4.8 Hydrology and Water Quality

This section discusses the hydrology and water quality associated with Plan Area and analyzes how adoption and development under the Specific Plan may affect those resources. This section describes the environmental and regulatory setting relevant to hydrology and water quality in the Plan Area. Potential impacts are discussed and evaluated, and appropriate mitigation measures or Standard Conditions of Approval (SCA) are identified, as necessary.

4.8.1 Environmental Setting

Regional Drainage Patterns

The Plan Area is located within the San Francisco Bay Hydrologic Region (DWR, 2003). San Francisco Bay provides a topographic separation between the northern and southern coastal mountain ranges. The San Francisco Bay estuarine system receives fresh water from numerous drainages, including the waters of the Sacramento and San Joaquin Rivers, which then drain into the Pacific Ocean at the Golden Gate. Flow in the East Bay area generally flows from east to west, originating in the undeveloped foothills as natural streams, passing through developed urban areas via improved channels, and discharging into sloughs that eventually flow into San Francisco Bay.

Local Drainage Patterns

The Plan Area is within the Glen Echo Creek Watershed of the east bay region (Oakland Museum, 2012). All portions of the Plan Area drain toward the creek or to Lake Merritt. The area is relatively flat and drainage patterns vary with local topography. The Plan Area is largely developed and surface runoff is generally captured by City of Oakland drainage systems. Glen Echo Creek has alternating daylighted and culverted sections along its 1.25-mile length from its origin above the Mountain View Cemetery at the northern terminus of Piedmont Avenue, southwest to its outlet in Lake Merritt. Within the Plan Area, the surface topography generally slopes from northwest to southeast. The daylighted sections of Glen Echo Creek in the Plan Area vicinity begin north of I-580 and extend south parallel to Richmond Boulevard to 30th Street where it follows the eastern boundary of the Plan Area to 29th Street. Between 29th Street and Adams Park the creek is carried in a below grade culvert that runs along the base of the hill and then under the 27th and Harrison Street rights-of-way. The creek daylights again with a short section in Adams Park before flowing under Grand Avenue and into Lake Merritt and eventually into the Bay (BKF, 2012; WRT, 2009).

Surface Water

The major surface water body in the Plan Area is Glen Echo Creek. Additionally, Lake Merritt, San Antonio Creek, the Oakland Estuary, and San Francisco Bay are in the project vicinity. A number of other creeks flow into Lake Merritt, which subsequently drains into the Lake Merritt Channel (San Antonio Slough), Oakland Estuary, and San Francisco Bay. Lake Merritt is a

140-acre tidal estuary that was formed thousands of years ago and has been extensively modified in the past 150 years (Lake Merritt Institute, 2013). The depth of Lake Merritt ranges from approximately eight to 10 feet. The lake is flushed twice daily by tides and receives freshwater from 60 storm drains. Therefore, the lake has a mixture of freshwater and saltwater.

Water Quality

The Plan Area lies in a predominantly urbanized area adjacent to San Francisco Bay. The Glen Echo Creek watershed is an urbanized area containing both residential and commercial development (WRT, 2009). Surface water within the watershed reaches Glen Echo Creek and its tributaries and then flows through a combination of open creek (daylighted) and culverted underground sections described above. Available data regarding the water quality of the Glen Echo watershed system was contained within a sediment study of Glen Echo Creek conducted by the Alameda County Clean Water Program (ACCWP) in 2002. The water quality report prepared for this study presented results of water quality sampling conducted in 2000 and 2001 in Glen Echo Creek to generate baseline information on particulate-associated contaminants (ACCWP, 2002). The 2002 ACCWP water quality study identified concentrations of polychlorinated biphenyls (PCBs) and mercury from two sampling sites within a daylighted section of the mainstem Glen Echo Creek (north and east of Piedmont Avenue). The detected PCB and mercury levels are relatively low but are above the background levels typically expected for such an urban stream system. The study concluded that the PCB and mercury concentrations are attributable to a source within the sampled daylighted section of Glen Echo Creek more than 2,000 feet north and east of the Plan Area.

Lake Merritt is classified as a 303(d)-listed impaired water body and Wildlife Refuge due to organic enrichment/low dissolved oxygen (listed in 2002) and high levels of trash (listed in 1998) (RWQCB, 2010). The trash primarily enters the lake through urban runoff and storm sewers. In 2006, the Coastal Commission identified bacteria as another pollutant of concern (Coastal Commission, 2006). More details about the 303(d) classification are in the *Regulatory Framework* section below.

Stormwater Runoff and Drainage Facilities

Stormwater runoff in Oakland is generally collected from the Oakland-Berkeley Hills to the northeast through the developed flatlands where it then flows primarily through underground storm drains and culverts to the San Francisco Bay via the Oakland Estuary (directly or by way of Lake Merritt) or through the City of Emeryville. The Alameda County Flood Control and Water Conservation District (ACFCWCD) constructs, operates, and maintains major trunk lines and flood-control facilities in Oakland, and the Oakland Public Works Agency (PWA) is responsible for construction and maintenance of the local storm drainage system within Oakland's public areas and roads. Stormwater runoff is conveyed in the Plan Area through onsite pavement gutters, surface drains, parking lots, and roof drains that discharge to local surface waters, as discussed above.

Flooding

Flooding is inundation of normally dry land as a result of rapid accumulation of stormwater runoff or rise in the level of surface waters. Flooding becomes a hazard when the flow of water exposes people or structures to a significant risk of loss, injury, or death. Flooding generally occurs due to excess runoff due to heavy snowmelt or rainfall, but it can also result from the interaction with natural hazards, such as tsunamis, seiches, or failure of dams.

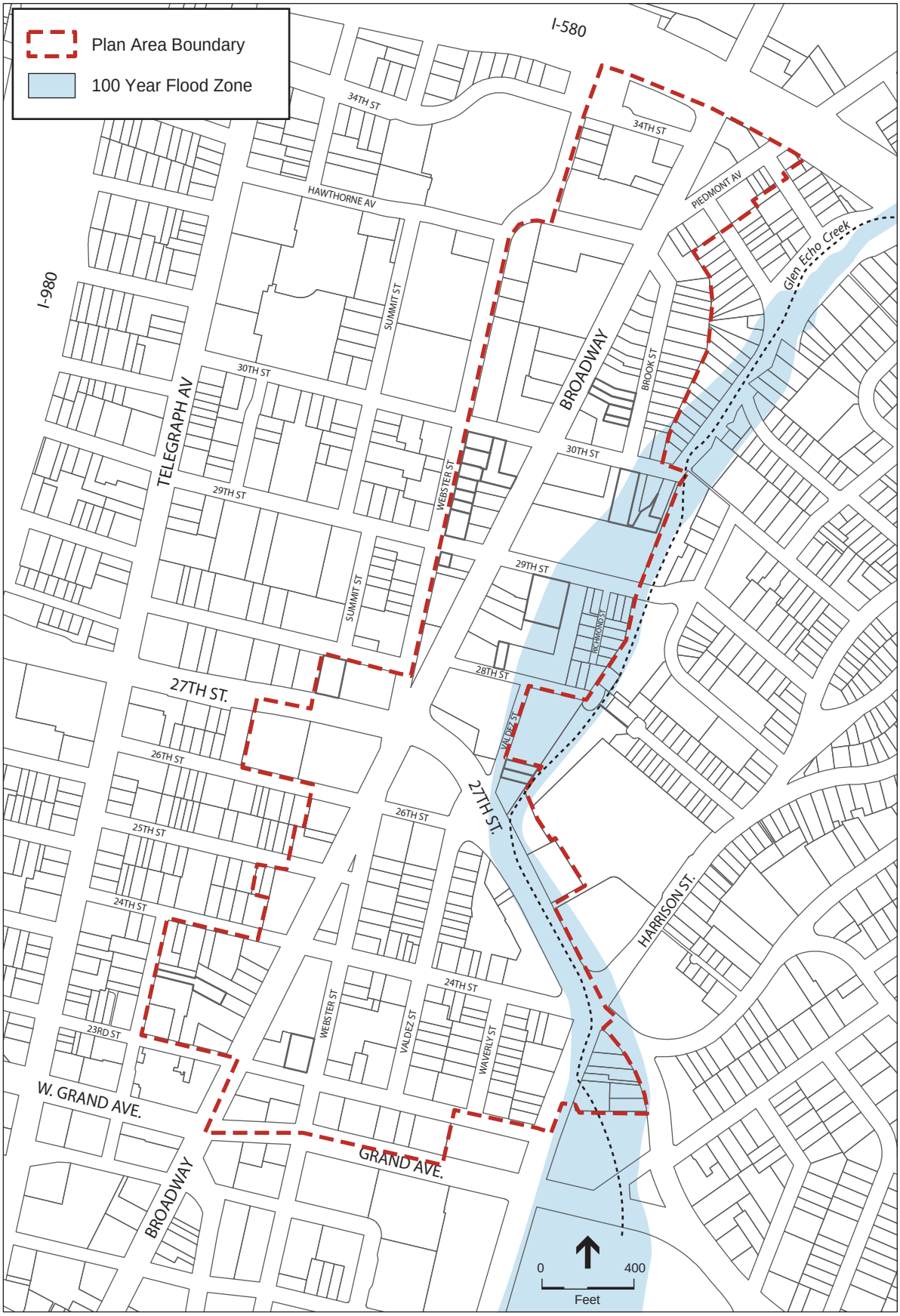
The Federal Emergency Management Agency (FEMA), through its Flood Insurance Rate Map (FIRM) program, designates areas where flooding could occur during a one percent annual chance (100-year) or a 0.2 percent annual chance (500-year) flood events. As shown in **Figure 4.8-1**, the Plan Area is largely located in an area designated with minimal flooding potential. However, there is a 100-year flood zone associated with Glen Echo Creek that does overlap the boundary on the eastern side from 30th Street southward to 23rd Street (FEMA, 2009).

Tsunamis are waves caused by an underwater earthquake, landslide, or volcanic eruption. Seiches are waves in a semi-enclosed or enclosed body of water such as a lake, reservoir, or harbor. The Plan Area is outside of the Tsunami Inundation Area identified by the Association of Bay Area Governments website (ABAG, 2012a). The occurrence of devastating seiches in Oakland is unlikely because Lake Merritt is too shallow to generate a seiche of sufficient size to cause significant damage (City of Oakland, 2004).

Flooding could also occur due to dam failure. The California Department of Water Resources, Division of Safety of Dams (DSOD) oversees the construction of dams that are over 25 feet high and impound over 15 acre-feet of water, or those that are over six feet high and impound over 50 acre-feet of water. Due to DSOD regulatory oversight, monitoring, and design review, the potential for the catastrophic failure of a properly designed and constructed dam is minimal, whether caused by a seismic event, flood event, unstable slope conditions, or damage from corrosive or expansive soils. The DSOD requires dam owners to develop maps designating potential dam failure. ABAG compiled these maps into a central database for many bay area cities, including Oakland. Based on these maps, the eastern portion of the Plan Area that generally abuts Glen Echo Creek lies in the Piedmont and Estates Dam inundation areas (ABAG, 2012a). These dams are located further east of the Plan Area but a catastrophic failure could potentially cause a release that would inundate a large area including portions of the Plan Area. **Figure 4.8-2** identifies the dam inundation zone in the Plan Area.

Sea Level Rise

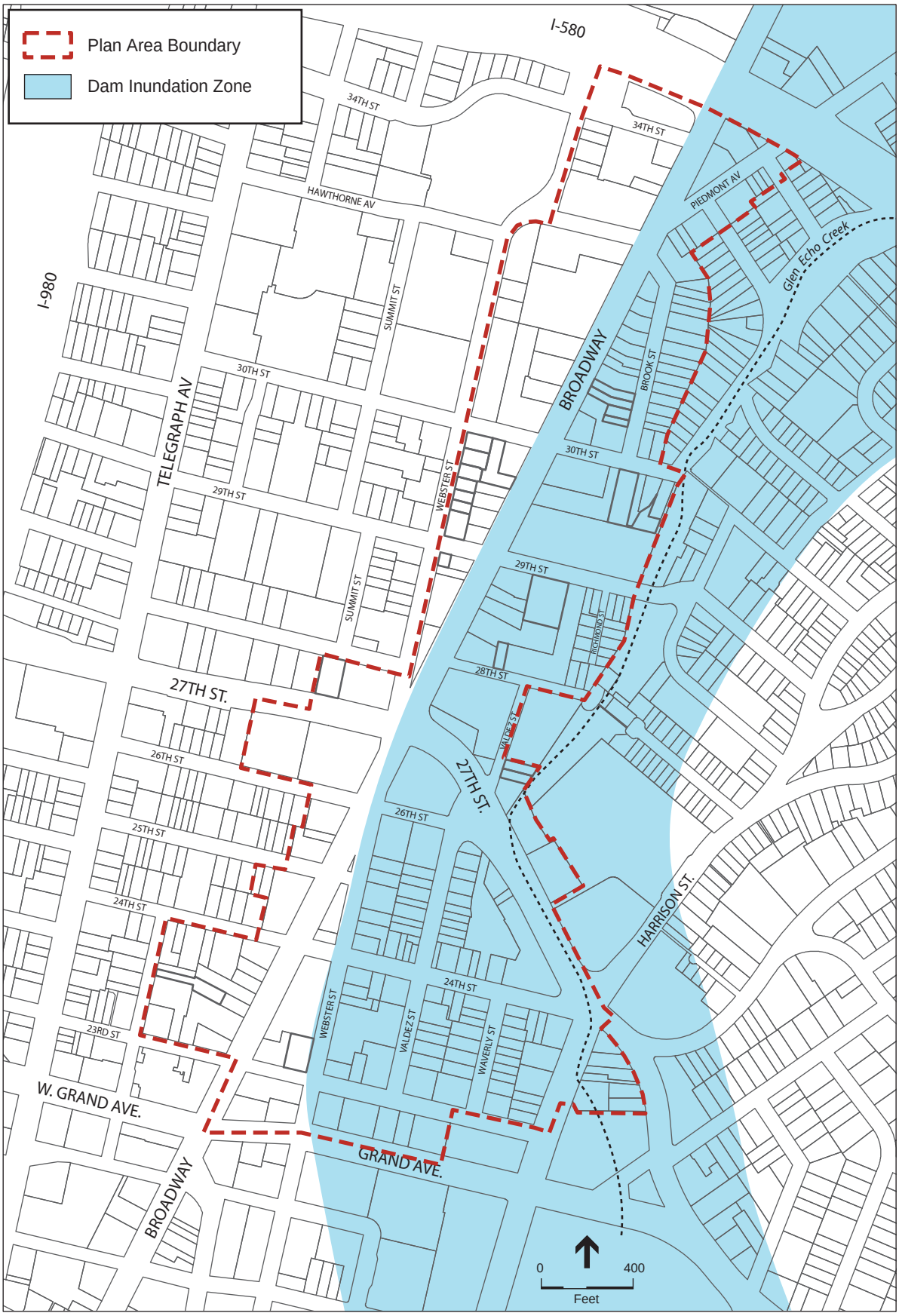
Global climate change refers to changes in the Earth's weather including temperature, precipitation, and wind patterns. The world's leading climate scientists have reached consensus that global climate change is underway and hotter temperatures and rises in sea level would continue for centuries, no matter how much humans control future emissions. Based upon a review of various climate models, the Intergovernmental Panel on Climate Change (IPCC)



SOURCE: FEMA

Broadway Valdez District Specific Plan . 208522

Figure 4.8-1
100 Year Flood Zone



SOURCE: ABAG

Broadway Valdez District Specific Plan . 208522

Figure 4.8-2
Dam Inundation Zone

reports that temperature increases by the year 2099 are likely to range from one to seven (1-7) degrees Fahrenheit, although other regional models for northern California estimate global temperature increases of up to nine (9) degrees Fahrenheit. Increases in global temperatures in these ranges may have multiple effects on the water resources in Oakland, including sea level rise and increased flooding risk. Periodic flooding could occur as a result of climate-induced increases in the level of San Francisco Bay waters, combined with other factors such as tidal cycles, storm surge, wind waves and swell, or seismic waves. Future potential sea level rise associated with climate change may pose risks of inundation to existing and proposed development located in low-lying areas close to San Francisco Bay, including the Oakland Shoreline.

The rate of potential future sea level rise is difficult to project, and estimates vary substantially among the thousands of scientific research documents available on climate change and sea level rise. There have been a number of recent projections on the future magnitude of sea level rise in the San Francisco Bay Area (Bay Area). Each of the projections make different assumptions in relation to the rapid economic growth and large expansions of greenhouse gas (GHG) emissions, as well as several other global components that affect sea level rise (i.e., thermal expansion, melting of global ice, oceanic circulation, and vertical land movement). Based on the most widely accepted literature, the following examples provide a reasonable range of low, medium, and high estimates of future potential sea level rise that could likely occur.

1. ***Low Rate of Increase*:** The rate of future potential sea level rise could occur according to the low end of the range of sea level rise projections for the emissions scenarios presented in the Fourth Assessment Report by the Intergovernmental Panel on Climate Change. Relative to sea levels in the year 2000, sea level is projected to rise 3 inches by 2050, and 12 inches by 2100 (IPCC, 2007).

2. ***Medium Rate of Increase:*** The rate of future potential sea level rise could occur according to estimates by the California Climate Change Center, which indicate that sea level is projected to rise by up to 35 inches by 2100 (CEC, 2009).

3. ***High Rate of Increase:*** Future potential sea level rise could occur at a higher rate, possibly resulting in an increase of 16 inches by 2050, and 55 inches (or higher) by 2100 (San Francisco Bay Conservation and Development Commission [BCDC], 2011).

These values have been cited by both BCDC in its *Living with Rising Seas* report and the State of California in its *2009 Draft Climate Adaptation Strategy*. Both reports recommend using this upper end of the range as guidance to local and State agencies planning for sea level rise, and are consistent with recent predictions made by the Pacific Institute. Further, the State of California Sea Level Rise Interim Guidance Document developed by the Sea-Level Rise Task Force of the Coastal and Ocean Working Group of the California Climate Action Team (CO-CAT), recommends the consideration of the following sea level rise scenarios for planning purposes in the San Francisco Bay Area region and California as a whole:

- Year 2050 scenario – 16-inch rise (equivalent to 1.3 feet or 0.4 meters)
- Year 2100 scenario – 55-inch rise (equivalent to 4.6 feet or 1.4 meters)

These scenarios are consistent with the upper end of the range, have been adopted as policy by the California State Coastal Conservancy, and are used by the BCDC and other regional and state agencies for planning purposes.

Other factors, including nonlinear effects associated with potential instability of the Greenland and Antarctic ice sheets, have also been discussed in the literature. However, the potential contributions to future sea level rise from ice melt have not been definitively established and such factors in general are not considered when analyzing potential sea level rise impacts. In addition to sea level rise, global warming may affect other flood related factors such as storm surge, wave height and run-up, and rainfall intensity. Generally more intense but less frequent precipitation is predicted, with storm patterns shifting to earlier in the fall and winter months. More intense storms may cause increased storm surge and wave heights in the Bay.

The ABAG website shows the maximum potential sea level rise of 55 inches would be projected to affect Lake Merritt and adjacent to, but not within, the Plan Area (ABAG, 2012b).

Groundwater

A groundwater basin is a hydrogeologic unit containing several connected and interrelated aquifers or one large aquifer (RWQCB, 2011). The Plan Area lies in the East Bay Plain groundwater basin (Basin No. 2-9.01) that extends from Richmond to Hayward (DWR, 2003). The basin is a northwest-trending alluvial plain bounded on the west by San Francisco Bay, on the north by San Pablo Bay, on the east by Franciscan basement rock, and on the south by the Niles Cone Groundwater Basin. The alluvial materials that extend westward from the East Bay hills to San Francisco Bay constitute the deep water-bearing strata for the groundwater basin. The basin is identified as a potential water source for agricultural, industrial, and municipal use (RWQCB, 2011). Groundwater in the Plan Area occurs at relatively shallow depths but there are no water supply wells in the Plan Area. At a leaking underground storage tank (LUST) cleanup site at 327 34th Street, at the northern end of the Plan Area, the depths to groundwater ranged from about 12.5 to 23 feet below the ground surface between 1993 and 2012 (LRM, 2012). At the lower elevation southern end of the Plan Area near Lake Merritt, the depth to groundwater is shallower. At a LUST site at 2350 Harrison Street, the depths to groundwater ranged from 3.13 to 10.92 feet below the ground surface between 2008 and 2011 (Conestoga-Rovers, 2012).

4.8.2 Regulatory Framework

Federal, state, and local agencies regulate activities that could affect hydrological and water quality features in the Plan Area. This section describes the regulatory framework that would apply to development in the Plan Area.

Federal

Clean Water Act (CWA)

The CWA established the basic structure for regulating discharges of pollutants into the waters of the U.S. and gave the USEPA the authority to implement pollution control programs such as

setting wastewater standards for industry. The CWA sets water quality standards for all contaminants in surface waters. The statute employs a variety of regulatory and nonregulatory tools to reduce direct pollutant discharges into waterways, finance municipal wastewater treatment facilities, and manage polluted runoff. The U.S. Army Corps of Engineers (USACE) has jurisdiction over all waters of the U.S. including, but not limited to, perennial and intermittent streams, lakes, and ponds, as well as wetlands in marshes, wet meadows, and side hill seeps. Under Section 401 of the CWA, every applicant for a federal permit or license for any activity that may result in a discharge to a water body must obtain State Water Quality Certification that the proposed activity will comply with state water quality standards.

The National Pollutant Discharge Elimination System (NPDES) permit program under the CWA controls water pollution by regulating point and nonpoint sources that discharge pollutants into "waters of the U.S." California has an approved state NPDES program. The USEPA has delegated authority for NPDES permitting to the California State Water Resources Control Board (SWRCB), which has nine regional boards. The San Francisco Bay RWQCB regulates water quality in the Plan Area.

Section 303(d) of the CWA requires that each state identify water bodies or segments of water bodies that are "impaired" (i.e., not meeting one or more of the water quality standards established by the state). These waters are identified in the Section 303(d) list as waters that are polluted and need further attention to support their beneficial uses. Once the water body or segment is listed, the state is required to establish Total Maximum Daily Load (TMDL) for the pollutant causing the conditions of impairment. TMDL is the maximum amount of a pollutant that a water body can receive and still meet water quality standards. Generally, TMDL is the sum of the allowable loads of a single pollutant from all contributing point and nonpoint sources. The intent of the Section 303(d) list is to identify water bodies that require future development of a TMDL to maintain water quality.

In accordance with Section 303(d), the San Francisco Bay RWQCB has identified impaired water bodies within its jurisdiction, along with the pollutant or stressor responsible for impairing the water quality (RWQCB, 2010). In the San Francisco Bay region, the RWQCB has listed Lake Merritt as an impaired water body for organic enrichment/low dissolved oxygen and trash. The RWQCB has not yet developed TMDLs for Lake Merritt.

State

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act, Division 7 of the California Water Code, requires the SWRCB to adopt water quality control plans. The purpose of the plans is to establish water quality objectives for specific water bodies. The act also authorizes the NPDES program under the CWA, which establishes water quality requirements for discharges to waters of the state. Most of the implementation of SWRCB's responsibilities is delegated to nine regional boards. The San Francisco Bay RWQCB has established the regional basin plan and the permit requirements for stormwater runoff for the Plan Area (see *Regional Water Quality Control Board* section below).

California Toxics Rule

Under the California Toxics Rule, the USEPA has proposed water quality criteria for priority toxic pollutants for inland surface waters, enclosed bays, and estuaries. These federally promulgated criteria create water quality standards for California waters. The California Toxic Rule satisfies CWA requirements and protects public health and the environment. The USEPA and the SWRCB have the authority to enforce these standards. However, construction activities from adoption and development under the Specific Plan could require discharge toxic pollutants directly into the inland surface waters, such as Lake Merritt, or San Francisco Bay, therefore the California Toxic Rule would apply.

Sea Level Rise

California Climate Adaption Strategy

In November 2008, Governor Arnold Schwarzenegger issued Executive Order S-13-08. The Order indicated that future potential sea level rise associated with climate change may have a substantial effect on coastal development, and initiated the assessment of relative sea level rise projections specific to California. The assessment takes into account issues such as (1) erosion rates, tidal impacts, El Niño and La Niña events, storm surge, and land subsidence rates; (2) the range of uncertainty in selected sea level rise projections, (3) a synthesis of existing information on projected sea level rise impacts to State infrastructure (such as roads, public facilities, and beaches), natural areas, and coastal and marine ecosystems; and (4) a discussion of future research needs regarding sea level rise for California.

Per Executive Order S-13-08, the Governor, with input from multiple state agencies, developed the 2009 California Climate Adaptation Strategy (Strategy)—a multi-sector strategy designed to help guide California's efforts in adapting to climate change impacts (California Natural Resources Agency, 2009). The purpose of the 2009 Strategy is to identify the best known science on climate change impacts in seven specific sectors and make recommendations on how to manage those effects. The seven sectors in the report include: Public Health; Biodiversity and Habitat; Ocean and Coastal Resources; Water Management; Agriculture; Forestry; and Transportation and Energy Infrastructure. The contents of the strategy were developed to address how state agencies can respond to rising temperatures, changing precipitation patterns, sea level rise, and extreme natural events. A key recommendation in the Strategy is that State agencies should generally not plan, develop, or build any new significant structure in a place where that structure will require significant protection from sea level rise, storm surges, or coastal erosion during the expected life of the structure. However, the Strategy recognizes that vulnerable shoreline areas containing existing development that have regionally significant economic, cultural, or social value may have to be protected, and infill development in these areas may be accommodated. The Strategy stated that State agencies should incorporate this policy into their decisions and other levels of government are also encouraged to do so.

Draft California Climate Adaption Policy Guide

The Draft California Climate Adaptation Policy Guide (APG) was published in April of 2012 by the California Emergency Management Agency and the California Natural Resources Agency to

provide a method for local and regional entities to evaluate vulnerability and devise adaption strategies to address the impacts of climate change including sea level rise and flooding (California Emergency Management Agency and the California Natural Resources Agency, 2012). The APG seeks to provide a comprehensive approach to climate adaptation. However, because the most effective adaptation policy is based on local conditions, needs, and resources, the APG is not prescriptive in its approach. Instead, it is a decision-making framework that provides guidance for communities to begin taking direct actions in response to climate impacts. The APG is divided into three parts: 1) Introduction and Framework, 2) Regional Adaption Considerations, and 3) Adaption Strategies.

The APG analyzed specific regions including the Bay Area and the following climate impact sectors: Equity, Health and Socio-Economic Impacts; Ocean and Coastal Resources; Water Management; Biodiversity and Habitat; Forest and Rangeland and Agriculture, as well as Transportation and Energy Infrastructure. The APG identified sea level rise, flooding, equity, health and socio-economic impacts, fire, and ecosystem and agriculture as areas to consider in developing for adaption strategies. The selected adaption strategies included:

> ***Strategy 3.1*:** Develop an adaptive management plan to address the long term impacts of sea level rise.
>
> ***Strategy 3.3*:** Require accounting of sea level rise in all applications for new development in shoreline areas.

Regional

Regional Water Quality Control Board

The San Francisco Bay RWQCB is responsible for the protection of beneficial uses and the water quality of water resources within the San Francisco Bay region. The San Francisco Bay RWQCB administers the NPDES stormwater permitting program and regulates stormwater in the San Francisco Bay region. The City of Oakland is a permittee under the NPDES Municipal Stormwater Permit for the Alameda Countywide Clean Water Program (see below for detailed discussion). Project applicants are required to apply for a NPDES General Permit for discharges associated with project construction activities of greater than one acre.

Construction General Permit

Stormwater discharges from construction activities on one acre or more are regulated by the RWQCB and are subject to the permitting requirements of the NPDES General Permit for Discharges of Stormwater Runoff Associated with Construction Activity (General Construction Permit, 99-08-DWQ). All dischargers are required to obtain coverage under the Construction General Permit Order 2009-0009-DWQ adopted on September 2, 2009. The RWQCB established the General Construction Permit program to reduce surface water impacts from construction activities. Construction associated with adoption and development under the Specific Plan would be required to comply with the current NPDES permit requirements to control stormwater discharges from the construction site. The General Construction Permit requires the preparation and

implementation of a Stormwater Pollution Prevention Plan (SWPPP) for construction activities. The SWPPP must be prepared before the construction begins, and in certain cases, before demolition begins. The SWPPP must include specifications for BMPs that would need to be implemented during project construction. BMPs are measures that are undertaken to control degradation of surface water by preventing soil erosion or the discharge of pollutants from the construction area. The SWPPP must describe measures to prevent or control runoff after construction is complete and identify procedures for inspecting and maintaining facilities or other project elements. Required elements of a SWPPP include:

1. Site description addressing the elements and characteristics specific to the site
2. Descriptions of BMPs for erosion and sediment controls;
3. BMPs for construction waste handling and disposal;
4. Implementation of approved local plans;
5. Proposed post-construction controls; and
6. Non-stormwater management.

