LAMMPS
Laurel Access to Mills, Maxwell Park, & Seminary

A Community-Based Transportation Plan
for MacArthur Boulevard

City of Oakland, California

Funding provided by a Community-Based Transportation Planning Grant from Caltrans and Council Member Jean Quan, District 4
Postcards
A series of postcards announcing the community workshops were mailed to residents and others interested in the project.
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January 2011
Neighborhoods
The project area extends from High Street that borders the Laurel Business District south to Seminary Avenue that borders the Millsmont Commercial Area.
Source: Google Maps, 2003
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Widened sidewalks, trees, lighting, and bike lanes will greatly improve pedestrian and bicycle travel for the entire corridor. This view highlights improvements along the commercial and residential section of MacArthur Boulevard north of I-580. A multi-use path extends from High Street south to I-580 and beyond to Seminary Avenue.
EXECUTIVE SUMMARY

PROJECT HISTORY
The area for this project, MacArthur Boulevard from High Street to Seminary Avenue, has been a long-standing concern of neighboring residents and users of the corridor because of poor function, access, and safety. MacArthur Boulevard once functioned as a highway. Today, regional traffic has moved to I-580 and MacArthur is used as a connection between neighborhoods and for freeway access. The Laurel Access to Mills, Maxwell Park, and Seminary (LAMMPS) concept plan is a community-based multi-modal transportation plan that offers solutions to these concerns based on discussions with the community and technical studies of the corridor.

This project was initiated by community activism and spearheaded by the Maxwell Park Neighborhood Council (MPNC) and Mills College, which ultimately formed the nucleus of the LAMMPS Steering Committee. After several years of community organizing and strategizing, the City of Oakland and the LAMMPS Steering Committee were awarded a Community-Based Transportation Planning Grant (from Caltrans) of $257,000. Mayor-Elect Jean Quan (former Council Member of District 4) generously provided $60,000 to fulfill the local match requirement of the grant.

COMMUNITY ENGAGEMENT
The concept plan is the product of an active community engagement process in which residents, community leaders, and business owners provided information and insight on a wide variety of issues. Initial community and stakeholder involvement helped define the following goals:

- To improve flows and safety of all modes of transportation through the corridor to connect people with their homes, schools, and local businesses by balancing the needs of pedestrians, bicyclists, transit, and private vehicles.
- To improve connections to the Laurel Commercial District and the Millsmont Commercial Area.
- To achieve a state-of-the-art green project that includes such measures as minimizing impervious cover and maximizing retention of runoff.
- To achieve an aesthetic character that is unique to the context of the project area.

Community engagement activities included five neighborhood and business group meetings and four larger community meetings and workshops, as well as other interactive on-line and survey feedback opportunities. The community identified problems along the corridor and then recommended tangible solutions. Community members reviewed and critiqued the concepts. Through this process, the community collaborated to create a cohesive vision for MacArthur Boulevard.

This project was initiated by community activism and spearheaded by the Maxwell Park Neighborhood Council (MPNC) and Mills College, which ultimately formed the nucleus of the LAMMPS Steering Committee.
The concept plan proposes a formal tree-lined street as it borders the residential and commercial side of MacArthur Boulevard. An informal and rustic landscape aesthetic flows along the less developed edges that border the Caltrans and Mills College properties.

EXISTING CONDITIONS
Site and technical analysis confirmed the community’s observations about problems along the corridor, including unsafe traffic conditions, accidents, speeding, discontinuous and unsafe sidewalks, lack of pedestrian and bicycle facilities, poor street lighting, drainage problems, and bus stop locations that do not serve the greatest concentrations of users.

CONCEPT PLAN
The concept plan recommends a balance of transportation modes along MacArthur Boulevard with streetscape aesthetics that reflect and support the residential, business, and college development existing along the corridor. Traffic studies identified the feasibility of reducing the number of lanes on certain sections of the corridor for current and projected future traffic flows. Also, most of the existing lane widths are larger than required. Reducing the number of lanes and their widths will free up a portion of the right-of-way to include dedicated bicycle lanes as well as a multi-use path along the edge of the Caltrans property north of I-580, and along the edge of the Mills College property south of I-580. In the concept plan, vehicle circulation is improved by modifying three intersections along MacArthur Boulevard—Pierson Street, 55th Avenue and Camden Street, and Seminary Avenue. Pedestrian improvements recommended include widened and accessible sidewalks, pedestrian-scale lighting, and planting. Added bus shelters, bus pullout areas, and synchronized signals would enhance transit along the corridor. Proposed sustainable landscape features and a design for a dog park and sculptures under the freeway complete the plan. The community strongly supports all of these improvements.

NEXT STEPS
This community-based concept plan completes the first stage of the process. Several steps remain before finalization and implementation of this plan, most of which depend on funding. The estimated cost for full implementation is $20 million in 2010 dollars. The cost depends on the level and type of improvements, the state of the economy at the time of bid and award of the contracts, and the ability to carry out components of the plan through other scheduled and funded City activities.

The next phase is to complete a State-required environmental review to disclose potential positive or negative environmental effects. Once the review is complete and environmental clearance has been established, construction documents and a final cost estimate can be completed. These phases set the stage for project construction.
CHAPTER ONE
COMMUNITY ENGAGEMENT

As MacArthur Boulevard curves for more than a mile between Seminary Avenue and High Street, it presents challenges to pedestrians, bicyclists, drivers, and transit users for safe and convenient access. The Laurel Access to Mills, Maxwell Park, and Seminary (LAMMPS) project is a community-driven, community-based transportation plan that addresses these issues.

HISTORY

MacArthur Boulevard (as part of US Highway 50) was once an arterial route for cross-town travel in Oakland, California. Prior to construction of the Interstate 580 (I-580) freeway, Oakland residents used MacArthur Boulevard to connect west to the San Francisco Oakland Bay Bridge and east to the Central Valley. MacArthur Boulevard was the highway. Although it remained by definition a “highway” for many years, the travel path changed in the 1960s. Construction of I-580 diverted regional and cross-town traffic, while MacArthur remained a heavily traveled thoroughfare connecting neighborhoods and providing access to the freeway.

MacArthur Boulevard was divided by I-580. Rather than fostering comfortable linkages between communities, it became, and remains, a barrier to adjacent neighborhoods and businesses. Access to the Laurel Business District is a physical challenge, especially for people residing south of I-580. Over the years, the singular focus on vehicular traffic along MacArthur Boulevard has hindered other means of access to businesses. This corridor is a critical transit spine for surrounding neighborhood residents and businesses, and should function as a complete and safe path for all users.

The LAMMPS project was initiated by the direct activism and engagement of the Maxwell Park Neighborhood Council (MPNC) and Mills College. Beginning in 2004, simultaneous with MPNC’s successful tree-planting and beautification campaign, the community began to focus its attention to improve the dangerous crossways on MacArthur Boulevard at Pierson Street and 55th Avenue. The MPNC partnered with Mills College to seek improvements around the gateway to Mills College, underneath I-580, and on surrounding sidewalks.

In November of 2005, the Oakland City Council sponsored “Envisioning MacArthur Boulevard: Planning Community Growth for the Next 30-Years”—an event to consider visions of the future of MacArthur Boulevard. Through this forum, residents expressed their desire to improve sidewalks, crosswalks, and bicycle paths. They noted that increased safety, comfort, and convenience would encourage them to walk or bike to their destinations more often.

Under the leadership of Claire Antonetti, Chair of the Blight and Beautification Neighborhood Action Team (B&BNAT), a sub-group of Maxwell Park’s...
1.01 Project Area
Many neighborhoods will benefit from the proposed improvements.
Community Workshops

The workshops provided a forum for the community, City, and consultants to exchange observations and information and generate ideas to improve MacArthur Boulevard.

Caltrans makes available Community-Based Transportation Planning Grant funds for qualified planning projects that lead to improved transportation mobility. To qualify, a project must meet the State’s Transportation Planning Grant goal of engaging the community in developing a valuable neighborhood-serving transportation plan that offers opportunities for a sustainable and livable community.
1.04-1.06 Community Participation

The community enthusiastically reviewed, commented, and generated ideas to resolve the corridor’s transportation challenges.

COMMUNITY GOALS

The LAMMPS public education and community engagement process involved residents, business owners, and other stakeholders to define the problems, to suggest solutions, and to review and comment on several rounds of concept designs for the corridor. In short, the process joined the community and consultants to create a vision for MacArthur Boulevard. This “grass roots” design process resulted in a community-based, community-driven transportation planning project.

