CHAPTER 2: BACKGROUND STUDIES

Chapter Two provides an overview of the previous work and research done on projects located within the study area or those that relate in some way to West Berkeley. The City and surrounding agencies have been very active in addressing many of the existing issues with the transportation network and their findings are not to be overlooked. The following reports were reviewed during the background studies review process:

Planning Efforts

- City of Berkeley General Plan (2001)
- West Berkeley Plan (1993)
- University Ave. Strategic Plan (1996)
- West Berkeley Parking and Circulation Study (1998)
- Pedestrian and Bicycle Safety Evaluation in a SMART Corridor (Berkeley Segment) (2006)
- Pedestrian Districts Study (2006)
- San Pablo Avenue Corridor Report (2007)
- MTC Transportation 2030 (2005)

Circulation Studies

- The Alameda County Congestion Management Plan (2007)
- San Pablo Avenue Signal Interconnect Project (1999)
- I-80/Ashby-Shellmound Interchange Improvements Projects Environmental Assessment (2007)
- Gilman Street Interchange Improvement Study (2005)

Rail Reports

- Regional Rail Report (2007)
- Port of Oakland Maritime Alternative Study (2003)

Transit Reports

- Evaluation of Rapid Bus Service in the San Pablo Avenue Corridor (2005)
- South and West Berkeley Community-Based Transportation Plan (2007)
2. BACKGROUND STUDIES

• Berkeley/Albany Ferry Transportation Impact (on-going)
• Capitol Corridors Business Plan (2007)

Pedestrian Reports
• Pedestrian Master Plan (draft - 2007)

Bicycle Reports
• Bicycle Master Plan (1998) and Bicycle Master Plan Update (2005)

Transportation Demand Management Reports
• City of Berkeley Downtown/Southside TDM Plan (2000)

2.1 PLANNING EFFORTS

The Berkeley General Plan (2001) provides the guiding framework for the development of the City. This framework is established as a series of goals, objectives, and actions. The plan is divided into nine elements, including a section on transportation that outlines six objectives and 55 policies to guide the future development of mobility in the City. These objectives include:

1. Maintain and improve public transportation service throughout the city;
2. Reduce automobile use and vehicle miles traveled in Berkeley, and their related impacts, by providing and advocating for transportation alternatives and subsidies that facilitate voluntary decisions to drive less;
3. Improve the quality of life in Berkeley neighborhoods by calming and slowing traffic on all residential streets;
4. Maintain and improve the existing infrastructure and facilities for the movement of people, goods within and through the city;
5. Improve the management of public parking to better serve the needs of residents, businesses, and visitors; and
6. Create a model bicycle and pedestrian-friendly city where bicycling and walking are safe, attractive, easy, and convenient forms of transportation and recreation for people of all ages and abilities.

The General Plan is the “umbrella” framework for the City’s more detailed Area Plans. Two of these plans, the West Berkeley Plan and the University Avenue Strategic Plan, apply to some or all of the West Berkeley study area. The Waterfront Plan, although not in the study area, lies directly to the west and thus impacts circulation in West Berkeley.

In December of 1993 the City of Berkeley City Council adopted the sub-area plan for the western portion of the City known as the West Berkeley Plan. This document was fundamental in outlining a concept and
vision for West Berkeley through 2005. Many of the goals relating to transportation have been achieved since its release including the development of the Amtrak station, the bicycle/pedestrian bridge over Interstate 80/580, and improvements to the bicycle and pedestrian networks.

The University Avenue Strategic Plan (1996) is another of Berkeley’s sub-area plans providing more detail for the areas adjacent to University Ave. in Berkeley. The plan outlined strategies to encourage change and rejuvenation, while placing an emphasis on preserving the stability of the nearby neighborhoods. Suggested strategies for the transportation section included recommendations to:

- “Tame traffic on University Ave.”, plant trees, reduce the number of mid-block driveways, and encourage on-street parking to make it more pedestrian-friendly;
- Create a special and fully accessible University Avenue Electric Shuttle System through a collaborative effort with AC Transit and UC Berkeley; and
- Create a satellite parking structure on the Spenger’s Parking lot, funded by Redevelopment Agency funds.