Examples of typical construction BMPs include scheduling or limiting activities to certain times of year, installing sediment barriers such as silt fence and fiber rolls, maintaining equipment and vehicles used for construction, tracking controls such as stabilizing entrances to the construction site, and developing and implementing a spill prevention and cleanup plan. Non-stormwater management measures include installing specific discharge controls during certain activities, such as paving operations, vehicle and equipment washing and fueling. The California Stormwater Quality Association (CASQA) established BMPs for the State of California in the *California Storm Water Best Management Practice Handbook* in 2003. The CASQA BMPs are now only available through a paid subscription website.

Regional Water Quality Control Plan

The San Francisco Bay RWQCB prepared the *San Francisco Bay Basin Water Quality Control Plan* (Basin Plan) for San Francisco Bay (RWQCB, 2011). The Basin Plan contains descriptions of the legal, technical, and programmatic bases of water quality regulation in the region and describes beneficial uses of major surface waters and their tributaries. The Basin Plan lists the following beneficial uses for the South Basin of San Francisco Bay:

- Ocean, Commercial, and Sport Fishing
- Estuarine Habitat
- Industrial Service Supply
- Fish Migration
- Navigation
- Preservation of Rare and Endangered Species
- Water Contact Recreation
- Noncontact Recreation
- Shellfish Harvesting
- Wildlife Habitat

The Basin Plan identifies the following beneficial uses for Lake Merritt:

- Water Contact Recreation
- Noncontact Recreation
- Fish Spawning
- Wildlife Habitat

For adoption and development under the Specific Plan, the RWQCB is responsible for regulating construction activities to ensure the protection of the above beneficial uses.

San Francisco Bay Conservation and Development Commission Permit Program

The San Francisco Bay Conservation and Development District (BCDC) is a state agency created in 1965 to regulate development in the Bay and along its shoreline for the purpose of limiting and controlling the amount of fill placed in the Bay. It is necessary to obtain a BCDC permit prior to undertaking most work in the Bay or within 100 feet of the shoreline, including filling, dredging, shoreline development and other work. There are several different types of permit applications, depending on the size, location, and impacts of a project.

BCDC's review of proposed projects and policies within its jurisdiction that may be impacted by sea level rise are guided by the climate policies in the San Francisco Bay Plan (Bay Plan), which were adopted in an amendment on October 6, 2011 (BCDC, 2011b). The Bay Plan was amended to address sea level rise impacts and includes revisions to the findings and policies in the Tidal Marshes and Tidal Flats, Safety of Fills, Protection of the Shoreline, and Public Access sections. More specifically, the Bay Plan requires that when planning shoreline areas or designing larger shoreline projects, a risk assessment should be prepared to determine all types of potential flooding, degrees of uncertainty, consequences of defense failure and risks to existing habitat from proposed flood protection devices. The Bay Plan climate policies also state that most projects should be designed to be resilient to a midcentury sea level rise projection and an adaptive management plan be developed to address the long-term impacts based on the risk assessment conducted for the project. In recognition of the need for a regional perspective on the issue, the Bay Plan recommends the development of a regional sea-level rise strategy adaptation strategy.

As noted above, the BCDC issued in its *Living with Rising Seas* report guidance for addressing future sea level rise scenarios associated with planning and permitting development in potentially susceptible areas (BCDC, 2011a). These are:

- 16 inches by 2050; and
- 55 inches by 2100.

These values represent the upper end of a reasonably conservative range of sea level rise estimates. These values are meant to ensure that projects take these estimates into account when planning infrastructure and development projects. These upper end estimates are not meant to serve as design criteria for initial improvements; rather, they are provided to ensure that projects

take into account future potential sea level rise in their design and planning, and include adaptive management strategies and measures to accommodate such levels when and if they are reached.

The BCDC has recently completed an analysis of potential sea level rise in the San Francisco Bay based on projections of a 16 inch sea level rise by mid-century (2050) and approximately 55 inch sea level rise by the end of the century (2100) (BCDC, 2011a). The BCDC, along with other local, regional, state and federal agencies, organizations, and associations, are currently engaged in a collaborative planning process called the Adapting to Rising Tides (ART Project) with the purpose of providing a potential methodology on how to assess impacts as well as guidance on developing adaption strategies associated with sea level rise for future planning. The ART project involves a subregion of the San Francisco Bay shoreline encompassing a portion of the Alameda County shoreline, from Emeryville to Union City. The Plan Area is not located within the ART Project subregion.

Alameda County Regulations

The ACFCWCD and the City of Oakland PWA share responsibility for maintaining drainage facilities in Oakland. The Plan Area lies within the jurisdiction of Zone 12 of the ACFCWCD (ACFCWCD, 2010). Adoption and development under the Specific Plan would be required to comply with the requirements of these agencies.

Alameda Countywide Clean Water Program (ACCWP)

The ACCWP includes 17 member agencies that work together to protect creeks, wetlands, and San Francisco Bay. The City of Oakland and ACFCWCD are two of the agencies that participate in the ACCWP. The member agencies have developed performance standards to clarify the requirements of the stormwater pollution prevention program, adopted stormwater management ordinances, conducted extensive education and training programs, and reduced stormwater pollutants from industrial areas and construction sites. In the Plan Area, the ACCWP administers the stormwater program to meet CWA requirements by controlling pollution in the local storm drain sewer systems.

The ACCWP is part of the Municipal Regional Stormwater NPDES Permit (MRP) that was adopted by the RWQCB on October 14, 2009. The new NPDES permit (Order R2-2009-0074 Permit No. CAS612008) issued by the RWQCB is designed to enable the ACCWP agencies to meet CWA requirements. The permit addresses the following major program areas: regulatory compliance, focused watershed management, public information/participation, municipal maintenance activities, new development and construction controls, illicit discharge controls, industrial and commercial discharge controls, monitoring and special studies, control of specific pollutants of concern, and performance standards. The permit also includes performance standards for new development and construction activities also referred to as Provision C.3 requirements. The C.3 requirements include measures for Permittees to use in planning appropriate source controls in site designs to include stormwater treatment measures in development projects to address both soluble and insoluble stormwater runoff pollutant discharges. An additional goal is to prevent increases in runoff flows primarily accomplished through implementation of low impact development (LID) techniques.

"Redevelopment" is defined as a project on a previously developed site that results in the addition or replacement of impervious surface. According to the C.3 provision in the ACCWP NPDES permit, the potential actions under the Specific Plan fall in the "significant redevelopment projects" category under Group 1 Projects. A significant redevelopment project is defined as a project on a previously developed site that results in addition or replacement of total of 43,560 square feet (one acre) or more of impervious surface. The permit requires that in the case of a significant redevelopment project that would result in an increase of, or replacement of, more than 50 percent of the impervious surface of a previously existing development, and the existing development was not subject to stormwater treatment measures, the entire project be included in the treatment measure design.

The C.3 provision also requires preparation of a hydrograph modification management plan (HMP) in cases where the changes in the amount and timing of runoff would increase stormwater discharge rates and/or duration and increase the potential for erosion or other significant adverse impacts to beneficial uses. The actions under the Specific Plan shall comply with the provisions of the ACCWP NPDES Permit.

Oakland has jurisdiction over and/or maintenance responsibility for its municipal separate storm drain systems and/or watercourses in the City. Construction activities associated with adoption and development under the Specific Plan would be subject to the NPDES permit requirements for stormwater management and discharges.

Local

City of Oakland General Plan

The following objectives, policies, and actions from City of Oakland's General Plan are applicable to adoption and development under the Specific Plan:

- ***Open Space, Conservation and recreation (OSCAR), Chapter 3-Conservation, Water Resources, Objective CO-5: Water Quality*:** To minimize the adverse effects of urbanization on Oakland's groundwater, creeks, lakes, and nearshore waters.

- ***Safety Element, Chapter 6-Geologic Hazards, Policy GE-2:*** Continue to enforce ordinances and implement programs that seek specifically to reduce the landslide and erosion hazards.

  Action GE-2.2: Continue to enforce the grading, erosion and sedimentation ordinance by requiring, under certain conditions, grading permits and plans to control erosion and sedimentation.

  Action GE-2.3: Continue to enforce provisions under the creek protection, stormwater management and discharge control ordinance designed to control erosion and sedimentation.

  Action GE-2.5: Enact regulations requiring new development projects to employ site-design and source-control techniques to manage peak stormwater runoff flows and impacts from increased runoff volumes.

- ***Safety Element, Chapter 6-Flooding Hazards, Policy FL-1*:** Enforce and update local ordinance, and comply with regional orders that would reduce the risk of storm-induced flooding.

  Action FL-1.1: Amend, as necessary, the city's regulations concerning new construction and major improvements to existing structures within flood zones in order to maintain compliance with federal requirements and, thus, remain a participant in the National Federal Insurance Program.

  Action FL-1.3: Comply with all applicable performance standards pursuant to the 2003 Alameda countywide National Pollutant Discharge Elimination System municipal stormwater permit that seek to manage increases in stormwater runoff flows from new-development and redevelopment construction projects.

  Action FL-1.4: Continue to enforce the grading, erosion, and sedimentation ordinance by prohibiting the discharge of concentrated stormwater flows by other than approved methods.

- ***Safety Element, Chapter 6-Flooding Hazards, Policy FL-2*:** Continue or strengthen city programs that seek to minimize the storm-induced flooding hazard.

  Action FL-2.1: Continue to repair and make structural improvements to storm drains to enable them to perform to their design capacity in handling water flows.

- ***Safety Element, Chapter 6-Flooding Hazards, Policy FL-4*:** Minimize further the relatively low risks from non-storm-related forms of flooding.

  Action FL-4.1: Request from the state Division of Safety of Dams a timeline for the maintenance inspection of all operating dams in the city.

  Action FL-4.2: Review for adequacy, and update if necessary, procedures adopted by the city pursuant to the Dam Safety Act for the emergency evacuation of areas located below major water-storage facilities.

  Action FL-4.3: Inform shoreline-property owners of the possible long-term economic threat posed by rising sea levels.

  Action FL-4.4: Stay informed of emerging scientific information on the subject of rising sea levels, especially on actions that local jurisdictions can take to prevent or mitigate this hazard.

Oakland's Energy and Climate Action Plan

The City of Oakland has developed an Oakland Energy and Climate Action Plan (ECAP) to identify, evaluate and recommend prioritized actions to reduce energy consumption and GHG emissions in Oakland. The ECAP identifies energy and climate goals, clarifies policy direction, and identifies priority actions for reducing energy use and GHG emissions. On July 7, 2009, the Oakland City Council directed staff to develop the draft Oakland ECAP using a GHG reduction target equivalent to 36 percent below 2005 GHG emissions by 2020. The City adopted the ECAP on December 4, 2012.

In addition to greenhouse gas emissions, the ECAP recognizes that climate change will likely include sea level rise and flooding impacts. Furthermore the ECAP notes that climate change vulnerability is a function of exposure to climate impacts, sensitivity to those impacts and the capacity to adapt and recover. The ECAP includes several adaption and resilience strategies including the following:

- ***Climate Action Plan AD-1*:** The City shall continue to participate in local and regional efforts to assess potential sea level rise impacts and shall consider implementing appropriate future recommended adaptation strategies as they are developed.

- ***Climate Action Plan AD-2*:** Conduct a study of all local climate impacts in collaboration with local partners including the BCDC, the Pacific Institute and UC Berkeley.

- ***Climate Action Plan AD-6*:** Encourage and participate actively in efforts of regional partners including BCDC to engage in the development of a regional climate adaption strategy informed by climate impact modeling, scenario analysis and development of adaption strategies to advance regional climate adaption capacity and resilience. Collaborate with local partners to ensure that the actions of neighboring jurisdictions or other agencies do not indirectly exacerbate impacts to Oakland neighborhoods.

City of Oakland Municipal Code

The City of Oakland implements the following regulations to protect water quality and water resources:

- ***Creek Protection, Stormwater Management, and Discharge Control Ordinance* (*Chapter 13.16 of the Oakland Municipal Code*).** This ordinance prohibits activities that would result in the discharge of pollutants to Oakland's waterways or in damage to creeks, creek functions, or habitat. The ordinance requires the use of standard BMPs to prevent pollution or erosion to creeks and/or storm drains. Additionally, a creek protection permit is required for any construction work on creekside properties. The ordinance establishes comprehensive guidelines for the regulation of discharges to the city's storm drain system and the protection of surface water quality. The ordinance identifies BMPs and other protective measures for development projects. Under the ordinance, the City of Oakland Public Works Agency issues permits for storm drainage facilities that would be connected to existing city drainage facilities. In 1997, the ordinance was amended to include the requirement for a creek protection permit for any construction or related activity on creekside property. The ordinance includes enforcement provisions to provide more effective methods to deter and reduce the discharge of pollutants to the storm drain system, local creeks, and San Francisco Bay. The provisions also list clear guidelines for creekside residents to protect the creek and habitat.

- ***Grading Ordinance* (*Chapter 15.04.660*).** The Grading Ordinance requires a permit for grading activities on private or public property for projects that exceed certain criteria, such as amount of proposed excavation and degree of site slope. During project construction, the volume of the excavated fill material could exceed 50 cubic yards and could result in a 20 percent slope onsite, or the depth of excavation could exceed five feet at any location. Therefore, the project sponsor would be required to apply for the grading permit and prepare a grading plan, erosion and sedimentation control plan, and drainage plan.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

The City's SCAs relevant to hydrology and water quality are listed below for reference. If the Specific Plan is approved by the City, all applicable SCAs would be incorporated into the Specific Plan, adopted as conditions of approval, and required, as applicable, of the adoption and development under the Specific Plan to help ensure less-than-significant impacts to hydrology and water quality. The SCAs are incorporated and required as part of the Specific Plan, so they are not listed as mitigation measures. Standard Conditions of Approval applicable to potential geologic impacts could also affect hydrologic resources and are listed in Section 4.5, *Geology, Soils and Geohazards*. Standard Conditions of Approval applicable to potential hydrology and water quality impacts due to adoption and development under the Specific Plan include:

- **SCA 34: Erosion and Sedimentation Control [when no grading permit is required]**

  Ongoing throughout demolition, grading, and/or construction activities. The project applicant shall implement Best Management Practices (BMPs) to reduce erosion, sedimentation, and water quality impacts during construction to the maximum extent practicable. Plans demonstrating the Best Management Practices shall be submitted for review and approval by the Planning and Zoning Division and the Building Services Division. At a minimum, the project applicant shall provide filter materials deemed acceptable to the City at nearby catch basins to prevent any debris and dirt from flowing into the City's storm drain system and creeks.

- **SCA 55: Erosion and Sedimentation Control Plan**

  Prior to any grading activities. The project applicant shall obtain a grading permit if required by the Oakland Grading Regulations pursuant to Section 15.04.780 of the Oakland Municipal Code. The grading permit application shall include an erosion and sedimentation control plan for review and approval by the Building Services Division. The erosion and sedimentation control plan shall include all necessary measures to be taken to prevent excessive stormwater runoff or carrying by stormwater runoff of solid materials on to lands of adjacent property owners, public streets, or to creeks as a result of conditions created by grading operations. The plan shall include, but not be limited to, such measures as short-term erosion control planting, waterproof slope covering, check dams, interceptor ditches, benches, storm drains, dissipation structures, diversion dikes, retarding berms and barriers, devices to trap, store and filter out sediment, and stormwater retention basins. Off-site work by the project applicant may be necessary. The project applicant shall obtain permission or easements necessary for off-site work. There shall be a clear notation that the plan is subject to changes as changing conditions occur. Calculations of anticipated stormwater runoff and sediment volumes shall be included, if required by the Director of Development or designee. The plan shall specify that, after construction is complete, the project applicant shall ensure that the storm drain system shall be inspected and that the project applicant shall clear the system of any debris or sediment.

  Ongoing throughout grading and construction activities. The project applicant shall implement the approved erosion and sedimentation plan. No grading shall occur during the wet weather season (October 15 through April 15) unless specifically authorized in writing by the Building Services Division.

- **SCA 75: Stormwater Pollution Prevention Plan (SWPPP)**

  Prior to and ongoing throughout demolition, grading, and/or construction activities. The project applicant must obtain coverage under the General Construction Activity Storm Water Permit (General Construction Permit) issued by the State Water Resources Control Board (SWRCB). The project applicant must file a notice of intent (NOI) with the SWRCB. The project applicant will be required to prepare a stormwater pollution prevention plan (SWPPP) and submit the plan for review and approval by the Building Services Division. At a minimum, the SWPPP shall include a description of construction materials, practices, and equipment storage and maintenance; a list of pollutants likely to contact stormwater; site-specific erosion and sedimentation control practices; a list of provisions to eliminate or reduce discharge of materials to stormwater; Best Management Practices (BMPs), and an inspection and monitoring program. Prior to the issuance of any construction-related permits, the project applicant shall submit to the Building Services Division a copy of the SWPPP and evidence of submittal of the NOI to the SWRCB. Implementation of the SWPPP shall start with the commencement of construction and continue though the completion of the project. After construction is completed, the project applicant shall submit a notice of termination to the SWRCB.

- **SCA 78: Site Design Measures for Post-Construction Stormwater Management**

  Prior to issuance of building permit (or other construction-related permit). The project drawings submitted for a building permit (or other construction-related permit) shall contain a final site plan to be reviewed and approved by Planning and Zoning. The final site plan shall incorporate appropriate site design measures to manage stormwater runoff and minimize impacts to water quality after the construction of the project. These measures may include, but are not limited to, the following:

  a) Minimize impervious surfaces, especially directly connected impervious surfaces;
  b) Utilize permeable paving in place of impervious paving where appropriate;
  c) Cluster buildings;
  d) Preserve quality open space; and
  e) Establish vegetated buffer areas.

  Ongoing. The approved plan shall be implemented and the site design measures shown on the plan shall be permanently maintained.

- **SCA 79: Source Control Measures to Limit Stormwater Pollution**

  Prior to issuance of building permit (or other construction-related permit). The applicant shall implement and maintain all structural source control measures imposed by the Chief of Building Services to limit the generation, discharge, and runoff of stormwater pollution.

  Ongoing. The applicant, or his or her successor, shall implement all operational Best Management Practices (BMPs) imposed by the Chief of Building Services to limit the generation, discharge, and runoff of stormwater pollution.

- **SCA 80: Post-construction Stormwater Management Plan**

  Prior to issuance of building permit (or other construction-related permit). The applicant shall comply with the requirements of Provision C.3 of the National Pollutant Discharge Elimination System (NPDES) permit issued to the Alameda Countywide Clean Water Program. The applicant shall submit with the application for a building permit (or other construction-related permit) a completed Construction-Permit-Phase Stormwater

Supplemental Form to the Building Services Division. The project drawings submitted for the building permit (or other construction-related permit) shall contain a stormwater management plan, for review and approval by the City, to manage stormwater run-off and to limit the discharge of pollutants in stormwater after construction of the project to the maximum extent practicable.

a) The post-construction stormwater management plan shall include and identify the following:

   1. All proposed impervious surface on the site;
   2. Anticipated directional flows of on-site stormwater runoff; and
   3. Site design measures to reduce the amount of impervious surface area and directly connected impervious surfaces; and
   4. Source control measures to limit the potential for stormwater pollution;
   5. Stormwater treatment measures to remove pollutants from stormwater runoff; and
   6. Hydromodification management measures so that post-project stormwater runoff does not exceed the flow and duration of pre-project runoff, if required under the NPDES permit.

b) The following additional information shall be submitted with the post-construction stormwater management plan:

   1. Detailed hydraulic sizing calculations for each stormwater treatment measure proposed; and
   2. Pollutant removal information demonstrating that any proposed manufactured/mechanical (i.e., non-landscape-based) stormwater treatment measure, when not used in combination with a landscape-based treatment measure, is capable or removing the range of pollutants typically removed by landscape-based treatment measures and/or the range of pollutants expected to be generated by the project.

All proposed stormwater treatment measures shall incorporate appropriate planting materials for stormwater treatment (for landscape-based treatment measures) and shall be designed with considerations for vector/mosquito control. Proposed planting materials for all proposed landscape-based stormwater treatment measures shall be included on the landscape and irrigation plan for the project. The applicant is not required to include on-site stormwater treatment measures in the post-construction stormwater management plan if he or she secures approval from Planning and Zoning of a proposal that demonstrates compliance with the requirements of the City's Alternative Compliance Program.

Prior to final permit inspection. The applicant shall implement the approved stormwater management plan.

- **SCA 81: Maintenance Agreement for Stormwater Treatment Measures**

  a) *Prior to final zoning inspection.* For projects incorporating stormwater treatment measures, the applicant shall enter into the "Standard City of Oakland Stormwater Treatment Measures Maintenance Agreement," in accordance with Provision C.3.e of the NPDES permit, which provides, in part, for the following: The applicant accepting responsibility for the adequate installation/construction, operation, maintenance,

inspection, and reporting of any on-site stormwater treatment measures being incorporated into the project until the responsibility is legally transferred to another entity; and

b) Legal access to the on-site stormwater treatment measures for representatives of the City, the local vector control district, and staff of the Regional Water Quality Control Board, San Francisco Region, for the purpose of verifying the implementation, operation, and maintenance of the on-site stormwater treatment measures and to take corrective action if necessary. The agreement shall be recorded at the County Recorder's Office at the applicant's expense.

- **SCA 82: Erosion, Sedimentation, and Debris Control Measures**

Prior to issuance of demolition, grading, or construction-related permit: The project applicant shall submit an erosion and sedimentation control plan for review and approval by the Building Services Division. All work shall incorporate all applicable "Best Management Practices (BMPs) for the construction industry, and as outlined in the Alameda Countywide Clean Water Program pamphlets, including BMP's for dust, erosion and sedimentation abatement per Chapter Section 15.04 of the Oakland Municipal Code. The measures shall include, but are not limited to, the following:

a) On sloped properties, the downhill end of the construction area must be protected with silt fencing (such as sandbags, filter fabric, silt curtains, etc.) and hay bales oriented parallel to the contours of the slope (at a constant elevation) to prevent erosion into the creek.

b) In accordance with an approved erosion control plan, the project applicant shall implement mechanical and vegetative measures to reduce erosion and sedimentation, including appropriate seasonal maintenance. One hundred (100) percent degradable erosion control fabric shall be installed on all graded slopes to protect and stabilize the slopes during construction and before permanent vegetation gets established. All graded areas shall be temporarily protected from erosion by seeding with fast growing annual species. All bare slopes must be covered with staked tarps when rain is occurring or is expected.

c) Minimize the removal of natural vegetation or ground cover from the site in order to minimize the potential for erosion and sedimentation problems. Maximize the replanting of the area with native vegetation as soon as possible.

d) All work in or near creek channels must be performed with hand tools and by a minimum number of people. Immediately upon completion of this work, soil must be repacked and native vegetation planted.

e) Install filter materials (such as sandbags, filter fabric, etc.) acceptable to the Engineering Division at the storm drain inlets nearest to the project site prior to the start of the wet weather season (October 15); site dewatering activities; street washing activities; saw cutting asphalt or concrete; and in order to retain any debris flowing into the City storm drain system. Filter materials shall be maintained and/or replaced as necessary to ensure effectiveness and prevent street flooding.

f) Ensure that concrete/granite supply trucks or concrete/plaster finishing operations do not discharge wash water into the creek, street gutters, or storm drains.

g) Direct and locate tool and equipment cleaning so that wash water does not discharge into the creek.

h) Create a contained and covered area on the site for storage of bags of cement, paints, flammables, oils, fertilizers, pesticides, or any other materials used on the project site that have the potential for being discharged to the storm drain system by the wind or in the event of a material spill. No hazardous waste material shall be stored on site.

i) Gather all construction debris on a regular basis and place them in a dumpster or other container which is emptied or removed on a weekly basis. When appropriate, use tarps on the ground to collect fallen debris or splatters that could contribute to stormwater pollution.

j) Remove all dirt, gravel, refuse, and green waste from the sidewalk, street pavement, and storm drain system adjoining the project site. During wet weather, avoid driving vehicles off paved areas and other outdoor work.

k) Broom sweep the street pavement adjoining the project site on a daily basis. Caked-on mud or dirt shall be scraped from these areas before sweeping. At the end of each workday, the entire site must be cleaned and secured against potential erosion, dumping, or discharge to the creek, street, gutter, stormdrains.

l) All erosion and sedimentation control measures implemented during construction activities, as well as construction site and materials management shall be in strict accordance with the control standards listed in the latest edition of the Erosion and Sediment Control Field Manual published by the RWQCB.

m) Temporary fencing is required for sites without existing fencing between the creek and the construction site and shall be placed along the side adjacent to construction (or both sides of the creek if applicable) at the maximum practical distance from the creek centerline. This area shall not be disturbed during construction without prior approval of Planning and Zoning.

n) All erosion and sedimentation control measures shall be monitored regularly by the project applicant. The City may require erosion and sedimentation control measures to be inspected by a qualified environmental consultant (paid for by the project applicant) during or after rain events. If measures are insufficient to control sedimentation and erosion then the project applicant shall develop and implement additional and more effective measures immediately.

- **SCA 83: Creek Protection Plan**

  Prior to and ongoing throughout demolition, grading, and/or construction activities

  a) The approved creek protection plan shall be included in the project drawings submitted for a building permit (or other construction-related permit). The project applicant shall implement the creek protection plan to minimize potential impacts to the creek during and after construction of the project. The plan shall fully describe in plan and written form all erosion, sediment, stormwater, and construction management measures to be implemented on-site.

  b) If the plan includes a stormwater system, all stormwater outfalls shall include energy dissipation that slows the velocity of the water at the point of outflow to maximize infiltration and minimize erosion. The project shall not result in a substantial increase in stormwater runoff volume or velocity to the creek or storm drains.

- **SCA 84: Regulatory Permits and Authorizations**

  Prior to issuance of a demolition, grading, or building permit within vicinity of the creek. Prior to construction within the vicinity of the creek, the project applicant shall obtain all necessary regulatory permits and authorizations from the U.S. Army Corps of Engineers (Corps), RWQCB, California Department of Fish and Game, and the City of Oakland, and shall comply with all conditions issued by applicable agencies. Required permit approvals and certifications may include, but not be limited to the following:

  a) U.S. Army Corps of Engineers (Corps): Section 404. Permit approval from the Corps shall be obtained for the placement of dredge or fill material in Waters of the U.S., if any, within the interior of the project site, pursuant to Section 404 of the federal Clean Water Act.

  b) Regional Walter Quality Control Board (RWQCB): Section 401 Water Quality Certification. Certification that the project will not violate state water quality standards is required before the Corps can issue a 404 permit, above.

  c) California Department of Fish and Game (CDFG): Section 1602 Lake and Streambed Alteration Agreement. Work that will alter the bed or bank of a stream requires authorization from CDFG.

- **SCA 85: Creek Monitoring**

  Prior to issuance of a demolition, grading, or building permit within vicinity of the creek. A qualified geotechnical engineer and/or environmental consultant shall be retained and paid for by the project applicant to make site visits during all grading activities; and as a follow-up, submit to the Building Services Division a letter certifying that the erosion and sedimentation control measures set forth in the Creek Protection Permit submittal material have been instituted during the grading activities.

- **SCA 86: Creek Landscaping Plan**

  Prior to issuance of a demolition, grading, or building permit within vicinity of the creek. The project applicant shall develop a final detailed landscaping and irrigation plan for review and approval by the Planning and Zoning Division prepared by a licensed landscape architect or other qualified person. Such a plan shall include a planting schedule, detailing plant types and locations, and a system for temporary irrigation of plantings.

  a) Plant and maintain only drought-tolerant plants on the site where appropriate as well as native and riparian plants in and adjacent to riparian corridors. Along the riparian corridor, native plants shall not be disturbed to the maximum extent feasible. Any areas disturbed along the riparian corridor shall be replanted with mature native riparian vegetation and be maintained to ensure survival.

  b) All landscaping indicated on the approved landscape plan shall be installed prior to the issuance of a Final inspection of the building permit, unless bonded pursuant to the provisions of Section 17.124.50 of the Oakland Planning Code.

  c) All landscaping areas shown on the approved plans shall be maintained in neat and safe conditions, and all plants shall be maintained in good growing condition and, whenever necessary replaced with new plant materials to ensure continued compliance with all applicable landscaping requirements. All paving or impervious surfaces shall occur only on approved areas.

- **SCA 89: Regulatory Permits and Authorizations**

  Prior to issuance of a demolition, grading, or building permit. Prior to construction within the floodway or floodplain, the project applicant shall obtain all necessary regulatory permits and authorizations from the Alameda County Flood Control and Water Conservation District and shall comply with all conditions issued by that agency.

- **SCA 90: Structures within a Floodplain**

  Prior to issuance of a demolition, grading, or building permit.

  a) The project applicant shall retain the civil engineer of record to ensure that the project's development plans and design contain finished site grades and floor elevations that are elevated above the Base Flood Elevation (BFE) if established within a 100-year flood event.

  b) The project applicant shall submit final hydrological calculations that ensure that the structure will not interfere with the flow of water or increase flooding.

