controversial elements of the roadway redesign have been implemented and approved with the Arastradero Trial Restriping Phase 2 project, the design process for the Arastradero Schoolscape Project is anticipated to be relatively straightforward. At the same time, numerous opportunities will be realized for public participation and engagement, particularly with school families and students.

Right-of-Way

The City of Palo Alto owns the necessary right-of-way for this project.

Attachment A

Letters of Support

Palo Alto Housing Corporation
Palo Alto Unified School District
Palo Alto Council of PTAs
Gunn High School PTSA
Terman Middle School PTA
Briones Elementary PTA
Police Chief's Letter to Parents

Attachment A

PALO ALTO HOUSING
CORPORATION
725 Alma Street • Palo Alto, CA 94301 • (650) 321-9709 • Fax (650) 321-4341

February, 22, 2013

Valley Transportation Authority
Attn: Celeste Fiore
3331 North First Street
San Jose, CA 95134

Dear Ms. Fiore:

I write on behalf of the Palo Alto Housing Corporation (PAHC) to express our support of the City of Palo Alto VERBs grant application for funding the *Arastradero Rd Corridor Improvements (Gunn High to El Camino Real).*

The Palo Alto Housing Corp. is an independent, non-profit public benefit organization with a mission of developing or acquiring low- and moderate-income housing in Palo Alto. The Housing Corp. also administers the city's Below Market Rate Purchase Program, which allows eligible families and singles to purchase moderately priced condominiums and duplexes. Below market rate (BMR) units are available to households of low and moderate income. 118 of our existing family and senior housing units are served by Charleston/Arastradero Road:

Palo Alto Housing Project	Address	No. Affordable Units
Treehouse	488 W Charleston Road	35
Arastradero Park	574 Arastradero Road	67
Ferne Apartments	101-131 Ferne Avenue	16

In addition, we are planning 60 new low-income senior units at 567-595 Maybell Ave., one block north of Arastradero Road.

Ideal affordable housing sites offer access to alternative modes of transportation, including bicycle and pedestrian facilities that connect well to community resources and public transit. Therefore, it is important for us to support projects like this one that provide pedestrian/bicycle facilities that connect our residents from their homes to important community resources:

- shopping centers (Alma Plaza, Charleston Shopping Center and ECR shopping locations)
- public transit (VTA 88, 522, 22, 35, possible future BRT)
- parks (Mitchell Park, Juana Briones Park, Terman Park, Robles Park)
- schools (eleven public and private k-12 schools are served by Charleston/Arastradero)
- public libraries (Mitchell Park Library)
- community centers and playing fields (Cubblerey, TK Campus for Jewish Life, Mitchell Park Community Center)

Please support the *Arastradero Rd Corridor Improvements (Gunn High to El Camino Real)* City of Palo Alto project. It will provide improved bicycle, pedestrian and transit connections our residents need—giving better transportation access to all residents, of any age or ability, whether or not they can drive or afford access to a car, to move about the community freely and independently.

Thank you for your consideration of our comments.

Sincerely,
PALO ALTO HOUSING CORPORATION

Georgina Mascarenhas
Director of Property Management

Palo Alto Council PTA®
everychild. onevoice.

Attachment A

Palo Alto Council of PTAs
25 Churchill Avenue
Palo Alto, CA 94306
www.paloaltopta.org

February 21, 2013

Valley Transportation Authority
Attn: Celeste Fiore
3331 North First Street
San Jose, CA 95134

Dear Ms. Fiore,

Please approve the City of Palo Alto VERBS grant application for *Arastradero Rd Corridor Improvements(Gunn High to El Camino Real).*

Charleston/Arastradero (C/A), a residential arterial, provides connections into Palo Alto for work commuters from 280 and Hwy101, carrying 18,000- 20,000 car trips each day, depending on the segment. It also serves eleven public and private k-12 schools, as well as: residential neighborhoods, parks and playing fields, two community centers, a public library, and a number of other after-school destinations for children. Children who live south of Arastradero must travel along or across this street to get to school sites.

During the morning peak hour Arastradero is severely congested due to convergence of commuter traffic with the bell times of so many schools. Enrollment at most of the public schools on the corridor is increasing so creating transportation mode shift among school commuters is increasingly important for traffic congestion management as well as health and safety. After-school, when auto volumes are lighter, auto speeds and uncontrolled turning movements have been two key safety problems. The City, in partnership with the community, developed and implemented a trial lane reduction project along Arastradero Rd in 2010 that was unanimously approved by the City Council in 2012 with pursuit of final treatments including hardscape treatments, landscape median islands, pedestrian-scaled streetlights, and enhanced bikeway improvements. The VERBs grant partnership in the implementation of these final improvements will help to complete the community vision for Arastradero Road.

The Palo Alto Council of PTAs (PAPTAC) Traffic Safety Committee works in partnership with the city and school district to provide bicycle and pedestrian safety education and encouragement events to all PAUSD students. These efforts are working. PAUSD foot-powered commuters are steadily increasing. We look forward to the additional traffic calming and control that will be provided by hardscape improvements. The addition of pedestrian refuges in the middle of long crossings and bulb-outs will shorten crossing distances and enable young foot-powered commuters to see and be seen by on-coming traffic in addition to controlling turning movements of drivers into our school site to create a safer environment for all road users.

Please support this project which will complete the transformation of this auto-centered arterial to a more school commute-friendly and "complete" street environment.

Thank you for considering our request.

Sincerely,

Sigrid K. Pinsky
President, Palo Alto Council of PTAs

Attachment A

PALO ALTO UNIFIED SCHOOL DISTRICT
25 Churchill Avenue • Palo Alto, CA 94306
Telephone: (650) 329-3980 • FAX: (650) 329-3803

BUSINESS SERVICES

February 27, 2013

Valley Transportation Authority
Attn: Celeste Fiore
3331 North First Street
San Jose, CA 95134

Dear Ms. Fiore,

Palo Alto Unified School District (PAUSD) supports the City of Palo Alto VERBs grant application for Arastradero Road Corridor Improvements (Gunn High School to El Camino Real).

PAUSD's Gunn High School and Terman Middle School both front on Arastradero Road. In addition, many students of Juana Briones Elementary School commute to school via Arastradero. All Palo Alto students who live south of Arastradero must travel along or across Arastradero to get to school each day.

Charleston/Arastradero is a residential arterial providing connections into Palo Alto for work commuters from 280 and Hwy101, carrying nearly 20,000 car trips each day. The road also serves eleven public and private k-12 schools, including six PAUSD school sites, as well as: residential neighborhoods, parks and playing fields, two community centers, a public library, and a number of other after-school destinations for students. PAUSD also operates Preschool Family and Young Fives programs at the Greendell site, also served by Charleston/Arastradero.

Enrollment at most of the public schools on the corridor is increasing so creating transportation mode shift among school commuters is increasingly important for traffic congestion management as well as health and safety. The City, in partnership with PAUSD and the community, developed and implemented a trial lane reduction project along Arastradero Rd in 2010 that was unanimously approved by the City Council in 2012 with pursuit of final treatments including hardscape treatments, landscape median islands, pedestrian-scaled streetlights, and enhanced bikeway improvements. The VERBs partnership in the implementation of these final improvements will help to complete the community vision for Arastradero Road.

PAUSD is committed to a Safe Routes to School Partnership with the city and PTAs to support bicycle and pedestrian safety programs and events that encourage students to use alternative modes of transportation. We are very appreciative of the city's efforts to improve safety on this important school commute corridor. We hope you will approve their application for funding it.