The project ideas stemmed from early community engagement and political will. Initial community and stakeholder involvement helped define the following community goals:

• To improve flows and safety of all modes of transportation through the corridor to connect people with their homes, schools, and local businesses by balancing the needs of pedestrians, bicyclists, transit, and private vehicles.
• To improve connections to the Laurel Commercial District and the Millsmont Commercial Area.
• To achieve a state of the art green project that includes such measures as minimizing impervious cover and maximizing retention of runoff.
• To achieve an aesthetic character that is unique to the context of the project area.

COMMUNITY PLANNING PROCESS

The structure of the community engagement process and the roll out of the meetings introduced the stakeholders to the project, defined the problem, educated everyone on the transportation, planning, and design methods and constraints, and fostered inclusive and interactive dialogue to identify and create solutions.

Community input was encouraged throughout the year-long project through a series of small neighborhood meetings as well as larger community meetings and workshops.

The initial meetings posed questions to help define the problem:

• What are your top concerns about this one-mile stretch of MacArthur Boulevard?
• What changes would ease your local travel on MacArthur Boulevard?
• What changes to MacArthur Boulevard would make you feel safer?
• What are your concerns when going back and forth on MacArthur Boulevard from your neighborhood?
• What do you think would make MacArthur Boulevard better? What is missing?
• If you were to use an improved MacArthur Boulevard, how would you use it? to walk, jog, bike, get back and forth to the shopping districts, get back and forth to surrounding neighborhood?

The smaller meetings consisted of project team members going out to established...
neighborhood groups and business merchants to explain the purpose and scope of the project and collect anecdotal information about the problems with the corridor. Following those neighborhood and business merchant meetings, the project team launched a series of larger open community meetings. Each built upon the work of the previous meeting and encouraged first-time attendees to fully participate.

The larger meetings first educated participants about transportation planning—from funding to nomenclature to process. Participants learned that a project of this nature can take many years after planning to be built, and they were engaged in discussion about the relevant policies and regulations. After establishing a shared purpose and understanding of the issues, the community participated in a series of work sessions to identify potential solutions.

One of the most powerful sessions was a day-long meeting where the community took part in a site walk to identify issues in the field, followed by an interactive workshop where the community brainstormed potential solutions. With pens, pencils, markers, and other tools in hand, the community put forth ideas, desires, and visions for the corridor. The consultant planners, designers, and engineers applied these strategies, improvements, and amenities in several concept design alternatives that were further reviewed and refined in community work sessions.

Ideas for the vision of the corridor included:
- Traffic-calming devices on MacArthur Boulevard
- Redesigned intersections
- New bike lanes
- New walking paths
- New plazas and sidewalk bulb-outs
- Public art
- New pedestrian lighting
- New greenery and landscape
- Better access to bus stops, schools, and shopping areas

Although this project began in 2005 with the energetic efforts of the MPNC and Mills College, all the communities along the corridor—including Maxwell Park, Laurel, Redwood Heights, Melrose, Frick, and Millsmont—were invited to participate in developing the concept plan and will benefit from the proposed improvements.

COMMUNITY MEETINGS AND WORKSHOPS

Community engagement included five small neighborhood and business group meetings and four community meetings and workshops.

Neighborhood and Business Group Meetings
- 13 January 2010
  Maxwell Park Neighborhood Crime Prevention Council
- 08 March 2010
  55th and 56th Avenue neighbors
1.08-1.10  Range of Tools

The community provided comment through community meetings, a field investigation, a Facebook page, and a project Web site—www.lampsplan.com.

- **Meeting Notices and Posters**
  - Meeting notices and posters were distributed and posted on community bulletin boards and nearby schools and to local businesses from High Street to 35th Avenue as well as to businesses in the Seminary Avenue-MacArthur Boulevard commercial node.
  - Notices were also distributed to homeowner associations whose meetings often preceded the project’s community meetings.

- **Mailings**
  - Postcards announced upcoming community meetings to residents in the project vicinity and others who requested this information. The initial mailing list grew from 600 to more than 1,200 addresses by the last meeting.

- **Language Translation**
  - Translation was available to members of the diverse community who expressed a need for this service. The Web site is also available in Spanish.

- **Community Workshops**
  - Project introduction and overview
  - Visioning and planning: mobile workshops and design forum
  - Review of design alternatives
  - Presentation of the preferred concept design

- **Community Engagement Tools**
  - The community engagement and outreach process used a range of tools to solicit and garner community feedback.
  - **Web Site and Survey**
    - The Web site provided overall project information including its purpose, scope, history, schedule, meeting announcements, and summaries of each of the community meetings.
    - Such information included site exhibits, alternative concepts, and public comments. The Web site also provided links to a feedback form and a Facebook page. An interactive survey solicited further public comment, informing the selection of priorities and preferences.
  - **Email**
    - Emailed meeting announcements and other key information were distributed to community groups and neighborhood associations, participants of meetings, and others who expressed interest in the project.

- **Community Workshops**
  - Project introduction and overview
  - Visioning and planning: mobile workshops and design forum
  - Review of design alternatives
  - Presentation of the preferred concept design

- **Community Engagement Tools**
  - The community engagement and outreach process used a range of tools to solicit and garner community feedback.
CHAPTER TWO
EXISTING CONDITIONS

The area’s physical conditions, City of Oakland policies, and transportation and traffic conditions provide context and foundation for the concept plan.

SITE CIVIL FINDINGS
Several site walks during this study allowed residents and consultants to observe and evaluate the existing conditions. Many areas along MacArthur Boulevard have poor sidewalks, lack curb ramps, have inadequate lighting, and do not meet American with Disabilities Act (ADA) requirements or even provide safe passage for pedestrians and bicyclists. The sidewalk along this corridor exists on only one side of the street and does not provide adequate wayfinding or connectivity guidance to pedestrians. In many areas, the sidewalk is deteriorating, resulting in cracked and uneven surfaces. Steep slopes in many areas increase the difficulty of using the sidewalk. Many curb ramps do not meet City standards. Many street corners do not have ramps at all.

Power and street light poles block passage on sidewalks. In one area, the sidewalk has only two feet and three inches (2’-3”) of clearance between a utility pole and a retaining wall, making wheelchair passage impossible. Some crosswalks lead nowhere. Many maintenance holes and utility boxes have no covers, creating tripping hazards.

The lack of road maintenance over the years has resulted in deteriorated conditions, creating dangerous routes for bicyclists and wear and tear on vehicles. There are many depressions and uplifts in the pavement because of previous trenching. Longitudinal, transverse, and alligator cracking, block cracking and potholes, rutting, and other pavement failures occur in many areas. Many of these pavement failures are evident where MacArthur Boulevard curves and narrows between Richards Road and 55th Avenue. Furthermore, few amenities are available for the comfort and safety of pedestrians.

Only three trash receptacles exist in this 1.2-mile stretch. There are no bus shelters.

Utilities
Overhead high-voltage power lines are highly visible between High Street and 55th Avenue. However, undergrounding of utility lines has been completed between 55th and Seminary avenues, evidenced by sub-sidewalk vaults on the residential side of MacArthur Boulevard. Other dry utilities (cable, telecom, etc.) may have been undergrounded as well and may reside in a joint trench.

Street lights are lacking in some areas and unevenly spaced in others. Sections of the roadway have no street lights, presenting difficult driving and walking conditions at night. No pedestrian-scale lighting exists. The majority of the Mills College side of MacArthur Boulevard lacks lights.

Wet utilities (potable water, sanitary, and stormwater) are assumed to be in place and functioning properly. A topographical
2.01 Poor Road Condition
Cracks, potholes, rutting, and other pavement failures occur in many areas.

2.02 Poor Sidewalk Clearance
Often impaired by utility poles, sidewalk clearance does not meet minimum ADA requirements.

2.03 Missing Sidewalks
The majority of the edge along Mills College lacks a sidewalk even though there is a well-worn path in the soil.

PLANNING AND POLICY CONTEXT
Many city studies and policies potentially affect the physical design of the corridor and future reviews and approvals.

Neighborhoods and Council Districts
Several neighborhoods bound the project area: Laurel, Redwood Heights, Maxwell Park, Frick, and Millsmont. The area north of I-580 is Council District #4, and south of I-580 is Council District #6.