- **SCA 91: Stormwater and Sewer**

  Prior to completing the final design for the project's sewer service. Confirmation of the capacity of the City's surrounding stormwater and sanitary sewer system and state of repair shall be completed by a qualified civil engineer with funding from the project applicant. The project applicant shall be responsible for the necessary stormwater and sanitary sewer infrastructure improvements to accommodate the proposed project. In addition, the applicant shall be required to pay additional fees to improve sanitary sewer infrastructure if required by the Sewer and Stormwater Division. Improvements to the existing sanitary sewer collection system shall specifically include, but are not limited to, mechanisms to control or minimize increases in infiltration/inflow to offset sanitary sewer increases associated with the proposed project. To the maximum extent practicable, the applicant will be required to implement Best Management Practices to reduce the peak stormwater runoff from the project site. Additionally, the project applicant shall be responsible for payment of the required installation or hook-up fees to the affected service providers.

4.8.3 Impacts and Mitigation Measures

Significance Criteria

Adoption and development under the Specific Plan would have a significant impact on the environment if it were to:

1. Violate any water quality standards or waste discharge requirements;

2. Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or proposed uses for which permits have been granted);

3. Result in substantial erosion or siltation on- or off-site that would affect the quality of receiving waters;

4. Result in substantial flooding on- or off-site;

5. Create or contribute substantial runoff which would exceed the capacity of existing or planned stormwater drainage systems;

6. Create or contribute substantial runoff which would be an additional source of polluted runoff;

7. Otherwise substantially degrade water quality;

8. Place housing within a 100-year flood hazard area, as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map, that would impede or redirect flood flows;

9. Place within a 100-year flood hazard area structures which would impede or redirect flood flows;

10. Expose people or structures to a substantial risk of loss, injury or death involving flooding;

11. Expose people or structures to a substantial risk of loss, injury, or death as a result in inundation by seiche, tsunami, or mudflow;

12. Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course, or increasing the rate or amount of flow, of a creek, river or stream in a manner that would result in substantial erosion, siltation, or flooding, both on- or off-site; or

13. Fundamentally conflict with the City of Oakland Creek Protection Ordinance (OMC Chapter 13.16) intended to protect hydrologic resources. [Note: Although there are no specific, numeric/quantitative criteria to assess impacts, factors to be considered in determining significance include whether there is substantial degradation of water quality through (a) discharging a substantial amount of pollutants into a creek; (b) significantly modifying the natural flow of the water or capacity; (c) depositing substantial amounts of new material into a creek or causing substantial bank erosion or instability; or (d) substantially endangering public or private property or threatening public health or safety.]

Approach to Analysis

Adoption and development under the Specific Plan would not result in direct physical impacts within the Plan Area. However, adoption and development under the Specific Plan could eventually result in various types of construction activities within the Plan Area that would require ground disturbance and use of hazardous materials. These types of construction activities could result in impacts to hydrology and water quality. Potential impacts to hydrology and water quality are analyzed within the context of existing plans and policies, permitting requirements, local ordinances, and the City of Oakland's Standard Conditions of Approval. Impacts that would be substantially reduced or eliminated by compliance with these policies or requirements are found to be less-than-significant. Additional discussion of potential erosion impacts is presented in Section 4.5, *Geology, Soils and Geohazards* of this Draft EIR. Detailed analysis of potential impacts due to the use of hazardous materials is presented in Section 4.7, *Hazardous Materials*, of this EIR. Potential impacts to stormwater infrastructure are discussed in Section 4.14, *Utilities and Service Systems*, of this Draft EIR.

Impacts

Stormwater, Drainages and Water Quality

Impact HYD-1: Adoption and development under the Specific Plan would alter drainage patterns and increase the volume of stormwater, or the level of contamination or siltation in stormwater flowing from the Plan Area (Criteria 1 and 3 through 7). (Less than Significant)

As discussed in Chapter 3, *Project Description,* a key purpose of the Specific Plan is to enhance the condition of the Plan Area. The City could accomplish the project objectives through various means including those that require new construction or redevelopment of buildings and utilities. As such, adoption and development under the Specific Plan could potentially result in impacts to water quality from changes to stormwater flows, drainage patterns, and overall water quality. Impacts to these resources would occur if construction-related erosion or discharges of polluted waters were to reduce the quality of nearby surface waters or if an action increased the amount of impervious surface at a site resulting in increased stormwater runoff and flooding. These types of impacts would be considered potentially significant if new development or redevelopment is not designed appropriately.

Adoption and development under the Specific Plan could include construction activities that employ excavation, soil stockpiling, grading, and use of hazardous chemicals, such as fuels and oil. Construction could also occur along the day-lighted portion of Glenn Echo Creek north of Grand Avenue along Harrison Street. Construction activities could result in temporary erosion; transportation of sediments; and generate chemical wastes that, if not properly managed, could flow into the storm drainage system or nearby surface water bodies. Overall, construction could cause increased sediment in stormwater runoff that could accumulate in downstream drainage facilities; interfere with existing drainage patterns; and aggravate downstream flooding conditions that may exist and potentially increase sediment in Lake Merritt and ultimately San Francisco Bay. Construction could also result in transport of hazardous chemicals downstream and into Lake Merritt and the San Francisco Bay, which are listed as impaired water bodies by the SWRCB.

As would be required for all projects in Oakland, any project developed under the Specific Plan would be required to comply with uniformly-applied SCAs, consistent with General Plan Policies that include preparation of a Grading Plan, Erosion and Sedimentation Control Plan, and Drainage Plan. Compliance with the ACCWP NPDES Permit and implementation of the Construction Stormwater Pollution Prevention Plan (SWPPP) would require any project to incorporate Best Management Practices (BMPs) to control sedimentation, erosion, hazardous materials contamination of runoff during construction. Further, the C.3 provision of the ACCWP NPDES Permit requires that there be no net increase in stormwater runoff at a site after project construction. Thus, water quality and flooding impacts would be minimized for any construction under the Specific Plan.

Additionally, compliance with the City of Oakland Grading Ordinance; the Creek Protection, Stormwater Management, and Discharge Control Ordinance; and the SCAs would minimize sedimentation and contamination to stormwater and surface water during construction activities.

SCA 34 or 55, *Erosion and Sedimentation Control Plan*; SCA 75, *Stormwater Pollution Prevention Plan;* SCA 78, *Site Design Measures for Post-Construction Stormwater Management*; SCA 79, *Source Control Measures to Limit Stormwater Pollution*; SCA 80, *Post-construction Stormwater Pollution Management Plan;* SCA 81, *Maintenance Agreement for Stormwater Treatment Measures*; SCA 82, *Erosion, Sedimentation, and Debris Control Measures;* SCA 85, *Creek Monitoring*; and SCA 86, *Creek Landscaping Plan* would be applicable to adoption and development under the Specific Plan for protecting water quality during construction and after construction. SCA 91, *Stormwater and Sewer,* would be applicable to the adoption and development under the Specific Plan ensuring that stormwater infrastructure has the capacity for flows produced in the Plan Area. SCA 83, *Creek Protection Plan,* would be applicable to adoption and development under the Specific Plan that could have impacts to creeks and other water bodies. Therefore, the implementation of these plans, and adherence to the Standard Conditions of Approval would reduce the potential impact to a less-than-significant level.

Mitigation: None Required.

Flooding

Impact HYD-2: Adoption and development under the Specific Plan could be susceptible to flooding hazards as a result of being placed in a 100-year flood zone as mapped by FEMA (Criteria 8 through 10). (Less than Significant)

The majority of the Plan Area is located outside of the 100-year flood zone, as shown in Figure 4.8-1. However, a small area within the 100-year flood zone is located along the easternmost part of the Plan Area along Glen Echo Creek. Although adoption and development under the Specific Plan could occur in proximity to these areas, the extents of the flood zones are very limited and not in areas where substantial new development would occur that would expose people or structures to risks of loss of property and life from flooding. To the extent such development could occur, as discussed in the General Plan Safety Element, compliance with the City of Oakland Grading Ordinance; the Creek Protection and Stormwater Management Ordinances; and the SCAs would minimize flooding impacts. Additionally, SCA 89, *Regulatory Permits and Authorizations* and SCA 90, *Structures within a Floodplain,* would be required for the construction of adoption and development under the Specific Plan. Therefore, the implementation of these plans, and adherence to the SCAs would reduce risks of exposing people or structures to flood-related losses would reduce potential flooding impacts to a less-than-significant level.

Mitigation: None Required.

Impact HYD-3: Adoption and development under the Specific Plan could be susceptible to flooding hazards in the event of dam or reservoir failure (Criterion 10). (Less than Significant)

Strong ground shaking caused by an earthquake could damage a local dam or reservoir, resulting in failure and downstream flooding. Dam or reservoir failure would result in significant impacts where people experience increased risk or exposure to flood hazards as a result of adoption and development under the Specific Plan. The East Bay Municipal Utilities District (EBMUD) has four reservoirs located north of the Plan Area. As discussed in the setting and shown on Figure 4.8-2, the eastern portion of Plan Area could experience flooding if up to two of these dams were to experience dam failure. Thus, adoption and development under the Specific Plan could experience potentially significant impacts as a result of dam or reservoir failure.

As discussed in Impact HYD-1, environmental review for specific projects will indicate mitigation measures for flooding as needed. Further, the Safety Element of the City of Oakland General Plan policy states that the City will "minimize further the relatively low risks from non-storm-related forms of flooding" by requesting from the state Division of Safety of Dams submit a timeline for the maintenance inspection of all operating dams in the City and reviewing procedures adopted by the City pursuant to the Dam Safety Act for the emergency evacuation of areas located below major water-storage facilities. DSOD requires all dam operators to comply with annual inspections and seismic standards that minimize the potential for a catastrophic failure of the dam. Continued compliance with these General Plan policies will reduce potential impacts to a less-than-significant level.

Mitigation: None Required.

Sea Level Rise

Impact HYD-4: Adoption and development under the Specific Plan could be susceptible to inundation in the event of sea-level rise (Criterion 10). (Less than Significant)

The impact of flooding related to sea level rise pertains to the impact of an existing/future environmental condition on the Plan Area. CEQA only requires an analysis of impacts pertaining to a project's impact on the environment. The impact of future growth in the Plan Area on the environment related to the project's GHG emissions—the cause of sea level rise—is analyzed and discussed in Section 4.6, *Greenhouse Gases and Climate Change*. Per CEQA, this Draft EIR is not required to analyze or mitigate impacts pertaining to the impact of the environment on the Plan Area. An appellate court specifically identified the effect of sea level rise on a project as an impact of the environment on a project and, therefore, not required to be analyzed under CEQA. However, although not legally required by CEQA, this Draft EIR nevertheless discusses the impact of sea level rise on the Plan Area in the interest of being conservative and providing information to the public and decision-makers.

Based on the projected 16" and 55" sea level rise scenarios, the southern border of the Plan Area is adjacent to the extent of the maximum estimated sea level rise (BCDC, 2008). Although outside of the area anticipated to be affected by sea level rise, the estimated amount of sea level rise is an estimate and thus subject to variations or underestimation. If the amount of sea level rise has been underestimated, the southern portion of the Plan Area could be subject to risk and loss due to future sea level rise (ABAG, 2012b). Because the Plan Area is flanked by a low-lying shoreline on the southern boundary, a portion of the Plan Area could be subject to potentially significant risks of inundation due to future potential sea level rise if the infrastructure improvements are not implemented. Given the potential for sea level rise, it is reasonable to anticipate that FEMA will continue to update its flood hazards mapping over time as necessary to reflect changes in sea level. Thus, when implemented, the safety measures built into the General Plan policies in the Safety Element, and the SCAs related to construction within 100-year flood zones, and adaptative management measures to sea level rise would reduce these potential impacts to less-than–significant levels.

Further, although the Plan Area is located outside of 100 feet of high tide and therefore outside of BCDC's jurisdiction, as the Bay water rises under the projected 16" and 55" sea level rise scenarios, this boundary would change and portions of the Plan Area would be subject to BCDC's regulatory authority. Should this expanded jurisdiction occur during the life of the Plan, the City's SCA 84, *Regulatory Permits and Authorizations*, would require compliance with BCDC in addition to other applicable requirements of regulatory agencies.

Furthermore, implicit in the discussion of global warming, greenhouse gas emissions and sea level rise extends beyond specific development projects, a specific plan area, or, indeed, an entire city as both a local and a regional issue and must be addressed in that context. The adopted Bay Plan and Oakland's adopted ECAP specifically recognize this and include actions to participate in the preparation of a regional climate adaption strategy. As stated above, because the Specific Plan is not causing sea level rise, sea level rise will occur regardless of the adoption of Specific Plan and sea level rise is an impact of the environment on the project, it is not legally a CEQA impact.

Mitigation: None Required.

Use of Groundwater

Impact HYD-5: Adoption and development under the Specific Plan would not adversely affect the availability of groundwater supplies or interfere substantially with groundwater recharge (Criterion 2) (Less than Significant)

The Plan Area is underlain by the East Bay Plain groundwater basin. The San Francisco RWQCB has identified groundwater supplies in this basin for municipal, industrial and agricultural water supply. Impacts to the aquifer would occur if adoption and development under the Specific Plan resulted in reduced recharge to the aquifer or increased extraction from the aquifer. The amount of water able to infiltrate the aquifer through pervious areas within the Plan Area would not substantially decrease because the Plan Area is already largely developed and covered in

impervious surfaces. Additionally, compliance with the C.3 provisions of the NPDES Municipal Stormwater Permit for the ACCWP would require that recharge rates at a project site is equivalent to the recharge rate at the site prior to development. Also, potable water is supplied to the Plan Area through imported surface water by EBMUD. Therefore, the existing and potential use of groundwater for adoption and development under the Specific Plan would not increase. Consequently, impacts to groundwater would be less than significant.

Mitigation: None Required.

Inundation by Seiche, Tsunami, or Mudflow

Impact HYD-6: Adoption and development under the Specific Plan would not be susceptible to mudflow, seiche, and tsunami-related hazards (Criterion 11). (Less than Significant)

The Plan Area would not be susceptible to mudflow, which generally results from volcanic activity or catastrophic dam failure. Seiche waves would not be a risk in the Plan Area because the relatively shallow depth of water within Lake Merritt would not result in significant sieche-related impacts during a seismic event.

The Plan Area is located in an inland area that is not susceptible to tsunamis, which generally occur in areas along the shoreline and for a small distance inland. In addition, the modeled sources of tsunamis that are most likely to affect the Bay Area include a few potential local sources but are predominantly distant events. Consequently, tsunami events in the East Bay area are very rare and there is little historical record of past events that would enable the ability to evaluate the probability of such an event occurring. Therefore, the potential impact from tsunamis is considered less than significant.

Mitigation: None Required.

Cumulative Impacts

Impact HYD-7: Adoption and development under the Specific Plan, combined with past, present, existing, approved, pending, and reasonably foreseeable future projects would not result in potentially significant cumulative impacts to hydrologic resources. (Less than Significant)

Geographic Context

The geographic context used for the cumulative assessment of water quality and hydrology impacts is the East Bay Plain of the San Francisco Bay Basin. This includes the City of Oakland and its surrounding areas.

Impacts

As discussed above, adoption and development under the Specific Plan would include conformance with State and local policies as well as SCAs that would reduce hydrology and water quality impacts to less-than-significant levels. Specifically, potential changes related to stormwater quality, stormwater flows, drainage, impervious surfaces, and flooding would be minimized via the implementation of stormwater control measures, stormwater retention measures, stormwater quality control measures that would integrate measures to reduce potential flooding impacts.

Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time. Cumulative projects that could combine with the less-than-significant incremental impacts of adoption and development under the Specific Plan to compound or increase any existing hydrology- or water-quality-related cumulative impacts include, for example, potential cumulative reductions in the water quality of San Francisco Bay, or degradation of urban stormwater quality. Other projects resulting in construction occurring within or nearby the Plan Area could result in similar or greater impacts to those caused by adoption and development under the Specific Plan. These projects include those listed in the City's Major Projects List in Appendix B to this Draft EIR. All projects would be subject to similar permit requirements and would be required to comply with City of Oakland ordinances and General Plan policies, as well as numerous SCAs that address the potential effects of hydrology and water quality and are discussed throughout this analysis. The potential impacts of adoption and development under the Specific Plan discussed previously in this section regarding hydrology and water quality would not be substantial, and would not substantially contribute to any cumulative impacts. Therefore, the Specific Plan impacts on hydrology and water quality are not cumulatively considerable when viewed in connection with the effects of the other past, present, and reasonably foreseeable probable future projects within the Plan Area and in the vicinity of the Plan Area.

Mitigation: None Required.

4.8.4 References

Alameda County Clean Water Program (ACCWP), 2002. *Analysis of 2000-01 Source Investigations in Ettie Street Pump Station and Glen Echo Creek Watersheds, Oakland, California*.

Alameda County Flood Control & Water Conservation District (ACFCWCD), 2010. Flood Control Zone 12, http://www.acgov.org/pwa/ACFCD%20Website%20Upgrade%20Feb2008/acfcd/zone12.html, accessed November 4, 2010.

Association of Bay Area Governments (ABAG), 2012a. Hazards Maps and Information –Dam Inundation, available online at http://gis.abag.ca.gov/Website/dam_inundation/viewer.htm.

Association of Bay Area Governments (ABAG), 2012b. Hazards Maps and Information –Sea Level Rise, available online at http://quake.abag.ca.gov/searise/, accessed December 31, 2012.

Bay Conservation and Development Commission (BCDC), 2008, *Shoreline Areas Potentially Exposed to Sea Level Rise: Central East Shore*, http://www.bcdc.ca.gov/planning/climate_change/maps/16_55/cbay_east.pdf, Accessed March 27, 2013.

BCDC, 2011a. *Living with a Rising Bay: Vulnerability and Adaptation in San Francisco Bay and on the Shoreline*, October 6, 2011.

BCDC, 2011b. San Francisco Bay Plan. http://www.bcdc.ca.gov/laws_plans/plans/sfbay_plan.shtml, Accessed March 27, 2013.

BKF Engineers, *Broadway/Valdez District Specific Plan Infrastructure Analysis*, November 2012.

California Emergency Management Agency and California Natural Resources Agency, 2012. *California Climate Change Adaptation Policy Guide*. http://resources.ca.gov/climate_adaptation/docs/APG_-_PUBLIC_DRAFT_4.9.12_small.pdf, Accessed March 27, 2013.

California Energy Commission (CEC). 2009. The Future Is Now: An Update on Climate Change Science Impacts and Response Options for CaliforniaCEC-500-2008-071, May 2009.

California Natural Resources Agency, 2009. *California Climate Adaptation Strategy*, http://www.energy.ca.gov/2009publications/CNRA-1000-2009-027/CNRA-1000-2009-027-F.PDF, Accessed March 27, 2013.

City of Oakland, 2004. General Plan Safety Element, Adopted November.

Coastal Commission, 2006. "Lake Merritt CCA" in *California's Critical Coastal Areas*, June 15, 2006.

Conestoga-Rovers & Associates, 2012. *Groundwater Monitoring Report – Fourth Quarter 2011, Former Shell Service Station, 2350 (2368) Harrison Street, Oakland, California*, February 15, 2012.

Department of Water Resources (DWR), 2003., *Bulletin 118, Update 2003, San Francisco Bay Hydrologic Region*, http://www.water.ca.gov/groundwater/bulletin118/san_francisco_bay.cfm, Accessed December 31, 2012.

FEMA, 2009. Flood Insurance Rate Map, Alameda County and Unincorporated Areas, California Maps, Community-Panel Numbers 06001C0059G and 06001C0067G. August 3, 2009.

Intergovernmental Panel on Climate Change (IPCC), Climate Change, 2007: The Physical Science Basis. Contribution of Working Group 1 to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change. Solomon, S., D. Qin, M. Manning, Z. Chen, M. Marquis, K.B. Averyt, M. Tignor, and H.L. Miller (eds). Cambridge University Press, 2007.

Oakland Museum, 2012. http://museumca.org/creeks/1180-OMSAntonio.html, accessed December 31, 2012.

Lake Merritt Institute, 2013. "About Lake Merritt", available online at http://www.lakemerrittinstitute.org/about_lake.htm, accessed on January 2, 2013.

LRM Consulting, 2012. *Third Quarter 2012 Groundwater Monitoring Report, Former Val Strough Chevrolet Site, 327 34th Street, Oakland, California*, September 2012.

Regional Water Quality Control Board (RWQCB), 2010. San Francisco Bay Region, *Final California 2010 Integrated Report (303(d) List/305(b) Report)*, www.waterboards.ca.gov/water_issues/programs/tmdl/2010state_ir_reports/00914.shtml#6390, accessed December 31, 2012.

Regional Water Quality Control Board (RWQCB), 2011. San Francisco Bay Region, *San Francisco Bay Basin Water Quality Control Plan (Basin Plan)*, www.waterboards.ca.gov/sanfranciscobay/basin_planning.shtml, December 31, 2011.

WRT, *Draft Broadway/Valdez District Specific Plan, Existing Conditions Report,* August 2009.

4.9 Land Use, Plans and Policies

This section analyzes how the adoption and development under the Specific Plan may affect and comply with existing land uses, plans and policies. Specifically, it describes the existing land use patterns, adopted General Plan land use classifications, and zoning designations in and around the Plan Area. This section also describes the applicable plans and policies that guide development in the Plan Area and evaluates the consistency of the adoption and development under the Specific Plan with these plans and policies and other applicable land use regulations. Following the discussion of the relationship of the adoption and development under the Specific Plan to applicable plans and policies, potential impacts are discussed and evaluated, and appropriate mitigation measures or Standard Conditions of Approval (SCA) are identified, as necessary. Pursuant to the City of Oakland's General Plan (General Plan), as well as Section 15358(b) of the CEQA Guidelines, mitigation measures are proposed only to address physical impacts that may result from adoption and development under the Specific Plan.

4.9.1 Environmental Setting

Surrounding Existing Land Uses

The Plan Area is located at the north edge of Oakland's *Central Business District*. The Plan Area is surrounded by the neighborhoods whose land use and development patterns, while different from each other and from the Plan Area, have an influence on those within the Plan Area. The Plan Area, generally following the Broadway Corridor approximately 0.8 miles between I-580 to Grand Avenue, serves as an important transition between the Downtown and the Upper Broadway area. This length of Broadway is a critical link in Oakland's Main Street, which extends from Jack London Square (at the Estuary) to the Oakland Hills.

Regional freeway access to the Plan Area is provided by Interstates 580 and 980, and State Route 24. BART provides regional transit service to the area, with the 19th Street BART station located about 0.3 miles south of the Plan Area, and the MacArthur BART station approximately 0.75 miles to the northwest. The area also benefits from AC Transit bus service along Broadway.

The Plan Area is surrounded by the Uptown District and Lake Merritt / Kaiser Center Office District to the south, and the Kaiser Permanente Oakland Medical Center to the north. Pill Hill, which includes the Alta Bates Summit Medical Center, to the northwest, and the Art Murmur Gallery District (25th Street Garage District) border the area to the west, and the Richmond Avenue, Harrison/Oakland Avenue, and Adams Point residential neighborhoods occupy the hilly terrain to the east of the area. These surrounding neighborhoods are discussed further below.

Lake Merritt/Kaiser Center Office District. This district extends south of Grand Avenue between Broadway and Lake Merritt and is a major employment center with additional office developments planned and approved on the Kaiser Center properties on Webster between 20th and 21st Streets.

Uptown Entertainment District. This district is located southwest of the Plan Area. It is anchored by the Downtown's two historic theaters - the Paramount Theatre and the recently restored Fox Theater – which are surrounded by restaurants, cafés, and bars clustered near the southwest corner of the Plan Area. This district also contains several large residential developments, including the Forest City Uptown development and 100 Grand, both in the vicinity of Broadway and Grand Avenue.

Art Murmur Gallery District (25th Street Garage District). This district lies just west of the southern part of the Plan Area and has the distinctive architectural character of historic garages throughout this district which now house a number of galleries and cultural venues that form the Oakland Art Murmur (OAM). OAM includes monthly art walks and stroll events that attract hundreds of people from around the Bay.

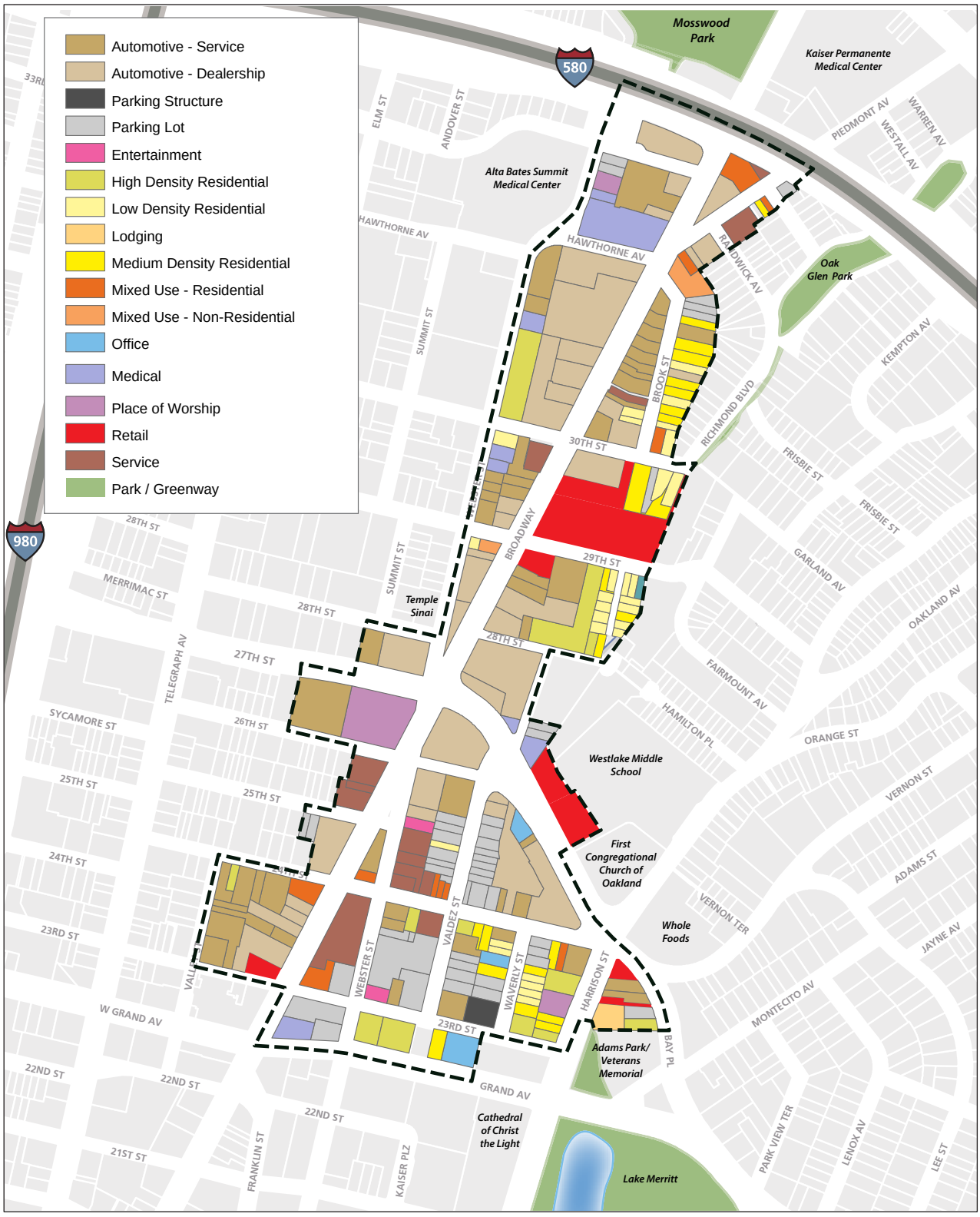
Medical Centers. As mentioned above, the Alta Bates Summit Medical Center is located in the area known as "Pill Hill" west of the North End subarea. The 20-acre campus includes a hospital, outpatient services, and related medical uses and facilities. Additional medical offices and related uses are located surrounding Pill Hill, including within the Plan Area. Kaiser Permanente Oakland Medical Center is located just north of the Plan Area, on the other side of I-580.

Residential Neighborhoods. The Plan Area is surrounded by residential neighborhoods to the east, west, and north. Housing in these neighborhoods is primarily in apartment buildings with five or more units combined with a mix of lower-density, single family homes, duplexes, and three/four-plexes. Several senior housing developments also are located in the surrounding area, including two high-rise complexes: Westlake Christian Terrace at Valdez and 28th, and St. Paul's Tower on Bay Place southeast of the Plan Area. The "Harri-Oak" (Harrison and Oakland Avenue) and Adams Point neighborhoods that occupy the hillsides just east of the Plan Area consist of a mix of houses and apartments. West of the Plan Area, the housing in the Koreatown/Northgate neighborhood along Telegraph Avenue is separated from the Plan Area by the medical related uses on Pill Hill. The residential neighborhoods north of the Plan Area are separated from it by I-580, Mosswood Park, and Kaiser Permanente Oakland Medical Center.

Plan Area Existing Land Uses

Altogether, the Plan Area includes approximately 95.5 acres, including 35.1 acres in public right-of-ways and 60.4 acres of developable land. **Figure 4.9-1** depicts the existing land uses in the Plan Area.

Although a few mid-rise commercial buildings occupy lots in the Valdez subarea, the dominant existing land use in the Plan Area is single-story auto-oriented retail including auto-service providers and car dealerships, and surface parking lots. Surface parking, some used by auto dealers as display and storage areas, occupies approximately 11 percent of the developable land.