Two other strategies in the study have been implemented including an improved train station at the end of University Ave. and a pedestrian/bicycle bridge over Interstate 80/580. Note that the Redevelopment Agency explored the feasibility of a parking structure at Spenger’s Restaurant which included the release of a Request for Proposal and the project was deemed infeasible.

The West Berkeley Parking and Circulation Study (1998) outlined possible solutions for parking and circulation within the West Berkeley Redevelopment Area (bounded by Cedar Street to the north, Sixth Street to the east, University Avenue to the south, and the Eastshore Highway to the west) that were consistent with the West Berkeley Plan. The primary focus of this plan was to identify existing parking and circulation deficiencies, evaluate future development scenarios, and develop strategies to address existing and future parking and circulation problems. The following are suggested action items from this plan and the text in parenthesis is an update of that suggested action:

- Establishment of a parking permit system for residents and business near Fifth St. and Cedar St.; (Citywide EIR needed)
- Create an assessment district with local property owners to help organize future planning efforts and generate additional funding; (related to parking structure, dropped)
- Long-term lease of employee parking spaces with revenues generated through an assessment district;
- Parking meters on public streets within core commercial areas to increase short-term parking (more meters were added with plans to include additional parking)
Pave and stripe the unused sections of Second St. (between Virginia St. and Jones St.) for use as long-term employee parking; (dropped in current Redevelopment Implementation Plan pending WBCMP results)

Buy or lease a large, centrally located parcel of land and develop a multi-level parking structure, partially funded with revenues from an assessment district; (dropped)

Create a multi-modal facility at the train station; (completed)

Improve traffic flow at the Eastshore Frontage and Gilman interchange; (supporting study at interchange and grade separation)

Provide bicycle amenities and channel traffic from the bike/pedestrian Interstate 80/580 overpass to use Addison St./4th St./Hearst St.; (APC funded construction, expected to be completed by Spring 2008)

Establish a truck routing plan that identifies the Eastshore Frontage Road and Cedar as primary routes and Hearst and 6th street as secondary routes; (will be addressed as part of this WBCMP) and

Increase enforcement of loading zone regulations on Cedar St.

San Pablo Ave. has been the focus of a number of studies due to its importance as both a regional and neighborhood transportation corridor. The San Pablo Avenue Public Improvements Plan (2003) provided the City with detailed plans to improve the streetscape to make them more attractive for pedestrians, transit users, residents, and employees and to increase safety for bicyclists and pedestrians. Specific transportation improvements included upgrades to crosswalks, ADA accessibility improvements, and crossing improvements at key bicycle routes.

Bicycle and pedestrian safety was also the focus of the Pedestrian and Bicycle Safety Evaluation in a SMART Corridor (Berkeley Segment) (2006) produced for Caltrans. This study selected San Pablo Ave. in part because of its designation as a “SMART” Corridor, indicating that the corridor uses Intelligent Transportation Systems technology to monitor and enhance mobility within the corridor. Conditions noted in the study that impact overall safety along San Pablo Ave. include:

- Vehicles ability to turn right on red;
- Right and left turns across pedestrian crossings at signalized intersections;
- Right turns across pedestrian crossings at unsignalized intersections;
- ADA violations along sidewalks and at curb ramps;
- High speed traffic in pedestrian zones;
- Close proximity of driveways to intersections;
- High incidence of jaywalking;
- Poor crosswalk visibility;
Inadequate medians for pedestrian refuge and failure to meet ADA requirements;  
Vehicle encroachment on pedestrian right of way; and  
Lack of wayfinding signage and amenities for bicyclists.

The section of San Pablo Ave. between Delaware St. and Channing Way was also featured as a case study in the Metropolitan Transportation Commission’s (MTC’s) Pedestrian Districts Study (2006) which looked to create better pedestrian districts in the Bay Area. In the report, this section of San Pablo Ave. was identified as a successful example for how busy neighborhood corridors could transform to accommodate pedestrian activity. The study cited the following attributes as keys to its success:

- A diverse array of retail, attracting both local and regional visitors;
- Wide sidewalks with mature street trees creating a walkable environment;
- Pedestrian signals, crosswalks, and median refuge islands which help pedestrians crossing San Pablo Ave.;
- All-weather bus shelters with changeable message signs and bike racks to encourage transit use;
- The mix of uses (primarily housing over retail) which encourages walking and reduces auto dependency; and
- A diverse array of architectural styles and businesses to increase the visual interest of the street.