General Plan and Zoning
The general plan land uses for the project area are a mixture of residential, institutional, and commercial. During the preparation of this study, the City of Oakland began to update its zoning. This plan does not change any of the adjacent land uses and assumes that any changes in zoning will not significantly affect the project’s recommendations.

- The area north of I-580 is bordered by Caltrans property. The General Plan identifies the mix of uses east of MacArthur Boulevard as Neighborhood Center Mixed Use that includes retail, housing, services, and community facilities. The maximum residential densities are 125 units per gross acre; commercial has a 4.0 Floor Area Ratio (FAR). The zoning identifies the area as a District Thoroughfare that allows a wide range of retail establishments typically appropriate along major streets. In addition, the area has a special zoning designation S4 that subjects improvements to design review intended to create, preserve, and enhance the visual harmony and attractiveness of an area.

- Two distinct land uses bound MacArthur Boulevard south of I-580 to Seminary Avenue. The General Plan designates the land to the west as Detached Unit Residential with primary use as housing at 11 units per gross acre. The General Plan designates Mills College as Institutional and is zoned R-50, medium density Multi-Family Residential with minimum front yard setbacks of 15 feet.

- South of I-580 and north of 55th Avenue, zoning for the area west of MacArthur Boulevard is R-50, medium density Multi-Family Residential with minimum front yard setbacks of 15 feet.

- South of 55th Avenue to Seminary Avenue, the zoning is R-30, lower density One Family with a minimum setback of 20 feet.

Pedestrians
The City’s Pedestrian Master Plan does not designate this segment of MacArthur Boulevard as a pedestrian route. Several intersecting streets are designated as...
2.04 Commercial Residential
(1) A mix of commercial and residential uses borders the eastern edge of the corridor north of the freeway.

2.05 Residential
(2) Residential uses of varying densities frame the west edge of the corridor south of the freeway.

2.06 Mills College
(3) South of the freeway, the rustic landscape of Mills College dominates the eastern edge of MacArthur Boulevard.

2.07 Planning Context
Four land uses border the corridor:
(1) commercial-residential mix,
(2) residential of varying densities,
(3) institutional (Mills College), and
(4) freeway (Caltrans) supporting the recommendation of proposed mixed developed and “rustic” aesthetic. Several parcels are proposed for development projects:
(5) housing for seniors with ground floor commercial space, and
(6) housing by Habitat for Humanity.
2.08 City Bicycle Master Plan

The City’s Bicycle Master Plan proposes Class 2 bicycle lanes for the corridor (1) as part of a city-wide network.

Class 2 Bikeway (Bike Lane) provides a striped lane for one-way bike travel on a street or highway.

district routes: High Street, 55th Street, and Seminary Avenue. District routes have a local function, accessing shared uses such as schools, community centers, and small shopping centers. They define the character of their district.

Bicycles
MacArthur Boulevard is designated as a Countywide/Regional Bikeway. According to this designation, the entire boulevard in the project area should include Class 2 bike lanes.

Slip Turns (Free right turns)
The City of Oakland’s policy is to eliminate free-right turns because they are not friendly to pedestrians. However, AC Transit favors slip turns.

Parking
To accommodate bicycle use, the City’s Bicycle Master Plan recommends the removal of parking from High Street to Buell Street adjacent to I-580 and removal of parking from both sides of the street south of I-580.

Environmental Review
Restriping and signage in support of bicycle traffic are covered under the City of Oakland Bicycle Master Plan Programmatic Environmental Impact Report. However, removing more than ten percent of the parking—a non-California Environmental Quality Act (CEQA) issue—and the removal of traffic lanes will require City Council approval. Traffic lane removal may also require environmental review.

Neighborhood Commercial Revitalization
The areas north of High Street (Laurel) and south of Seminary Avenue (Millsmont) are designated as Neighborhood Commercial Revitalization (NCR) Areas. The City of Oakland’s NCR Program focuses on creating partnerships with small businesses, property owners, and community organizations to improve the physical and economic condition of neighborhood commercial districts.

Millsmont Commercial Area
Although outside this project’s study area, the Millsmont Commercial Area has an urban design plan prepared in 1999 that addresses MacArthur Boulevard from Seminary Avenue to 64th Avenue. The plan includes streetscape and façade improvements and identifies several private parcels for development.

Seminary Creek
Seminary Creek flows from the hills north of I-580. South of the freeway, it parallels MacArthur Boulevard cutting across the southwest corner of the Mills College campus near Millsmont Avenue where it eventually intersects MacArthur Boulevard between 56th and 57th avenues and continues south. The majority of the creek is underground, daylighting in the southwest corner of the campus. There is an opportunity to highlight the creek at the
south side of the campus, perhaps with a modest footbridge in place of a sidewalk and with a differentiating plant palette.

**Planned or Approved Projects**

**Bordering MacArthur Boulevard**

Several parcels in the study area are planned for development.
- A vacant lot on the southwest corner of High Street and MacArthur Boulevard (4311-4317 MacArthur Boulevard) is proposed for 115 units of housing for seniors and 3,100 SF of ground-floor commercial space.
- A vacant lot north of I-580 near the intersection of Buell Street and MacArthur Boulevard is proposed for a Habitat for Humanity project.

**Street Trees**

The City of Oakland does not have a street tree master plan. However, it has a list of frequently used trees (Appendix 4).

**Pending Capital Improvements**

Several street and sidewalk projects are planned for the area including repaving and sidewalk and ramp repair and construction. The timing of these improvements may allow coordination with improvements recommended in this plan.

**TRANSPORTATION AND TRAFFIC FINDINGS**

The fundamental transportation and traffic issues of MacArthur Boulevard are accessibility for pedestrians, bicyclists, and transit users, as well as safety—avoiding conflicts between vehicles and between vehicles, pedestrians, bicyclists, and buses.

Access along MacArthur Boulevard is discontinuous for pedestrians, requiring them to cross the street at several locations to stay on sidewalks. This discontinuity is especially notable adjacent to Mills College where a sidewalk exists only north of Richards Road (the main college access drive). There is none on the south. Transit users face this same sidewalk discontinuity in walking to local bus stops. Finally, people must traverse MacArthur Boulevard beneath I-580 a few times to figure out how to connect from one side to the other. Walking is circuitous. Bicyclists must compete with vehicles for space. They too must follow a circuitous path from one side of I-580 to the other. It is clear that this plan must recommend additional pedestrian and bicycle facilities.

The fundamental safety problem is that the combination of high vehicle volumes and limited pedestrian and bicycle space translate into increased collision potential. Local observations indicate that vehicle speed plays a key role in accidents. The closely spaced intersections at MacArthur Boulevard and the eastbound I-580 off-ramp—Buell Street, Pierson Street, and Richards Road—introduce many vehicular merge-weave and turning conflicts.

For example, observations indicate
The project team conducted transportation reviews to qualitatively and quantitatively catalogue existing physical and operational conditions. Direct input from the community, City staff, and the LAMMPS Steering Committee provided additional information.

2.11 Off-ramps and Intersections

The layout of MacArthur Boulevard between the freeway and the Richards Road–Mills College intersection causes significant traffic conflicts. Closely spaced intersections and off-ramps introduce many vehicular merge-weave and turning conflicts that challenge drivers, pedestrians, and bicyclists.

Vehicle Traffic

MacArthur Boulevard, a four-lane route at High Street, splits into two pieces downstream—a two-lane one-way freeway ramp-like segment proceeds beneath I-580 to access the eastbound freeway and MacArthur Boulevard south of the freeway, and a three-lane two-way segment provides local access and intersects with Buell Street at the I-580 westbound off-ramp intersection. Generally, drivers heading for points south of the freeway use the one-way ramp, and those heading for points north of the freeway use the “local” street. On-street parking is allowed on portions of this section of MacArthur Boulevard, and usage is moderate. The impact of the freeway in this vicinity is dramatic—it changed the function of MacArthur Boulevard from a typical two-way street to a one-way “couplet” (parallel one-way streets). This bifurcated the community. As is typical when freeways are introduced into established neighborhoods, the predominant function of this segment of MacArthur Boulevard changed from community serving to freeway access. The street system shadowed by the freeway is confusing to drivers because of its complex configuration and narrow width. Southbound drivers using the local street segment to access Buell Street must first stop to yield to one-way northbound MacArthur Boulevard traffic—on a one-way street that appears to offer a direct route to southbound MacArthur Boulevard (wrong-way turns are routine there)—before proceeding to the four-way stop at Buell Street. There, drivers must carefully assess who has the right-of-way because the intersection approaches are offset (not directly opposite of each other), which makes it hard to predict the other drivers’ intended turning paths. Also, Buell Street beneath the freeway is a narrow two-lane street. This causes a feeling of constriction and limits maneuverability, especially for large vehicles. The northbound connections to the freeway and points north are more direct for drivers and access to the westbound on-ramp and MacArthur Boulevard is uncontrolled. Community members and the consultant team indicate that this uncontrolled access provides an incentive for impatient drivers to create an illegal northbound “third lane” at the signalized intersection just south of the freeway to “get a jump” on drivers there and beat them to the freeway.