SOURCE: WRT, 2013

Broadway Valdez District Specific Plan . 208522

Figure 4.9-1

Existing Land Uses

Together, auto related sales, service, and parking consume approximately 60 percent of the developable land in the Plan Area. As depicted in **Figure 4.9-2**, not all of that area is actively in use. Industry trends have significantly affected auto-related business in the Plan Area with many businesses closing or down-sizing. While the auto-business has shown a more recent improvement, the long-term outlook for automobile market in the Plan Area is in transition.

Non-automobile commercial uses represent the next most prevalent use in the Plan Area. This includes medical office, office, retail, and other services. The existing land use mix is more diverse in the Valdez subarea with influence from the nearby Uptown and Entertainment neighborhoods. For example, seven of the eight restaurants in the Plan Area are located in the Valdez subarea. Together, approximately two thirds of all developable land is devoted to automobile and non-automotive commercial uses.

As described above, residential neighborhoods surround the Plan Area. Although there are approximately 4,020 households and approximately 7,530 people residing in the larger area bounded by Grand Avenue, Harrison Street, I-580 and I-980, the Plan Area itself exhibits a predominantly commercial focus. There are fewer than 600 households within the Plan Area (WRT, 2013). The residential units are primarily in higher-density, multi-family buildings scattered throughout the Plan Area but mainly along the eastern portion of the North End subarea and in the southeastern corner of the Valdez Triangle subarea on and near Waverly Street. Other non-commercial uses include two important institutional uses. These are the YMCA on Broadway and 24th Street, and the First Presbyterian Church, which occupies a large gothic building set back on the southeast corner of 27th Street and Broadway. There are no designated parklands within the Plan Area.

The built character of the Plan Area is varied by use, as described above, as well as by building architectural style. The majority of buildings are one-story (65 percent) and two-stories (27 percent), older (built before 1920 or 1950), and originally designed for utilitarian purposes. However, it is the absence of a vibrant built environment that marks the land use character of the Plan Area. In addition to lots developed with very low floor area ratios, the prevalence of lots with no structures, lots used for surface parking, and lots with abandoned structures contributes to the overall lack of activity in the area. Overall, almost 40 percent of the developable land within the Plan Area is considered underutilized (see Figure 4.9-2). The predominance of automobile-related uses, including long stretches of surface parking lots and numerous private driveways, contribute to the overall uninviting pedestrian environment of the Plan Area.

4.9.2 Regulatory Setting

Local Plans and Policies

Presented below are applicable plans and regulations that pertain to the adoption and development under the Specific Plan, followed by a discussion of the overall consistency (or inconsistency) with each plan.

SOURCE: WRT, 2013

Broadway Valdez District Specific Plan . 208522

Figure 4.9-2

Underutilized Parcels

City of Oakland General Plan

The General Plan establishes comprehensive, long-term land use policies for the City and provides the primary policy direction for development in the City and within the Plan Area. The General Plan comprises a series of elements, each of which deals with a particular topic, which apply citywide. Consistent with state law, the General Plan includes the *Land Use and Transportation Element*; the *Historic Preservation Element*; the *Open Space, Conservation, and Recreation Element*; the *Safety Element*; the *Housing Element*; the *Noise Element*; and the *Scenic Highways Element*. The *Bicycle Master Plan*, and *Pedestrian Master Plan* have also been adopted into, and are now a part of, the General Plan.

Conflicts with a General Plan do not inherently result in a significant effect on the environment within the context of CEQA. As stated in Section 15358(b) of the CEQA Guidelines, "[e]ffects analyzed under CEQA must be related to a physical change." Section 15125(d) of the Guidelines states that EIRs shall discuss any inconsistencies between the proposed project and applicable General Plans.

Further, Appendix G of the CEQA Guidelines (Environmental Checklist Form) makes explicit the focus on *environmental* policies and plans, asking if the project would "conflict with any applicable land use plan, policy, or regulation . . . *adopted for the purpose of avoiding or mitigating an environmental effect*" (emphasis added). Even a response in the affirmative, however, does not necessarily indicate the project would have a significant effect, unless a physical change would occur. To the extent that physical impacts may result from such conflicts, such physical impacts are analyzed elsewhere in this EIR. The compatibility of the adoption and development under the Specific Plan with General Plan policies that do not relate to physical environmental issues will be considered by decision-makers as part of their decision whether to approve or disapprove the Specific Plan.

Regarding a project's consistency with the General Plan in the context of CEQA, the Oakland General Plan states the following:

> The General Plan contains many policies which may in some cases address different goals, policies and objectives and thus some policies may compete with each other. The Planning Commission and City Council, in deciding whether to approve a proposed project, must decide whether, on balance, the project is consistent (i.e., in general harmony) with the General Plan. The fact that a specific project does not meet all General Plan goals, policies and objectives does not inherently result in a significant effect on the environment within the context of the California Environmental Quality Act (CEQA).[1]

The General Plan includes goals and policies that apply broadly to land use and development across the City, and that have been *adopted for the purpose of avoiding or mitigating an environmental effect*, in each of its aforementioned elements. This Land Use, Plans and Policies section of the EIR focuses on General Plan policies most directly to land use, which are primarily in the Land Use and Transportation Element (LUTE) and its associated Bicycle Master Plan

[1] City Council Resolution No. 79312 C.M.S.; adopted June 2005.

(BMP) and Pedestrian Master Plan. Applicable policies of other General Plan elements are discussed in the relevant sections of this EIR, as specified further below.

Land Use and Transportation Element (LUTE)

The City adopted the General Plan Land Use and Transportation Element (LUTE) on March 24, 1998. The LUTE identifies policies for utilizing Oakland's land as change takes place and sets forth an action program to implement the land use policy through development controls and other strategies. The LUTE describes the City as a series of places, neighborhoods, activity centers, transit-oriented districts and corridors. The General Plan identifies five places, known as Showcase Districts, each representing a dynamic area of regional importance targeted for continued growth. These places contain the facilities, transportation system, communication network and infrastructure to support far-reaching economic activities. The Plan Area falls within Oakland's Downtown Showcase District intended to promote a mixture of vibrant and unique districts with around-the-clock activity, continued expansion of job opportunities, and growing residential population.

The General Plan organizes the City into six general planning areas, each with distinct sets of key geographic areas targeted for community and economic expansion. The Plan Area falls within the Central/Chinatown planning area's Auto Row target area for improvement strategies. Goals and policies within the LUTE focus on the need to develop business attraction strategies for the area with the intent to support existing automobile dealership activities while developing complementary uses and improving physical conditions of pedestrian and bicycle facilities. The LUTE also identifies a strategy objective of growth and change for the Broadway Corridor.

The Plan Area falls within six land use classifications indentified in the General Plan. The majority of the Plan Area is within the *Community Commercial* land use classification. The intent and desired character of it and other land use classifications and their locations within the Plan Area are described below.

- ***Community Commercial:*** The intent of the *Community Commercial District* is to "identify, create, maintain and enhance areas suitable for a wide variety of commercial and institutional operations along the City's major corridors and in shopping districts or centers." The large majority of the Plan Area falls within this district.

- ***Urban Residential:*** The intent of the *Urban Residential District* is to "create, maintain and enhance areas of the City that are appropriate for multi-unit, mid-rise or high-rise residential structures in locations with good access to transportation and other services." Areas south of 26th Street, between Valdez Street and Bay Place, fall within this district.

- ***Mixed Housing Type Residential:*** The intent of the *Mixed Housing Type Residential District* is to "create, maintain, and enhance residential areas typically located near the City's major arterials and characterized by a mix of single family homes, townhouses, small multi-unit buildings, and neighborhood businesses." A few parcels in the eastern blocks along either side of 30th Street and north of 29th Street fall within this district.

- ***Institutional:*** The intent of the *Institutional District* is to "create, maintain, and enhance areas appropriate for educational facilities, cultural and institutional uses, health services

and medical uses as well as other uses of similar character." A few parcels along the northwestern portion of the Plan Area fall within this district.

- ***Neighborhood Center Mixed Use:*** The intent of the *Neighborhood Center Mixed Use District* is to "identify, create, maintain and enhance mixed use neighborhood commercial centers. The primary focus for this district is on smaller scale pedestrian-oriented centers with continuous street frontages and a mix of uses." A small portion of the Plan Area along Bay place falls within this district.

- ***Central Business District:*** The intent of the *Central Business District* is "to encourage, support and enhance the downtown area as a high density, mixed use urban center of regional importance and a primary hub for business, communications, office, government, high technology, retail, entertainment, and transportation…" The desired character and uses include "…a mix of large-scale offices, commercial, urban (high-rise) residential, institutional, open space, cultural, educational, arts, entertainment, service, community facilities, and visitor uses." The maximum floor-area ratio (FAR)[2] is 20.0, and the maximum allowable residential density is 300 units per gross acre. Different FARs may be encouraged for different areas. A small portion of the Plan Area along Grand Avenue falls within this district.

Surrounding the Plan Area are areas in the General Plan land use classifications of *Central Business District* to the south, *Mixed Housing Type Residential* to the east and north, *Community Commercial* and *Urban Residential* to the west. Areas designated *Institutional* exist north of I-580, west of Webster Street, and north of Bay Place. *Urban Open Space* classified lands surround Lake Merritt to the southeast, Mosswood Park to the north, and Oak Glen Park to the east. These classifications, where not described above, are described below.

- ***Urban Open Space:*** The intent of the *Urban Open Space District* is to "identify, enhance and maintain land for parks and open space."

Proposed Changes to General Plan Land Use Classifications in the Plan Area

The Specific Plan establishes a regulatory framework guiding type, intensities and distribution of for future land uses and development with the Plan Area. The Specific Plan includes an extension of the *Central Business District* northward to 27th Street and throughout most of the Valdez subarea, and introduces or maintains *Mixed Housing Type Residential* in the eastern blocks along Brook Street and Richmond Boulevard, in order to be consistent with the underlying zoning districts that was updated as part of a citywide zoning updated completed in 2011. A few parcels in the eastern blocks along either side of 30th Street and north of 29th Street would change from *Mixed Housing Type Residential* to *Community Commercial*. *Community Commercial* would be retained throughout the remainder of the North End subarea and replace a small area in the Valdez Triangle subarea that is currently designated as *Urban Residential and Neighborhood Center Mixed-Use* and between Harrison Street and Bay Place would be designated *Community Commercial*. A small portion of parcels along the northwestern portion of the Plan Area would change from *Institutional* to *Community Commercial* (see Figures 3-3 and 3-4 in Chapter 3, *Project Description*). Adoption of the Specific Plan would be accompanied by a General Plan

[2] Floor-area ratio (FAR) is gross floor area of a building divided by total site area, excluding parking.

amendment that would effectively replace existing General Plan land use designations, goals and policies for the Plan Area.

Project Consistency with the LUTE

The Specific Plan would be adopted by ordinance and thus the Specific Plan policies would be enforceable to the same extent as the Planning Code contained within the City's Municipal Code. Further, adoption of the Specific Plan would include amendments to the General Plan and Planning Code to ensure consistency with the Plan. Future projects under the Broadway Valdez Development Program would be reviewed for consistency with the Specific Plan policies and conformance with development regulations and design guidelines. For these projects, the Specific Plan policies would take precedence over existing General Plan policies. Where policies relating to a particular subject are absent from the Specific Plan, existing General Plan policies and zoning controls would apply. Inasmuch as development under the Specific Plan would be governed by adopted Specific Plan policies and the existing General Plan policies, this development would be consistent with the General Plan policies, including those included in the LUTE. As noted above, conflicts with a General Plan, specifically those that do not relate to a physical change, do not inherently result in a significant effect on the environment within the context of CEQA.

The consistency of the Specific Plan with General Plan policies related to other potential impacts, such as transportation, are discussed in other applicable sections of this EIR. Specifically, policies from the LUTE are listed in Sections 4.1, *Aesthetics, Shadow, and Wind*; 4.3, *Biological Resources*; 4.6, *Greenhouse Gases*; 4.12, *Public Services*; 4.13, *Transportation and Circulation*; and 4.14 *Utilities and Service Systems*. The Specific Plan is consistent with relevant land use policies in the General Plan, as is required by State planning and zoning law. The City has no other applicable plans or policies adopted for the purpose of avoiding an environmental effect (habitat conservation plans are discussed below). The Specific Plan would not substantially conflict with existing General Plan policies adopted for mitigating an environmental effect.

Bicycle Master Plan and Pedestrian Master Plan

In December 2007, the City Council adopted the Oakland Bicycle Master Plan (BMP) and in November 2002, the City Council adopted the Pedestrian Master Plan as part of the LUTE. The City of Oakland Bicycle Master Plan calls for the implementation of the bikeway network improvements including Bike Lanes, Arterial Bike Routes, and Bicycle Boulevards throughout the Plan Area (City of Oakland, 2007) (see Figure 4.13-3 in Section 4.13, *Transportation and Circulation*).

The Pedestrian Master Plan identifies policies and implementation measures for achieving LUTE policies that promote a walkable city. The Plan designates a Pedestrian Route Network throughout Oakland with a concentration of high priority projects (including "City Routes") within the Plan Area (City of Oakland, 2002).

Project Consistency with the Bicycle Master Plan and Pedestrian Master Plan

The adoption and development under the Specific Plan would not conflict with the Bicycle Master Plan or Pedestrian Master Plan because all development within the Plan Area would comply with City of Oakland's Standard Conditions of Approval that ensures the submittal, approval and implementation of plans to the City to implement bicycle storage and parking facilities to accommodate the bicycle parking spaces required for the potential development projects. Compliance with the Standard Conditions of Approval would also ensure pedestrian safety, as discussed in detail in Section 4.13, *Transportation and Circulation*. Specific policies from the Pedestrian Master Plan are listed in Section 4.13, *Transportation and Circulation*. Policies from the Bicycle Master Plan are listed in Section 4.13, *Transportation and Circulation.*

Other General Plan Elements

As discussed above, other elements of the General Plan contain policies *adopted for the purpose of avoiding or mitigating an environmental effect*, but that are not specifically pertaining to land use, and are therefore discussed in the relevant sections of this EIR (though Chapter 4). Specifically:

- Policies from the Open Space, Conservation and Recreation (OSCAR) Element are listed and addressed in Sections 4.1, *Aesthetics, Shadow, and Wind*; 4.2, *Air Quality*; 4.3, *Biological Resources*; 4.6, *Greenhouse Gases*; 4.8, *Hydrology and Water Quality*; and 4.12, *Public Services*.

- Policies from the Scenic Highways Element are listed in Section 4.1, *Aesthetics, Shadow, and Wind*.

- Policies from the Historic Preservation Element are listed in Sections 4.4, *Cultural Resources*; and 4.6, *Greenhouse Gases*.

- Policies from the Safety Element are listed in Sections 4.5, *Geology, Soils, and Geohazards*; 4.6, *Greenhouse Gases*; 4.7, *Hazards and Hazardous Materials*; 4.8, *Hydrology and Water Quality*; and 4.12, *Public Services*.

- Policies from the Noise Element are listed in Section 4.10, *Noise*.

Oakland Planning Code

The Planning Code serves to implement General Plan policies and is found in the Oakland Municipal Code, Title 17. The Planning Code governs land uses and development standards, such as building height, bulk and setback, for specific zoning districts within Oakland. Permits to construct new buildings or to alter or demolish existing ones may not be issued unless the project proposed conforms to the Planning Code or an exception is granted pursuant to provisions of the Planning Code. Existing and Proposed Zoning Designations within the Plan Area are depicted in Figures 3-5 and 3-6 in Chapter 3, *Project Description*.

Zoning Designations in the Plan Area

Almost the entirety of the North End subarea, and the majority of the Valdez subarea, falls within the ***CC-2 Community Commercial Zone - 2***. The CC-2 Zone is intended to create, maintain, and enhance areas suitable for a variety of commercial and institutional operations and is specifically focused on areas with direct frontage, and access to frontage, along the City's major corridors and commercial areas. A small portion of the North End subarea, east of Brook Street and on either side of Richmond Avenue, are zoned ***RM-4*** and ***RM-3 Mixed Housing Type Residential Zone***. The *Mixed Housing Type Residential* zones are intended to create, maintain, and enhance residential areas typically located near the City's major arterials and characterized by a mix of single family homes, townhouses, small multi-unit buildings, and neighborhood businesses where appropriate.

Various zoning districts exist in the southern portion of the Plan Area. South of Bay Place and east of Valdez Street, including ***Urban Residential (RU-4 and RU-3)*** and ***CN-2 Neighborhood Center Commercial - 2***. The *Urban Residential* zones are intended to create, maintain, and enhance areas of multi-unit, low- to high-rise residential structures along the City's major corridors. These zones also encourage neighborhood businesses in areas with good access to transit, such as the Plan Area. The Neighborhood Center Commercial zones are intended to enhance the smaller-scale and pedestrian oriented character of established neighborhood commercial uses with continuous and active store fronts and opportunities for comparison shopping.

The most southerly parcels fronting Grand Avenue are zoned ***CBD-P Central Business District – Pedestrian Retail Commercial Zone***. The CBD zoning regulations are intended to encourage high density, mixed use, urban development along with supporting retail nodes and pedestrian-oriented streetscapes. The regulations intend to encourage a visually appealing skyline while preserving and enhancing existing neighborhood districts. The CBD-P is specifically zoned to create, maintain, and enhance areas for ground-level, pedestrian-oriented, active storefront uses, with office and residential uses in the upper stories.

All zones, although not all parcels, within the Plan Area, aside from the CBD-P parcels also fall within the ***D-BR Broadway Retail Frontage District Interim Combining Zone***, which combines with the commercial and residential zones. This combining zone, which was adopted in 2011, is designed specifically for the Plan Area in anticipation of the more comprehensive and detailed regulations associated with adoption of the Specific Plan. The overall intent of these regulations, which are supplementary to the underlying base zones, is to attract ground-level retail opportunities through permitted, restricted, and limited (including automotive-related) new uses, building height minimum, and minimum setbacks from the sidewalks portions of the Plan Area.

Existing Commercial / Corridor Height Limits apply to the majority of the Plan Area. Aside from a 45 foot height limit on parcels west of Piedmont Avenue and north of Randwick Avenue, the entire North End subarea is zoned for 75 feet. The areas zoned RM-3 would continue to have a 30 foot height limit and RM-4 a 35 foot height limit. The 75-foot height limit zone extends southward into the Valdez subarea to 27th Street where it increases to 120 feet. A few parcels

north of 27th Street and east of Valdez, adjacent to the Westlake Middle School and First Congregational Church of Oakland, have height limits of 60 feet. There is also a small area between 23rd and 24th Street, west of Harrison Street and including some parcels on either side of Waverly Street that have a 60-foot height limit. There is no height limit governing the CBD-P parcels along Grant Avenue.

Project Consistency with Oakland Zoning

As noted above, the Specific Plan would be adopted by ordinance and thus the Specific Plan policies would be enforceable to the same extent as the Zoning Ordinance contained within the City's Municipal Code. Adoption of the Specific Plan would be accompanied by adoption of new and permanent zoning regulations. Future proposals under the Broadway Valdez Development Program would be reviewed for consistency with the Specific Plan policies, conformance with development regulations and design guidelines, and conformance with the updated zoning regulations. As noted above, conflicts with zoning regulations, specifically those that do not relate to a physical change, do not inherently result in a significant effect on the environment within the context of CEQA. As shown in Figures 3-7 and 3-8 in Chapter 3, *Project Description*, height limits would remain the same or be reduced along the northeastern portion of the Plan Area; increased height limits are proposed in areas west of Broadway, near the elevated I-580 freeway and Alta Bates Summit Medical Center, ranging from 135 feet – 200 feet (formerly 75 feet), as well as in the southern portion of the Plan Area between Broadway and Valdez Street north of 23rd Street (with a height maximum of 250 feet instead of the existing 120 feet); there is also the potential for certain portions of the Valdez Triangle (in the Retail Priority Sites) that have a "by right" height maximum of 45 feet, to have increased height limits ranging from 200 feet to 250 feet provided that specified amounts/configuration of retail space are provided (see Chapter 3, *Project Description)*. These proposed height limits, in combination with the proposed Maximum Base Heights, existing step-back requirements, and the City's projected Broadway Valdez Development Program inform the Physical Height Model which is the basis for analysis within this EIR (see Figure 3-11 in Chapter 3, *Project Description*). The Physical Height Model shows anticipated building heights in a similar pattern with taller towers and development focused on the northern and southern portions of the Plan Area.

To the extent that the Specific Plan would amend the Planning Code, the impacts of those amendments are considered in the relevant sections of this EIR. An amendment to the Planning Code constitutes an environmental impact only when it results in a substantial adverse physical change in the environment. The Specific Plan would not substantially conflict with existing Planning Code regulations that have been *adopted for the purpose of avoiding or mitigating an environmental effect*.

Redevelopment Plans

The Plan Area overlaps with the project areas of two redevelopment plans: the Broadway/MacArthur/ San Pablo Redevelopment Plan and the Central District Urban Renewal Plan. The general goal of these plans is to eliminate blight within the respective project areas

(Oakland Redevelopment Agency, 2007; Oakland Redevelopment Agency, 2009; Oakland Redevelopment Agency, 2012).

Broadway/MacArthur/San Pablo Redevelopment Plan

The Broadway/MacArthur/San Pablo Redevelopment Plan Project Area encompasses the entire northern portion of the Plan Area southward to 27th Street. The goals and objectives outlined within this plan that pertain to land use, plans, and policies are listed below:

- ***Goal A*:** Stimulate in-fill development and land assembly opportunities on obsolete, underutilized and vacant properties in the Project Area.
- ***Goal B*:** Stimulate opportunities for adaptive re-use and preservation of existing building stock in the Project Area.
- ***Goal C*:** Attract new businesses and retain existing businesses in the Project Area, providing job training and employment opportunities for Area residents.
- ***Goal G*:** Revitalize neighborhood commercial areas.

Central District Urban Renewal Plan

The Central District Urban Renewal Plan encompasses the southern portion of the Plan Area northward to 27th Street. This Redevelopment Plan lists the following major goal pertaining to land use, plans, and policies:

- ***Goal A*:** A strengthening of the Project Area's existing role as an important office center for administrative, financial, business service and governmental activities.
- ***Goal B*:** Revitalization and strengthening of the Oakland Central District's historical role as the major regional retail center for the Metropolitan Oakland Area.
- ***Goal C*:** Establishment of the Project Area as an important cultural entertainment center.

Project Consistency with Redevelopment Plans

Adoption and development under the Specific Plan would be consistent with the major goals of the applicable redevelopment plans pertaining to land use, plans, and policies. Furthermore, adoption and development under the Specific Plan would not result in a conflict with redevelopment plan goals that were *adopted for the purpose of avoiding or mitigating an environmental effect*.

Oakland Energy and Climate Action Plan

An Oakland Energy and Climate Action Plan (ECAP) has been developed to identify, evaluate and recommend prioritized actions to reduce energy consumption and GHG emissions in Oakland. Consistency with the ECAP is evaluated in Section 4.6, *Greenhouse Gases*.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

There are no City of Oakland SCAs specific to land use.

4.9.3 Impacts and Mitigation Measures

Significance Criteria

Adoption and development under the Specific Plan would have a significant impact on the environment if it would:

1. Physically divide an established community;

2. Result in a fundamental conflict between adjacent or nearby land uses;

3. Fundamentally conflict with any applicable land use plan, policy or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect and result in a physical change in the environment; or

4. Fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan

Approach to Analysis

This EIR analysis evaluates the general consistency of adoption and development under the Specific Plan with applicable land use plans and policies in order to determine the potential for significant environmental impacts. As discussed in the Setting section of this chapter, the General Plan has determined that "the fact that a specific project does not meet all General Plan goals, policies, and objectives does not inherently result in a significant effect on the environment within the context of [CEQA]" (City of Oakland, 2005). This EIR analysis also evaluates the adoption and development under the Specific Plan in terms of its potential to physically divide an existing community and its compatibility with nearby existing land uses.

Impacts

Land Use Compatibility / Physical Division of an Established Community

Impact LU-1: Adoption and development under the Specific Plan would not result in the physical division of an existing community or conflict with adjacent or nearby land uses (Criteria 1 and 2). (Less than Significant)

The existing street grid system establishes the framework for the Plan Area and provides for visual and physical connections between the Plan Area and surrounding neighborhoods. Adoption and development under the Specific Plan may include temporary or permanent street closures of three street segments to through traffic. These would include Waverly between 23rd and 24th Streets, 26th Street between Broadway and Valdez Street, and 34th Street between I-580 Off-Ramp and Broadway. These closures would consolidate parcels for the purposes of development. However, none of these street segments provide essential internal connections within or through the Plan Area and their closure would not create a new physical barrier to these internal connections nor result in a physical division within an established community.

The Specific Plan's proposed land use designations and policies are not intended to maintain the existing land use patterns within the Plan Area. On the contrary, the goals, policies, and proposed land use designations included in the Specific Plan promote the transformation of the Plan Area's existing land use patterns from low-density automobile oriented commercial uses to high-density, pedestrian-friendly, mixed-use development with a focus on destination retail. The Specific Plan would allow for taller buildings than currently exist or are currently permitted and would result in a higher density and intensity of mixed uses within the Plan Area.

Residential, office, retail and professional service uses envisioned for development under the Specific Plan would transform the North End subarea into a high-density mixed-use boulevard accommodating, in part, the needs of the adjoining medical complexes. Active street-fronting uses would be required along Broadway. Focused retail development along Valdez and 24th Streets along with mixed-use development, including street-fronting retail and service uses on the ground-level, throughout the triangle would transform the Valdez subarea into a more regional destination for comparison goods retail. Adoption and development under the Specific Plan is anticipated to provide new housing or offices on upper floors in mixed-use buildings where feasible throughout the Plan Area, with some areas providing for horizontal mixed use instead of vertical, while enhancing and preserving the existing residential uses along Brook Street and Richmond Boulevard.

While the primary focus of future Plan Area development is not on the automotive market, car dealerships represent an important existing land use and valuable source of sales tax revenue for the City of Oakland. While new automobile dealerships would be conditionally permitted under the Specific Plan, they would be restricted to a showroom with a small area for service in the Valdez Triangle with inventory offsite outside of the Valdez Triangle, and a showroom and a small area for service, and structured parking for inventory or inventory offsite in the North End. Considered in isolation, the land use changes anticipated under the Specific Plan could result in conflicts with the existing automobile-oriented uses within the Plan Area. In particular, safe pedestrian streetscapes and active street frontages are encouraged by Specific Plan policies and necessary to support both the residential, retail, and service development and the associated residential, customer, and employee populations. The automobile-oriented uses rely on surface parking lots and private driveways that interrupt the safe and active streetscapes encouraged and required by the Specific Plan.

However, a key consideration in this discussion is the role of the existing land uses along the Broadway corridor specifically as they relate to neighboring uses. As noted above, the underutilized sites and the predominance of automobile-related uses contribute to the overall uninviting pedestrian environment of the Plan Area and the corridor currently serves as a physical barrier between the burgeoning surrounding neighborhoods. Land use changes that would occur with adoption and development under the Specific Plan would compliment and connect the existing land uses adjoining the Plan Area including the business, entertainment, medical and residential uses. For this reason, the transformation, over time, of the Plan Area into a true mixed-use neighborhood and comparison goods retail destination, would support land uses nearby and adjacent to the Plan Area. To the extent that this transformation is already underway as a response to market forces and the growing needs of surrounding development, the Specific Plan would

serve as a mechanism for ensuring the future development within the Plan Area is coordinated, compatible, and well-planned.

The majority of the Plan Area is comprised of surface parking lots, vacant lots, one-story structures (65 percent), and two-story structures (27 percent). Existing zoning would allow for a maximum building height of 75 feet for the majority of the Plan Area and 120 feet for a large portion of the Valdez subarea. Adoption and development under the Specific Plan would introduce heights not already existing in the Plan Area. Proposed building height maximums would range between 45 feet along Brook Street and 250 feet along Grand Avenue and Broadway. Existing maximum height limits in the RM-3 and RM-4 zones of 30 and 35 feet respectively would not change. Figure 3-8 in Chapter 3, *Project Description,* depicts the proposed maximum building heights along with maximum base heights and height minimums. Figure 3-11 in Chapter 3, *Project Description*, depicts the Physical Height Model, which incorporates required setbacks along with other factors and forms the basis for the EIR analysis. According to the Physical Height Model, development under the Specific Plan would result in the most change, in terms building heights, toward the northern and southern borders of the Plan Area. The addition of taller buildings in the northern blocks of the Plan Area would be consistent with the surrounding development, including taller medical buildings, such as the 185-foot-tall Alta Bates Summit Medical Center, and the elevated I-580 freeway, and would not create a new physical barrier between established communities. Similarly, the development of taller towers toward the southern boundary of the Plan Area would be consistent with existing development south of the Plan Area and with the Specific Plan vision for creating an extension of the *Central Business District*. Further, proposed building height maximum and building base-height maximums are designed with consideration for proximity to historic buildings, historic districts, and residential uses and restrict future projects so that they remain in scale with the surrounding context.