The case study went on to point out several areas that could be changed to further enhance the pedestrian-friendliness of the corridor:

- Regular maintenance and sweeping;
- Bulbouts to shorten pedestrian crossing at key intersection;
- Pedestrian-scale lighting and bicycle racks;
- Encouragement of late night uses to improve pedestrian safety in the district; and
- Filling vacant storefronts in the corridor.

Most recently, San Pablo Ave. has also been identified by the Association of Bay Area Governments (ABAG) as one of three corridors in the Bay Area for focused growth and development due to its significance as a regional travel corridor and its ability to provide transit service. The San Pablo Avenue Corridor Report (2007) shows infill opportunities planned in an attempt to densify the corridor. Berkeley allows for some of the highest land use densities of all cities located along the corridor while existing patterns are typically 1- and 2-story buildings. Denser infill is occurring now south of Dwight and to a lesser degree north of Cedar.

The Metropolitan Transportation Commission’s (MTC) Transportation 2030 outlines future visions for the region’s transportation network and identifies specific projects that will help achieve this vision. The plan includes a list of financially constrained projects that MTC has identified to receive future funding. Projects that fall within the West Berkeley study area or its immediate surroundings include:
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- Rapid Bus Transit (RBT) in the San Pablo Corridor;
- I-80/580-Gilman St. interchange improvements (includes roundabouts);
- Corridor Management Program: signal interconnect, transit priority, SMART corridors and other improvements (along San Pablo Ave.);
- I-80/580-Ashby Avenue/Shellmound Street interchange modifications;
- University Avenue traffic management and streetscape enhancements to support enhanced bus service;
- Berkeley/Albany to San Francisco ferry service; and
- Freeway Traffic Operations Systems - e.g. metering lights (including Interstate 80).

Although not included in the 2030 Plan, the City has submitted a redesign plan of University Avenue as a possible improvement project.

2.2 CIRCULATION STUDIES

The Alameda County Congestion Management Agency (ACCMA) has developed the Alameda County Congestion Management Plan (2007) summarizing the congestion problems in Alameda county and outlining strategies to address these issues. The study used a LOS analysis and performance measures to assess the operation of state highways and principal arterials within the County. General conclusions from the study were aimed at developing better coordination between decisions about land development, transportation and air quality.

The focus of traffic operations planning efforts in West Berkeley have focused on San Pablo Ave., Ashby, and Gilman due to their high volumes of traffic and linkages to Interstate 80. The primary goal of the San Pablo Avenue Signal Interconnect Project (1999) was to improve mobility and accessibility of traffic along San Pablo Ave. from Oakland to Hercules through improvements to the signalization patterns in the corridor. To achieve improvements in efficiency, the study recommends the following for the City of Berkeley:

- Upgrade the signal system to allow signal coordination;
- Install sampling loop detectors on San Pablo Ave. to achieve a more “responsive traffic operations system”;
- Adopt the proposed signalization timing plans for AM, Midday, PM, and off peak conditions as well as “a FREE operation”; and
- Adopt a weekend timing plan for signals between Delaware St. and Ashby Ave.

As indicated in the MTC’s Transportation 2030 regional plan, the Ashby Ave. and Gilman St. interchanges at Interstate 80/580 are scheduled to be reconfigured to improve accessibility and mobility at these locations. The I-80/Ashby-Shellmound Interchange Improvements Projects Environmental Assessment (2007), currently in development by the city of Emeryville, US DOT, and Caltrans, outlines plans for a
reconfiguration that would allow a full range of connections between I-80/580 and Shellmound St. (formerly Bay St.), while keeping in place or improving the existing ramp connection with Ashby Ave. Two alternatives are proposed for the new configuration:

1. Reconstruct the existing interchange to provide a new partial cloverleaf/half diamond type interchange. The existing ramps to Ashby Ave. would be replaced with a four-lane overcrossing structure with Class II bike lanes and signalized intersection on either side of Interstate 80/580. The existing Shellmound/Ashby grade separation would be reconfigured to allow a connection to exist between these roads just south of the current eastbound Interstate 80/580 exit ramps.