Sincerely,

Catherine Mak
Chief Business Officer

February 21, 2013

Valley Transportation Authority
Attn: Celeste Fiore
3331 North First Street
San Jose, CA 95134

Dear Ms. Fiore,

Gunn High School PTSA supports the City of Palo Alto VERBs grant application for Arastradero Road Corridor Improvements (Gunn High School to El Camino Real).

Gunn High School fronts on Arastradero Road. Palo Alto students who live south of Arastradero must travel along or across Arastradero to get to school each day. Charleston/Arastradero is a heavily traveled crosstown residential arterial providing connections into Palo Alto for work commuters from 280 and Hwy101, carrying nearly 20,000 car trips each day. The road also serves eleven public and private k-12 schools, including Gunn, as well as: multiple residential neighborhoods, parks and playing fields, two community centers, a public library, and a number of other after-school destinations for students.

Historically, during the morning peak hour Arastradero has been severely congested due to convergence of commuter traffic with the bell times of so many schools. Enrollment at most of the public schools on the corridor is increasing so creating transportation mode shift among school commuters is increasingly important for traffic congestion management as well as health and safety. After-school, when auto volumes are lighter, auto speeds and uncontrolled turning movements have been two key safety problems. The City, in partnership with the community, developed and implemented a trial lane reduction project along Arastradero Rd in 2010 that was unanimously approved by the City Council in 2012 with pursuit of final treatments including hardscape treatments, landscape median islands, pedestrian-scaled streetlights, and enhanced bikeway improvements. The VERBs partnership in the implementation of these final improvements will help to complete the community vision for Arastradero Road.

Gunn PTSA works in partnership with the city and school district to support bicycle and pedestrian safety programs and events that encourage students to use alternative modes of transportation. Safety of commute routes Gunn is a very important priority for us so we have worked closely with the city through the course of the trial. We look forward to implementation of the final corridor improvements envisioned as part of the Arastradero Road Corridor Improvements project. Particularly, we look forward to the addition of usable pedestrian refuges in the middle of long crossings and bulb-outs that will shorten crossing distances and enable foot-powered commuters to see and be seen by on-coming traffic.

We are very appreciative of the city's efforts to improve safety on this important school commute corridor. We hope you will approve their application for funding it.

Sincerely,

Karen Saxena
Gunn High School PTSA President

February 19, 2013

Valley Transportation Authority
Attn: Celeste Fiore
3331 North First Street
San Jose, CA 95134

Dear Ms. Fiore,

Terman Middle School PTA Executive Board supports the City of Palo Alto VERBs grant application for streetscape improvements to Arastradero Road.

Terman Middle School fronts Arastradero Road, and 37% of 682 Terman students bicycle to school and an additional uncounted number walk to school. Nearly all of these students must travel along or across Arastradero to get to school each day.

Arastradero has presented special challenges to Terman school commuters since the opening of our school site in 2003. Charleston/Arastradero is a heavily traveled crosstown residential arterial providing connections into Palo Alto for work commuters from Hwys 280 and 101, carrying nearly 20,000 car trips each day. The road also serves eleven public and private K-12 schools, including Terman as well as: multiple residential neighborhoods, parks and playing fields, two community centers, a public library, and a number of other after-school destinations for students.

During the morning peak hour Arastradero is severely congested due to convergence of commuter traffic with the bell times of so many schools. Enrollment at most of the public schools on the corridor is increasing so creating transportation mode shift among school commuters is increasingly important for traffic congestion management as well as health and safety. After-school, when auto volumes are lighter, auto speeds and uncontrolled turning movements have been two key safety problems. The City, in partnership with the community, developed and implemented a trial lane reduction project along Arastradero Rd in 2010 that was unanimously approved by the City Council in 2012 with pursuit of final treatments including hardscape treatments, landscape median islands, pedestrian-scaled streetlights, and enhanced bikeway improvements. The VERBs grant partnership in the implementation of these final improvements will help to complete the community vision for Arastradero Road.

Terman Middle School PTA Executive Board works in partnership with the city and school district to provide bicycle and pedestrian safety education in grades 6-8 and events that encourage students to use alternative modes of transportation for school commutes. Safety of commute routes to our school site is a very important priority for us so we have worked closely with the city through the course of the trial. We look forward to implementation of the final corridor improvements envisioned as part of the Arastradero Road Corridor Improvements project. Particularly, we look forward to the addition of usable pedestrian refuges in the middle of long crossings and bulb-outs that will shorten crossing distances and enable foot-powered student commuters to see and be seen by on-coming traffic.

These improvements will transform a student-unfriendly arterial to a welcoming "complete street" that serves Terman students more safely. We hope you will approve the City of Palo Alto application for funding.

Sincerely,

Keri L Wagner

PTA President
Terman Middle School PTA Executive Board

Attachment A

Juana Briones Elementary School PTA
4100 Orme St, Palo Alto, California 94306

February 28, 2013

Valley Transportation Authority
Attn: Celeste Fiore
3331 North First Street
San Jose, CA 95134

Dear Ms. Fiore,

Juana Briones Elementary School PTA supports the City of Palo Alto VERBs grant application for streetscape improvements to Arastradero Road.

Charleston/Arastradero is a heavily traveled crosstown residential arterial providing connections into Palo Alto for work commuters from 280 and Hwy101, carrying nearly 20,000 car trips each day. It is also serves eleven public and private k-12 schools, including Juana Briones Elementary School, as well as: our nearby residential neighborhoods, parks and playing fields, two community centers, a public library, and a number of other after-school destinations for children. Children who live south of Arastradero must travel along or across this street to get to our school site.

During the morning peak hour Arastradero is severely congested due to convergence of commuter traffic with the bell times of so many schools. Enrollment at most of the public schools on the corridor is increasing so creating transportation mode shift among school commuters is increasingly important for traffic congestion management as well as health and safety. After-school, when auto volumes are lighter, auto speeds and uncontrolled turning movements have been two key safety problems. The City, in partnership with the community, developed and implemented a trial lane reduction project along Arastradero Rd in 2010 that was unanimously approved by the City Council in 2012 with pursuit of final treatments including hardscape treatments, landscape median islands, pedestrian-scaled streetlights, and enhanced bikeway improvements. The VERBs grant partnership in the implementation of these final improvements will help to complete the community vision for Arastradero Road.

Juana Briones Elementary School PTA works in partnership with the city and school district to provide bicycle and pedestrian safety education in grades k-5 and events that encourage students to use alternative modes of transportation for school commutes. Safety of commute routes to our school site is a very important priority for us so we have worked closely with the city through the course of the trial. We look forward to implementation of the final corridor improvements envisioned as part of the Arastradero Road Corridor Improvements project. Particularly, we look forward to the addition of usable pedestrian refuges in the middle of long crossings and bulb-outs that will shorten crossing distances and enable young foot-powered commuters to see and be seen by on-coming traffic.

We are very appreciative ofthe city's efforts to improve safety on this critical school commute corridor. We hope you will approve their application for funding it.