As discussed in Section 4.1, *Aesthetics, Shadow, and Wind,* the proposed heights would result in less-than-significant impacts to view corridors and no scenic views or vistas would be obscured. With new development occurring along the existing street grid pattern and proposed building heights and massing controls resulting in buildings relatively compatible with existing buildings and with development adjacent to the Plan Area, adoption and development under the Specific Plan would not result in a physical or visual barrier, therefore would not physically divide the community.

In summary, although the Specific Plan would allow for taller buildings, the adoption and development under the Specific Plan would not physically divide the community. Although, as described above, adoption and development under the Specific Plan would result in a change in land use patterns throughout the Plan Area, the transition would occur incrementally over time. In addition, the developed Plan Area would represent a strengthening and revitalization of the community represented in the larger area including the residential, institutional, entertainment and downtown office uses surrounding the Plan Area. When considered in the context of this portion of the City, the transition of land use and land use intensity would benefit and serve the needs of land uses adjacent and nearby. A more active and pedestrian friendly environment would serve to enhance connections within the Plan Area, as well as to, and between, the surrounding

neighborhoods. Therefore, the Specific Plan would enhance connectivity in the community rather than result in a perceived or physical division. The impact would be less than significant.

In addition, the General Plan contains substantial policy requirements pertaining to compatibility of land uses that must be implemented throughout all of the City's neighborhoods, including those within the Plan Area. As noted above, adoption of the Specific Plan would be accompanied by a General Plan amendment. However, the Specific Plan would not replace the General Plan's existing policy directions on compatible land uses and thus these policies would apply to future development under the Specific Plan. Conformance to the General Plan, including LUTE policies listed below, would discourage development of incompatible land uses or land uses that would result in a division within an established community. Adherence to these policies is factored into the Broadway Valdez Development Program and reflected in the Physical Height Model (see Chapter 3, *Project Description*).

- ***Policy N1.8:*** The height and bulk of commercial development in Neighborhood Mixed Use Center and *Community Commercial* areas should be compatible with that which is allowed for residential development.

- ***Policy N2.1:*** As institutional uses are among the most visible activities in the City and can be sources of community pride, high quality design and upkeep should be encouraged. The facilities should be designed and operated in a manner that is sensitive to surrounding residential and other sues.

- ***Policy N5.2:*** Residential areas should be buffered and reinforced from conflicting uses through the establishment of performance-based regulations, the removal of non-conforming uses and other tools.

- ***Policy N7.1:*** New residential development in detached Unit and Mixed Housing Type areas should be compatible with the density, scale, design and existing or desired character of surrounding development.

- ***Policy N7.2:*** Infrastructure availability, environmental constraints and natural features, emergency response and evacuation times, street width and function, prevailing lot size, prominent development type and height, scenic values, distance from public transit and desired neighborhood character are among the factors that should be taken into consideration when developing and mapping zoning designations or determining compatibility. These factors should be balanced with the citywide need for housing.

- ***Policy N8.2:*** The height of development in *urban residential* and the higher density residential areas should step down as it nears lower density residential areas to minimize conflicts at the interface between the different types of development.

Implementation of General Plan policies, including but not limited to those described above, means that no significant land use impacts related to land use incompatibility or the physical division of an established community would occur as a result of the adoption and development under the Specific Plan.

Mitigation: None Required.

Policy Consistency / Change in Environment

Impact LU-2: Adoption and development under the Specific Plan would not conflict with applicable land use plans and policies adopted for the purpose of avoiding or mitigating an environmental effect (Criterion 3). (Less than Significant)

Conflicts between a project and applicable policies do not constitute significant physical environmental impacts in and of themselves. A policy inconsistency is considered a significant adverse environmental impact only when it is related to a policy adopted for the purpose of avoiding or mitigating an environmental effect and it is anticipated that the inconsistency would result in a significant adverse physical impact based on the established significance criteria.

As discussed in the Setting section above, adoption and development under the Specific Plan generally would not conflict with applicable land use policies adopted for the purpose of avoiding or mitigating an environmental effect. As a result, no significant land use impacts related to the consistency of adoption and development under the Specific Plan with land use policies would occur.

Mitigation: None Required.

Habitat and Natural Community Conservation Plans

Impact LU-3: Adoption and development under the Specific Plan would not fundamentally conflict with any applicable habitat conservation plan or natural community conservation plan (Criterion 4). (Less than Significant)

The Plan Area is not located within or in proximity to an area guided by a Habitat Conservation Plan or Natural Community Conservation Plan. Therefore, adoption and development under the Specific Plan would not conflict with such plans.

Mitigation: None Required.

Cumulative Impacts

Impact LU-4: Development under the Specific Plan, combined with cumulative development in the defined geographic area, including past, present, existing, approved, pending, and reasonably foreseeable future development, does not reveal any significant adverse cumulative impacts in the area. (Less than Significant)

Geographic Context

The cumulative geographic context for land use, plans and policy considerations for the development under the Specific Plan consists of the Plan Area in addition to the surrounding

neighborhoods including the Uptown District, Lake Merritt / Kaiser Center Office District, Pill Hill, the Art Murmur Gallery District (25th Street Garage District), as well as surrounding residential neighborhoods (these surrounding neighborhoods are discussed above).

Impacts

As analyzed throughout this section, development under the Specific Plan would not result in a significant land use impact by potentially physically dividing an established community; conflicting with adjacent or nearby land uses; or conflicting with applicable land use plans, policies or regulations adopted for the purpose of avoiding or mitigating an environmental effect. Development under the Specific Plan would not be located in or near an area guided by a habitat conservation plan or natural community conservation plan. Thus, development under the Specific Plan would not combine with, or add to, any potential adverse land use impacts that may be associated with other cumulative development. Similarly, because development under the Specific Plan would not result in a conflict with a land use plan, policy or regulation in manner that could result in a significant environmental effect, whether other present or future development would have such a conflict, the effect would not combine to create cumulative conflict.

In addition, past projects have been, and present and reasonably foreseeable future projects would be, subject to development guidance contained within the General Plan and other applicable land use plans to ensure land use compatibility. These projects include those in the Major Projects List in Appendix B to this Draft EIR. Based on the information in this land use section and for the reasons summarized above, development under the Specific Plan would not contribute to any significant adverse cumulative land use impacts when considered together with past, present, pending and reasonably foreseeable development.

Mitigation: None Required.

4.9.4 References

City of Oakland, 2002.*Pedestrian Master Plan. Part of the Land Use and Transportation Element of the Oakland General Plan*, adopted November 2002.

City of Oakland, 2007. *Land Use and Transportation Element of the Oakland General Plan*, March 24, 1998, amended to June 21, 2007.

City of Oakland, 2007. *Bicycle Master Plan. Part of the Land Use and Transportation Element of the Oakland General Plan*, adopted December 2007.

City of Oakland, 2013. *City of Oakland Planning Code.* CEDA: Planning and Zoning. http://www2.oaklandnet.com/oakca1/groups/ceda/documents/report/oak032032.pdf, accessed February 14, 2013.

Oakland Redevelopment Agency, 2007. Redevelopment Plan for the *Broadway/MacArthur/San Pablo Redevelopment Project*, Adopted June 25, 2000, as amended through March 6, 2007.

Oakland Redevelopment Agency, 2012. *Central District Urban Renewal Plan*, Adopted June 12. 1969, as amended through April 3, 2012.

Oakland Redevelopment Agency, 2009. *Central Redevelopment Project Five-Year Implementation Plan 2009-2014*, 2009.

WRT, 2013. *Public Review Draft Broadway Valdez District Specific Plan*, September, 2013.

4.10 Noise

This section analyzes potential impacts on the ambient noise environment caused by adoption and construction of development under the Specific Plan. It also analyzes the compatibility of noise-sensitive uses developed, such as residences and public open spaces with the existing noise environment. This section describes the environmental and regulatory setting of the Plan Area as well as basics of environmental acoustics, including definitions of terms commonly used in noise analysis. Potential impacts are discussed and evaluated, and appropriate mitigation measures or Standard Conditions of Approval (SCA) are identified, as necessary.

4.10.1 Environmental Setting

Technical Background

Sound is mechanical energy transmitted by pressure waves through a medium such as air. Noise is defined as unwanted sound. Sound is characterized by various parameters that include the rate of oscillation of sound waves (frequency), the speed of propagation, and the pressure level or energy content (amplitude). In particular, the sound pressure level has become the most common descriptor used to characterize the "loudness" of an ambient sound level. Sound pressure level is measured in decibels (dB), with zero dB corresponding roughly to the threshold of human hearing, and 120 to 140 dB corresponding to the threshold of pain.

Sound pressure fluctuations can be measured in units of hertz (Hz), which correspond to the frequency of a particular sound. Typically, sound does not consist of a single frequency, but rather a broad band of frequencies varying in levels of magnitude (sound power). The typical human ear is not equally sensitive to all frequencies of the audible sound spectrum. As a consequence, when assessing potential noise impacts, sound is measured using an electronic filter that de-emphasizes the frequencies below 1,000 Hz and above 5,000 Hz in a manner corresponding to the human ear's decreased sensitivity to low and extremely high frequencies. This method of frequency weighting is referred to as A-weighting and is expressed in units of decibels (dBA).[1] Frequency A-weighting follows an international standard methodology of frequency de-emphasis and is typically applied to community noise measurements.

Some representative noise sources and their corresponding A-weighted noise levels are shown in **Table 4.10-1**.

Noise Exposure and Community Noise

An individual's noise exposure is a measure of the noise experienced by the individual over a period of time. A noise level is a measure of noise at a given instant in time. The noise levels presented in Table 4.10-1 represent noise measured at a given instant in time; however, noise levels rarely persist consistently over a long period of time. Rather, community noise varies

[1] All noise levels reported herein reflect A-weighted decibels unless otherwise stated.

TABLE 4.10-1
TYPICAL NOISE LEVELS

Noise Level (dBA)	Outdoor Activity	Indoor Activity
90+	Gas lawn mower at 3 feet, jet flyover at 1,000 feet	Rock Band
80-90	Diesel truck at 50 feet	Loud television at 3 feet
70-80	Gas lawn mower at 100 feet, noisy urban area	Garbage disposal at 3 feet, vacuum cleaner at 10 feet
60-70	Commercial area	Normal speech at 3 feet
40-60	Quiet urban daytime, traffic at 300 feet	Large business office, dishwasher next room
20-40	Quiet rural, suburban nighttime	Concert hall (background), library, bedroom at night
10-20		Broadcast / recording studio
0	Lowest threshold of human hearing	Lowest threshold of human hearing

SOURCE: Modified from Caltrans, 2009

continuously over time because of the contributing sound sources of the community noise environment. Community noise is primarily the product of many distant noise sources, which constitute a relatively stable background noise, with the individual contributors unidentifiable. The background noise level changes throughout a typical day, but does so gradually, corresponding with the addition and subtraction of distant noise sources such as traffic and wind. What makes community noise constantly variable throughout a day, besides the slowly changing background noise, is the addition of short duration single event noise sources (e.g., aircraft flyovers, motor vehicles, sirens), which are readily identifiable to the individual.

These successive additions of sound to the community noise environment varies the community noise level from instant to instant requiring the measurement of noise exposure over a period of time to accurately characterize a community noise environment and evaluate cumulative noise impacts. This time-varying characteristic of environmental noise is described using statistical noise descriptors. The most frequently used noise descriptors are summarized below:

L_{eq}: The equivalent sound level is used to describe noise over a specified period of time, typically one hour, in terms of a single numerical value. The L_{eq} is the constant sound level, which would contain the same acoustic energy as the varying sound level, during the same time period (i.e., the average noise exposure level for the given time period).

L_{max}: The instantaneous maximum noise level for a specified period of time.

L_{50}: The noise level that is equaled or exceeded 50 percent of the specified time. This is the median noise level during the specified time.

L_{90}: The noise level that is equaled or exceeded 90 percent of the specified time. The L_{90} is often considered the background noise level averaged over the specified time.

DNL: The Day/Night Average Sound Level is the 24-hour day and night A-weighed noise exposure level, which accounts for the greater sensitivity of most people to nighttime noise by weighting noise levels at night. Noise between 10:00 p.m. and 7:00 a.m. is weighted (penalized) by adding 10 dBA to take into account the greater annoyance from nighttime noise. (Also referred to as "Ldn.")

CNEL: Similar to the DNL, the Community Noise Equivalent Level (CNEL) adds a 5-dBA "penalty" for the evening hours between 7:00 p.m. and 10:00 p.m. in addition to a 10-dBA penalty between the hours of 10:00 p.m. and 7:00 a.m.

Effects of Noise on People

The effects of noise on people can be placed into three categories:

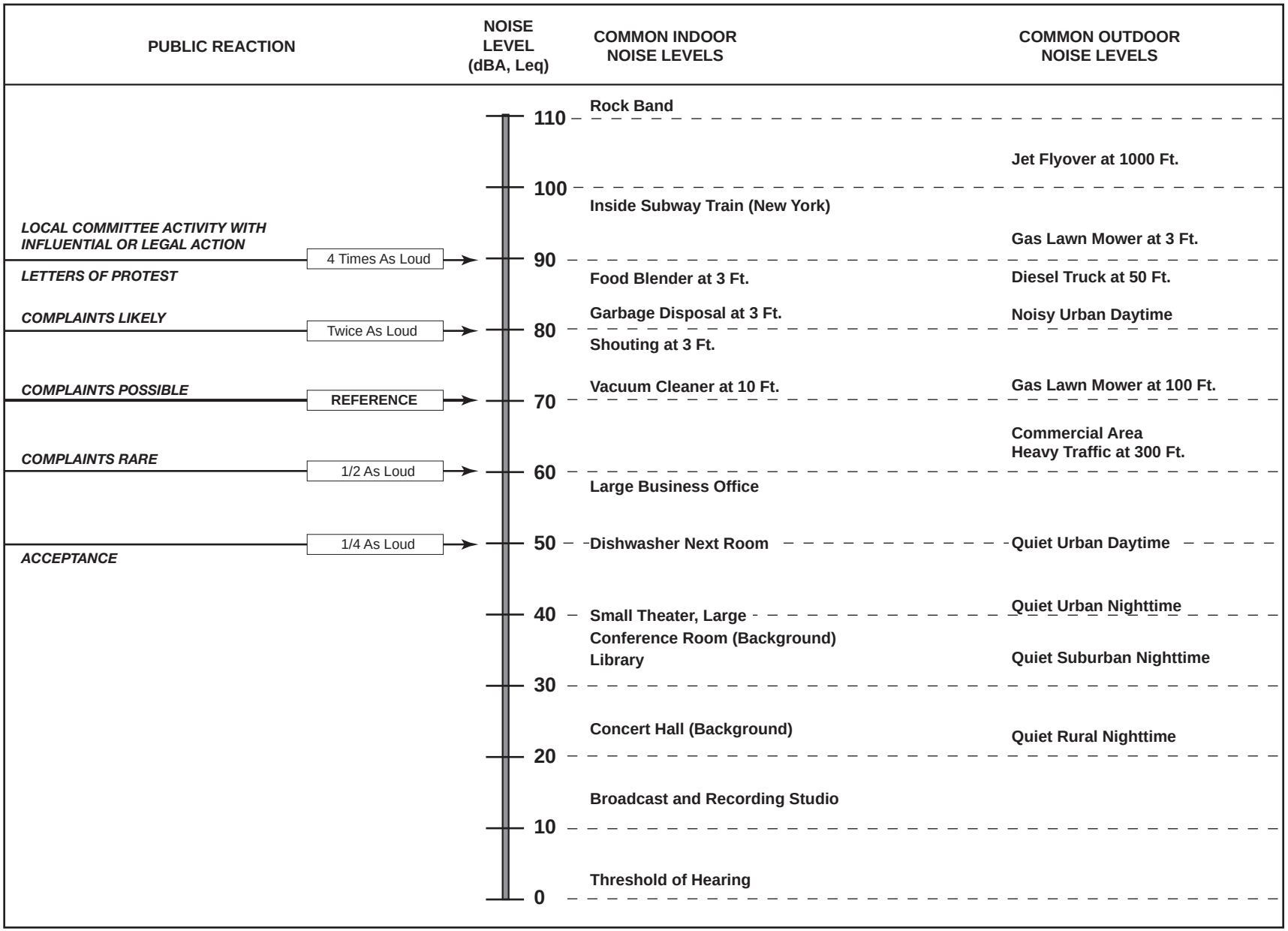
- Subjective effects of annoyance, nuisance, dissatisfaction;
- Interference with activities such as speech, sleep, learning; and
- Physiological effects such as hearing loss or sudden startling.

Environmental noise typically produces effects in the first two categories (see **Figure 4.10-1**). Workers in industrial plants generally experience noise in the last category. There is no completely satisfactory way to measure the subjective effects of noise, or the corresponding reactions of annoyance and dissatisfaction. A wide variation exists in the individual thresholds of annoyance, and different tolerances to noise tend to develop based on an individual's past experiences with noise.

Thus, an important way of predicting a human reaction to a new noise environment is the way it compares to the existing environment to which one has adapted: the so called "ambient noise" level. In general, the more a new noise exceeds the previously existing ambient noise level, the less acceptable the new noise will be judged by those hearing it. With regard to increases in A-weighted noise level, the following relationships occur:

- Under controlled conditions in an acoustics laboratory, the trained healthy human ear is able to discern changes in sound levels of 1 dBA;
- Outside these controlled conditions, the trained ear can detect changes of 2 dBA in normal environmental noise;
- It is widely accepted that the average healthy ear, however, can barely perceive changes in the noise level of 3 dBA;
- A change in level of 5 dBA is a readily perceptible increase in noise level; and
- A 10 dBA change is recognized as twice as loud as the original source (Caltrans, 2009).

These relationships occur in part because of the logarithmic nature of sound and the decibel system. The human ear perceives sound in a non-linear fashion; hence the decibel scale was developed. Because the decibel scale is based on logarithms, two noise sources do not combine in a simple additive fashion, rather logarithmically. For example, if two identical noise sources produce noise levels of 50 dBA, the combined sound level would be 53 dBA, not 100 dBA.



SOURCE: Caltrans Transportation Laboratory Noise Manual, 1982; and modification by ESA

Figure 4.10-1
Effects of Noise on People

Noise Attenuation

Stationary point sources of noise, including stationary mobile sources such as idling vehicles, attenuate (lessen) at a rate of 6 to 7.5 dBA per doubling of distance from the source, depending on the topography of the area and environmental conditions (i.e., atmospheric conditions and noise barriers, vegetative or manufactured, etc.). Widely distributed noise, such as a large industrial facility spread over many acres or a street with moving vehicles (known as a "line" source), would typically attenuate at a lower rate, approximately 3 to 4.5 dBA each time the distance doubles from the source, which also depends on environmental conditions (Caltrans, 2009). Noise from large construction sites would exhibit characteristics of both "point" and "line" sources, and attenuation will therefore generally range between 4.5 and 7.5 dBA each time the distance doubles.

Existing Noise Sources and Levels

Transportation sources, such as automobiles, trucks, trains, and aircraft, are the principal sources of noise in the urban environment. Along major transportation corridors, noise levels can reach 80 DNL, while along arterial streets, noise levels typically range from 65 to 70 DNL. However, noise levels on roadways, like all areas, can be affected by intervening development, topography, or landscaping. Industrial and commercial equipment and operations also contribute to the ambient noise environment in their vicinities.

Roadway traffic generates noise throughout the City of Oakland. Railroad trains and BART intermittently generate noise levels that are significant along the railroad tracks. General aviation aircraft and jet aircraft contribute to intermittent noise levels in the City. Noise is also generated on individual parcels whether industrial, commercial or residential. These noise sources do not affect the overall noise environment throughout the community (Illingworth and Rodkin, 2004).

To characterize the noise environment within the Plan Area, short-term noise monitoring was conducted at eight locations throughout the Plan Area. **Table 4.10-2** presents noise data for roadways within the Plan Area as monitored in 2013. Noise measurement locations were selected based on proximity to residential uses anticipated to be developed under the Specific Plan. Locations were also selected at varying distances from Broadway to demonstrate the attenuation with distance from this major noise source throughout the Specific Plan Area. A noise monitoring location near I-580 at the northern end of the Specific Plan Area also was selected, as were existing residential areas on Brooks Street and near Richmond Avenue. Primary noise sources in the Plan Area vicinity include traffic on the network of streets surrounding the Plan Area. Noise from I-580 is a major source at the northern extent of the Plan Area, although it is elevated and noise levels at 300 feet were recorded to average 63 dBA at a location with direct line of sight. Traffic noise from I-980 is sufficiently distant not to affect the Plan Area. No major stationary or industrial noise sources are located within the area.

TABLE 4.10-2
MONITORED NOISE ENVIRONMENTS WITHIN THE PLAN AREA

Location	Duration	Noise Level (Leq, dBA)	Noise Level (L_{33}, dBA)	Major Noise Source
Brooks Street Residential Area	15 Minute	59.2	56	Vehicle traffic and automotive shops
Richmond Avenue Residential Area	15 Minute	67.6	62	Vehicle traffic / street construction
Webster and 34th Place of Worship	15 Minute	63.0	62	Vehicle traffic
27th Street west of Broadway Proposed Residential	15 Minute	62.5	62	Vehicle traffic/siren
27th Street at Valdez Proposed Residential	15 Minute	64.9	62	Vehicle traffic
24th Street at Valdez Mixed Use Residential	15 Minute	59.2	56	Vehicle traffic / Car lot PA
25th Street 200 feet west of Broadway	15 Minute	56.5	56	Vehicle traffic and automotive shops
Broadway at 30th Street	15 Minute	66.8	66	Vehicle traffic / Bus stop / crosswalk warning

SOURCE: ESA, 2013.

Sensitive Receptors

Some land uses are considered more sensitive to ambient noise levels than others because of the amount of noise exposure, in terms of both duration and insulation from noise, and the types of activities typically involved. Residences, motels and hotels, schools, libraries, churches, hospitals, nursing homes, auditoriums, and parks and other outdoor recreation areas generally are more sensitive to noise than are commercial and industrial land uses.

The Plan Area consists of a mixture of commercial, retail and office space as well as residential uses. Located within the Plan Area are residential areas, day care facilities, senior community facilities, and churches. The location of sensitive receptors are presented in **Figure 4.10-2**, based on existing land uses within the Specific Plan Area.

4.10.2 Regulatory Setting

Federal, state, and local agencies regulate different aspects of environmental noise. Federal and state agencies generally set noise standards for mobile sources such as aircraft and motor vehicles, while regulation of stationary sources is left to local agencies. Local regulation of noise involves implementation of general plan policies and noise ordinance standards. Local general plans identify general principles intended to guide and influence development plans; local noise ordinances establish standards and procedures for addressing specific noise sources and activities.

SOURCE: WRT, 2013

Figure 4.10-2

Existing Sensitive Receptors in the Plan Area

Federal

Federal regulations establish noise limits for medium and heavy trucks (more than 4.5 tons, gross vehicle weight rating) under Title 40 Code of Federal Regulations (CFR) Part 205, Subpart B. The federal truck pass-by noise standard is 80 dB at 15 meters from the centerline of the vehicle pathway. These standards are implemented through regulatory controls on truck manufacturers.

State of California

Aircraft Operations

The California Airport Noise Standards, Title 21, Section 5000 et seq. of the California Code of Regulations (CCR) apply to any airport that is deemed to have a "noise problem" as established by the local County Board of Supervisors in accordance with the provisions in the regulation. Currently, within the Bay Area, Norman Y. Mineta-San José International Airport and San Francisco International Airport have been given this designation. The Standards establish a noise exposure limit "acceptable to a reasonable person residing in the vicinity of an airport" of 65 dB CNEL.

Vehicle Operations

The State of California establishes noise limits for vehicles licensed to operate on public roads. The pass-by standard for heavy trucks is consistent with the federal limit of 80 dB. The pass-by standard for light trucks and passenger cars (less than 4.5 tons, gross vehicle rating) is also 80 dB at 15 meters from the centerline. These standards are implemented through controls on vehicle manufacturers and by legal sanctions on vehicle operators by state and local law enforcement officials.

Noise Insulation Standard

The California Noise Insulation Standards found in CCR, Title 24 establish requirements for new multi-family residential units, hotels, and motels that may be subject to relatively high levels of transportation noise. In this case, the noise insulation criterion is 45 dB L_{dn}/CNEL inside noise-sensitive spaces. For developments with exterior transportation noise exposure exceeding 60 dB L_{dn}/CNEL, an acoustical analysis and mitigation (if required) must be provided showing compliance with the 45 dB L_{dn}/CNEL interior noise exposure limit.

Local Plans and Policies

City of Oakland General Plan

The Oakland General Plan contains guidelines for determining the compatibility of various land uses with different outdoor noise environments (City of Oakland, 2005). The Noise Element recognizes that some land uses are more sensitive to ambient noise levels than others, due to the amount of noise exposure (in terms of both exposure duration and insulation from noise) and the types of activities typically involved. The City uses state noise guidelines for judging the

compatibility between various land uses and their noise environments, which are summarized in **Figure 4.10-3** for various common land uses.

The Oakland General Plan Noise Element also identifies maximum interior noise levels generally considered acceptable for various common land uses (with windows closed). Relevant to the adoption and development under the Specific Plan, 50 dB is the maximum level acceptable for professional offices, research and development, auditoria, meeting halls, and 55 dB is the maximum level acceptable for retail, banks, restaurants, and sports clubs. The Noise Element contains the following applicable goals and policies:

> **Goal 1:** To protect Oakland's quality of life and the physical and mental well-being of residents and others in the City by reducing the community's exposure to noise; and
>
> **Goal 2:** To safeguard Oakland's economic welfare by mitigating noise incompatibilities among commercial, industrial and residential land uses.
>
> - ***Policy 1:*** Ensure the compatibility of existing and, especially, of proposed development projects not only with neighboring land uses but also with their surrounding noise environment.
> - ***Policy 2:*** Protect the noise environment by controlling the generation of noise by both stationary and mobile noise sources.
> - ***Policy 3:*** Reduce the community's exposure to noise by minimizing the noise levels that are *received* by Oakland residents and others in the City. (This policy addresses the *reception* of noise whereas Policy 2 addresses the *generation* of noise.)

City of Oakland Noise Ordinance

The City of Oakland also regulates noise through enforcement of its Noise Ordinance, which is found in Sections 8.18 and 17.120 of the Oakland Municipal Code. Per Chapter 8.18.020, the persistent maintenance or emission of any noise or sound produced by human, animal or mechanical means, between the hours of 9:00 p.m. and 7:00 a.m. which shall disturb the peace or comfort, or be injurious to the health of any person shall constitute a nuisance. Failure to comply with the following provisions shall constitute a nuisance.

A. All construction equipment powered by internal combustion engines shall be properly muffled and maintained. Unnecessary idling of internal combustion engines is prohibited.

B. All stationery noise-generating construction equipment such as tree grinders and air compressors are to be located as far as is practical from existing residences.

C. Quiet construction equipment, particularly air compressors, is to be selected whenever possible.

D. Use of pile drivers and jack hammers shall be prohibited on Sundays and holidays, except for emergencies and as approved in advance by the Building Official.

Land Use Compatibility Guidelines

LAND USE CATEGORY	COMMUNITY NOISE EXPOSURE (L_{DN} OR CNEL, dB)						
	55	60	65	70	75	80	
Residential	NA	NA	CA	NU	CU	CU	
Transient lodging – motels, hotels	NA	NA	NA	CA	NU	CU	
Schools, libraries, churches, hospitals, nursing homes	NA	NA	CA	NU	NU	CU	
Auditoriums, concert halls, amphitheaters	CA	CA	CA	CU	CU	CU	
Sports arenas, outdoor spectator sports	CA	CA	CA	CA	CU	CU	
Playgrounds, neighborhood parks	NA	NA	NU	NU	CU	CU	
Golf courses, riding stables, water recreation, cemeteries	NA	NA	NA	NU	NU	CU	
Office buildings, business commercial and professional	NA	NA	CA	CA	NU	NU	
Industrial, manufacturing, utilities, agriculture	NA	NA	NA	CA	CA	NU	

NA	NORMALLY ACCEPTABLE: Development may occur without an analysis of potential noise impacts *to the proposed development* (though it might still be necessary to analyze noise impacts that the project might have *on its surroundings*).
CA	CONDITIONALLY ACCEPTABLE: Development should be undertaken only after an analysis of noise-reduction requirements is conducted and if necessary noise-mitigating features are included.
NU	NORMALLY UNACCEPTABLE: Development should generally be discouraged; it may be undertaken only if a detailed analysis of the noise-reduction requirements is conducted, and if highly effective noise mitigation features are included.
CU	CLEARLY UNACCEPTABLE: Development should not be undertaken.

SOURCE: City of Oakland, 2011

Figure 4.10-3
Land Use Compatibility Guidelines

Whenever the existence of any such nuisance shall come to the attention of the Health Officer, it shall be his or her duty to notify in writing the occupant of the premises upon which such nuisance exists, specifying the measures necessary to abate such nuisance, and unless the same is abated within forty-eight (48) hours thereafter, the occupant so notified shall be guilty of an infraction, and the Health Officer shall summarily abate such nuisance.