2. Replace the existing interchange with a modern roundabout interchange. This design would place a roundabout on either side of Interstate 80/580 for entering/exiting traffic and connect them with a four-lane overcrossing structure. A Class I dedicated path on the south side of the overcrossing for bicycles and pedestrians would be included.

As proposed, both Alternative 1 and the Roundabout Alternative would improve access to the shoreline park as a result of the Class I bikeway that would be included as part of the proposed project. This facility would provide safe access from Shellmound Street, across the interchange right-of-way, to connect to the Bay Trail and two parks. While the park resources are subject to the impacts associated with being located adjacent to the high volumes of traffic along I-80. The proposed alternatives do not induce new impacts of substantial increases over existing impacts. Accordingly, the proposed project would have no adverse impacts.

A dual roundabout design with a connecting segment was considered for the Gilman St. interchange with Interstate 80/580. The Gilman Street Interchange Improvement Study (2005) identified this design as the preferred alternative and the only alternative that met the project’s objectives.

2.3 RAIL REPORTS

The Bay Area Regional Rail Report (2007) outlines future efforts to allow for increased passenger and freight rail activity in the Bay Area. The basic concept of the long range plan is to enhance connectivity of rail by creating a ring around the Bay. This concept uses BART and Caltrain as the backbones of the future system and develops a complementary regional express network along side the existing system. Also included in this discussion is the future high-speed rail network.

Recommendations in the Regional Rail Report that impact West Berkeley are outlined in the I-80 & East Bay summaries of Technical Memorandum 2a and 4a of the report including expansion of the rail network from San Jose to Sacramento by increasing the current two track operation to three or four track sections between Oakland and Richmond. This new configuration would support the ability to run a higher speed rolling stock compatible with freight traffic and increase volumes of both freight and passenger activity. Also
mentioned is the possibility of providing shorter distance trains between Union City and Hercules to serve the inner East Bay trips.

Technical Memorandum 2a of the Regional Rail Report outlines estimates for future conditions of freight rail traffic in the various rail corridors in the Bay Area. Technical Memorandum 4a of the Regional Rail Report outlines the current conditions and existing traffic experienced on each section of rail for both passenger and freight. Together, these two documents allow a future conditions picture to be developed for rail activity in West Berkeley.

Freight activity along the rail corridor in West Berkeley is directly proportional to the level of activity at the Port of Oakland. Due to the significant amount of unused capacity at the maritime facilities, the Port’s ability to expand is not contingent upon limitations at the port, but rather the road and multimodal network which provide connections to the port. The Port of Oakland Maritime Alternative Study (2003) outlines three alternatives for opportunities to facilitate future expansion of port activities. The study estimates current growth rate at the port of 3%-6% per year. Maritime rail-traffic is identified as a key growth restriction to the Port, with estimates between 2.5 and 3.5 twenty-foot equivalent units (TEU) per year. Future opportunities to increase maritime rail traffic will be the focus of the Port and regional planning efforts for freight expansion.

Capitol Corridor’s Business Plan Update (2007) outlines the plan for the Joint Powers Authority’s strategic plan and funding requests for FY 2007-08 and FY 2008-09. With the expansion of service in August of 2006, the agency has reached its capacity for operations in the corridor thus limiting future growth and expansion. The report detailed modest growths in ridership and revenue and a slight drop in on-time performance over the previous fiscal year.

2.4 TRANSIT REPORTS

AC Transit started rapid bus service along San Pablo Ave. in June 2003. The new service featured limited stops along San Pablo at high ridership locations (Ashby Ave., Dwight Way, University Ave., and Gilman St.) spaced approximately 0.5 miles apart. The design also included higher frequency service, longer span of service, increased stop amenities, and integrated Intelligent Transportation Systems to speed up operations and monitor operations. Documentation of improvements and rider profiles for this service were presented in the San Pablo Rapid – BRT Project Evaluation (2006) and the Evaluation of Rapid Bus Service in the San Pablo Avenue Corridor (2005). Results from these studies that apply to West Berkeley include:

- BRT reduced overall "running time" by 17% from limited bus service and 21% from local service;
- Corridor ridership increased by 2.3% over an 18 month period between May 2003 and October 2004. This net increase was achieved by significant increases in the Rapid/Limited services and a
decrease in local services. Rider surveys confirmed that a substantial number of existing local bus service users switched to the new service;

- Riders rated the new Rapid service very high in terms of quality of service and identity;
- The intersection of University Ave. and San Pablo Ave. was ranked in the top five for trip origins and destinations for Rapid Bus users; and
- Based on the onboard rider survey in October 2004, the typical Rapid user has the following characteristics; 35-49 year-old African American female, rides the service 5+ days per week, pays cash, has used AC Transit for longer than 5 years, uses the service because they do not own a vehicle, and earns less than $10,000 per year.