The layout of MacArthur Boulevard between the freeway and the Richards Road–Mills College intersection causes significant traffic conflicts. Perhaps the
Sidewalk conditions vary from good to bad throughout the corridor. One of the worst spots is at the intersection of Simmons Street and MacArthur Boulevard (1) where a landslide decades ago obliterated a section of sidewalk.

biggest problem is the configuration of the two-lane off-ramp junction as a turning roadway controlled by stop signs. This high-volume movement (8,000 daily vehicles, 800 peak-hour vehicles) and drivers’ tendency to roll through the stop create a steady stream of traffic. Drivers trying to enter or leave Pierson Street—just 100 feet away—against this heavy flow have very limited gaps in which to make their movements. This results in merge-weave friction and collision potential. The high left-turning volume to Mills College, which must operate in a short (50 feet) turn lane, compounds the traffic in this roadway segment despite the traffic signal a protected left-turn phase.

The remainder of MacArthur Boulevard south of Richards Road to Seminary Avenue has four traffic lanes and curb parking. On-street parking is permitted but lightly used. The only parked vehicles evident during the study were near Millsview Avenue where cars half straddled the sidewalk apparently to avoid being hit by passing cars. The downgrade and “S” curve from Millsview Avenue to 56th Avenue are features that influence driver speed and lane usage. The roadway curvature limits sight distance for drivers traversing and trying to access MacArthur Boulevard in this segment. This is evident from the fact that many southbound vehicles have sped out of the roadway and collided with the Mills College fence south of Millsview and the residential property at the southeast corner of the 55th Avenue intersection. The signalized intersection at 55th Avenue and Camden Street is on the apex of the MacArthur Boulevard curve. This creates conflicts between drivers approaching the intersection from 55th Avenue and Camden Street.

From 55th Avenue to Seminary Avenue, MacArthur Boulevard is relatively straight, on-street parking is permitted, and traffic is uncontrolled except at the signalized intersection with Seminary Avenue. Here, MacArthur Boulevard traffic uses Seminary Avenue to connect again to MacArthur Boulevard a block away. Traffic capacity is limited at this intersection, which causes congestion and delay. Also, the design of the turning roadway connection between Seminary and northbound MacArthur Boulevard allows vehicles to maintain speed while turning, which not only creates conflicts with pedestrians but also results in occasional out-of-control vehicles leaving the roadway and colliding with the residence at the corner of Millbrae Avenue. Parking usage is light in this section.

Traffic engineers characterize roadway traffic conditions using measures, including traffic volumes, traffic speeds, collision history, and intersection levels of service (LOS). Intersection LOS was measured at seven locations based on traffic counts conducted for this study. Traffic engineers use LOS to qualify peak hour traffic conditions at intersections from excellent (LOS A) to poor/breakdown (LOS F), based on average delays experienced.
2.14 Existing Level of Service (LOS)

The existing LOS for morning and afternoon peak hours indicates significant delays on critical movements at the two stop-controlled intersections at Buell Street–MacArthur Boulevard–I-580 off-ramp (off-ramp traffic) and Pierson Street–MacArthur Boulevard (left turns from Pierson Street). This confirms field observations and reported experience. Also indicated is substantial congestion at the High Street–MacArthur Boulevard and Seminary Avenue–MacArthur Boulevard intersections.

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Morning Peak Period LOS/Delay (seconds)</th>
<th>Afternoon Peak Period LOS/Delay (seconds)</th>
</tr>
</thead>
<tbody>
<tr>
<td>High Street–MacArthur Boulevard</td>
<td>D/54</td>
<td>D/42</td>
</tr>
<tr>
<td>Buell Street–MacArthur Boulevard-I-580 Westbound off-ramp</td>
<td>F/71</td>
<td>E/53</td>
</tr>
<tr>
<td>I-580 Eastbound off-ramp-Buell Street–MacArthur Boulevard</td>
<td>B/16</td>
<td>B/16</td>
</tr>
<tr>
<td>Pierson Street–MacArthur Boulevard</td>
<td>F/87</td>
<td>F/53</td>
</tr>
<tr>
<td>Richards Road–MacArthur Boulevard</td>
<td>B/17</td>
<td>B/11</td>
</tr>
<tr>
<td>55th Avenue–MacArthur Boulevard</td>
<td>B/16</td>
<td>B/12</td>
</tr>
<tr>
<td>Seminary Avenue–MacArthur Boulevard</td>
<td>D/54</td>
<td>D/42</td>
</tr>
</tbody>
</table>

Source: Kimley-Horn and Associates, 2010

by vehicles using the intersections during the peak hours. Intersection LOS provides a valuable measure to help confirm existing conditions and problems, and establishes a benchmark for improvements.

The following points summarize these measures to provide quantitative facts to support the qualitative discussion above and confirm existing problems in the study area.

Two-way roadway traffic volumes, based on counts collected during this study, are listed below:

- High Street to Buell Street
  10,000 vehicles per day; 800 afternoon peak-hour vehicles
- Richards Road to 55th Avenue
  14,000 vehicles per day; 1,000 afternoon peak-hour vehicles
- 55th Street to Seminary Avenue
  11,000 vehicles per day; 900 afternoon peak-hour vehicles.

Based on peak hour traffic volume thresholds established in the Highway Capacity Manual (HCM) and used by the City of Oakland, these peak hour volumes are well below the maximum service volume that can be handled on a four-lane street—approximately 3,200 peak hour vehicles—and below the maximum service volume that can be accommodated by a two-lane roadway—approximately 1,600 peak hour vehicles (Transportation Research Board, Highway Capacity Manual, 2000). A value of 800 vehicles per hour per lane was applied, representing the maximum service volume for a facility operating at LOS E. For reference, Claremont Avenue north of State Route 24 and Adeline Street south of I-580 carry similar traffic volumes and are similar in character.

The 85th percentile traffic speed is customarily used to set speed limits. Based on measurements, 85th percentile speeds were between 42 and 45 miles per hour on MacArthur Boulevard. This is quite high compared to the posted speed limit of 30 miles per hour.

Based on City of Oakland records, 55 collisions were reported on MacArthur Boulevard in the study segment over a two-year period (2008 and 2009) — 42 were at intersections and 25 of the 42 occurred at High Street or at Seminary Avenue. Most collisions (51) involved automobiles and fixed objects, including parked cars. Two collisions involved pedestrians (one at High Street and one at 56th Avenue). Approximately 14 collisions involved injuries.

Pedestrian

Sidewalks are provided between High Street and Buell Street on the east side of MacArthur Boulevard, and between High Street and Green Acre Road on the west side of MacArthur Boulevard. Near High Street, uncontrolled crosswalks (those that do not have signals or stop signs) connect the west sidewalks across four travel lanes that serve local uses and freeway access. A pedestrian-bicycle overcrossing of I-580 connects the west sidewalk of MacArthur Boulevard (just north of Green Acre Road).
2.15-2.16 Richards Road and Pierson Street

Crosswalks at the Richards Road intersection (1) provide the only protected pedestrian crossing of MacArthur Boulevard between the freeway and 55th Avenue. Pedestrians cross at risk from Pierson Street to reach the bus stop and connections to the north (2).

There are no bicycle facilities on MacArthur Boulevard within the study area and none on the connecting sections of MacArthur Boulevard north and south.
2.17-2.18 Slip Turns

Pedestrians take risks to cross the free-right turning lane (1) at the Seminary Avenue–MacArthur Boulevard intersection because of the unimpeded flow of vehicles.