Chapter 17.120.050 of the Oakland Planning Code regulates operational noise from stationary sources, as cities and counties do not have regulatory authority over noise from mobile sources (transportation noise). As mentioned above, transportation noise is regulated at the state and federal level by noise limits placed on vehicle manufacturers. **Table 4.10-3** presents maximum allowable receiving noise standards applicable to long-term exposure for residential and civic land uses, for noise from stationary noise sources (not transportation noise). Once constructed, noise from a stationary source would be limited by the standards in Table 4.10-3. For example, between 7:00 a.m. and 10:00 p.m., residential and civic land uses, including public open spaces, may only be exposed to noises up to 60 dBA for a period of 20 cumulative minutes in a one-hour time period and a maximum of 80 dBA. The Noise Ordinance states that if the measured ambient noise level exceeds the applicable noise level standard in any category, then the stated applicable noise level shall be adjusted so as to equal the ambient noise level. In other words, if existing noise is measured to be louder than the maximum allowed (i.e., the "applicable noise level standard"), the existing noise level shall be considered the maximum allowed.

Per Chapter 17.120.060 of the Oakland Planning Code, all activities, except those located within the M-40 zone, or in the M-30 zone more than 400 feet from any legal residentially occupied property, shall be so operated as not to create a vibration which is perceptible without instruments by the average person at or beyond any lot line of the lot containing such activities. Ground vibration caused by motor vehicles, trains, and temporary construction or demolition work is exempted from this standard. (Ord. 11895 Section 8, 1996: prior planning code Section 7711).

Table 4.10-4 presents noise level standards from the Noise Ordinance that applies to temporary exposure to short- and long-term construction noise. In this context, short-term refers to construction activity lasting less than 10 days at a time while long-term refers to construction activities lasting greater than 10 days at a time.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

The City of Oakland's Standard Conditions of Approval (SCA) relevant to reducing noise and vibration impacts due to adoption and development under the Specific Plan are listed below. If the Specific Plan is approved by the City, all applicable SCA would be adopted as conditions of approval and required of adoption and development under the Specific Plan, as applicable, to help ensure less-than-significant impacts from noise and vibration. The SCA are incorporated and required as part of all approved projects, so they are not listed as mitigation measures.

TABLE 4.10-3
CITY OF OAKLAND OPERATIONAL NOISE STANDARDS AT RECEIVING PROPERTY LINE, DBA[1]
(from Stationary Sources)

Receiving Land Use	Cumulative Number of Minutes in a 1-Hour Time Period[2]	Maximum Allowable Noise Level Standards (dBA)	
		Daytime 7:00 a.m. to 10:00 p.m.	Nighttime 10:00 p.m. to 7:00 a.m.
Residential and Civic[3]	20 (L_{33})	60	45
	10 ($L_{16.7}$)	65	50
	5 ($L_{8.3}$)	70	55
	1 ($L_{1.7}$)	75	60
	0 (L_{max})	80	65
		Anytime	
Commercial	20 (L_{33})	65	
	10 ($L_{16.7}$)	70	
	5 ($L_{8.3}$)	75	
	1 ($L_{1.7}$)	80	
	0 (L_{max})	85	
		Anytime	
Manufacturing, Mining, and Quarrying	20 (L_{33})	70	
	10 ($L_{16.7}$)	75	
	5 ($L_{8.3}$)	80	
	1 ($L_{1.7}$)	85	
	0 (L_{max})	90	

1 These standards are reduced 5 dBA for simple tone noise, noise consisting primarily of speech or music, or recurring impact noise. If the ambient noise level exceeds these standards, the standard shall be adjusted to equal the ambient noise level.
2 Lx represents the noise level that is exceeded X percent of a given period. Lmax is the maximum instantaneous noise level.
3 Legal residences, schools and childcare facilities, health care or nursing home, public open space, or similarly sensitive land uses.

SOURCE: City of Oakland, Planning Code Chapter 17.120.050. A, B, and C, 2008

TABLE 4.10-4
CITY OF OAKLAND CONSTRUCTION NOISE STANDARDS AT RECEIVING PROPERTY LINE, DBA

Receiving Land Use	Daily 7:00 a.m. to 7:00 p.m.	Weekends 9:00 a.m. to 8:00 p.m.
Short-Term Operation (less than 10 days)		
Residential	80	65
Commercial, Industrial	85	70
Long-Term Operation (more than 10 days)		
Residential	65	55
Commercial, Industrial	70	60

During the hours of 7 p.m. to 7 a.m. on weekdays and 8 p.m. to 9 a.m. on weekends and federal holidays, noise levels received by any land use from construction or demolition shall not exceed the applicable nighttime operational noise level standard (see Table 4.10-3). If the ambient noise level exceeds these standards, the standard shall be adjusted to equal the ambient noise level.

SOURCE: City of Oakland, Municipal Code Chapter 17.120.050.G.

- **SCA 28: Days/Hours of Construction Operation**

  Ongoing throughout demolition, grading, and/or construction. The project applicant shall require construction contractors to limit standard construction activities as follows:

  a) Construction activities are limited to between 7:00 a.m. and 7:00 p.m. Monday through Friday, except that pile driving and/or other extreme noise generating activities greater than 90 dBA shall be limited to between 8:00 a.m. and 4:00 p.m. Monday through Friday.

  b) Any construction activity proposed to occur outside of the standard hours of 7:00 a.m. to 7:00 p.m. Monday through Friday for special activities (such as concrete pouring which may require more continuous amounts of time) shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened and such construction activities shall only be allowed with the prior written authorization of the Building Services Division.

  c) Construction activity shall not occur on Saturdays, with the following possible exceptions:

     i. Prior to the building being enclosed, requests for Saturday construction for special activities (such as concrete pouring which may require more continuous amounts of time), shall be evaluated on a case by case basis, with criteria including the proximity of residential uses and a consideration of resident's preferences for whether the activity is acceptable if the overall duration of construction is shortened. Such construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division.

     ii. After the building is enclosed, requests for Saturday construction activities shall only be allowed on Saturdays with the prior written authorization of the Building Services Division, and only then within the interior of the building with the doors and windows closed.

  d) No extreme noise generating activities (greater than 90 dBA) shall be allowed on Saturdays, with no exceptions.

  e) No construction activity shall take place on Sundays or federal holidays.

  f) Construction activities include but are not limited to: truck idling, moving equipment (including trucks, elevators, etc) or materials, deliveries, and construction meetings held on-site in a non-enclosed area.

  g) Applicant shall use temporary power poles instead of generators where feasible.

- **SCA 29: Noise Control**

  Ongoing throughout demolition, grading, and/or construction. To reduce noise impacts due to construction, the project applicant shall require construction contractors to implement a site-specific noise reduction program, subject to the Planning and Zoning Division and the Building Services Division review and approval, which includes the following measures:

  a) Equipment and trucks used for project construction shall utilize the best available noise control techniques (e.g., improved mufflers, equipment redesign, use of intake

silencers, ducts, engine enclosures and acoustically-attenuating shields or shrouds, wherever feasible).

b) Except as provided herein, impact tools (e.g., jack hammers, pavement breakers, and rock drills) used for project construction shall be hydraulically or electrically powered wherever possible to avoid noise associated with compressed air exhaust from pneumatically powered tools. However, where use of pneumatic tools is unavoidable, an exhaust muffler on the compressed air exhaust shall be used; this muffler can lower noise levels from the exhaust by up to about 10 dBA. External jackets on the tools themselves shall be used, is such jackets are commercially available and this could achieve a reduction of 5 dBA. Quieter procedures shall be used, such as drills rather than impact equipment, whenever such procedures are available and consistent with construction procedures.

c) Stationary noise sources shall be located as far from adjacent receptors as possible, and they shall be muffled and enclosed within temporary sheds, incorporate insulation barriers, or other measures as determined by the City to provide equivalent noise reduction.

d) The noisiest phases of construction shall be limited to less than 10 days at a time. Exceptions may be allowed if the City determined an extension is necessary and all available noise reduction controls are implemented.

- **SCA 30: Noise Complaint Procedures**

  Ongoing throughout demolition, grading, and/or construction. Prior to the issuance of each building permit, along with the submission of construction documents, the project applicant shall submit to the Building Services Division a list of measures to respond to and track complaints pertaining to construction noise. These measures shall include:

  a) A procedure and phone numbers for notifying the Building Services Division staff and Oakland Police Department; (during regular construction hours and off-hours);

  b) A sign posted on-site pertaining with permitted construction days and hours and complaint procedures and who to notify in the event of a problem. The sign shall also include a listing of both the City and construction contractor's telephone numbers (during regular construction hours and off-hours);

  c) The designation of an on-site construction complaint and enforcement manager for the project;

  d) Notification of neighbors and occupants within 300 feet of the project construction area at least 30 days in advance of extreme noise generating activities about the estimated duration of the activity; and

  e) A preconstruction meeting shall be held with the job inspectors and the general contractor/on-site project manager to confirm that noise measures and practices (including construction hours, neighborhood notification, posted signs, etc.) are completed.

- **SCA 31: Interior Noise**

  Prior to issuance of a building permit. If necessary to comply with the interior noise requirements of the City of Oakland's General Plan Noise Element and achieve an acceptable interior noise level, noise reduction in the form of sound-rated assemblies (i.e.,

windows, exterior doors, and walls) shall be incorporated into project building design, based upon recommendations of a qualified acoustical engineer and submitted to the Building Services Division for review and approval. Final recommendations for sound-rated assemblies would depend on the specific building designs and layout of buildings on the site and shall be determined during the design phases. Written confirmation by the acoustical consultant, HVAC or HERS specialist, shall be submitted for City review and approval, prior to Certificate of Occupancy (or equivalent) that:

(a) Quality control was exercised during construction to ensure all air-gaps and penetrations of the building shell are controlled and sealed; and

(b) Demonstrates compliance with interior noise standards based upon performance testing of a sample unit.

(c) Inclusion of a Statement of Disclosure Notice in the CC&R's on the lease or title to all new tenants or owners of the units acknowledging the noise generating activity and the single event noise occurrences. Potential features/measures to reduce interior noise could include, but are not limited to, the following:

i. Installation of an alternative form of ventilation in all units identified in the acoustical analysis as not being able to meet the interior noise requirements due to adjacency to a noise generating activity, filtration of ambient make-up air in each unit and analysis of ventilation noise if ventilation is included in the recommendations by the acoustical analysis.

ii. Prohibition of Z-duct construction.

- **SCA 32: Operational Noise - General**

Ongoing. Noise levels from the activity, property, or any mechanical equipment on site shall comply with the performance standards of Section 17.120 of the Oakland Planning Code and Section 8.18 of the Oakland Municipal Code. If noise levels exceed these standards, the activity causing the noise shall be abated until appropriate noise reduction measures have been installed and compliance verified by the Planning and Zoning Division and Building Services.

- **SCA 38: Vibration**

A qualified acoustical consultant shall be retained by the project applicant during the design phase of the project to comment on structural design as it relates to reducing groundborne vibration at the project site. If required in order to reduce groundborne vibration to acceptable levels, the project applicant shall incorporate special building methods to reduce groundborne vibration being transmitted into project structures. The City shall review and approve the recommendations of the acoustical consultant and the plans implementing such recommendations. Applicant shall implement the approved plans. Potential methods include the following:

(a) Isolation of foundation and footings using resilient elements such as rubber bearing pads or springs, such as a "spring isolation" system that consists of resilient spring supports that can support the podium or residential foundations. The specific system shall be selected so that it can properly support the structural loads, and provide adequate filtering of ground-borne vibration to the residences above.

(b) Trenching, which involves excavating soil between the railway/freeway and the project so that the vibration path is interrupted, thereby reducing the vibration levels before they enter the project's structures. Since the reduction in vibration level is based on a ratio between trench depth and vibration wavelength, additional measurements shall be conducted to determine the vibration wavelengths affecting the project. Based on the resulting measurement findings, an adequate trench depth and, if required, suitable fill shall be identified (such as foamed styrene packing pellets (i.e., Styrofoam) or low-density polyethylene).

- **SCA 39: Pile Driving and Other Extreme Noise Generators**

  Ongoing throughout demolition, grading, and/or construction. To further reduce potential pier drilling, pile driving and/or other extreme noise generating construction impacts greater than 90dBA, a set of site-specific noise attenuation measures shall be completed under the supervision of a qualified acoustical consultant. Prior to commencing construction, a plan for such measures shall be submitted for review and approval by the Planning and Zoning Division and the Building Services Division to ensure that maximum feasible noise attenuation will be achieved. This plan shall be based on the final design of the project. A third-party peer review, paid for by the project applicant, may be required to assist the City in evaluating the feasibility and effectiveness of the noise reduction plan submitted by the project applicant. A special inspection deposit is required to ensure compliance with the noise reduction plan. The amount of the deposit shall be determined by the Building Official, and the deposit shall be submitted by the project applicant concurrent with submittal of the noise reduction plan. The noise reduction plan shall include, but not be limited to, an evaluation of the following measures. These attenuation measures shall include as many of the following control strategies as applicable to the site and construction activity:

  a) Erect temporary plywood noise barriers around the construction site, particularly along on sites adjacent to residential buildings;

  b) Implement "quiet" pile driving technology (such as pre-drilling of piles, the use of more than one pile driver to shorten the total pile driving duration), where feasible, in consideration of geotechnical and structural requirements and conditions;

  c) Utilize noise control blankets on the building structure as the building is erected to reduce noise emission from the site;

  d) Evaluate the feasibility of noise control at the receivers by temporarily improving the noise reduction capability of adjacent buildings by the use of sound blankets for example; and

  e) Monitor the effectiveness of noise attenuation measures by taking noise measurements.

- **SCA 57 : Vibrations Adjacent to Historic Structures**

  Prior to issuance of a demolition, grading or building permit. The project applicant shall retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that could damage other nearby historic structures, and design means and methods of construction that shall be utilized to not exceed the thresholds.

4.10.3 Impacts and Mitigation Measures

Significance Criteria

Adoption and development under the Specific Plan would have a significant impact on the environment if it were to:

1. Generate noise in violation of the City of Oakland Noise Ordinance (Oakland Planning Code section 17.120.050) regarding construction noise, except if an acoustical analysis is performed that identifies recommend measures to reduce potential impacts: During the hours of 7 p.m. to 7 a.m. on weekdays and 8 p.m. to 9 a.m. on weekends and federal holidays, noise levels received by any land use from construction or demolition shall not exceed the applicable nighttime operational noise level standard (see Table 2);

2. Generate noise in violation of the City of Oakland nuisance standards (Oakland Municipal Code section 8.18.020) regarding persistent construction-related noise;

3. Generate noise in violation of the City of Oakland Noise Ordinance (Oakland Planning Code section 17.120.050) regarding operational noise:

4. Generate noise resulting in a 5 dBA permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or, if under a cumulative scenario where the cumulative increase results in a 5 dBA permanent increase in ambient noise levels in the project vicinity without the project (i.e., the cumulative condition including the project compared to the existing conditions) and a 3 dBA permanent increase is attributable to the project (i.e., the cumulative condition including the project compared to the cumulative baseline condition without the project) [**NOTE**: Outside of a laboratory, a 3 dBA change is considered a just-perceivable difference. Therefore, 3 dBA is used to determine if the project-related noise increases are cumulative considerable.];

5. Expose persons to interior Ldn or CNEL greater than 45 dBA for multi-family dwellings, hotels, motels, dormitories and long-term care facilities (and may be extended by local legislative action to include single-family dwellings) per California Noise Insulation Standards (CCR Part 2, Title 24);

6. Expose the project to community noise in conflict with the land use compatibility guidelines of the Oakland General Plan after incorporation of all applicable Standard Conditions of Approval;

7. Expose persons to or generate noise levels in excess of applicable standards established by a regulatory agency (e.g., occupational noise standards of the Occupational Safety and Health Administration [OSHA]);

8. During either project construction or project operation expose persons to or generate groundborne vibration that exceeds the criteria established by the Federal Transit Administration (FTA):

9. Be located within an airport land use plan and would expose people residing or working in the project area to excessive noise levels; or

10. Be located within the vicinity of a private airstrip, and would expose people residing or working in the project area to excessive noise levels.

Approach to Analysis

Based on the characteristics of the Specific Plan and the Plan Area location, adoption and development under the Specific Plan would not result in impacts related to the following criteria. No impact discussion is provided for these topics for the following reasons:

- ***Airports.*** The Plan Area is not located within the vicinity of a private airstrip nor is it located within the land use plan area for Oakland Airport or any other airport. Therefore, it can be assumed that no impact would occur with regard to criteria 9 and 10.

- ***OSHA Standards.*** The Specific Plan proposes a mix of commercial office and residential uses. Expose persons to or generate noise levels in excess of applicable standards of OSHA would occur from industrial uses that are not proposed within the Specific Plan. OSHA noise exposure standards are implemented at noise levels of 85 dBA for an 8-hour exposure period. Average noise levels monitored within the Plan area were below 70 dBA. Therefore, it can be assumed that no impact would occur with regard to criterion 7.

CEQA requires the analysis of potential adverse effects of a project on the environment. Potential effects of the environment on a project are legally not required to be analyzed or mitigated under CEQA. However, this EIR nevertheless analyzes potential effects of "the environment on the project" in order to provide information to the public and decision-makers. Where a potential significant effect of the environment on the project is identified, the document, as appropriate, identifies City Standard Conditions of Approval and/or project-specific non-CEQA recommendations to address these issues.

Impacts

Construction Noise

Impact NOI-1: Adoption and development under the Specific Plan would not result in substantial temporary or periodic increases in ambient noise levels in the Plan Area above existing levels without the Specific Plan and in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies (Criteria 1, 2 and 8). (Less than Significant)

As indicated in Table 3-1 in Chapter 3, *Project Description*, adoption and development under the Specific Plan would allow for demolition and construction for a net increase of approximately 1.11 million square feet of retail space, 336,000 square feet of general office space, 359,000 square feet of medical office space, 1,796 residential units, and 181 hotel rooms over a 20-year planning period. Furthermore, adoption and development under the Specific Plan could include infrastructure improvements, including such items as streetscape improvements, traffic capacity improvements, and storm drainage improvements.

Construction, although typically short-term, can be a significant source of noise. Construction is most significant when it takes place near sensitive land uses, occurs at night, or in early morning hours. Local governments typically regulate noise associated with construction equipment and activities through enforcement of noise ordinance standards, implementation of General Plan policies and imposition of conditions of approval for building or grading permits. **Table 4.10-5**

shows typical exterior noise levels at various phases of commercial construction and **Table 4.10-6** shows typical noise levels associated with various types of construction equipment.

TABLE 4.10-5
TYPICAL CONSTRUCTION NOISE LEVELS

Phase	Noise Level (L_{eq})[a]
Ground Clearing	84
Excavation	89
Foundations	78
Erection	85
Exterior Finishing	89
Pile Driving	90-105

[a] Estimates correspond to a distance of 50 feet from the noisiest piece of equipment associated with a given phase and 200 feet from the other equipment associated with that phase.

SOURCE: U.S. Environmental Protection Agency, *Noise from Construction Equipment and Building Operations, Building Equipment and Home Appliances*, December 1971

TABLE 4.10-6
TYPICAL MAXIMUM NOISE LEVELS FROM CONSTRUCTION EQUIPMENT

Construction Equipment	Noise Level (dBA, L_{eq} at 50 feet)
Backhoe	80
Rock Drill	98
Air Compressor	81
Dozer	85
Air Compressor	85
Mobile Crane	83
Grader	85
Front End Loader	85
Trucks	88
Cranes	83
Pile Driver (Sonic)	96
Pile Driver (Impact)	101

SOURCE: FTA, 2006.

Construction-related activities would temporarily increase ambient noise levels within the Plan Area over the duration of construction. Construction-related noise levels within and adjacent to the Plan Area would fluctuate depending on the particular type, number, and duration of use of various pieces of construction equipment. The effect of construction noise would depend upon the level of construction activity on a given day, the related noise generated by that activity, the distance between construction activities, the nearest noise-sensitive uses, and the existing noise levels at those uses.

The dominant construction equipment noise source is usually a diesel engine. Stationary equipment consists of equipment that generates noise from one general area and includes items such as pumps, generators, compressors, etc. These types of equipment operate at a constant noise level under normal operation and are classified as non-impact equipment. Other types of stationary equipment such as pile drivers, jackhammers, and pavement breakers, etc., produce variable and sporadic noise levels and often produce impact-type noises. Impact equipment is equipment that generates impulsive noise, where impulsive noise is defined as noise of short duration (generally less than one second), high intensity, abrupt onset, rapid decay, and often rapidly changing spectral composition. For impact equipment, the noise is produced by the impact of a mass on a surface, typically repeating over time. Mobile equipment such as dozers, scrapers, graders, etc., may operate with power applied in a cyclic fashion in which a period of full power is followed by a period of reduced power. Other equipment such as compressors, although generally considered to be stationary when operating, can be readily relocated to another location for the next operation.

Construction-related noise levels generally fluctuate depending on the construction phase, equipment type and duration of use, distance between noise source and receptor, and presence or absence of barriers between the noise source and receptor. Existing sensitive receptors within and near the Specific Plan area were presented in Figure 4.10-2 in the Environmental Setting section. Adoption and development under the Specific Plan could introduce new sensitive receptors throughout the Plan Area.

Adoption and development under the Specific Plan could expose nearby residences to noise levels as high as 89 dBA at 50 feet using typical construction methods and up to 105 dBA at 50 feet if pile driving is required. However, even without pile driving, noise levels associated with construction would be significantly greater than existing noise levels at nearby receptors.

Effects of Extreme Noise Activities and Vibration

Noise from construction activities generally attenuates at a rate of 6.0 to 7.5 dBA per doubling of distance. As discussed above, the nearest sensitive uses could be as close as 50 feet from a given development project site. These areas would temporarily and intermittently experience maximum noise levels of up to 105 dBA with pile driving, typically the loudest source of construction noise. Impacts from pile driving can result from both elevated single-event or "impact" noise levels and from vibration. Pile driving could produce elevated noise levels, even when feasible noise reduction methods are used.

Implementation of SCA 28, *Days/Hours of Construction Operation*, SCA 29, *Noise Control*, SCA 30, *Noise Complaint Procedures*, and SCA 39, *Pile Driving and Other Extreme Noise Generators*, would reduce construction noise levels by limiting hours of construction activities, requiring best available noise control technology, and by requiring a project applicant and/or its contractors to notify any local residents (if any) of construction activities and to track and respond to noise complaints. The estimated noise level associated with pile driving could exceed the 90 dBA, L_{max}. To specifically address impacts from pile drilling and other extreme noise generating construction activities that may expose sensitive receptors to noise levels greater than 90 dBA, L_{max}, part of SCA 39 requires a project applicant to develop and submit for review and approval by the City a Site-

specific Construction Noise Reduction Plan that would ensure that maximum feasible noise attenuation will be achieved. The applicant is required submit this plan for review and approval.

Depending on the construction equipment used, groundborne vibrations can be perceptible within 30 to 100 feet of a source. Structural damage from pile driving typically does not occur in buildings more than 50 feet from the location of the activity (Caltrans, 2004). However, these vibrations could result in cosmetic or structural damage to within 50 feet of a project site and construction area. All development under the Specific Plan, if approved, would be required to incorporate SCA 39, *Vibration*, and SCA 57, *Vibrations Adjacent to Historic Structures*, to address the potential effects of groundborne vibration (see Section 4.4, *Cultural Resources*). SCA 57 requires that the project applicant retain a structural engineer or other appropriate professional to determine threshold levels of vibration and cracking that could affect portions of adjacent structures, and design means and methods of construction that shall be utilized to avoid potential impacts.

Implementation of SCAs 28, 29, 30, 39 and 57 would reduce impacts from construction noise and vibration. SCA's have been developed by the City of Oakland over the past decade to reduce construction noise impacts. SCA 28 restricts the hours and days of construction activity. SCA 29 requires contractors to implement a construction noise reduction program SCA 30 establishes construction noise complaint procedures, while SCA 39 establishes a set of site-specific noise attenuation measures to address noise from pile driving. These SCA's are comprehensive in their content and for practical purposes represent all feasible measures available to mitigate construction noise. Implementation of these measures would reduce construction impacts associated with extreme noise actions and vibration to less than significant levels.

Mitigation: None Required.

Operational Noise

Impact NOI-2: Adoption and development under the Specific Plan would not increase operational noise levels in the Plan Area to levels in excess of standards established in the Oakland Noise Ordinance and Planning Code (Criterion 3). (Less than Significant)

Chapter 17.120.050 of the City of Oakland Planning Code specifies the maximum sound level received at residential, public open spaces and commercial land uses. The maximum sound level (L_{max}) received by residential uses cannot exceed 80 dBA and the L_{max} received by commercial land uses cannot exceed 85 dBA. Per Table 4.10-3, stationary source noise received at residential uses must not exceed 60 dBA and commercial land uses cannot exceed 65 dBA during daytime hours as measured at the property line over a 20 minutes in a one-hour time period. However, per the City of Oakland, if existing noise is measured to be louder than the applicable noise level standard, the existing noise level shall be considered the maximum allowed, which is the case along some portions of Broadway in the Plan Area (see Table 4.10-2).

The adoption and development under the Specific Plan would generate some noise from heating, ventilating, and air conditioning mechanical equipment. Since the mechanical equipment would be

standardized the equipment's noise generation would not be expected to exceed the City's established thresholds presented in Table 4.10-3. Also, development would adhere to SCA 31, *Interior Noise*, and SCA 32, *Operational Noise (General)*. Therefore, operational noise impacts from adoption and development under the Specific Plan related to stationary sources would be less than significant.

Mitigation: None Required.

Impact NOI-3: Adoption and development under the Specific Plan would not expose persons to exterior noise levels in conflict with the land use compatibility guidelines of the Oakland General Plan after incorporation of all applicable Standard Conditions of Approval (Criterion 6). (Less than Significant)

Exposure of Residential Uses to Noise

The City of Oakland uses Land Use Compatibility Guidelines to determine noise-affected uses (see Figure 4.10-3 above). For family residential uses, noise environments of 60 DNL or less represent the normally acceptable noise exposure. Noise measurements were conducted at the locations of residential land uses as well as at existing commercial land uses and are presented in Table 4.10-2. Measurements taken at 24th Street, 25th Street and Brooks Street within the Plan Area indicate that the noise environment in these areas would be in the normally acceptable category for residential uses. Measurements taken at all other locations indicate that the noise environment in these areas would be in the conditionally acceptable category for residential uses. Conditionally acceptable means that new construction or development should be undertaken only after a detailed analysis of the noise reduction requirements is made and needed noise insulation features are included in the design. This would be achieved by adherence to SCA 31 which requires sound-rated assemblies, and/or other appropriate features/measures to meet land use compatibility requirements.

Exposure of Commercial and Retail Uses to Noise

Noise monitoring indicates that all monitoring locations are in a noise environment that would be considered normally acceptable.

Mitigation: None Required.

Impact NOI-4: Adoption and development under the Specific Plan would not expose persons to interior Ldn or CNEL greater than 45 dBA for multi-family dwellings, hotels, motels, dormitories and long-term care facilities in the Plan Area to noise levels in excess of standards established in the Oakland Noise Ordinance and Planning Code (Criterion 5). (Less than Significant)

The Land Use Compatibility standards of the City's General Plan are exterior noise standards which allow for an assessment of exterior noise levels to determine whether standard construction

techniques would be sufficient to achieve appropriate noise levels for each land use. For multi-family dwellings, hotels, motels, dormitories and long-term care facilities, the land use compatibility standard of 60 dBA for normally acceptable environments assumes that standard construction techniques would achieve 15 dBA of attenuation and provide for an interior environment of 45 dBA. As discussed in Impact NOI-3, portions of the Plan Area exhibit noise levels considered conditionally acceptable for residential uses. However SCA 31 would ensure that appropriate sound-rated assemblies, and/or other features/measures would be implemented to meet interior noise levels requirements. Consequently, the adoption and development under the Specific Plan would have a less than significant impact with regard to interior noise exposures.

Mitigation: None Required.

Traffic Noise

Impact NOI-5: Traffic generated by adoption and development under the Specific Plan could substantially increase traffic noise levels in the Plan Area (Criterion 4). (Significant and Unavoidable)

Additional vehicles traveling throughout the Plan Area as a result of the adoption and development under the Specific Plan would increase noise levels adjacent to nearby roads. Based on the City of Oakland's CEQA Thresholds, a project would be considered to generate a significant impact if it resulted in a 5 dBA permanent increase in ambient noise levels in the project vicinity above levels existing without the project. Noise levels were determined for this analysis using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model and the turning movements in the traffic section for Existing (2012), Existing Plus Project, conditions (see Section 4.13, *Transportation and Circulation*) (see Appendix G).

Trips associated with adoption and development under the Specific Plan would be distributed over the local street network and would affect roadside noise levels. Peak hour (evening) intersection turning data from the traffic study were analyzed to evaluate increases and resulting traffic-generated noise increases on roadway links most affected by project-related traffic and nearest the Plan Area. Noise levels at other times would be lower. The segments analyzed and the results of the noise increases resulting from modeling are shown in **Table 4.10-7**, below.