Sincerely,

Jaimi Kerr

Juana Briones Elementary PTA, 2012-2013 President

Attachment A

City of Palo Alto

Police Department

August 2012

Dear Parents of Middle School Students,

The Palo Alto Police Department is a strong supporter of the local Safe Routes to School Partnership, formed by the City of Palo Alto, the Palo Alto Unified School District (PAUSD) and Palo Alto Council of PTAs. We invite you to join us in our ongoing efforts to provide a safer school commute for all students using all 5 E's of traffic safety: engineering, enforcement, education, encouraging reduced vehicle trips and evaluation.

More than half of all PAUSD middle school students are now getting to and from school by foot, on bikes or in buses and carpools. As your student becomes more independent, we would like to ask for your help. Please review the key safety tips on the reverse side of this letter with your student. When you are together, model safe choices and make sure that he or she consistently practices sharing the road safely with pedestrians, bicyclists and motorized traffic. If your student needs additional guidance as a bicyclist, watch for information on classes for middle school students and parents in your school's newsletters or on the school website.

The Police Department will continue to prioritize enforcement on school commute routes, especially before school starts and at afternoon dismissal. Unsafe choices such as driving in bike lanes, disobeying stop signs or U-turn prohibitions, wrong way bike riding, not wearing a helmet properly and other traffic infractions will risk a traffic citation. The department also funds 29 adult crossing guards who facilitate safe crossing of busy intersections for students walking and biking to school.

Another important way to help us improve safety along school commute routes is to reduce congestion by choosing an alternative to driving solo to school whenever possible. Look for information on local "Walk & Roll" events in early October. If walking, biking or taking the bus is not feasible for your student, please consider carpooling, especially on rainy days.

For times when you must drive, be sure you share the road safely by putting away your cell phone, using extra caution and arriving before the last minute rush. Make sure that your young passengers use their seatbelts properly and that they get out of the car near the curb where it is safe and legal to do so. Always look for bicyclists before opening your car door.

Let's all work together for a safe school commute in Palo Alto in 2012-13. Please contact your PTA to find out more about local Safe Routes to School efforts. If you have any traffic enforcement questions or concerns, please contact Officer Derek Souza at 650-329-2413.

Sincerely,

Dennis Burns
Police Chief

275 Forest Avenue
Palo Alto, CA 94301
650.329.2406
650.329.2565 fax
650.617.3120 Administration fax

ATTACHMENT C - SAMPLE

CITY OF PALO ALTO CONTRACT NO. XXXXXX

AGREEMENT BETWEEN THE CITY OF PALO ALTO AND

FOR PROFESSIONAL SERVICES

This Agreement is entered into on this day of , , ("Agreement") by and between the CITY OF PALO ALTO, a California chartered municipal corporation ("CITY"), and , a , located at ("CONSULTANT").

RECITALS

The following recitals are a substantive portion of this Agreement.

A. CITY intends to ("Project") and desires to engage a consultant to in connection with the Project ("Services").

B. CONSULTANT has represented that it has the necessary professional expertise, qualifications, and capability, and all required licenses and/or certifications to provide the Services.

C. CITY in reliance on these representations desires to engage CONSULTANT to provide the Services as more fully described in Exhibit "A", attached to and made a part of this Agreement.

NOW, THEREFORE, in consideration of the recitals, covenants, terms, and conditions, in this Agreement, the parties agree:

2.1.1.1.1.1.1 AGREEMENT

SECTION 1. SCOPE OF SERVICES. CONSULTANT shall perform the Services described in Exhibit "A" in accordance with the terms and conditions contained in this Agreement. The performance of all Services shall be to the reasonable satisfaction of CITY.

☐ Optional On-Call Provision (This provision only applies if checked and only applies to on-call agreements.)
Services will be authorized by the City, as needed, with a Task Order assigned and approved by the City's Project Manager. Each Task Order shall be in substantially the same form as Exhibit A-1. Each Task Order shall designate a City Project Manager and shall contain a specific scope of work, a specific schedule of performance and a specific compensation amount. The total price of all Task Orders issued under this Agreement shall not exceed the amount of Compensation set forth in Section 4 of this Agreement. CONSULTANT shall only be compensated for work performed under an authorized Task Order and the City may elect, but is not required, to authorize work up to the maximum compensation amount set forth in Section 4.

SECTION 2. TERM.
The term of this Agreement shall be from the date of its full execution through unless terminated earlier pursuant to Section 19 of this Agreement.

OR

The term of this Agreement shall be from the date of its full execution through completion of the services in accordance with the Schedule of Performance attached as Exhibit "B" unless terminated earlier pursuant to Section 19 of this Agreement.

SECTION 3. SCHEDULE OF PERFORMANCE. Time is of the essence in the performance of Services under this Agreement. CONSULTANT shall complete the Services within the term of this Agreement and in accordance with the schedule set forth in Exhibit "B", attached to and made a part of this Agreement. Any Services for which times for performance are not specified in this Agreement shall be commenced and completed by CONSULTANT in a reasonably prompt and timely manner based upon the circumstances and direction communicated to the CONSULTANT. CITY's agreement to extend the term or the schedule for performance shall not preclude recovery of damages for delay if the extension is required due to the fault of CONSULTANT.

SECTION 4. NOT TO EXCEED COMPENSATION. The compensation to be paid to CONSULTANT for performance of the Services described in Exhibit "A", including both payment for professional services and reimbursable expenses, shall not exceed Dollars ($). In the event Additional Services are authorized, the total compensation for services and reimbursable expenses shall not exceed Dollars ($). The applicable rates and schedule of payment are set out in Exhibit "C-1", entitled "HOURLY RATE SCHEDULE," which is attached to and made a part of this Agreement.

Additional Services, if any, shall be authorized in accordance with and subject to the provisions of Exhibit "C". CONSULTANT shall not receive any compensation for Additional Services performed without the prior written authorization of CITY. Additional Services shall mean any work that is determined by CITY to be necessary for the proper completion of the Project, but which is not included within the Scope of Services described in Exhibit "A".

SECTION 5. INVOICES. In order to request payment, CONSULTANT shall submit monthly invoices to the CITY describing the services performed and the applicable charges (including an identification of personnel who performed the services, hours worked, hourly rates, and reimbursable expenses), based upon the CONSULTANT's billing rates (set forth in Exhibit "C-1"). If applicable, the invoice shall also describe the percentage of completion of each task. The information in CONSULTANT's payment requests shall be subject to verification by CITY. CONSULTANT shall send all invoices to the City's project manager at the address specified in Section 13 below. The City will generally process and pay invoices within thirty (30) days of receipt.

SECTION 6. QUALIFICATIONS/STANDARD OF CARE. All of the Services shall be performed by CONSULTANT or under CONSULTANT's supervision. CONSULTANT represents that it possesses the professional and technical personnel necessary to perform the Services required by this Agreement and that the personnel have sufficient skill and experience

to perform the Services assigned to them. CONSULTANT represents that it, its employees and subconsultants, if permitted, have and shall maintain during the term of this Agreement all licenses, permits, qualifications, insurance and approvals of whatever nature that are legally required to perform the Services.

All of the services to be furnished by CONSULTANT under this agreement shall meet the professional standard and quality that prevail among professionals in the same discipline and of similar knowledge and skill engaged in related work throughout California under the same or similar circumstances.

SECTION 7. COMPLIANCE WITH LAWS. CONSULTANT shall keep itself informed of and in compliance with all federal, state and local laws, ordinances, regulations, and orders that may affect in any manner the Project or the performance of the Services or those engaged to perform Services under this Agreement. CONSULTANT shall procure all permits and licenses, pay all charges and fees, and give all notices required by law in the performance of the Services.