MacArthur Boulevard is an important AC Transit bus corridor. Seven bus lines traverse this segment of MacArthur Boulevard, and three lines serve the intersections at either end to provide connections.

There are no sidewalk improvements currently planned for MacArthur Boulevard in the project area.

Bicycle

There are no bicycle facilities on MacArthur Boulevard within the study limits and none on the connecting sections of MacArthur Boulevard north and south. Based on peak-period counts and observations during different times of weekdays, bicycle activity is nearly non-existent. This is likely due to the lack of bicycle facilities coupled with the notable traffic conflicts and roadway discontinuities.

Transit

MacArthur Boulevard is an important AC Transit service corridor. Seven bus lines traverse this segment of MacArthur Boulevard, and three lines serve the intersections at either end to provide connections. The following points summarize transit characteristics.

Bus Lines

- Local—57 (40th Street/San Pablo to Foothill Square) and 58L (limited, Oakland Amtrak to Eastmont Transit Center) providing all-day service and local neighborhood stops
- Transbay (to San Francisco)—NL providing all-day service, NX providing westbound a.m. peak-period service, NX3 providing westbound a.m. and eastbound p.m. service
- Supplemental—638 and 657 providing public school service on weekdays
- Ridership—total maximum daily load in the area ranges from 100 to 170 passengers

Bus Stops

- High Street
- Green Acre Road
- Enos Avenue
- Richards Road
- 55th Avenue
- 56th Avenue
- Millbrae Avenue
- Seminary Boulevard

Bus stops are simple flag stops with no shelters. Pedestrian access to bus stops is limited at some locations, including at 56th Avenue where users must cross MacArthur Boulevard at an uncontrolled crosswalk, and north of Richards Road where the northbound bus stop location is across from Pierson Street. Although there is no crosswalk at Pierson Street, people routinely cross MacArthur Boulevard there because it is more direct than using the crosswalk at Richards Road, approximately 100 feet south.

Like many other streets served by buses, MacArthur Boulevard had service reductions because of budget cuts. However, MacArthur Boulevard has been identified as a future Rapid Bus corridor in AC Transit’s Short Range Transit Plan (SRTP) and MTC’s Change in Motion: Final Transportation 2035 Plan. Rapid Buses provide faster trips by skipping stops and require additional room on the roadway to pass local buses stopped at local bus stops.
CHAPTER THREE
CONCEPT PLAN

The concept plan resulted from extensive community consensus building and feedback. This solution-oriented process melded a range of ideas into a unified design that addresses safety, accessibility, mobility, and connectivity—a design that is aesthetically pleasing as well as cost effective. The concept plan recommends a balance of transportation flows along MacArthur Boulevard. Traffic studies show that the right-of-way is wider than needed for the current and projected vehicle traffic needs, permitting the removal of one lane in each direction on some sections of the corridor. This would allow the addition of bicycle lanes as well as a multi-use path along the Caltrans property north of I-580 and along Mills College south of I-580. These are strongly supported by the community. In the plan, a formal tree-lined street borders residential and commercial uses. An informal rustic aesthetic flows along the less-developed edges bordering the Caltrans and Mills College properties.

DESIGN OBJECTIVES
Six key objectives, derived from the community’s goals, guided the development of the concept design:
- Manage traffic and control speeds by reducing the number of lanes where practical and by modifying intersection layouts to minimize conflicts.
- Improve the pedestrian environment by building accessible sidewalks on both sides of MacArthur Boulevard and by adding crosswalks where they are most useful.
- Provide bicycle lanes on the entire segment of MacArthur Boulevard.
- Enhance and relocate bus stops for better bus operations, passenger access, and amenities.
- Comply with American with Disabilities Act (ADA) to provide access for senior citizens and people with disabilities.
- Achieve accepted industry design standards and functional requirements such as a 20-foot unobstructed access for fire trucks on the residential and commercially developed sides of the street.

OVERALL CONCEPT
The aesthetic character of the concept design reflects the residential neighborhoods, commercial uses, freeway, and Mills College.

Street Design
- Formal tree planting on the developed sides of MacArthur Boulevard: along the commercial and residential uses on the east side of the boulevard north of I-580 and along the residential development on the western edge south of I-580.
- A “rustic” edge of random tree planting on the less-developed sides of MacArthur Boulevard: along Caltrans property on the west side of the boulevard north of I-580 and on the eastern edge against Mills College south of I-580.

The concept plan resulted from extensive community consensus building and feedback. This solution-oriented process melded a range of ideas into a unified design.
3.01
The concept plan substantially improves the Level of Service (LOS) at three intersections and maintains satisfactory conditions at other intersections.

Note: LOS is explained in Chapter Two on page 2.7.

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Existing Conditions</th>
<th>Concept Design Conditions</th>
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<td>Afternoon Peak Period</td>
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<td></td>
<td>LOS/Delay (seconds)</td>
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<tr>
<td>Seminary Avenue–MacArthur Boulevard</td>
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Source: Kimley-Horn and Associates, 2010

The concept design incorporates many features that address the transportation and traffic design objectives.

- Sidewalks along the east side of MacArthur Boulevard north of I-580 and the western edge of MacArthur Boulevard south of I-580
- Multi-use path along the west side of MacArthur Boulevard north of I-580 and the eastern edge of MacArthur Boulevard south of I-580
- Pedestrian-scale lighting on both sides of MacArthur Boulevard
- Class 2 bicycle lanes on both sides of MacArthur Boulevard
- Stormwater treatment in planting areas
- Parking limited to the commercial-residential side of MacArthur Boulevard between Green Acre Road and Buell Street; no other curbside parking in the project area

I-580 Underpass

The design for the area under I-580 is one of simplicity and delight. Specifically, the design encourages:

- Clear and safe passage for pedestrians, bicyclists, buses, and private vehicles
- Unobstructed views through the area
- Places to sit
- Places to exercise dogs
- Places for art
- Maximum use of natural light
- Lighting

CIRCULATION

The concept design incorporates many features that address the transportation and traffic design objectives.

Vehicle Traffic

Sheets 1 through 5—Primarily maintains the existing traffic capacity and layouts between High Street and Green Acre Road with two northbound lanes and one southbound lane. This maintains the satisfactory intersection LOS at High Street. Between Green Acre Road and Enos Avenue, the traffic layout changes from two lanes in each direction to one lane in each direction. Between Enos Avenue and the freeway, the traffic layout maintains one lane in each direction. These improvements retain access to and from I-580, and local access to and from points south.

Sheets 4 and 5—Eliminates the northbound connection to MacArthur Boulevard beneath the freeway, in connection with a realigned intersection and signals at the Buell Street–MacArthur Boulevard-I-580 off-ramp intersection. These features will improve the poor LOS at this intersection and complement the proposed multi-use pedestrian and bicycle path beneath I-580 as it heads north to High Street.

Sheets 5 and 6—Improves traffic operations, local accessibility, and safety on MacArthur Boulevard south of the freeway to Richards Road by:

- Eliminating the two-lane turning roadway at the I-580 eastbound off-ramp intersection and replaces it with dual right-turn lanes within the intersection so that the right turn movement will be controlled by the signal.
3.02 Key Plan
The concept plan is displayed on 11 sheets at the end of this chapter.

3.03 Concept Plan Highlights
The concept plan improves the entire corridor from High Street to Seminary Avenue. Formal tree planting characterizes the developed edge of the corridor (1) while random tree planting distinguishes the rustic edge (2). Several intersections controlled by signals are reconfigured (3). The signals at the three intersections (Richards Road, Pierson Street, and I-580) will be coordinated to optimize traffic flow and pedestrian crossings (4). Free-right turns will be eliminated throughout the corridor to increase the safety of pedestrian crossings (5). The area under I-580 will become a dog park with sculptures (6).
Introducing a new signal at Pierson Street to enhance accessibility and safety for traffic entering and exiting Pierson Street and for pedestrians crossing to the bus stop.

Installing a coordinated signal system so that three intersections (Richards Road, Pierson Street, and I-580) operate together to optimize traffic flow and accessibility.

Sheets 6 through 11—Reduces traffic lanes to one in each direction, except at the intersection approaches to 55th and Seminary avenues where additional lane capacity is necessary to maintain satisfactory LOS. The fundamental impact will be to manage, control, and slow traffic on MacArthur Boulevard.