The increase in traffic noise from the Existing Plus Project scenario compared to the Existing scenario would increase peak hour noise levels by less than 5 dBA at all studied roadway segments with the exception of 24th Street east of Broadway and 26th Street east of Broadway, where the increase in roadside noise would be 6.4 and 5.1 dBA, respectively. Currently there are no sensitive receptors along this segment of 26th Street to be impacted by the projected increase in roadway noise. However there are currently residential uses along 24th Street east of Broadway. Consequently, roadway noise increases along 24th Street would be considered a significant impact.

TABLE 4.10-7
PEAK-HOUR TRAFFIC NOISE LEVELS IN THE VICINITY OF THE PLAN AREA

Roadway Segment	(A) Existing	(B) Existing Plus Project	(B-A) Difference between Existing Plus Project and Existing	(C) Cumulative No Project (2035)	(D) Cumulative Plus Project (2035)	(D-A) Difference between Cumulative Plus Project and Existing[d]	(D-C) Difference between Cumulative Plus Project and Cumulative No Project[e]
MacArthur Blvd east of Market Street	66.5	67.2	0.7	70.1	70.5	4.0	0.4
MacArthur Blvd east of Telegraph Avenue	66.6	67.5	0.9	69.8	70.3	3.7	0.5
Broadway south of MacArthur Blvd	68.0	68.9	0.9	70.2	70.8	2.8	0.6
Santa Clara Avenue east of Harrison Street	67.4	68.2	0.8	69.5	70.0	2.6	0.5
Broadway south of Piedmont Avenue	69.2	70.3	1.1	71.0	71.8	2.6	0.8
Hawthorne Avenue west of Broadway	61.5	65.4	3.9	61.9	65.6	4.1	3.7
Telegraph Avenue south of Hawthorne Avenue	68.1	68.9	0.8	70.5	71.0	2.9	0.5
Broadway north of 30th	68.6	69.9	1.3	70.7	71.5	2.9	0.8
27th Street west of Broadway	66.9	67.5	0.6	69.9	70.2	3.3	0.3
26th Street east of Broadway	53.2	58.3	**5.1**	55.4	59.3	**6.1**	**4.9**
25th Street east of Broadway	61.2	63.3	2.1	62.2	63.9	2.7	1.7
24th Street east of Broadway	57.3	63.7	**6.4**	58.9	64.2	**6.9**	**5.3**
27th Street west of Harrison Street	67.1	68.4	1.3	70.3	71.0	3.9	0.7
23rd Street west of Broadway	57.4	61.2	3.8	57.8	61.4	4.0	3.6
Harrison Street north of 23rd Street	68.9	69.5	0.6	71.7	72.1	3.2	0.4
Grand Avenue east of Brush Street	67.8	68.5	0.7	70.6	70.9	3.1	0.3
Grand Avenue east of Northgate Avenue	69.0	69.9	0.9	70.2	70.9	1.9	0.7
Valdez Street north of Grand Avenue	59.7	62.3	2.6	60.8	62.9	3.2	2.1
Broadway north of 20th Street	65.8	67.1	1.3	68.4	69.1	3.3	0.7

[a] Considered significant if the incremental increase in noise from traffic is greater than the existing ambient noise level by 5 dBA Leq, per City of Oakland, CEQA Thresholds/Criteria of Significance Guidelines. Violations are in **bolded** text.
[b] Road center to receptor distance is 15 meters (approximately 50 feet) for all roadway segments. Noise levels were determined using the Federal Highway Administration (FHWA) Traffic Noise Prediction Model.
[c] The analysis considered the vehicle mix based on – cars 95 percent, medium trucks 3 percent, and heavy trucks 2 percent. Traffic speeds for all vehicle classes were set at 30 mph.
[d] Considered significant if the incremental increase in noise is greater than 5 dBA.
[e] Considered a cumulatively considerable contribution to a significant noise increase if the incremental increase in noise is greater than 3 dBA when the cumulative increase in the preceding column is greater than 5 dBA.

SOURCE: ESA, 2013

Adherence to SCA 25 requires a Transportation Demand Management (TDM) program to be developed and implemented for individual project greater than 50 residential units or greater than 50,000 square feet of non-residential use to reduce use of single-occupant vehicles and to increase the use of rideshare, transit, bicycle and walk modes for trips to and from, as well as within the Plan Area. Due to uncertainty pertaining to quantifying the effectiveness of implementing TDM strategies, the travel demand analysis used as a basis for calculating roadside noise levels does not assume additional trip reduction due to specific TDM strategies beyond those associated with internal, pass-by, and diverted linked trips.

> **Mitigation:** None Feasible. A reduction of 29 percent of the traffic volumes on 24th Street would be required to achieve a less-than-significant conclusion. Measures included in the TDM plan that would be required of Specific Plan development projects greater than 50 units or 50,000 square feet would reduce project trips by at most 20 percent (see Section 4.13, *Traffic and Circulation*). Consequently, no feasible mitigation measures are available that would reduce this exterior noise impact to a level that would be less than significant.

Significance after Mitigation: Significant and Unavoidable.

Cumulative Noise Impacts

Impact NOI-6: Traffic generated by adoption and development under the Specific Plan, in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could substantially increase traffic noise levels in the Plan Area; and construction and operational noise levels in combination with traffic from past, present, existing, approved, pending and reasonably foreseeable future projects, could increase ambient noise levels (Criterion 4). (Significant and Unavoidable)

Geographic Context

The geographic area considered for cumulative noise analysis includes areas within and surrounding the Plan Area and roadways examined in the transportation analysis in Section 4.13, *Transportation and Circulation*. These include areas of Oakland that encompass the projects included in the City of Oakland's Major Projects List in Appendix B to this Draft EIR and area projects incorporated into the regional travel demand model, as discussed in Section 4.07.2, *Cumulative Context*, in the front of Chapter 4 of this Draft EIR.

Impacts

Longer-term noise from cumulative development, which is the development under the Specific Plan, combined with past, present, pending, and reasonably foreseeable development in the area, would primarily occur from motor vehicle traffic. When considered alone, the adoption and development under the Specific Plan would generate noise mainly by adding more traffic to the area. Other anticipated projects would contribute to noise in the area due to increased traffic

volumes. Notably, any project that would individually have a significant project level noise impact also would be considered to have a significant cumulative noise impact.

As noted in Impact NOI-5 and based on the City of Oakland's CEQA Thresholds, a project would be considered to generate a significant impact if it resulted in a 5 dBA permanent increase in ambient noise levels in the project vicinity above levels existing without the project. As for Impact NOI-3, noise levels were determined for using the FHWA Traffic Noise Prediction Model and the turning movements in for the Cumulative Plus Project (2035) conditions (see Section 4.13, *Transportation and Circulation*) (see Appendix G). The segments analyzed and the results of the noise increases resulting from modeling are also shown in Table 4.10-7 for Cumulative Plus Project traffic, which includes Project traffic combined with traffic from other approved or pending projects for the year 2035 (assumed build-out year of the Broadway Valdez Development Program).

Table 4.10-7 shows the increase in traffic from between the Cumulative Plus Project (2035) scenario and Existing (2012) would increase peak hour noise levels by less than 5 dBA at most roadway segments, except at the roadway segments 24h Street east of Broadway, where the increase is 6.9 dBA, and 26th Street east of Broadway, where the increase is 6.1 dBA. The contribution of the adoption and development under the Specific Plan to the 2035 cumulative roadway noise increase (Cumulative No Project compared to Cumulative Plus Project) would be 5.3 dBA along 24th Street east of Broadway, and 4.9 dBA along 26th Street east of Broadway. Because these increases are more than the cumulative contribution significance threshold of 3 dBA, this is considered a considerable contribution to the cumulative impact in 2035 and a significant cumulative noise impact. Currently there are no sensitive receptors along this segment of 26th Street to be impacted by the projected cumulative increase in roadway noise. However there are currently residential uses along 24th Street east of Broadway. Consequently, cumulative roadway noise increases along 24th Street would be considered a significant cumulative impact.

Construction impacts resulting from cumulative development would remain less than significant as all cumulative development in the cumulative geographic context would incorporate SCAs for construction activities, as discussed in Impact NOI-1. Similarly, operational noise associated primarily with mechanical operations of cumulative development also would be at less than significant levels; all development would adhere to SCAs for operational noise, as discussed in Impact NOI-2.

All cumulative noise impacts associated with traffic noise would be significant. Cumulative noise impacts associated with construction and operations would be less than significant.

Mitigation: None Feasible.

Significance after Mitigation: Significant and Unavoidable.

Impact NOI-7: Stationary noise sources such as rooftop mechanical equipment and back-up generators in combination with traffic generated by adoption and development under the Specific Plan; and from past, present, existing, approved, pending and reasonably foreseeable future projects; could substantially increase noise levels at sensitive land uses in the Plan Area; (Criterion 4). (Significant and Unavoidable)

The adoption and development under the Specific Plan would generate some noise from heating, ventilating, and air conditioning mechanical equipment. Specificity in terms of the size or specifications of stationary noise sources or their location is not available at the Specific Plan level of analysis. However, it is reasonable to conclude that such sources would operate within the restrictions of the City's Noise Ordinance. Chapter 17.120.050 of the City of Oakland Planning Code specifies the maximum sound level received at residential, public open spaces and commercial land uses. These restrictions can be used in combination with the predicted roadway noise levels presented in Table 4.10-7 to estimate a worst-case prediction of cumulative noise increase from both stationary and roadway noise sources. **Table 4.10-8** presents the cumulative noise increase at existing sensitive receptors in the Specific Plan Area from both roadway and stationary sources. These noise levels reflect daytime conditions which are when peak traffic contributions would occur. Only existing receptors are analyzed as new proposed receptors do not exist and would not experience a net increase in noise levels. Stationary source noise levels are considered in terms of the L_{33} (the noise levels exceeded 20 minutes of a one hour period) as this is the noise descriptor of the City's noise ordinance which best lends itself to addition to roadway noise estimates which are calculated in terms of a peak-hour hourly average. The roadway noise contribution is assumed to occur from the cumulative increase from the nearest arterial roadway analyzed in Table 4.10-7. This analysis uses the existing monitored noise level as a baseline for comparison, unlike the analysis in Table 4.10-7 which solely analyzes modeled traffic volumes, because this cumulative analysis considers multiple sources, not just vehicle traffic.

TABLE 4.10-8
PEAK-HOUR CUMULATIVE NOISE LEVELS AT SENSITIVE RECEPTORS IN THE PLAN AREA

Location	(A) Monitored Noise Level (Leq, dBA)	(B)Stationary Source Restriction (L_{33}, dBA)	(C) Cumulative Roadway only Noise Level (Leq)	(B+C) Resulting Cumulative Noise Level	Increase in Noise level over Existing Monitored
Brooks Street Residential Area	59.2	60	63.4[a]	65.0	**5.8**
Richmond Avenue Residential Area	67.6	60	62.4[a]	64.4	3.6
Webster and 34th Place of Worship	63.0	60	58.9[b]	64.8[c]	1.8
24th Street at Valdez Mixed Use Residential	59.2	60	64.2	65.6	**6.4**

[a] Adjusted cumulative Broadway noise level to nearest residence accounting for distance and one row of intervening structures.
[b] Adjusted cumulative Hawthorne Avenue noise level to nearest residence accounting for distance.
[c] Proximity to I-580 captured in monitored baseline at this location results in noise levels that dominate over predicted cumulative increases (Columns B + C). Therefore the cumulative increase for this location would be the summation of columns A and B.

SOURCE: ESA, 2013.

Cumulative noise increases of greater than 5 dBA are predicted to occur at existing sensitive receptors on Brooks Street and 24th Street. In lieu of project-specific data, these potentially significant impacts assume stationary sources operating at an adjacent property at the maximum property line limit allowed by the noise ordinance. Consequently, cumulative noise impacts are conservatively identified as significant. As discussed in Impact NOI-6, cumulative traffic noise impacts would be significant and unavoidable. Consequently, the ability to mitigate the combined impact from stationary sources and roadway sources would depend on the location, size, noise rating and acoustical shielding provided for stationary noise sources. While a performance standard could be implemented as mitigation, designing such a standard with reference to net increases over historical noise levels is impractical given the variation in noise levels throughout the Specific Plan Area. Therefore, this cumulative noise impact is considered significant and unavoidable.

Mitigation: None Feasible.

Significance after Mitigation: Significant and Unavoidable.

4.10.4 References

California Department of Transportation (Caltrans), 2004. *Transportation- and Construction-Induced Vibration Guidance Manual*, June 2004.

California Department of Transportation (Caltrans), 2009. *Technical Noise Supplement*, November 2009.

City of Oakland, 2005. *Noise Element, City of Oakland General Plan,* June 21, 2005.

City of Oakland, 2008. Planning Code Chapter 17.120.050.

City of Oakland, 2013. "CEQA Thresholds/Criteria of Significance Guidelines," 2013.

Federal Transit Administration (FTA), 2006. *Transit Noise and Vibration Impact Assessment (FTA-VA-90-1003-06)*, May 2006.

U.S. Environmental Protection Agency, 1971. *Noise from Construction Equipment and Building Operations, Building Equipment and Home Appliances*, December 1971.

4.11 Population, Housing, and Employment

This section addresses existing conditions and trends within the greater Plan Area as related to population, housing, and employment, and evaluates the possible impacts from adoption and development under the Specific Plan. Population and employment growth related to adoption and development under the Specific Plan are quantified and described along with the anticipated contributions to the greater downtown area and citywide growth. This section describes the environmental and regulatory setting relevant to population, housing and employment in the greater Plan Area. The impact assessment in this section focuses on potential physical environmental impacts that could result from possible displacement of housing and people, and on the inducement of population growth not previously contemplated. Potential impacts are discussed and evaluated, and appropriate mitigation measures or Standard Conditions of Approval (SCA) are identified, as necessary.

4.11.1 Environmental Setting

The following setting identifies existing conditions and trends for employment, housing, and population within the greater Plan Area, surrounding parts of Oakland, as well as the regional context. The relationship between jobs and housing is also discussed. Growth from adoption and development under the Specific Plan is identified and described to provide context for the impact assessment in this and other sections of the EIR.

As introduced in the Broadway Valdez Specific Plan Existing Conditions Report, dated April 2009, due to the irregular boundaries of the Plan Area, most of the demographic data in this section are reported for an area slightly larger than, and surrounding, the Plan Area; the data pertinent to this analysis of population, housing, and employment are generally available for geographic subareas that closely match the boundaries of this larger area, referred to as the "Plan Area and Nearby Areas" or the "greater Plan Area." Like the Plan Area, the Nearby Areas extend north-south from Interstate 580 (I-580) to Grand Avenue, but extend further west of Broadway to Telegraph Avenue, and extend further east of Broadway to Harrison Street.[1]

Employment

Existing Conditions, Recent Trends, and Projections

Plan Area and Nearby Areas

Currently, there are approximately 7,760 people employed in the greater Plan Area, which represents approximately 10 percent of the total greater downtown employment, and approximately 4 percent of the total citywide employment. Supporting employment data is presented in **Table 4.11-1**.

[1] A map of the "Plan Area and Nearby Areas" is provided in Figure 3.2, of the 2009 Existing Conditions Report.

TABLE 4.11-1
EMPLOYMENT, HOUSEHOLDS, AND POPULATION FOR THE GREATER PLAN AREA, THE GREATER DOWNTOWN, THE CITY OF OAKLAND, AND THE REGION: 2000, 2005, 2010, AND 2035

					Change 2005-2010			Change 2010-2035		
	2000	2005	2010	2035	Change	Percent	Annual Rate	Change	Percent	Annual Rate
Employment										
Greater Plan Area[a]	---------	7,157	7,757	8,107	+600	+8%	+1.6%	+350	+5%	+0.2%
Greater Downtown[b]	80,440	82,160	76,500	122,010	-5,660	-7%	-1.4%	+45,510	+59%	+2.4%
City of Oakland[c]	199,470	202,570	188,600	281,900	-13,970	-7%	-1.4%	+93,300	+49%	+2%
Inner East Bay[d]	332,340	332,000	317,460	446,560	-14,540	-4%	-0.8%	+129,100	+41%	+1.64%
Total Bay Area[e]	3,753,460	3,449,740	3,475,040	5,107,390	+25,300	+1%	+0.2%	+1,632,350	+47%	+1.88%
Households										
Greater Plan Area[f]	3,396	3,620	3,304	---------	-316	-9%	-1.8%	-------	--------	-------
Greater Downtown[b]	18,040	19,650	21,950	43,310	+2,300	+12%	+2.4%	+21,360	+97%	+3.88%
City of Oakland[c]	150,790	154,580	159,180	212,000	+4,600	+3%	+0.6%	+52,820	+33%	+1.32%
Inner East Bay[d]	240,761	246,860	252,490	321,320	+5,630	+2%	+0.5%	+68,830	+27%	+1.1%
Total Bay Area[e]	2,466,020	2,583,080	2,667,340	3,302,780	+84,260	+3%	+0.7%	+635,440	+24%	+1.0%
Population										
Greater Plan Area[f]	6,366	6,850	5,880	---------	-968	-14%	-0.7%	-------	-------	------
Greater Downtown[b]	32,190	35,640	39,550	83,340	+3,910	+11%	+2.2%	+43,790	+111%	4.44%
City of Oakland[c]	399,480	410,600	420,670	562,000	+10,300	+3%	+0.6%	+141,100	+34%	1.36%
Inner East Bay[d]	608,764	625,500	642,300	817,400	+16,800	+3%	+0.5%	+175,100	+27%	+1.1%
Total Bay Area[e]	6,783,760	7,096,500	7,341,700	9,073,700	+245,200	+3%	+0.7%	+1,732,000	+24%	+0.9%

[a] The greater Plan Area includes the "Plan Area" and "Nearby Areas" and is defined in the *Broadway Valdez District Specific Plan Existing Conditions Report* (WRT, 2009). Employment estimates for the greater Plan Area are approximated based on data for traffic analysis zones (TAZs).
[b] Greater Downtown is bounded by I-580, Lake Merritt and the Channel, Oakland Estuary, and I-980 and Market/Brush Street, as defined by TAZs. Employment and household estimates for the Greater Downtown are based on data from the *Proposed Amendments to the Central District Urban Renewal Plan EIR* (City of Oakland, 2011).
[c] Employment, household, and population estimates for the City of Oakland are based on data from the *Proposed Amendments to the Central District Urban Renewal Plan EIR* (City of Oakland, 2011), except the 2035 data are from ABAG *Projections 2009*.
[d] Inner East Bay includes Oakland and nearby cities of Albany, Alameda, Berkeley, Emeryville, Piedmont, and San Leandro. Data are from ABAG *Projections 2009.*
[e] Total Bay Area includes all nine Bay Area counties. Data are from ABAG *Projections 2009*.
[f] Household and population estimates for the greater Plan Area for 2000 and 2005 are approximated based on data from the *Broadway Valdez District Specific Plan Existing Conditions Report* (WRT, 2009).
Household and population estimates for the greater Plan Area for 2010 are based on U.S. Census 2010.
Published household and population projections for the greater Plan Area for 2035 are not available at this time at a geographic level less than citywide.

SOURCE: See table footnotes.

Nearly one-half of the greater Plan Area employees are associated with medical services on Pill Hill, primarily the Alta Bates Summit Medical Center west of Broadway. Automotive-related business make up approximately one-third of the jobs in the greater Plan Area, and the remaining jobs are associated with a range of business uses, including retail and service businesses, restaurant/bars, institutional/non-profit uses, fitness/exercise uses, clubs, building materials/ construction, and professional services (WRT, 2009). It is notable that health-related jobs and restaurant/bar-lounge/arts jobs have recently increased in the greater Plan Area, as has automotive-related employment which dipped in 2007 through 2009 due to the recession (WRT, 2013).

Of the nearly 60 percent increase in employment projected to occur in the greater downtown 2035, a relatively small portion of that growth is projected to occur within the greater Plan Area (see Table 4.11-1).

Oakland and the Region

Business activity and employment grew substantially in Oakland in the late 1990s and early 2000s, and is projected to continue to grow in the future. While regional employment growth occurred largely in the suburbs in prior decades, recent trends show increasing employment in Oakland, primarily given its central location, its good transportation/transit accessibility, and its relative affordability as a business location (WRT, 2009). Employment in Oakland was estimated at 188,600 in 2010, representing nearly 60 percent of all employment in the Inner East Bay, and approximately 6 percent of the region's employment.[2]

Employment growth in Oakland will continue to be supported by the City's efforts citywide, as well as local and regional Smart Growth initiatives that refocus forecasted growth to urbanized centers of the region, like the greater downtown. As the region's economy rebounds from the recent national recession, economic growth is forecast for the future. Projections for Oakland show growth of about 93,310 jobs from 2010 to 2035 – an increase of approximately 50 percent, about the same increase that is projected for the region during the same 25-year period (see Table 4.11-1).

Population and Housing

Existing Conditions, Recent Trends and Projections

Plan Area and Nearby Areas

Currently, there are approximately 3,300 households residing in the greater Plan Area with a population of approximately 5,890 residents.[3] These households represent about 15 percent of the population in greater downtown Oakland. Supporting household and population data is presented in Table 4.11-1.

[2] "Inner East Bay" includes the cities of Albany, Alameda, Berkeley, Oakland, Piedmont, and San Leandro.
[3] The number of occupied dwelling units (households) accounts for household vacancy rates and is therefore lower than the number of actual dwelling units in a particular area.

Oakland and the Region

There were approximately 420,900 people living in Oakland in 2010 - about 70 percent of the total population of the Inner East Bay, and nearly 6 percent of the total Bay Area population. There were 159,180 households in Oakland in 2010 and an average household size of 2.64 persons per household (see Table 4.11-1). The average household size in the greater Plan Area is substantially smaller than the citywide rate, at approximately 1.8 persons per household due the prevalence of multifamily dwelling units in the area (see Table 4.11-1).

The 2010 U.S. Census identified 169,710 housing units in Oakland (see **Table 4.11-2**). Of the occupied housing units (153,790), 56 percent were renter-occupied and 41 percent owner-occupied. Also, the overall housing vacancy rate declined from 7 percent in 1990 to 4 percent in 2000, but showed an increase to nearly 9 percent in 2010.

TABLE 4.11-2
CHANGES IN HOUSING STOCK IN OAKLAND, 1990-2010

	1990		2000		2010		Change 1990-2000	Change 2000-2010
Total Housing Units	154,737		157,508		169,710		+2,771	+12,202
Occupied Housing Units	144,521	93.4%	150,790	95.7%	153,791	90.6%	+6,269	+3,001
Vacant Housing Units	10,216	6.6%	6,718	4.3%	15,919	9.4%	-3,498	+9,201
Owner-occupied Housing	60,153	41.6%	62,489	41.4%	63,142	41.1%	+2,336	+653
Renter-occupied Housing	84,368	58.4%	88,301	58.6%	90,649	58.9%	+3,933	+2,348

SOURCE: U.S. Census, 2010; City of Oakland, 2011.

As previously mentioned, since 2000, several factors led to renewed housing development in Oakland. In addition, new housing development has been encouraged in Oakland by regional and local Smart Growth land use policies to attract new housing development and bring additional residents to greater downtown Oakland. Oakland experienced an increase of about 12,200 housing units between 2000 and 2010, which was an increase of about 8 percent. During that period, about 50 percent of the new housing developed in Oakland had been built in downtown, with the major recession starting in 2007, markedly slowing the housing market. While the timing of economic recovery for the housing market is uncertain, once the housing market rebounds, the trend for housing development in the greater downtown, including areas north of Grand Avenue within the Specific Plan Area, are expected to be good. There will also be a large number of already approved projects and projects currently in predevelopment that are likely to be built before other new developments occur. The pipeline of approved and pre-development projects could affect the timing and nearer-term feasibility of mixed-use development with major retail and housing (WRT, 2013).

Most of the new housing is multi-family housing, focused in the downtown area, around the City's BART stations, along transportation/transit corridors, and in mixed-use neighborhoods. New housing in Oakland includes units covering a range of prices and rents, reflecting Oakland's

land use policies encouraging higher-density development. As identified in the *City of Oakland 2007-2014 Housing Element*, new housing is being built in Downtown Oakland (representing about one-half the new units built citywide 2000-2009) and in many other parts of the City, including North Oakland which encompasses the Plan Area. Approximately 18 of the 185 Housing Opportunities Sites identified in the Housing Element are located in the actual Specific Plan Area; these are sites that the City has identified where additional housing units could be developed pursuant to the existing *General Plan* land use designations.

Long-term projections for Oakland indicate potential for substantial growth of housing, households, and population. The ABAG projections anticipate growth of up to 54,160 households and 141,100 residents, from 2010 through 2035 (see Table 4.11-1). The ABAG projections reflect market factors as well as policy direction to increase the share of regional development that occurs in the Bay Area's major cities, in higher-density, urban locations that have good accessibility and are well are served by transit. The rates of growth of households and population in Oakland are forecast to exceed the rates of growth for the Inner East Bay and the Bay Area overall (see Table 4.11-1).

Overall Relationship of Jobs and Housing

Oakland is both a place of residence and a place of employment. The total number of jobs in the City (188,600 in 2010) is relatively similar to the total number of employed residents (181,820 in 2010) (see **Table 4.11-3**). The overall relationship between jobs and employed residents in an area identifies the extent to which a community enjoys a balanced mix of land uses thereby offering job opportunities to local residents and housing opportunities for workers employed in local jobs. The resultant mix of who lives in Oakland and who works in Oakland, and the extent to which these are the same individuals, results from a complex set of interactions and decision factors that determine where people choose to live and work, how much they spend for housing, and their travel patterns. Jobs/housing balance evolves over time and reflects the role and location of particular areas within the larger regional context. Regional planning efforts in the Bay Area seek to "balance" the number of jobs and the number of employed residents, or to improve existing imbalances, for purposes of achieving goals related to improved housing availability and affordability, commute distances, congestion, and air quality.

Data and projections for Oakland indicate that Oakland has a good balance of jobs and housing, and that it will continue to have a relatively similar number of jobs and employed residents. In the future, the growth of employed residents of the City (107,800 employed resident growth 2010 to 2035) is anticipated to exceed the growth of jobs in Oakland (93,300 job growth 2010 to 2035), improving the "balance" of jobs and housing over time, as shown in Table 4.11-3, below. By 2035, the number of employed residents is anticipated to be similar to and even exceed the number of jobs in Oakland (ratio of jobs to employed residents of 0.97:1 in 2035 under the ABAG projections). Data for the Inner East Bay, including Oakland and its nearby cities, show that this larger surrounding area will have a slightly higher ratio of jobs to employed residents than Oakland alone. Overall, data for the East Bay in total (all of Alameda and Contra Costa counties including the Inner East Bay) show more employed residents than jobs, both currently

TABLE 4.11-3
TRENDS IN JOBS AND EMPLOYED RESIDENTS: 2000-2035

	2000	2005	2010	2035	2000-2010		2010-2035	
					Growth	Annual Rate	Growth	Annual Rate
Total Jobs								
Oakland	199,470	202,570	188,590	281,900	-10,880	-0.55%	93,310	1.96%
Inner East Bay[a]	332,340	332,000	317,460	466,560	-14,880	-0.45%	129,100	1.64%
Total Bay Area[b]	3,753,460	3,449,640	3,475,040	5,107,390	-278,420	-0.74%	1,632,350	1.88%
Employed Residents								
Oakland	178,716	175,180	181,820	289,620	3,104	0.17%	107,800	2.36%
Inner East Bay[a]	332,135	325,490	326,195	509,410	-5,940	-0.18%	183,215	2.24%
Total Bay Area[b]	3,452,117	3,225,100	3,410,300	4,835,300	-41,817	-0.12%	1,425,000	1.68%
Ratio Jobs-to-Employment Residents								
Oakland	1.12:1	1.16:1	1.04:1	0.97:1				
Inner East Bay[a]	1.00:1	1.02:1	0.97:1	0.88:1				
Total Bay Area[b]	1.09:1	1.07:1	1.02:1	1.06:1				
Employed Residents as Percent of Population								
Oakland	45%	43%	43%	52%				
Inner East Bay[a]	55%	52%	51%	62%				
Total Bay Area[b]	51%	45%	46%	53%				

[a] Inner East Bay includes Oakland and nearby cities of Albany, Alameda, Berkeley, Emeryville, Piedmont, and San Leandro.
[b] Total Bay Area includes all nine Bay Area counties.

SOURCE: U.S. Census; ABAG *Projections 2009*.

and in the future, indicating the important role of the East Bay as a place of residence for people employed in the East Bay and other parts of the region.

4.11.2 Contributions to Citywide Growth from Adoption and Development under the Specific Plan

This section describes and quantifies the potential growth in employment, households, and population that could occur from adoption and development under the Specific Plan. Population and employment changes, in and of themselves, are not normally considered to be significant environmental effects under CEQA. However, these changes and effects can be indicators of other impacts, and they can have influence on the significance of those impacts. Thus, the description of population and employment changes that follows is included to provide context for considering and understanding potential physical environmental impacts associated with changes in employment, housing, and population that are analyzed later in this section and in other sections of this EIR (e.g., traffic, public services, and air quality).