SECTION 8. ERRORS/OMISSIONS. CONSULTANT shall correct, at no cost to CITY, any and all errors, omissions, or ambiguities in the work product submitted to CITY, provided CITY gives notice to CONSULTANT. If CONSULTANT has prepared plans and specifications or other design documents to construct the Project, CONSULTANT shall be obligated to correct any and all errors, omissions or ambiguities discovered prior to and during the course of construction of the Project. This obligation shall survive termination of the Agreement.

SECTION 9. COST ESTIMATES. If this Agreement pertains to the design of a public works project, CONSULTANT shall submit estimates of probable construction costs at each phase of design submittal. If the total estimated construction cost at any submittal exceeds ten percent (10%) of the CITY's stated construction budget, CONSULTANT shall make recommendations to the CITY for aligning the PROJECT design with the budget, incorporate CITY approved recommendations, and revise the design to meet the Project budget, at no additional cost to CITY.

SECTION 10. INDEPENDENT CONTRACTOR. It is understood and agreed that in performing the Services under this Agreement CONSULTANT, and any person employed by or contracted with CONSULTANT to furnish labor and/or materials under this Agreement, shall act as and be an independent contractor and not an agent or employee of the CITY.

SECTION 11. ASSIGNMENT. **The parties agree that the expertise and experience of CONSULTANT are material considerations for this Agreement. CONSULTANT shall not assign or transfer any interest in this Agreement nor the performance of any of CONSULTANT's obligations hereunder without the prior written consent of the city manager. Consent to one assignment will not be deemed to be consent to any subsequent assignment. Any assignment made without the approval of the city manager will be void.**

SECTION 12. SUBCONTRACTING.

☐Option A: No Subcontractor: **CONSULTANT shall not subcontract any portion of the work to be performed under this Agreement without the prior written authorization of the city manager or designee.**

☐**Option B: Subcontracts Authorized:** Notwithstanding Section 11 above, CITY agrees that subconsultants may be used to complete the Services. The subconsultants authorized by CITY to perform work on this Project are:

CONSULTANT shall be responsible for directing the work of any subconsultants and for any compensation due to subconsultants. CITY assumes no responsibility whatsoever concerning compensation. CONSULTANT shall be fully responsible to CITY for all acts and omissions of a subconsultant. CONSULTANT shall change or add subconsultants only with the prior approval of the city manager or his designee.

SECTION 13. PROJECT MANAGEMENT. CONSULTANT will assign as the to have supervisory responsibility for the performance, progress, and execution of the Services and as the project to represent CONSULTANT during the day-to-day work on the Project. If circumstances cause the substitution of the project director, project coordinator, or any other key personnel for any reason, the appointment of a substitute project director and the assignment of any key new or replacement personnel will be subject to the prior written approval of the CITY's project manager. CONSULTANT, at CITY's request, shall promptly remove personnel who CITY finds do not perform the Services in an acceptable manner, are uncooperative, or present a threat to the adequate or timely completion of the Project or a threat to the safety of persons or property.

The City's project manager is , Department, Division, Palo Alto, CA 94303, Telephone: . The project manager will be CONSULTANT's point of contact with respect to performance, progress and execution of the Services. The CITY may designate an alternate project manager from time to time.

SECTION 14. OWNERSHIP OF MATERIALS. Upon delivery, all work product, including without limitation, all writings, drawings, plans, reports, specifications, calculations, documents, other materials and copyright interests developed under this Agreement shall be and remain the exclusive property of CITY without restriction or limitation upon their use. CONSULTANT agrees that all copyrights which arise from creation of the work pursuant to this Agreement shall be vested in CITY, and CONSULTANT waives and relinquishes all claims to copyright or other intellectual property rights in favor of the CITY. Neither CONSULTANT nor its contractors, if any, shall make any of such materials available to any individual or organization without the prior written approval of the City Manager or designee. CONSULTANT makes no

representation of the suitability of the work product for use in or application to circumstances not contemplated by the scope of work.

SECTION 15. AUDITS. CONSULTANT will permit CITY to audit, at any reasonable time during the term of this Agreement and for three (3) years thereafter, CONSULTANT's records pertaining to matters covered by this Agreement. CONSULTANT further agrees to maintain and retain such records for at least three (3) years after the expiration or earlier termination of this Agreement.

SECTION 16. INDEMNITY.

☐ **[Option A applies to the following design professionals pursuant to Civil Code Section 2782.8: architects; landscape architects; registered professional engineers and licensed professional land surveyors.]** 16.1. To the fullest extent permitted by law, CONSULTANT shall protect, indemnify, defend and hold harmless CITY, its Council members, officers, employees and agents (each an "Indemnified Party") from and against any and all demands, claims, or liability of any nature, including death or injury to any person, property damage or any other loss, including all costs and expenses of whatever nature including attorneys fees, experts fees, court costs and disbursements ("Claims") that arise out of, pertain to, or relate to the negligence, recklessness, or willful misconduct of the CONSULTANT, its officers, employees, agents or contractors under this Agreement, regardless of whether or not it is caused in part by an Indemnified Party.

☐ **[Option B applies to any consultant who does not qualify as a design professional as defined in Civil Code Section 2782.8.]** 16.1. To the fullest extent permitted by law, CONSULTANT shall protect, indemnify, defend and hold harmless CITY, its Council members, officers, employees and agents (each an "Indemnified Party") from and against any and all demands, claims, or liability of any nature, including death or injury to any person, property damage or any other loss, including all costs and expenses of whatever nature including attorneys fees, experts fees, court costs and disbursements ("Claims") resulting from, arising out of or in any manner related to performance or nonperformance by CONSULTANT, its officers, employees, agents or contractors under this Agreement, regardless of whether or not it is caused in part by an Indemnified Party.

16.2. Notwithstanding the above, nothing in this Section 16 shall be construed to require CONSULTANT to indemnify an Indemnified Party from Claims arising from the active negligence, sole negligence or willful misconduct of an Indemnified Party.

16.3. The acceptance of CONSULTANT's services and duties by CITY shall not operate as a waiver of the right of indemnification. The provisions of this Section 16 shall survive the expiration or early termination of this Agreement.

SECTION 17. WAIVERS. The waiver by either party of any breach or violation of any covenant, term, condition or provision of this Agreement, or of the provisions of any ordinance or law, will not be deemed to be a waiver of any other term, covenant, condition, provisions, ordinance or law, or of any subsequent breach or violation of the same or of any other term, covenant, condition, provision, ordinance or law.

SECTION 18. INSURANCE.

18.1. CONSULTANT, at its sole cost and expense, shall obtain and maintain, in full force and effect during the term of this Agreement, the insurance coverage described in Exhibit "D". CONSULTANT and its contractors, if any, shall obtain a policy endorsement naming CITY as an additional insured under any general liability or automobile policy or policies.

18.2. All insurance coverage required hereunder shall be provided through carriers with AM Best's Key Rating Guide ratings of A-:VII or higher which are licensed or authorized to transact insurance business in the State of California. Any and all contractors of CONSULTANT retained to perform Services under this Agreement will obtain and maintain, in full force and effect during the term of this Agreement, identical insurance coverage, naming CITY as an additional insured under such policies as required above.