Sheet 9—At 55th Avenue, reconfigures the intersection to create a traditional four-leg layout. This and the elimination of the MacArthur Boulevard curve will better control traffic as well as improve accessibility and safety. This should significantly reduce the potential for vehicles to leave the roadway and collide with residences.

Sheet 11—Removes the free-right turn at the Seminary Avenue intersection to slow traffic and eliminate the potential for vehicles to leave the roadway and collide with a residence at Millbrae Avenue. The existing through lane on the westbound approach changes to a right-turn-only lane, to accommodate the relocated right-turning traffic, and maintains the existing shared left-through lane. This enhances the westbound through movement at the intersection by allowing it to occur from one lane. Currently, the two westbound lanes funnel to one lane at this intersection, which causes substantial vehicle conflicts. The changes in traffic layout and the complementary pedestrian and bicycle improvements discussed below require the removal of the on-street parking on MacArthur Boulevard south of I-580. The concept plan maintains the majority of on-street parking on the east side of MacArthur Boulevard north of the freeway to serve business and residential uses.

Pedestrian

Sheets 1 through 5—Rebuilds and widens existing sidewalks to enhance the pedestrian environment and safety. The multi-use path on the west side of MacArthur Boulevard will introduce a walkway between Green Acre Road and the freeway where none currently exists.

Sheet 5—Widens the sidewalk along Buell Street and provides multiple, well-lit pedestrian paths through the under-freeway park.

Sheet 6—Reconfigures the Pierson Street intersection and introduces new crosswalks to enhance pedestrian accessibility.

Sheets 6 through 11—Rebuilds sidewalks on the west side, including a reconfiguration of the sidewalk at Simmons Street to conform to ADA
The selection of plants for the corridor reflects the intended design characteristics. The majority of the native and non-native plantings will be drought tolerant.

**Formal Edge**

The tree selected for the formal edge of the corridor is the London plane (*Platanus acerifolia*). Its size suits the scale of the right-of-way. The upright branching will allow clear views of 8 feet above the ground plane, and because it is deciduous it will maximize natural light during the winter. The London plane trees found on 56th Avenue and along Richards Road in Mills College have proven well suited to the locale. Continued use along the corridor will further unify and give identity to the neighborhoods.

3.04 Oak Trees
The California native oak’s irregular canopy will characterize the corridor’s rustic edge.

3.05 London Plane Trees
The London plane tree, found on 56th Avenue and along Richards Road in Mills College, will further unify and give identity to the neighborhoods.

**Bicycle**

Sheets 1 through 11—Introduces Class 2 bicycle lanes to provide a new transportation choice for the corridor. Creates a multi-use bicycle-pedestrian path to provide a nearly continuous path, starting on the west side of MacArthur Boulevard north of Green Acre Road and ending on the east side of MacArthur Boulevard at Seminary Avenue. Although it may appear that the multi-use path would be redundant, it will serve primarily recreational bicyclists and pedestrians, while the on-street bike lanes will serve primarily commuter cyclists. These improvements will greatly enhance the non-vehicular environment in the corridor.

Sheet 9A—Suggests acquisition of land from Mills College to increase the right-of-way to accommodate the multi-use path between Millsview Avenue and Camden Street–55th Avenue.

**Transit**

The plan will enhance bus service by:
- Maintaining or slightly altering bus stop locations based on information from AC Transit staff
- Providing bus shelters to improve pedestrian comfort
- Introducing bus duck-outs at the 55th Avenue and Seminary Avenue intersections to enhance access and provide opportunities for limited-stop buses to pass local buses.

**LANDSCAPE**

The selection of plants for the corridor reflects the intended design characteristics. The majority of the native and non-native plantings will be drought tolerant.

**Formal Edge**

The tree selected for the formal edge of the corridor is the London plane (*Platanus acerifolia*). Its size suits the scale of the right-of-way. The upright branching will allow clear views of 8 feet above the ground plane, and because it is deciduous it will maximize natural light during the winter. The London plane trees found on 56th Avenue and along Richards Road at Mills College have proven well suited to the locale. Continued use along the corridor will further unify and give identity to the neighborhoods.

Low-growing plants such as “Coastal Gem” Wooly Grevillea (*Grevillea lanigera*) selected for the plant strips will be adaptable to periodic flooding in
3.06 I-580 Underpass
The existing underpass is not hospitable to vehicles, bicyclists, and pedestrians. Its center is fenced off. The height of the freeway overhead allows ample sunlight and unobstructed views.

By definition, a Green Street is a stormwater management strategy that maintains or restores the natural hydrologic functions of a site. Green Streets address stormwater through small, cost-effective site design and landscape features. These capture stormwater runoff to soak into the ground so the soil and vegetation filter pollutants. Such features make attractive streetscapes that connect business districts, neighborhoods, parks, and schools. They can be designed to accommodate the diverse traffic needs of cars, trucks, buses, pedestrians, and bicyclists.

bioswales, will be drought tolerant, and will provide a full ground cover.

Rustic Edge
The dominant tree selected for the rustic edge of the corridor is the California oak (Quercus agrifolia). Its irregular branching and canopy will contrast with the form of the formal tree plantings. The added planting of California red bud (Cercis occidentalis) will provide seasonal accents. The ground plane will be 50 percent planted with a variety of plant materials not to exceed three feet in height to allow unobstructed views. Plants such as wild lilacs (Ceanothus), sedges (Carex), Coyote brush (Baccharis), and lavenders (Lavandula) will provide a range of texture and colors.

SUSTAINABILITY
The design elements in this project maximize the integration of sustainability measures. The design uses Low Impact Development (LID) guidelines to make MacArthur Boulevard a Green Street. LID projects and programs promote public awareness, education, and participation in environmental protection.

This approach blends the natural hydrological cycle with the street by:
- Reducing runoff by detaining runoff and maximizing impervious surfaces
- Improving water quality by filtering runoff
- Effectively using the public right-of-way by integrating multiple uses

The sustainability measures for the LAMMPS project include the following stormwater quality and control elements:

Bioswale
Possible location: along multi-use path, next to Mills College.
- Consists of a linear bioretention feature
- Reduces runoff volume as water is conveyed
- Removes stormwater pollutants, organics, sediment, metals, etc.
- Provides habitat and green space

Bioretention
Possible location: along multi-use path curbside and planted strips next to sidewalk.
- Consists of a small-scale shallow vegetated depression
- Reduces runoff volume
- Removes stormwater pollutants, organics, sediment, metals, etc.
- Provides habitat and green space

Permeable pavement
Possible location: multi-use path, dog park path.
- Reduces runoff volume
- Removes pollutants, sediment, oil and grease, metals, etc.
- Reduces urban heat island
- Adds aesthetic value: many color and pattern options
- Complies with ADA

Vegetated filter strips
Possible location: along multi-use path curbside and planted strips next to sidewalk.
• Include soil amendment and sustainable plantings
• Reduce runoff volume
• Provide habitat and green space

**Street trees**
Throughout corridor,
• Reduce runoff volume
• Reduce urban heat island
• Improve air quality
• Reduce noise and wind effects
• Provide shade

**Additional measures**
The project incorporates additional sustainability measures, including:
• Construction and demolition debris recycling and removal by recycling crushed concrete as part of the proposed roadway base
• Improved air quality by encouraging bicycling, car-pooling, and public transit
• Energy efficiency by using solar panels and LED lights for street and pedestrian lighting
• Water conservation by using water-efficient and drought-tolerant plants, drip irrigation, and reclaimed water
• Creek protection by providing flood control and stormwater drainage
• Litter enforcement and abatement by providing facilities to properly and legally dispose of unwanted items, thereby discouraging illegal dumping
• Stewardship and volunteerism by promoting neighborhood cleanups, graffiti abatement, and pruning and planting

**PUBLIC ART**
The MacArthur Boulevard corridor provides ample opportunities for the installation of public art. Sculptures and art pieces can be placed at locations throughout the multi-use path. The dog park under the I-580 freeway also provides ample space for a prominent display.

Sculptural art pieces may be obtained from artists’ donations or through a call-for-artist program. On several occasions, the suggestion arose that Mills College might donate one or more sculptural pieces through its Arts Program, especially if the community wants to profile Mills College as a place-maker. Various grants and funding sources are also available to enable a community-wide call-for-artists. A few of these funding sources are listed below.