The South and West Berkeley Community-Based Transportation Plan (2007) identified the need for frequency improvements on Routes 9 and 19 and span of service improvements on Route 9. This would include reducing the current 30-minute intervals on weekday services to 20 or 15 minutes. Bus stop improvements, including shelters or benches, increased transit information, and improved lighting was also a top recommendation. Specific locations within the West Berkeley study area for these stop improvements included the intersections of Gilman/6th St., San Pablo Ave./Cedar St., and San Pablo Ave./Virginia St..

The Water Transit Authority has identified the City of Berkeley or Albany as the next candidate for future ferry service to the San Francisco Ferry Terminal. This new service would be introduced with the hopes of alleviating the traffic congestion on Interstate 80/580 and the Bay Bridge. The Berkeley/Albany Ferry Transportation Impact Study is currently being prepared and (will) analyze four locations along the waterfront areas of Berkeley and Albany for a potential ferry terminal location. These locations include two options at the Berkeley Waterfront Marina, and two options near Golden Gate Fields, one in Albany and one in Berkeley at the foot of Gilman. All locations would provide a significant number of parking spaces (about 400) to accommodate automobile access to the terminal.

2.5 PEDESTRIAN REPORTS

The administrative draft of the Pedestrian Master Plan (2007) now under review provides a complete assessment of the pedestrian network and outlines specific projects and focused programs to improve and enhance the pedestrian conditions and experience in the City of Berkeley. The plan also identifies recommendations for ADA accessibility, zoning and design review, and implementation and funding of the specific elements of the pedestrian plan.

2.6 BICYCLE REPORTS

The City of Berkeley has created a Bicycle Master Plan (1998) to guide the development and use of bikes as a feasible mode of transportation. The Bicycle Master Plan Update (2005) was recently completed which reaffirmed the previous document as a current, living plan for the City. This document further highlights the designated Class 1, 2, 2.5, and 3 facilities within the City and proposed future projects to
improve upon this system. Projects completed since the development of the 1998 master plan range from large infrastructure projects (bike bridge over Interstate 80/580) to signage and striping along designated facilities. West Berkeley specific projects identified in the plan that have not yet been completed include:

- The extension of the 9th St. Bicycle Boulevard to Emeryville (using rights of way recently purchased by the city);
- Signed bicycle routes along 5th St. (between Virginia St. and Gilman St.), Camelia St. (between 5th St. and 9th St.), and Allston Way (east of 4th St.);
- Bike lanes on Bay St. from Aquatic Park south to Emeryville; and
- Class 2.5 facility on Heinz (between 9th and 7th Streets), 7th St. (between Heinz and Folger), and Folger/Hollis (west of 7th St.) creating a link between the bikeway along 9th St. and Emeryville.

The Alameda County Congestion Management Agency created the Alameda Countywide Bicycle Plan (2006) plan to create an integrated bicycle network and increase bicycle usage in the County. High priority projects were identified for the County under a financially constrained network and three implementation components were assigned including the capital network, transit priority zone projects and rehabilitation of the on-street bicycle network. Four programs were also identified for funding including signage, maintenance, parking and education/promotion. Although none of the high priority projects lies within the West Berkeley study area, two projects connecting the Bay Trail to Albany and Emeryville are very close to its boundaries. The City does qualify for funding through this plan due to the designation of the Amtrak station as a transit priority zone. The Aquatic Park Connection route signage and electronic bike lockers at the rail stop qualified for funding through this program.

2.7 TRANSPORTATION DEMAND MANAGEMENT STUDIES

To help improve the livability and vitality of Berkeley’s Downtown core, a Southside/Downtown TDM Study (2001) was developed for the City of Berkeley. The major findings from this study focused on management of existing transportation resources and using these resources to facilitate future growth. This thinking would allow continued growth for the City and UC in these core areas while limiting the development of new roads and parking facilities.