18.3. Certificates evidencing such insurance shall be filed with CITY concurrently with the execution of this Agreement. The certificates will be subject to the approval of CITY's Risk Manager and will contain an endorsement stating that the insurance is primary coverage and will not be canceled, or materially reduced in coverage or limits, by the insurer except after filing with the Purchasing Manager thirty (30) days' prior written notice of the cancellation or modification. If the insurer cancels or modifies the insurance and provides less than thirty (30) days' notice to CONSULTANT, CONSULTANT shall provide the Purchasing Manager written notice of the cancellation or modification within two (2) business days of the CONSULTANT's receipt of such notice. CONSULTANT shall be responsible for ensuring that current certificates evidencing the insurance are provided to CITY's Purchasing Manager during the entire term of this Agreement.

18.4. The procuring of such required policy or policies of insurance will not be construed to limit CONSULTANT's liability hereunder nor to fulfill the indemnification provisions of this Agreement. Notwithstanding the policy or policies of insurance, CONSULTANT will be obligated for the full and total amount of any damage, injury, or loss caused by or directly arising as a result of the Services performed under this Agreement, including such damage, injury, or loss arising after the Agreement is terminated or the term has expired.

SECTION 19. TERMINATION OR SUSPENSION OF AGREEMENT OR SERVICES.

19.1. The City Manager may suspend the performance of the Services, in whole or in part, or terminate this Agreement, with or without cause, by giving ten (10) days prior written notice thereof to CONSULTANT. Upon receipt of such notice, CONSULTANT will immediately discontinue its performance of the Services.

19.2. CONSULTANT may terminate this Agreement or suspend its performance of the Services by giving thirty (30) days prior written notice thereof to CITY, but only in the event of a substantial failure of performance by CITY.

19.3. Upon such suspension or termination, CONSULTANT shall deliver to the City Manager immediately any and all copies of studies, sketches, drawings, computations, and other data, whether or not completed, prepared by CONSULTANT or its contractors, if any, or given to CONSULTANT or its contractors, if any, in connection with this Agreement. Such materials will become the property of CITY.

19.4. Upon such suspension or termination by CITY, CONSULTANT will be paid for the Services rendered or materials delivered to CITY in accordance with the scope of services on or before the effective date (i.e., 10 days after giving notice) of suspension or termination; provided, however, if this Agreement is suspended or terminated on account of a default by CONSULTANT, CITY will be obligated to compensate CONSULTANT only for that portion of CONSULTANT's services which are of direct and immediate benefit to CITY as such determination may be made by the City Manager acting in the reasonable exercise of his/her discretion. The following Sections will survive any expiration or termination of this Agreement: 14, 15, 16, 19.4, 20, and 25.

19.5. No payment, partial payment, acceptance, or partial acceptance by CITY will operate as a waiver on the part of CITY of any of its rights under this Agreement.

SECTION 20. NOTICES.

All notices hereunder will be given in writing and mailed, postage prepaid, by certified mail, addressed as follows:

To CITY: Office of the City Clerk
City of Palo Alto
Post Office Box 10250
Palo Alto, CA 94303

With a copy to the Purchasing Manager

To CONSULTANT: Attention of the project director
at the address of CONSULTANT recited above

SECTION 21. CONFLICT OF INTEREST.

21.1. In accepting this Agreement, CONSULTANT covenants that it presently has no interest, and will not acquire any interest, direct or indirect, financial or otherwise, which would conflict in any manner or degree with the performance of the Services.

21.2. CONSULTANT further covenants that, in the performance of this Agreement, it will not employ subconsultants, contractors or persons having such an interest. CONSULTANT certifies that no person who has or will have any financial interest under this Agreement is an officer or employee of CITY; this provision will be interpreted in accordance

with the applicable provisions of the Palo Alto Municipal Code and the Government Code of the State of California.

21.3. If the Project Manager determines that CONSULTANT is a "Consultant" as that term is defined by the Regulations of the Fair Political Practices Commission, CONSULTANT shall be required and agrees to file the appropriate financial disclosure documents required by the Palo Alto Municipal Code and the Political Reform Act.

SECTION 22. NONDISCRIMINATION. As set forth in Palo Alto Municipal Code section 2.30.510, CONSULTANT certifies that in the performance of this Agreement, it shall not discriminate in the employment of any person because of the race, skin color, gender, age, religion, disability, national origin, ancestry, sexual orientation, housing status, marital status, familial status, weight or height of such person. CONSULTANT acknowledges that it has read and understands the provisions of Section 2.30.510 of the Palo Alto Municipal Code relating to Nondiscrimination Requirements and the penalties for violation thereof, and agrees to meet all requirements of Section 2.30.510 pertaining to nondiscrimination in employment.

SECTION 23. ENVIRONMENTALLY PREFERRED PURCHASING AND ZERO WASTE REQUIREMENTS. CONSULTANT shall comply with the City's Environmentally Preferred Purchasing policies which are available at the City's Purchasing Department, incorporated by reference and may be amended from time to time. CONSULTANT shall comply with waste reduction, reuse, recycling and disposal requirements of the City's Zero Waste Program. Zero Waste best practices include first minimizing and reducing waste; second, reusing waste and third, recycling or composting waste. In particular, Consultant shall comply with the following zero waste requirements:

- All printed materials provided by Consultant to City generated from a personal computer and printer including but not limited to, proposals, quotes, invoices, reports, and public education materials, shall be double-sided and printed on a minimum of 30% or greater post-consumer content paper, unless otherwise approved by the City's Project Manager. Any submitted materials printed by a professional printing company shall be a minimum of 30% or greater post-consumer material and printed with vegetable based inks.
- Goods purchased by Consultant on behalf of the City shall be purchased in accordance with the City's Environmental Purchasing Policy including but not limited to Extended Producer Responsibility requirements for products and packaging. A copy of this policy is on file at the Purchasing Office.
- Reusable/returnable pallets shall be taken back by the Consultant, at no additional cost to the City, for reuse or recycling. Consultant shall provide documentation from the facility accepting the pallets to verify that pallets are not being disposed.

SECTION 24. NON-APPROPRIATION

24.1. This Agreement is subject to the fiscal provisions of the Charter of the City of Palo Alto and the Palo Alto Municipal Code. This Agreement will terminate without any penalty (a) at the end of any fiscal year in the event that funds are not appropriated for the following fiscal year, or (b) at any time within a fiscal year in the event that funds are only appropriated for a portion of the fiscal year and funds for this Agreement are no longer available.

This section shall take precedence in the event of a conflict with any other covenant, term, condition, or provision of this Agreement.

SECTION 25. MISCELLANEOUS PROVISIONS.

25.1. This Agreement will be governed by the laws of the State of California.

25.2. In the event that an action is brought, the parties agree that trial of such action will be vested exclusively in the state courts of California in the County of Santa Clara, State of California.

25.3. The prevailing party in any action brought to enforce the provisions of this Agreement may recover its reasonable costs and attorneys' fees expended in connection with that action. The prevailing party shall be entitled to recover an amount equal to the fair market value of legal services provided by attorneys employed by it as well as any attorneys' fees paid to third parties.

25.4. This document represents the entire and integrated agreement between the parties and supersedes all prior negotiations, representations, and contracts, either written or oral. This document may be amended only by a written instrument, which is signed by the parties.

25.5. The covenants, terms, conditions and provisions of this Agreement will apply to, and will bind, the heirs, successors, executors, administrators, assignees, and consultants of the parties.

25.6. If a court of competent jurisdiction finds or rules that any provision of this Agreement or any amendment thereto is void or unenforceable, the unaffected provisions of this Agreement and any amendments thereto will remain in full force and effect.