**City**
The City of Oakland’s Public Art and Cultural Funding programs supports art installations and art and cultural activities. In 1989, the City of Oakland adopted a Public Art Ordinance and an Oakland Redevelopment Agency resolution authorizing the allocation of 1.5 percent of municipal capital improvement project costs to commission and acquire public art. These monies are set aside in the Public Art Program Fund.

Public Art staff, with guidance from the Public Art Advisory Committee and the

3.07  **Dog Park**

Improvements under I-580 feature a dog park with a fountain that will be lighted as a nighttime focal point. Sculpture from local artists will add further visual interest.
Cultural Affairs Commission, administers these funds and provides vision, planning, and project management for Oakland's public art collection. Gifts of art offered for placement on City property are reviewed through a public process managed by staff for approval by the advisory boards and City Council.

Oakland's Public Art Program goals are:

- Develop and implement plans and budgets for all public art projects annually.
- Develop and maintain a list of potential jurors and panelists and develop a maintenance survey-work plan.
- Coordinate the selection of artists and artworks for the Public Arts Program with a majority of public art commissions awarded to Oakland-based artists (e.g., residence, studio, or primary professional employment in Oakland).
- Serve as liaison between the Cultural Affairs Commission, Public Art Advisory Committee, City Manager’s Office, other City departments, and the City Council.
- Solicit funds from foundations, corporations, and public agencies for public art projects in Oakland.

**State**

A number of potential grants for public art have been identified through the California Arts Council (CAC). The CAC publicizes funding opportunities from foundations, corporations, and government agencies on their enewsletter and Web site.

**Federal**

Projects receiving federal funds are typically required to spend 0.5 to 2 percent of construction costs on the installation of public art.

The National Endowment for the Arts, an independent federal agency, offers grants under two categories:

- Direct grants to non-profit organizations
- State grants through arts agencies and regional arts organizations

**CONCEPT PLANS**

The remainder of this chapter displays existing and proposed conditions (the concept plan) for the entire corridor.
3.08 Improved I-580, Pierson Street, and Richards Road Intersections

The concept design improves vehicle, pedestrian, and bicycle travel in the intersections by reconfiguring the I-580 eastbound off-ramp intersection and introducing a signal there, introducing a new signal and crosswalk at Pierson Street, and installing a coordinated signal system so that three intersections—Richards Road, Pierson Street, and I-580—operate in coordination to optimize traffic flow and accessibility. A new bus stop is located next to Mills College just south of the Pierson Street intersection.
This is the most urban segment in the project. The street serves local and freeway traffic.
The reconfigured travel lanes create a larger island (1) and a bicycle refuge for crossing the traffic lanes (2).
3.14-3.16 Sheet Two—Existing Condition

The pedestrian bridge accesses the Maxwell Park neighborhood west of I-580. Connection from the bridge to the sidewalk is poor.
The multi-use path will provide a better connection from the pedestrian bridge (1) to the sidewalk on the east side of the street.
A mix of commercial and residential uses fills the east side of the corridor (1). Caltrans property bounds the west side (2).
The segment includes curbside parking (1) for the commercial and residential uses on the east side of the street.
3.24-3.26 Sheet Four—Existing Condition

Utility and sign poles narrow the sidewalk passage. I-580 is seen in the distance (1). Intersecting lanes create confusing traffic patterns at the on-ramp to I-580 (2).
Eliminating local traffic that shares the lane for on-ramp access removes conflicts and provides an uninterrupted pedestrian connection to MacArthur Boulevard north of I-580 (1).
Pedestrians heading to High Street must cross multiple traffic lanes (1). The height of I-580 allows views through to the north.
The reconfigured off-ramp simplifies the pedestrian crossing (1). The underpass features sculptures (2) and a dog park with a fountain (3).
Richards Road is the first pedestrian crossing south of I-580. It is the main entry to Mills College.
The addition of a controlled intersection at Pierson Street (1) provides safe and convenient access to the bus stop across the street (2).
The Mills College side of MacArthur Boulevard has no sidewalk (1). Simmons Street lacks a proper connection to MacArthur Boulevard because of a landslide (2).
The multi-use path (1) provides pedestrians and recreational bicyclists access along Mills College. Stairs and ramps now connect Simmons Street to MacArthur Boulevard (2).
A Community-Based Transportation Plan for MacArthur Boulevard—City of Oakland California

3.24-3.44 Sheet Eight—Existing Condition

Legend

Photo view point
3.45 Sheet Eight—Concept Plan

Legend

- Parking
- Sidewalk
- Plant Strip
- Multi-Use Path
- Lights
- Trees
- Tree Grate
- ADA Curb Ramp
- Bus Stop
- Signalized Intersection
- Section Line

LAMMPS: Laurel Access to Mills, Maxwell Park, & Seminary Concept Design - City of Oakland California
Existing Condition

The street’s right-of-way narrows to 60 feet in this segment. Utility poles visually dominate the residential side of the street.
Because of the narrow right-of-way, lighting and trees are excluded on Mills College side (1). This requires recreational bicyclists to join the Class 2 bicycle lanes in the street. A bus stop serves northbound users (2).

Legend

- Parking
- Sidewalk
- Plant Strip
- Multi-Use Path
- Lights
- Trees
- Tree Grate
- ADA Curb Ramp
- Bus Stop
- Signalized Intersection
- Section Line
3.51-3.53 Reduced Roadway Width

This view south near the Richards Road entry to Mills College illustrates MacArthur Boulevard reduced to two travel lanes allowing pedestrian and bicycle improvements. Class 2 bicycle lanes are located on both sides of the street. The sidewalk, tree planting, and lighting greatly enhance the pedestrian environment. Across the street, pedestrians and bicyclists share the multi-use path in a rustic landscape adjacent to Mills College.
As an alternative to the concept plan on sheet nine, the addition of ten feet of right-of-way from Mills College would allow the multi-use path, lighting, and planting to continue uninterrupted along Mills College (1).
The crosswalk gives access to the bus stop for southbound travelers (1). A short segment of Seminary Creek is daylighted and highlighted by a footbridge (2).
3.65 Sheet Eleven—
Concept Plan

Elimination of the free-right turn lane (1) creates a safer pedestrian crossing and a generous planted setback to the bus stop (2).
3.66-3.69 Consistent Design Treatment
This view near 58th Avenue looking north from the multi-use path depicts the consistent design treatment of the sidewalk and plant strip along the residential side of MacArthur Boulevard and the multi-use path bordering Mills College. Lighting and Class 2 bicycle lanes are on both sides of the street.
CHAPTER FOUR
NEXT STEPS

This community-based concept plan is the first stage of improving the stretch of MacArthur Boulevard that connects the communities in the Laurel area to Seminary Avenue. To complete full implementation of the project, four distinct stages remain: funding, review and required approvals, completion of construction drawings, and construction.

FUNDING
The total completed project is estimated to cost approximately $17.5 million in 2010 dollars, including $13 million in construction costs (includes 15% estimate to cover contingencies) and $4.5 million for design and management, plus $250 thousand per year for operations and maintenance. These are concept planning cost estimates, and are subject to change when the review and approval, construction drawing, and construction stages are being completed. During those stages, variations in the cost and details of the project will occur as needed to address review findings (environmental document in particular), technical engineering requirements, and conditions in the field. This estimate does not include the cost of undergrounding of all utilities along the route, which will cost approximately $40,000 for each property located under the existing overhead utilities, totaling approximately $2.5 million. Capture of the full $17.5 million is not needed to begin work on selected areas of implementation, and completion of project elements may occur as opportunities arise. Specifically, as the City goes through its paving and re-striping program for City streets, it may be possible to have bikeways and lane reductions incorporated into a project. Safety issues identified in the study and concept plan that will require specific attention can be supported through either existing safety programs and/or targeted local grants from the Alameda County Transportation Commission and Regional agencies (Metropolitan Transportation Commission and Association of Bay Area Governments). Many of these local upgrades will have to compete with other priority safety and paving projects across the City and region for support. Unfortunately, this section of the MacArthur corridor lies outside the City's Redevelopment Area and Planned Priority Development Areas, and is therefore not eligible for funding or resources from programs that support those areas.