25.7. All exhibits referred to in this Agreement and any addenda, appendices, attachments, and schedules to this Agreement which, from time to time, may be referred to in any duly executed amendment hereto are by such reference incorporated in this Agreement and will be deemed to be a part of this Agreement.

25.8 If, pursuant to this contract with CONSULTANT, City shares with CONSULTANT personal information as defined in California Civil Code section 1798.81.5(d) about a California resident ("Personal Information"), CONSULTANT shall maintain reasonable and appropriate security procedures to protect that Personal Information, and shall inform City immediately upon learning that there has been a breach in the security of the system or in the security of the Personal Information. CONSULTANT shall not use Personal Information for direct marketing purposes without City's express written consent.

25.9 All unchecked boxes do not apply to this agreement.

/ /

/ /

/ /

25.10 The individuals executing this Agreement represent and warrant that they have the legal capacity and authority to do so on behalf of their respective legal entities.

25.11 This Agreement may be signed in multiple counterparts, which shall, when executed by all the parties, constitute a single binding agreement

IN WITNESS WHEREOF, the parties hereto have by their duly authorized representatives executed this Agreement on the date first above written.

CITY OF PALO ALTO

_____
City Manager

APPROVED AS TO FORM:

_____
Senior Asst. City Attorney
(Required on Contracts over $25,000)

CONSULTANT

By:_____

Name:_____

Title:_____

Attachments:

EXHIBIT "A":	SCOPE OF WORK
EXHIBIT "A-1"	ON CALL TASK ORDER (Optional)
EXHIBIT "B":	SCHEDULE OF PERFORMANCE
EXHIBIT "C":	COMPENSATION
EXHIBIT "C-1":	SCHEDULE OF RATES
EXHIBIT "D":	INSURANCE REQUIREMENTS

EXHIBIT "A"
SCOPE OF SERVICES

(Optional – for On Call Agreements only)

EXHIBIT "A-1"
PROFESSIONAL SERVICES TASK ORDER

Consultant hereby agrees to perform the work detailed below in accordance with all the terms and conditions of the Agreement referenced in Item 1A below. All exhibits referenced in Item 8 are incorporated into the Agreement by this reference. The Consultant shall furnish the necessary facilities, professional, technical and supporting personnel required by this Task Order as described below.

CONTRACT NO. ISSUE DATE
Purchase Requisition No.

1A. MASTER AGREEMENT NUMBER
1B. TASK ORDER NO.
2. CONSULTANT
3. PERIOD OF PERFORMANCE: START: COMPLETION:
4 TOTAL TASK ORDER PRICE: $_____
BALANCE REMAINING IN MASTER AGREEMENT $_____
5. BUDGET CODE: _____
COST CENTER_____ COST ELEMENT_____WBS/CIP___
_____PHASE___
6. CITY PROJECT MANAGER'S NAME/DEPARTMENT_____
7. DESCRIPTION OF SCOPE OF SERVICES
MUST INCLUDE:
- WORK TO BE PERFORMED
- SCHEDULE OF WORK
- BASIS FOR PAYMENT & FEE SCHEDULE
- DELIVERABLES
- REIMBURSABLES (with "not to exceed" cost)

8. ATTACHMENTS: A: Scope of Services B: _____

I hereby authorize the performance of the work described above in this Task Order.

I hereby acknowledge receipt and acceptance of this Task Order and warrant that I have authority to sign on behalf of Consultant.

APPROVED:
CITY OF PALO ALTO

BY:_____
Name _____
Title_____
Date _____

APPROVED:
COMPANY NAME: _____

BY:_____
Name _____
Title_____
Date _____

EXHIBIT "B"
SCHEDULE OF PERFORMANCE

CONSULTANT shall perform the Services so as to complete each milestone within the number of days/weeks specified below. The time to complete each milestone may be increased or decreased by mutual written agreement of the project managers for CONSULTANT and CITY so long as all work is completed within the term of the Agreement. CONSULTANT shall provide a detailed schedule of work consistent with the schedule below within 2 weeks of receipt of the notice to proceed.

2.1.2

2.1.3	**Milestones**	**Completion No. of Days/Weeks** **2.1.4 From NTP**
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

(Version 1 - use for task based compensation)

EXHIBIT "C"

COMPENSATION

The CITY agrees to compensate the CONSULTANT for professional services performed in accordance with the terms and conditions of this Agreement, and as set forth in the budget schedule below. Compensation shall be calculated based on the hourly rate schedule attached as exhibit C-1 up to the not to exceed budget amount for each task set forth below.

The compensation to be paid to CONSULTANT under this Agreement for all services described in Exhibit "A" ("Basic Services") and reimbursable expenses shall not exceed $. CONSULTANT agrees to complete all Basic Services, including reimbursable expenses, within this amount. In the event CITY authorizes any Additional Services, the maximum compensation shall not exceed $. Any work performed or expenses incurred for which payment would result in a total exceeding the maximum amount of compensation set forth herein shall be at no cost to the CITY.

CONSULTANT shall perform the tasks and categories of work as outlined and budgeted below. The CITY's may approve in writing the transfer of budget amounts between any of the tasks or categories listed below provided the total compensation for Basic Services, including reimbursable expenses, does not exceed $ and the total compensation for Additional Services does not exceed $.

2.1.5

BUDGET SCHEDULE	**NOT TO EXCEED AMOUNT**
Task 1 ( )	$
Task 2 ( )	$
Task 3 ( )	$
Task 4 ( )	$
Task 5	$

( )

12.2

12.3 ***Sub-total Basic Services*** ***$***

12.4 ***Reimbursable Expenses*** ***$***

12.5

Total Basic Services and Reimbursable expenses $

Additional Services (Not to Exceed) $

12.6 ***Maximum Total Compensation*** ***$***

REIMBURSABLE EXPENSES

The administrative, overhead, secretarial time or secretarial overtime, word processing, photocopying, in-house printing, insurance and other ordinary business expenses are included within the scope of payment for services and are not reimbursable expenses. CITY shall reimburse CONSULTANT for the following reimbursable expenses at cost. Expenses for which CONSULTANT shall be reimbursed are:

A. Travel outside the San Francisco Bay area, including transportation and meals, will be reimbursed at actual cost subject to the City of Palo Alto's policy for reimbursement of travel and meal expenses for City of Palo Alto employees.

B. Long distance telephone service charges, cellular phone service charges, facsimile transmission and postage charges are reimbursable at actual cost.

All requests for payment of expenses shall be accompanied by appropriate backup information. Any expense anticipated to be more than $ shall be approved in advance by the CITY's project manager.

2.6.1.1 ADDITIONAL SERVICES

The CONSULTANT shall provide additional services only by advanced, written authorization from the CITY. The CONSULTANT, at the CITY's project manager's

request, shall submit a detailed written proposal including a description of the scope of services, schedule, level of effort, and CONSULTANT's proposed maximum compensation, including reimbursable expense, for such services based on the rates set forth in Exhibit C-1. The additional services scope, schedule and maximum compensation shall be negotiated and agreed to in writing by the CITY's and CONSULTANT prior to commencement of the services. Payment for additional services is subject to all requirements and restrictions in this Agreement

Work required because the following conditions are not satisfied or are exceeded shall be considered as additional services:

(Version 2 – hourly rate - not task based)

EXHIBIT "C"

COMPENSATION

The CITY agrees to compensate the CONSULTANT for professional services performed in accordance with the terms and conditions of this Agreement based on the hourly rate schedule attached as Exhibit C-1.

The compensation to be paid to CONSULTANT under this Agreement for all services described in Exhibit "A" ("Services") and reimbursable expenses shall not exceed $. CONSULTANT agrees to complete all Services, including reimbursable expenses, within this amount. In the event CITY authorizes any Additional Services, the maximum compensation shall not exceed $. Any work performed or expenses incurred for which payment would result in a total exceeding the maximum amount of compensation set forth herein shall be at no cost to the CITY.

REIMBURSABLE EXPENSES

The administrative, overhead, secretarial time or secretarial overtime, word processing, photocopying, in-house printing, insurance and other ordinary business expenses are included within the scope of payment for services and are not reimbursable expenses. CITY shall reimburse CONSULTANT for the following reimbursable expenses at cost. Expenses for which CONSULTANT shall be reimbursed are:

A. Travel outside the San Francisco Bay area, including transportation and meals, will be reimbursed at actual cost subject to the City of Palo Alto's policy for reimbursement of travel and meal expenses for City of Palo Alto employees.

B. Long distance telephone service charges, cellular phone service charges, facsimile transmission and postage charges are reimbursable at actual cost.

All requests for payment of expenses shall be accompanied by appropriate backup information. Any expense anticipated to be more than $ shall be approved in advance by the CITY's project manager.

2.6.1.2 ADDITIONAL SERVICES

The CONSULTANT shall provide additional services only by advanced, written authorization from the CITY. The CONSULTANT, at the CITY's project manager's request, shall submit a detailed written proposal including a description of the scope of services, schedule, level of effort, and CONSULTANT's proposed maximum compensation, including reimbursable expenses, for such services based on the rates set forth in Exhibit C-1. The additional services scope, schedule and maximum compensation shall be negotiated and agreed to in writing by the CITY's Project Manager and CONSULTANT prior to commencement of the services. Payment for additional services is subject to all requirements and restrictions in this Agreement.

☐ ***[OPTIONAL]*** Work required because the following conditions are not satisfied or are exceeded shall be considered as Additional Services:

EXHIBIT "C-1"

HOURLY RATE SCHEDULE

EXHIBIT "D"
INSURANCE REQUIREMENTS

CONTRACTORS TO THE CITY OF PALO ALTO (CITY), AT THEIR SOLE EXPENSE, SHALL FOR THE TERM OF THE CONTRACT OBTAIN AND MAINTAIN INSURANCE IN THE AMOUNTS FOR THE COVERAGE SPECIFIED BELOW, **AFFORDED BY COMPANIES WITH AM BEST'S KEY RATING OF A-:VII, OR HIGHER, LICENSED OR AUTHORIZED TO TRANSACT INSURANCE BUSINESS IN THE STATE OF CALIFORNIA.**

AWARD IS CONTINGENT ON COMPLIANCE WITH CITY'S INSURANCE REQUIREMENTS, AS SPECIFIED, BELOW:

REQUIRED	TYPE OF COVERAGE	REQUIREMENT	MINIMUM LIMITS	
			EACH OCCURRENCE	AGGREGATE
YES YES	WORKER'S COMPENSATION EMPLOYER'S LIABILITY	STATUTORY STATUTORY		
YES	GENERAL LIABILITY, INCLUDING PERSONAL INJURY, BROAD FORM PROPERTY DAMAGE BLANKET CONTRACTUAL, AND FIRE LEGAL LIABILITY	BODILY INJURY PROPERTY DAMAGE BODILY INJURY & PROPERTY DAMAGE COMBINED.	$1,000,000 $1,000,000 $1,000,000	$1,000,000 $1,000,000 $1,000,000
YES	AUTOMOBILE LIABILITY, INCLUDING ALL OWNED, HIRED, NON-OWNED	BODILY INJURY - EACH PERSON - EACH OCCURRENCE PROPERTY DAMAGE BODILY INJURY AND PROPERTY DAMAGE, COMBINED	$1,000,000 $1,000,000 $1,000,000 $1,000,000 $1,000,000	$1,000,000 $1,000,000 $1,000,000 $1,000,000 $1,000,000
YES	PROFESSIONAL LIABILITY, INCLUDING, ERRORS AND OMISSIONS, MALPRACTICE (WHEN APPLICABLE), AND NEGLIGENT PERFORMANCE	ALL DAMAGES	$1,000,000	
YES	THE CITY OF PALO ALTO IS TO BE NAMED AS AN ADDITIONAL INSURED**: CONTRACTOR, AT ITS SOLE COST AND EXPENSE, SHALL OBTAIN AND MAINTAIN, IN FULL FORCE AND EFFECT THROUGHOUT THE ENTIRE TERM OF ANY RESULTANT AGREEMENT, THE INSURANCE COVERAGE HEREIN DESCRIBED, INSURING NOT ONLY CONTRACTOR AND ITS SUBCONSULTANTS, IF ANY, BUT ALSO, WITH THE EXCEPTION OF WORKERS' COMPENSATION, EMPLOYER'S LIABILITY AND PROFESSIONAL INSURANCE,** NAMING AS ADDITIONAL INSUREDS CITY, ITS COUNCIL MEMBERS, OFFICERS, AGENTS, AND EMPLOYEES.			

I. INSURANCE COVERAGE MUST INCLUDE:

A. A PROVISION FOR A WRITTEN THIRTY (30) DAY ADVANCE NOTICE TO CITY OF CHANGE IN COVERAGE OR OF COVERAGE CANCELLATION; AND

B. A CONTRACTUAL LIABILITY ENDORSEMENT PROVIDING INSURANCE COVERAGE FOR CONTRACTOR'S AGREEMENT TO INDEMNIFY CITY.

C. DEDUCTIBLE AMOUNTS IN EXCESS OF $5,000 REQUIRE CITY'S PRIOR APPROVAL.

II. CONTACTOR MUST SUBMIT CERTIFICATES(S) OF INSURANCE EVIDENCING REQUIRED COVERAGE.

III. ENDORSEMENT PROVISIONS, WITH RESPECT TO THE INSURANCE AFFORDED TO "ADDITIONAL INSUREDS"

A. <u>PRIMARY COVERAGE</u>

WITH RESPECT TO CLAIMS ARISING OUT OF THE OPERATIONS OF THE NAMED INSURED, INSURANCE AS AFFORDED BY THIS POLICY IS PRIMARY AND IS NOT ADDITIONAL TO OR CONTRIBUTING WITH ANY OTHER INSURANCE CARRIED BY OR FOR THE BENEFIT OF THE ADDITIONAL INSUREDS.

B. CROSS LIABILITY

THE NAMING OF MORE THAN ONE PERSON, FIRM, OR CORPORATION AS INSUREDS UNDER THE POLICY SHALL NOT, FOR THAT REASON ALONE, EXTINGUISH ANY RIGHTS OF THE INSURED AGAINST ANOTHER, BUT THIS ENDORSEMENT, AND THE NAMING OF MULTIPLE INSUREDS, SHALL NOT INCREASE THE TOTAL LIABILITY OF THE COMPANY UNDER THIS POLICY.