Should larger sums of funding become available, sections of the corridor plan may be separately implemented. For example, the overall cost of improvements along MacArthur Boulevard from High Street to Richards Road (entrance to Mills College) is $8.4 million. This estimate includes the cost of several new signalized intersections and improvements under the freeway. Improvements from the Richards Road area to 55th Avenue are estimated at $3.8 million (includes a new

Construction costs reflect the complete reconstruction of the corridor. This includes repair and reconstruction of the roadway base and sub-base, new curb and gutter, ADA-compliant curb ramps, new sidewalk and multi-use path, undergrounding utilities, new and reconfigured signalized intersections, traffic signing and striping, street and pedestrian lighting, planting and drip irrigation, bus shelters, street furniture (benches, trash and recycling receptacles), and a dog park with benches, a fountain, and sculptures. A schedule for completing the improvements is now under discussion and depends on funding availability.
4.01 Bus Shelters
Bus shelter design will be similar to the existing shelter on Seminary Avenue, just south of MacArthur Boulevard.

4.02 Streetlights
Streetlights will be preferably be LED fixtures that have a maximum height of about 20 feet, which is preferable for lighting the pedestrian environment.

REVIEWS AND REQUIRED APPROVALS

City
Environmental review of the entire project may be required and still needs to be assessed. This review is done as a local action, although the California Environmental Quality Act is a State requirement.

Proposed bicycle infrastructure in the Bicycle Master Plan has already undergone one level of environmental review under the programmatic City of Oakland Bicycle Master Plan Environmental Impact Report (EIR). Additional feasibility studies, which are required for all bikeway projects and are described in Appendix G of the Bicycle Master Plan, are still needed. Feasibility studies are required for removal of a travel lane or removal of more than ten percent of the existing parking, and must be conducted before final design. The required studies outlined in the Bicycle Master Plan provide a process for environmental clearance under the associated program EIR. In addition, the public and the City Council, as appropriate, will review the feasibility studies and environmental clearances. If there are significant design changes as the project is further refined, additional public review will be needed.

There is no current requirement for review of the concept plan by the City's Planning Commission. The project has already received the support of the Bicycle and Pedestrian Advisory Committee. City Council approval of the project is not required unless an environmental clearance is required or State, Regional, or Federal funding is to be accepted to implement the project.

State
Any work within a State highway right-of-way must be approved by Caltrans according to its standard project development procedures. In this case, proposed improvements in the vicinity of MacArthur Boulevard must be approved by the City of Oakland. This includes any work on State highways that adjoin the right-of-way where the project is located.

Short-Term Implementation Steps
Several pavement rehabilitation projects have been scheduled for fall 2011. These span the entire corridor from High Street to Seminary Avenue. The City is considering restriping this corridor to reflect the concept design. This will allow the City and community to observe and evaluate the proposed changes.

signal). From 55th Avenue to MacArthur Boulevard and Seminary intersection, the costs are estimated at $2.4 million.

Other funds may be realized through grants from benefactors and beneficiaries of the project, such as Mills College, nearby merchant associations, neighborhood groups, or individuals. The City will work with any such entities or individuals to support implementation of project elements with these donations to the fullest extent possible.
of the freeway over crossing and within the State highway right-of-way, including intersection and signalization modification, median area improvements, and landscape, need to be defined, and submitted to Caltrans. Caltrans will consider and specify required procedures and approvals as well as revisions to existing agreements (e.g., for maintenance of improvements). If the construction cost of the project work within the State highway right-of-way is less than $1 million, it may qualify for approvals under an Encroachment Permit process. In the context of the interstate highway, Caltrans has stewardship authority for the Federal Highway Administration (FHWA). Based on the improvements being considered, Caltrans authority will most likely be sufficient, not requiring direct review and approval by FHWA. Caltrans will make this determination.

Federal
Additional environmental clearance may be required by a funding agency. For example, federal grants, which are a likely source of funding for the implementation and construction of this project, often require additional review under the National Environmental Protection Act (NEPA). In California, any project that is federally funded or on federal property is required to undergo NEPA review for environmental assessment.

The resource costs of reviews and required approvals can vary greatly, depending on the entities participating in the process. Coordinating with outside agencies and obtaining the required approvals will continue to be the biggest challenge to the project, in addition to resolving the funding situation. The monetary cost of actual permits will be negligible.

SUPPLEMENTAL STUDIES
Before progressing, the project must obtain environmental clearance. To determine what supplemental studies will be required in the National Environmental Policy Act/California Environmental Policy Act (NEPA/CEQA) process, an Initial Study (IS) under CEQA or an Environmental Assessment (EA) under NEPA is likely to be the first step. The IS or EA may consist of the following studies:

- Aesthetics
- Agricultural resources
- Air quality
- Biological resources
- Cultural resources
- Geology and soils
- Hazards and hazardous materials
- Hydrology and water quality
- Land use and planning
- Mineral resources
- Noise
- Population and housing
- Public services
- Recreation
• Transportation and traffic
• Utilities and service systems

Depending on the findings of the study, a Categorical Exemption, a Negative Declaration, an Environmental Impact Report, or an Environmental Impact Statement may be required.

The environmental clearance process paints a general picture of the project area. For example, the “geology and soils” portion of the Initial Study will include three or four core drillings to present a likely scenario of the soil characteristics for the entire 1.2-mile corridor.

After environmental clearance is obtained, in-depth studies of the area must be conducted. A thorough survey, with particular attention to utilities (both overhead and underground), topographical features such as drainage patterns, landslides, and depressions, as well as other physical attributes, must be performed. A detailed soils report is required as well, especially in areas where deep footings (e.g., for light poles) are proposed.

Further discussions with various agencies will be needed to ensure that day-to-day construction activities are planned carefully and will run smoothly. AC Transit has expressed concerns about the proposed reduction of travel lanes in this corridor because of their planned Rapid Bus routes. Caltrans needs to be engaged because portions of the project border or are on their property (i.e., the dog park). Input from the City’s Maintenance and Operations Department will also be included, especially on tree trimming, light bulb replacement, and litter removal.

**Completion of Construction Drawings**

After regulatory clearances are obtained, in-depth studies of the area must be conducted. This includes a survey that shows topographical features such as drainage patterns, depressions, and other physical attributes. Utilities must be located, and detailed soils reports may be required for areas where deep footings may be required.

The Concept Plan level of design is commonly referred to as the 35% design level. This is a very preliminary start on the execution of documents that are necessary for construction. The details required for a full set of construction drawings include the exact dimensions of all elements of the existing and proposed roadway— even down to the width and placement of the lane striping and the exact locations of all signs and street furniture. Each physical part of the project must have specifications that describe the qualities and quantities of each item needed for construction.

Intensive construct-ability reviews are performed during the creation of the 65% and 95% sets of construction drawings. It is at this point that the final selections are made for lighting, types of signal
controllers, and specific furniture including the colors and finishes.

The development of a full set of construction drawings can take up to a year to complete, and typically will cost 35% over and above of the total capital cost of the project (estimate of $4.5 million).

**CONSTRUCTION**

The first need in order to begin "construction" is development of a demolition plan and traffic plan. The demolition plan lays out the order of events and supporting equipment that will best accommodate the needs of the new construction project while taking into account the patterns of activity in the local community. A traffic plan (which includes alternate routes for vehicles, bicycles, and pedestrians) is needed to ensure that all traffic can safely move through the area during construction. Significant coordination with AC Transit and Caltrans will be required during the construction stage. Also, verification of existing (operating) utilities and easement areas is critical when altering a roadway or signal. In a typical construction project (for which full funding is available), the area between the curbs along the entire corridor is constructed first. The roadway, drainage, traffic signals, signs, and striping are constructed to ensure safe movement by vehicular, bicycle, and pedestrian traffic.

Since there are several intersections in the corridor that require new or upgraded signals and equipment (most of which will need to be electronically linked for smooth traffic operation), these locations are critical for early stage improvements.

Sidewalks and the new multi-use path would be constructed after the roadway. Planting strips, bioswales, biorention strips, and other storm water quality treatment facilities will be constructed last, because these elements will require hand-compaction of amended or engineered soils and hand placement of plant materials.

The total time for construction will vary greatly depending on the range of improvements undertaken at any point.
With your help, the City of Oakland now has a viable design concept to improve MacArthur Blvd. between High Street and Seminary Ave.

(An alternative from the July 28 public meeting.)
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Redwood Heights Neighborhood Association

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The following are among the more than 120 people who participated in at least one of the community meetings and workshops.
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LAMMPS: Laurel Access to Mills, Maxwell Park, & Seminary Concept Design - City of Oakland California

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