C. NOTICE OF CANCELLATION

1. IF THE POLICY IS CANCELED BEFORE ITS EXPIRATION DATE FOR ANY REASON OTHER THAN THE NON-PAYMENT OF PREMIUM, THE ISSUING COMPANY SHALL PROVIDE CITY AT LEAST A THIRTY (30) DAY WRITTEN NOTICE BEFORE THE EFFECTIVE DATE OF CANCELLATION.

2. IF THE POLICY IS CANCELED BEFORE ITS EXPIRATION DATE FOR THE NON-PAYMENT OF PREMIUM, THE ISSUING COMPANY SHALL PROVIDE CITY AT LEAST A TEN (10) DAY WRITTEN NOTICE BEFORE THE EFFECTIVE DATE OF CANCELLATION.

NOTICES SHALL BE MAILED TO:
PURCHASING AND CONTRACT ADMINISTRATION
CITY OF PALO ALTO
P.O. BOX 10250
PALO ALTO, CA 94303

END OF SAMPLE AGREEMENT

Attachment D

SAMPLE TABLE FORMAT

QUALIFICATIONS OF FIRM RELATIVE TO CITY'S NEEDS

Project Name	Client	Description of work performed	Total Project Cost	Percentage of work firm as responsible for	Period work was completed	Client contact information*
Did your firm meet the project schedule (Circle one) : Yes No Give a brief statement of the firm's adherence to the schedule and budget for the project:						
Did your firm meet the project schedule (Circle one) : Yes No Give a brief statement of the firm's adherence to the schedule and budget for the project:						
Did your firm meet the project schedule (Circle one) : Yes No Give a brief statement of the firm's adherence to the schedule and budget for the project:						
Did your firm meet the project schedule (Circle one) : Yes No Give a brief statement of the firm's adherence to the schedule and budget for the project:						

*Include name, title and phone number.

Attachment E

SAMPLE COST PROPOSAL FORMAT – RFP

(The City is looking for a submittal in this format – content should match cost for scope of services required)

Scope	Labor Categories (e.g., Consultant, Sr. Consultant, etc.)	Est. Hours	Hourly Rate	Extended Rate
Task 1			**$**	**$**
			$	**$**
			$	**$**
TOTAL NOT TO EXCEED, TASK 1			**$**	**$**
Task 2			**$**	**$**
			$	**$**
			$	**$**
TOTAL NOT TO EXCEED, TASK 2			**$**	**$**
Task 3			**$**	**$**
			$	**$**
			$	**$**
TOTAL NOT TO EXCEED, TASK 3			**$**	**$**
TOTAL NOT TO EXCEED (TASKS 1 – 3)			**$**	**$**

Attachment "F"
INSURANCE REQUIREMENTS

CONTRACTORS TO THE CITY OF PALO ALTO (CITY), AT THEIR SOLE EXPENSE, SHALL FOR THE TERM OF THE CONTRACT OBTAIN AND MAINTAIN INSURANCE IN THE AMOUNTS FOR THE COVERAGE SPECIFIED BELOW, **AFFORDED BY COMPANIES WITH AM BEST'S KEY RATING OF A-:VII, OR HIGHER, LICENSED OR AUTHORIZED TO TRANSACT INSURANCE BUSINESS IN THE STATE OF CALIFORNIA.**

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REQUIRED	TYPE OF COVERAGE	REQUIREMENT	MINIMUM LIMITS	
			EACH OCCURRENCE	AGGREGATE
YES YES	WORKER'S COMPENSATION EMPLOYER'S LIABILITY	STATUTORY STATUTORY		
YES	GENERAL LIABILITY, INCLUDING PERSONAL INJURY, BROAD FORM PROPERTY DAMAGE BLANKET CONTRACTUAL, AND FIRE LEGAL LIABILITY	BODILY INJURY PROPERTY DAMAGE BODILY INJURY & PROPERTY DAMAGE COMBINED.	$1,000,000 $1,000,000 $1,000,000	$1,000,000 $1,000,000 $1,000,000
YES	AUTOMOBILE LIABILITY, INCLUDING ALL OWNED, HIRED, NON-OWNED	BODILY INJURY - EACH PERSON - EACH OCCURRENCE PROPERTY DAMAGE BODILY INJURY AND PROPERTY DAMAGE, COMBINED	$1,000,000 $1,000,000 $1,000,000 $1,000,000 $1,000,000	$1,000,000 $1,000,000 $1,000,000 $1,000,000 $1,000,000
YES	PROFESSIONAL LIABILITY, INCLUDING, ERRORS AND OMISSIONS, MALPRACTICE (WHEN APPLICABLE), AND NEGLIGENT PERFORMANCE	ALL DAMAGES	$1,000,000	
YES	THE CITY OF PALO ALTO IS TO BE NAMED AS AN ADDITIONAL INSURED**: CONTRACTOR, AT ITS SOLE COST AND EXPENSE, SHALL OBTAIN AND MAINTAIN, IN FULL FORCE AND EFFECT THROUGHOUT THE ENTIRE TERM OF ANY RESULTANT AGREEMENT, THE INSURANCE COVERAGE HEREIN DESCRIBED, INSURING NOT ONLY CONTRACTOR AND ITS SUBCONSULTANTS, IF ANY, BUT ALSO, WITH THE EXCEPTION OF WORKERS' COMPENSATION, EMPLOYER'S LIABILITY AND PROFESSIONAL INSURANCE,** NAMING AS ADDITIONAL INSUREDS CITY, ITS COUNCIL MEMBERS, OFFICERS, AGENTS, AND EMPLOYEES.		

IV. INSURANCE COVERAGE MUST INCLUDE:

D. A PROVISION FOR A WRITTEN THIRTY DAY ADVANCE NOTICE TO CITY OF CHANGE IN COVERAGE OR OF COVERAGE CANCELLATION; AND

E. A CONTRACTUAL LIABILITY ENDORSEMENT PROVIDING INSURANCE COVERAGE FOR CONTRACTOR'S AGREEMENT TO INDEMNIFY CITY.

F. DEDUCTIBLE AMOUNTS IN EXCESS OF $5,000 REQUIRE CITY'S PRIOR APPROVAL.

II. CONTACTOR MUST SUBMIT CERTIFICATES(S) OF INSURANCE EVIDENCING REQUIRED COVERAGE.

III. ENDORSEMENT PROVISIONS, WITH RESPECT TO THE INSURANCE AFFORDED TO "ADDITIONAL INSUREDS"

D. <u>PRIMARY COVERAGE</u>

WITH RESPECT TO CLAIMS ARISING OUT OF THE OPERATIONS OF THE NAMED INSURED, INSURANCE AS AFFORDED BY THIS POLICY IS PRIMARY AND IS NOT ADDITIONAL TO OR CONTRIBUTING WITH ANY OTHER INSURANCE CARRIED BY OR FOR THE BENEFIT OF THE ADDITIONAL INSUREDS.

Attachment "F"
INSURANCE REQUIREMENTS

E. CROSS LIABILITY

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F. NOTICE OF CANCELLATION

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4. IF THE POLICY IS CANCELED BEFORE ITS EXPIRATION DATE FOR THE NON-PAYMENT OF PREMIUM, THE ISSUING COMPANY SHALL PROVIDE CITY AT LEAST A TEN (10) DAY WRITTEN NOTICE BEFORE THE EFFECTIVE DATE OF CANCELLATION.

NOTICES SHALL BE MAILED TO:

PURCHASING AND
CONTRACT ADMINISTRATION
CITY OF PALO ALTO
P.O. BOX 10250
PALO ALTO, CA 94303.