Growth and Development in the Plan Area

The Broadway Valdez Specific Plan established the Broadway Valdez Development Program, which is shown below in **Table 4.11-4**. As described in Chapter 3, *Project Description*, the Broadway Valdez Development Program represents the *reasonably foreseeable maximum development* that the City has projected can reasonably be expected to occur in the Plan Area over the next 25 years, and is thus the level of development envisioned by the Specific Plan and analyzed in this EIR. In total, approximately 3.7 million square feet of development is envisioned, including 1,800 residential units, a new 180-room hotel, and approximately 5,000 new jobs. This basis of this EIR analysis is distinctly different from the *theoretical maximum development potential* that could ultimately occur in the Plan Area. The development assumed for the EIR analysis attempts to project what might be feasible based on a number of market factors, including: market demand for various uses; broader regional economic and market conditions; backlog of approved or planned projects in the vicinity; recent development and business investment in the area; landowner intentions for their properties; and properties susceptible to change due to vacancy, dereliction, or absence of existing development. In addition, assumptions have been made about the reasonable distribution and intensity of new development within the Plan Area (see Chapter 3, *Project Description;* and Figure 3-11, Physical Height Model). Finally, adoption and development under the Specific Plan would replace some of the existing uses currently in the Plan Area. The replacement of these uses was considered as the Broadway Valdez Development Program was calculated and thus the square footages, units and hotel rooms shown in the Broadway Valdez Development Program in Table 4.11-5 below represent the net development in the Plan Area.

TABLE 4.11-4
BROADWAY VALDEZ DEVELOPMENT PROGRAM

	Valdez Triangle Subarea	North End Subarea	Total Plan Area (Rounded)[a]
Residential Units	1,030	767	1,800
Office (sq. ft.)	116,000	579,000	695,000
Retail (sq. ft.)	794,000	321,000	1,114,000
Hotel Rooms	180	-	180
Non-Residential Development (sq. ft.)	1,027,000	899,000	1,927,000
Total Development (sq. ft.)	**2,057,000**	**1,666,000**	**3,723,000**

[a] Totals are rounded for consistency with the Project Description (Chapter 3).

SOURCE: WRT, 2013.

Some development likely would occur within the Plan Area even in the absence of Specific Plan adoption although it is difficult to project the exact amount and location of this development with any precision. However, a relatively small portion of that residential and employment population growth is projected to occur within the greater Plan Area by 2035 (see Table 4.11-1). Therefore, it is appropriately conservative to assume that the effects of Specific Plan adoption would result from buildout of the Broadway Valdez Development Program without accounting for development that would occur by 2035 in absence of the Plan.

Employment, Housing, and Population Growth

Buildout of the Broadway Valdez Development Program would introduce residential and employment population growth in the Plan Area. In total, this development would include the potential for 1,800 new housing units to be developed in the Plan Area. The new units would accommodate approximately 1,728 households with 3,230 residents. The estimates of potential housing and population growth are presented in **Table 4.11-5**.

TABLE 4.11-5
HOUSING DEVELOPMENT AND POPULATION GROWTH FOR THE PLAN AREA WITH THE BROADWAY VALDEZ DEVELOPMENT PROGRAM

Potential Development	Housing Units	Households[a]	Population[b]
Valdez Triangle Sub Area	1,030	989	1,849
North End Subarea	767	736	1,376
Total (rounded)[c]	**1,800[c]**	**1,728[c]**	**3,230**

[a] Assumes an average, four percent vacancy factor.
[b] Assumes an average of 1.87 persons per household, appropriate for higher-density housing assumed for development in the Plan Area, and the Existing Conditions Report, 2009 (Table 3-3).
[c] Totals are rounded for consistency with Proposed Maximum Feasible Development Program (Table 4.11-4) and Project Description (Chapter 3).

SOURCE: City of Oakland.

The Broadway Valdez Development Program would include approximately 1.9 million square feet of commercial space. Businesses and other activities in the developments would support employment of approximately 4,500 jobs at full occupancy. The estimates are presented in **Table 4.11-6**.

TABLE 4.11-6
NON-RESIDENTIAL SPACE AND EMPLOYMENT GROWTH POTENTIALS FOR THE PLAN AREA WITH THE BROADWAY VALDEZ DEVELOPMENT PROGRAM

Potential Development	Commercial Space (square feet/rooms)	Employment[a]
Valdez Triangle Subarea − Office (General) − Retail − Hotel	 116,000 794,000 118,000 (180 rms) 1,027,000	 2,132
North End Subarea − Office (General and Medical)[b] − Retail	 579,000 321,000 899,000	 2,373
Total	**1,927,000 sq. ft.**	**4,505**

[a] Employment estimated by ESA, based on density factors by use, for the types of development proposed for downtown Oakland.
[b] 220,000 square feet is assumed General Office; 359,000 square feet is assumed Medical Office, consistent with traffic study assumptions.

SOURCE: City of Oakland; ESA.

4.11.3 Regulatory Setting

Local Plans and Policies

The Oakland General Plan includes the following policies that pertain to population, housing, jobs, and related effects, and that apply to adoption and development under the Specific Plan.

Land Use and Transportation Element (LUTE). The LUTE of the Oakland General Plan contains the following policy that addresses issues related to population, housing, jobs, and related effects:

- ***Policy N3.6:*** The city strongly encourages the moving of dwellings which might otherwise be demolished onto vacant lots where appropriate and economically feasible.

Housing Element. The Housing Element of the Oakland General Plan contains the following policy that addresses issues related to population, housing, jobs, and related effects:

- ***Substandard Housing Policy 1:*** The city recognizes that housing is a valuable resource that should be carefully conserved and maintained and will take all necessary steps to prevent damage to the city's occupied or vacant residential property.
- ***Housing Production Policy 8:*** The city will make every attempt to preserve the existing housing stock whenever possible and to limit the conversion of residential units to non-residential units.
- ***Housing Production Policy 12:*** The city, where economically feasible, will cause to be relocated, rather than demolish, residential property acquired for public or private purposes and urges Federal and State agencies to use a similar approach.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards

There are no City of Oakland *Standard Conditions of Approval and Uniformly Applied Development Standards* (SCAs) that are specific to Population, Housing, and Employment.

4.11.4 Impacts and Mitigation Measures

Significance Criteria

Adoption and development under the Specific Plan would have a significant impact on the environment if it were to:

1. Induce substantial population growth in a manner not contemplated in the General Plan, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extensions of roads or other infrastructure), such that additional infrastructure is required but the impacts of such were not previously considered or analyzed;

2. Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element; or

3. Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere in excess of that contained in the City's Housing Element.

Approach to Analysis

Using U.S. Census data, data from transit analysis zones (TAZ), and ABAG projections; the increases in population, housing, and employment that would result from adoption and development under the Specific Plan were quantified and evaluated for potential physical environmental impacts that could result from possible displacement of housing, people, businesses, and jobs, and on the inducement of population and employment growth in the Plan Area and surrounding areas.

Impacts

Induce Population Growth

Impact POP-1: Adoption and development under the Specific Plan could induce population growth, but not in a manner not anticipated in the General Plan (Criterion 1). (Less than Significant)

As shown in Table 4.11-5, housing development anticipated with implementation of the Broadway Valdez Development Program would add up to 1,800 housing units in the Plan Area, and accommodate growth of up to approximately 1,728 households and 3,230 residents. The growth of households and population due to the adoption and development under the Specific Plan would contribute to population growth expected in Oakland in the future. The amount of population growth anticipated from adoption and development under the Specific Plan would account for about two percent of total population growth projected for Oakland between 2010 and 2035, as shown in **Table 4.11-7**. When compared to *total* population anticipated in Oakland in 2035, the adoption and development under the Specific Plan would have contributed approximately 0.5 percent. Thus, the adoption and development under the Specific Plan would not result in "substantial" population growth in comparison to the amount of population growth and the total population anticipated for Oakland in the future.

TABLE 4.11-7
POPULATION AND EMPLOYMENT GROWTH UNDER THE BROADWAY VALDEZ DEVELOPMENT PROGAM COMPARED TO FUTURE PROJECTIONS FOR OAKLAND

	Population	Employment
Growth under the Specific Plan[a]	3,230	4,505
Growth in Oakland, 2010-2035[b]	141,100	93,300
Specific Plan Growth as Percent of City Growth	2%	5%
Total for City of Oakland, 2035[b]	562,000	281,900
Specific Plan Total as Percent of City Total	0.5%	1.5%

[a] See Tables 4.11-5 and 4.11-6.
[b] See Table 4.11-1.

Some level of population growth in the Plan Area was anticipated in Oakland's General Plan, and is supported and encouraged by General Plan Land Use and Housing Element policies and City zoning regulations. Well-served by regional transportation/transit facilities and close to downtown employment; the Plan Area is a preferred location for development of higher-density infill housing. Increasing the population in the Plan Area through new housing is a key component of the vision for downtown in the General Plan. Specifically, Oakland's Downtown Showcase District, which encompasses the Plan Area is intended to promote a mixture of districts with around-the-clock activity, continued expansion of job opportunities, and growing residential population (see Section 4.9. *Land Use, Plans, and Policies*). Overall, population growth associated with adoption and development under the Specific Plan would not result in population growth in a manner not anticipated in Oakland's General Plan and the impact would be less than significant.

Mitigation: None Required.

Substantial Displacement of Housing and People

Impact POP-2: Adoption and development under the Specific Plan could displace existing housing and residents, but not in substantial numbers necessitating the construction of replacement housing elsewhere, in excess of that anticipated in the City's Housing Element (Criteria 2 and 3). (Less than Significant)

Adoption and development under the Specific Plan could require the demolition of existing housing units. Specifically, the Broadway Valdez Development Program could result in replacement of existing housing in areas around Waverly Street and 30th Street east of Broadway (see Figure 3-11 in Chapter 3, *Project Description*).

City Regulations for Removing Units from the Housing Market

Housing Element policies Substandard Housing Policy 1 and Housing Production Policy 8 and 12, in addition to LUTE Policy N3.6, would ensure that the housing stock in the City would be conserved and maintained. These policies protect housing from displacement and ensure long-term land use compatibility. Compliance with these policies would avoid any potential adverse effects related to the displacement of housing and people as a result of the future development in the Plan Area.

Further, City regulations governing the process for removal of rental housing by the private sector would mitigate some of the potential impacts associated with displacement. Development by the private sector that requires demolition of rental housing is subject to the Ellis Act (Government Code Sections 7060-7060.7) and the City of Oakland's Ellis Act Ordinance (Oakland Municipal Code Sections 8.22.400-8.22.480). Under that Ordinance, any owner can withdraw property from the rental market by filing with the City's Rent Adjustment Program a series of documents called the "Withdrawal Notices", including notices of termination given to existing tenants. The withdrawal of the units is effective after 120 days or is extended to one year for tenants who are disabled or 62 years of age or older. Under the Ordinance, lower-income households are entitled

to relocation assistance of two months' rent in effect at the time of the notice of termination, to mitigate the adverse impacts of displacement. The Ordinance also gives the tenants the right to re-rent the withdrawn units should the units be re-offered for rent within 10 years.

Relocation Implications for Residents

The people residing in housing units to be demolished would have to find other housing, potentially in nearby neighborhoods or in other parts of Oakland. There could be economic implications for the individuals involved. Households required to relocate would incur expenses associated with moving. However, lower-income households in rental housing displaced by private sector development would be entitled to relocation assistance under the City's Ellis Act, as described above. For some, rents/prices could be higher at a new location, or the housing might be less desirable for similar rents/prices. Others, however, might find it beneficial to relocate, if they find preferable or improved housing that better meets their needs, in terms of location, unit size/quality, and/or rent/price.

Replacement Housing as Part of Citywide Housing Production

From the perspective of the City's housing stock, the loss of up to approximately 30 housing units as a result of adoption and development under the Specific Plan would be offset by the production of a large amount of new housing within the Plan Area as well as elsewhere in Oakland as has been occurring and is expected to occur in the future, consistent with the City's Housing Element. As described earlier in the setting, approximately 4,600 new households were added in Oakland from 2005 through 2010 (see Table 4.11-1). Over the longer-term future, the ABAG projections forecast substantial housing growth in Oakland, averaging about 2,000 units per year from 2010 through 2035.

The levels of housing development anticipated in Oakland are consistent with Oakland's Housing Element and the City's General Plan. The construction of replacement housing for the up to 30 units that could be removed by adoption and development under the Specific Plan, would not be in excess of replacement housing anticipated in the City's Housing Element and related General Plan and zoning policies. Further, the Broadway Valdez Development Program anticipates approximately 1,800 additional housing units within the Plan Area (see Table 4.11-6). Overall, the removal of up to 30 housing units would not represent "substantial" numbers in the context of a total of approximately 169,710 housing units in Oakland in 2010 (the majority of which are renter-occupied), and the construction of large numbers of housing units in the future as described above.

Mitigation: None Required.

Cumulative Impacts

Inducement of Substantial Population Growth, Including Consideration of Indirect and Cumulative Project Effects

Impact POP-3: Adoption and development under the Specific Plan individually and in combination with past, present, existing, approved, pending, and reasonably foreseeable future projects would not induce substantial population growth in a manner not contemplated in the General Plan, either directly by facilitating new housing or businesses, or indirectly through infrastructure improvements, such that additional infrastructure is required but the impacts of such were not previously considered or analyzed. (Less than Significant)

Geographic Context

As discussed in Section 4.11.1, the analysis throughout this section considers the Plan Area and surrounding areas of Oakland, as well as a citywide and regional context. This represents the cumulative geographic context for the cumulative analyses presented throughout this section. Cumulative development includes those in the Major Projects List in Appendix B to this Draft EIR, and discussed in Section 4.07.2, *Cumulative Context*, in the front of Chapter 4 of this Draft EIR.

Impacts

Housing and Population Growth. As shown above in Table 4.11-7, the amount of population growth anticipated from adoption and development under the Specific Plan would account for about two percent of total population growth projected for Oakland between 2010 and 2035, and approximately 0.5 percent of the *total* population anticipated in Oakland in 2035. Thus, the adoption and development under the Specific Plan would not result in "substantial" population growth in comparison to the amount of population growth and the total population anticipated for Oakland.

Business and Employment Growth. Commercial development under the Specific Plan would add 1.9 million square feet of commercial space and would support business and employment growth of approximately 4,505 jobs in the Plan Area. This increase in employment would contribute to employment growth expected in Oakland in the future. The amount of employment growth anticipated from the Broadway Valdez Development Program would account for about five percent of total employment growth projected for Oakland between 2010 and 2035 and nearly 2 percent to the *total* employment anticipated for Oakland in 2035 (see Table 4.11-7). Thus, adoption and development under the Specific Plan would not result in "substantial" employment growth in comparison to the employment growth and total employment anticipated for Oakland in the future.

The major retail and mixed-use developments anticipated with adoption and development under the Specific Plan would also bring visitors, patrons, and shoppers to the Plan Area. Their spending would support the businesses and employees to be located in the new developments. There also could be some additional spending, such as for eating and drinking and services, that would support businesses in nearby parts of downtown.

Employment growth in the Plan Area has been anticipated to some extent in Oakland's General Plan, and is supported and encouraged by General Plan Land Use policies and by the City's Economic Development Strategy and related policies and activities. As noted above, a key component of the General Plan's vision for the Downtown Showcase District, including the Plan Area, is support for growth and continued expansion of job opportunities. Further, downtown Oakland is identified as a major regional commercial center for Oakland and the surrounding East Bay. Its roles include being a major regional office center, being a center for the arts and entertainment in Oakland, and providing major destination shopping opportunities for residents. By adding the majority of the Valdez Triangle subarea into the *Central Business District* land use classification, and encouraging mixed-use development, including destination retail within the Valdez Triangle subarea, adoption of the Specific Plan would facilitate development in support of these long-standing objectives for the Plan Area and the City's downtown.

Job-Induced Population Growth. Employment growth resulting from adoption and development under the Specific Plan would support the growth of households and population to provide the additional workers. The housing development anticipated under the Broadway Valdez Development Program also would temporarily generate additional workers. Cumulatively, citywide growth of employed residents in Oakland (59 percent increase) is projected to exceed the growth of jobs over time (49 percent increase). Thus, cumulatively, the substantial growth of housing and population anticipated to occur throughout the City could accommodate the number of additional workers resulting from adoption and development under the Specific Plan as well as the number of additional workers associated with other cumulative job growth.

Infrastructure-Induced Growth. Adoption and development under the Specific Plan would facilitate urban infill development and the intensification of activity in an area already well-served by existing transportation/transit systems and other infrastructure and utilities. Unlike commercial and residential development at an alternative location in an outlying part of the region, the development under the Specific Plan would occur in an already developed urban area and would not require construction or extension of new roads, utilities, and other infrastructure that might stimulate population growth in previously undeveloped areas.

Adoption and development under the Specific Plan could require on-site infrastructure improvements to accommodate new development to higher densities and for new uses. The infrastructure improvements would be specific to the development sites and would not induce substantial additional population growth in other areas.

Summary

Therefore, due to: (a) the role of the Specific Plan in facilitating development that fulfills key components of the General Plan's vision for the Downtown Showcase District, (b) the relatively small magnitude of Specific Plan-induced population and employment growth within the cumulative, citywide context, (c) the overall balance of growth of both jobs and housing anticipated in Oakland in the future, and (d) the Plan Area's location adjacent to Oakland's already developed Central Business District, the adoption and development under the Specific Plan would have a less than significant impact in inducing substantial population growth in a manner not contemplated by

the General Plan, either directed by facilitating development of housing or businesses, or indirectly through infrastructure improvements.

Mitigation: None Required.

4.11.5 References

City of Oakland, 2010. *Housing Element 2007-2014*, Adopted December 2010.

City of Oakland, 2011. *Proposed Amendments to the Central District Urban Renewal Plan EIR*, 2011.

WRT, 2009. *Broadway Valdez District Specific Plan: Existing Conditions Report, Draft*, August 2009.

WRT, 2013. *Public Review Draft Broadway Valdez District Specific Plan*, September, 2013.

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4.12 Public Services, Parks and Recreation Facilities

This section describes existing public services, parks and recreational facilities in the Specific Plan Area and analyzes how the adoption and development under the Specific Plan may affect those resources. It also evaluates the potential effects of adoption and development under the Specific Plan on the delivery of public services, and possible adverse physical impacts on the environment that could result from a need to provide new or physically altered facilities. The analysis reviews police services, fire protection and emergency medical response, public schools, and parks and recreational facilities. Potential impacts are discussed and evaluated and appropriate mitigation measures or Standard Conditions of Approval (SCA) are identified, as necessary.

4.12.1 Environmental Setting

Police Services

The Oakland Police Department (OPD) is headquartered at 455 7th Street, approximately one mile from the Plan Area (OPD, 2012a). The Police Department currently employs 615 sworn police officers, with a civilian staff of 288 full-time and 55 part-time employees (Bolton, 2013). The City is geographically divided into 57 community policing beats. Neighborhood service coordinators are civilian employees who serve as a liaison between the community and the Police Department, and work with residents, businesses, schools, and other institutions to set priorities and develop strategies to improve public safety and reduce crime. Each neighborhood services coordinator handles multiple police beats (OPD, 2012b).

The Plan Area is primarily located within police beat 08X. This beat comprises the area bounded by 40th Street and I-580 to the north, Grand Avenue to the south, Harrison Street/Orange Street to the east and I-980 to the west (OPD, 2012a).

All emergency and non-emergency calls for police services are received through the Police Department's communications center located at 1701 Edgewater Drive. Calls for fire and medical services are routed to the Oakland Fire Department for dispatching. Priorities for responding to police calls are set by a computer-aided dispatch system that may be overridden by dispatchers. Police officers are dispatched from the police communications center by radio and/or laptop computers mounted in police vehicles (OPD, 2012a).

Table 4.12-1 shows a breakdown of crime reported in the City of Oakland in 2007-2011. The most frequent crime reported in 2011 was burglary. The number of total crimes in Oakland has decreased by approximately 33 percent between 2007 and 2011.

The Police Department's response times to calls for police services are recorded for the City of Oakland as a whole; the Police Department does not track response times for individual service areas. Response times generally reflect the perceived seriousness of the call. The Police Department ranks incoming calls for police services as follows: Priority 1 means imminent danger of death or

TABLE 4.12-1
CITY OF OAKLAND CRIME REPORT 2007-2011

Crime	2007	2008	2009	2010	2011
Murder	120	117	104	90	103
Aggravated Assault	2,939	2,999	2,578	2,473	2,455
Rape	247	215	222	199	165
Robbery	3,677	3,590	3,244	3,194	3,285
Burglary	8,274	7,703	8,816	8189	8,559
Motor Vehicle Theft	9,822	8,048	6,272	4,582	5,911
Larceny	5,921	6,231	6,139	5,462	5,557
Arson	268	283	210	144	130
Weapons – Possessing/Carrying	781	837	755	706	605
Drug Possession & Sales	3,811	4,459	3,870	2,908	1,732
Assaults – Simple	2,931	2,878	2,895	2,819	2,598
Prostitution & Commercialized Vice	285	334	643	511	261
Non-Rape Sex Crimes	947	760	659	659	556
Total Crimes	**40,028**	**38,455**	**36,408**	**31,936**	**31,909**

SOURCE: City of Oakland, 2011.
City of Oakland Police Department Disclaimer: This report is run by the date the crimes occurred. Because both reporting of crimes and data entry can be a month or more behind, not all crimes have been recorded yet. This can create a false reduction in crime in both property and violent crimes. For a more accurate week to week or month to month or current period to same period in a previous year comparison, it is best to compare periods that are between 30 and 60 days prior to the current date. The only certified crime statistics are the UCRs.

serious injury, felonies in progress, or serious public health hazards; Priority 2 refers to disputes with potential for violence, misdemeanor crimes in progress, stolen vehicle reports, and similar matters; and Priority 3 calls are reports of incidents that do not present danger to life or property.

The Department's last formal study analyzing response time goals and averages was conducted in 2010 and published in a Strategic Plan (OPD, 2010). The Strategic Plan reported that in 2009, OPD on average responded to Priority 1 calls in 14.8 minutes, 71 minutes for Priority 2 calls, and 148.3 minutes for Priority 3 calls. These response times did not meet Oakland's goals of 5 minutes for Priority 1 calls, between 10 and 15 minutes for Priority 2 calls, and 30 minutes for Priority 3 calls (OPD, 2010).

Fire Protection and Emergency Medical Services

The Oakland Fire Department (OFD) provides fire protection services and emergency medical services throughout the City. OFD operates 25 fire stations, including one at the Oakland International Airport. The Fire Department maintains a fleet of 24 Engines, 7 Trucks, and numerous other special operations, support, and reserve units throughout 3 Battalions. Total Operations Division staffing consists of 500 uniformed personnel. The actual number of assigned

personnel per station varies depending on the specific needs of that station. All personnel are trained as Paramedics or Emergency Medical Technicians (OFD, 2012a).

The nearest fire station to the Plan Area, Station 15, is located at 455 27th Street approximately 600 feet west of Broadway. Two other stations in the vicinity include Station 5 and Station 10. Station 5 is located at 934 34th Street (approximately one-mile west of Broadway); Station 10 is located at 172 Santa Clara Avenue (about 1/2-mile east of Broadway) (OFD, 2012b).

In addition to firefighting and emergency medical response capabilities, the Fire Department also has a hazardous materials unit that operates from Station 3 at 1445 14th Street and responds citywide to emergencies involving hazardous materials (OFD, 2012a).

The Oakland Fire Department Dispatch Center (FDDC) is located in downtown Oakland and is responsible for fire and medical emergency coordination and response. The FDDC receives approximately 60,000 calls for response annually, of which approximately 80 percent are medical in nature (OFD, 2012a). In 2012, the Engine at Fire Station 15 responded to 3326 calls for service, and the Truck responded to 1356 calls. The City's response time goal for the Fire Department is seven minutes or less, 90 percent of the time. In most cases, Station 15 responds to calls in less than five minutes (Hoffmann, 2013).

Public Schools

School Facilities and Attendance

The Oakland Unified School District (OUSD) operates the public school system in the City of Oakland. The OUSD administers 73 elementary schools, 16 middle schools, one junior high school, 28 high schools, and three K-12 schools. It is also responsible for four alternative schools, one special education school, three continuation schools, three community day schools, and one opportunity schools. The District's overall enrollment for the 2010-2011 school-year was 46,584 students (Ed-data, 2012).

The Plan Area is entirely located within District 3 of the OUSD (OUSD, 2013). The school immediately adjacent to the Plan Area is Oakland Emiliano Zapata Street Academy High School at 417 29th Street. Westlake Middle School is directly east of the Plan Area at 2639 Harrison Street. Across I-980 to the west are Hoover Elementary School and McClymonds High School. Lafayette Elementary, at 1700 Market Street, is west and south of the Plan Area (OUSD, 2013). Students from the Specific Plan Area may not necessarily attend nearby schools. Oakland Unified allows any student to apply to any school in the District. The goal of this open enrollment practice—called the School Options Program—is to ensure all families have equitable access to high-performing schools across the City (OUSD, 2013b). OUSD has offered Options enrollment program since the 2005-2006 school year, and since that time, enrollment patterns across OUSD have changed. As of November 2010, only 49% of OUSD students attended the school in their neighborhood attendance area (OUSD, 2011).

OUSD's overall enrollment peaked in the 1999-2000 school year at 55,000 (DataQuest, 2013), dropping to approximately 46,300 by the 2007-08 school year (OUSD, 2012). Enrollment has consistently hovered around 46,500 from the 2007-08 school year to the 2011-2012 school year. The District's medium range projections indicated that enrollment will be around 37,700 in the 2012-2013 school year, increasing slightly to 38,200 by 2019 (OUSD, 2012), representing an overall long term decline in enrollment.

The Leroy F. Greene School Facilities Act of 1998, or Senate Bill 50 (SB 50), authorizes school districts to levy developer fees to finance the construction or reconstruction of school facilities. In January 2012, the State Allocation Board (SAB) approved maximum Level 1 developer fees at $0.51 per square foot of enclosed and covered space in any commercial or industrial development, and $3.20 per square foot for residential development (SAB, 2012). These fees are intended to address the increased educational demands on the school district resulting from new development. Public school districts can, however, impose higher fees than those established by the SAB, provided they meet the conditions outlined in the act. Private schools are not eligible for fees collected pursuant to SB 50.

Parks

The City of Oakland's Office of Parks and Recreation manages the City's parks and recreation centers within the city boundaries. Oakland's Public Works Agency maintains the park facilities; maintenance includes litter pickup and removal, pruning, weeding, turf mowing, irrigation system repairs and planting (City of Oakland Public Works, 2013). The Open Space and Recreation of Element (OSCAR) of the General Plan states a parkland acreage goal of 10 acres per 1,000 residents and a local-serving park acreage goal of 4 acres per 1,000 residents (City of Oakland, 1996).

Oakland's parks are categorized by size and intended service area. Generally, local-serving parks "meet the active recreational needs of the community" surrounding the park, rather than the City as a whole (Oakland, 1996). The Plan Area is located in the City's Central Planning Area, as identified by the Open Space, Conservation, and Recreation (OSCAR) Element of the Oakland General Plan. As stated in the OSCAR, the Central Planning Area has a per capita local-serving park acreage of 1.65 acres per 1,000 residents, which is less than half the adopted standard of 4.0 local-serving park acres per 1,000 residents (City of Oakland, 1996).

Overall, Oakland has approximately 5,937 acres of parkland, including 4,101 acres of parks managed by Office of Parks and Recreation, and 1,836 acres of open space managed by East Bay Regional Parks District (EBRPD) within the City of Oakland. With this acreage, and a population of 390,724 in 2012, Oakland has around 15.2 acres of parkland per 1,000 residents, meeting its overall parkland acreage goal. Oakland's 5,937 park acres make up 16.6% of its total land area (Trust for Public Land, 2012).

Oakland also has 73 playgrounds, resulting in 1.9 playgrounds per 1,000 residents. The Office of Parks and Recreation employed a staff of 440 in 2012, or about 11.3 workers for every 1,000 residents (Trust for Public Land, 2012).

There is no designated parkland within the Plan Area. The only public open space consists of two plazas along Broadway - one at 25th Street and one at 27th Street. These plazas were created as part of a redevelopment effort in the 1970s to enhance the image of Broadway's Auto Row by investing in new streetscape amenities. The intent was to create spaces that could be jointly used by adjacent automobile dealers to display their vehicles and by the public. In spite of the new lighting, decorative paving, and public art, the plazas receive very little public use.

Nearby parks and open spaces serve resident, employee and visitor populations of the Plan Area. The nearest park to the Plan Area is the 11-acre Mosswood Park, located across I-580 from the northern boundary of the Plan Area at Broadway and MacArthur Boulevard. Amenities at Mosswood Park include an amphitheater, baseball field, community garden, and tennis and basketball courts. The park has been recently improved: the City added dog runs for big and small canines in 2008, and in August of 2011, a new tot lot at Mosswood Park was completed, in a collaborative effort between the City, Kaiser Permanente, and Kaiser OMC architecture and construction firms(GMNA, 2013; City of Oakland, 2008b). Annually, the City, Kaiser, and the community also collaborate to implement a Mosswood Park cleanup day, which includes improvements to planted areas and structures. (McCarthy, 2011).

Other parks near the Plan Area include Oak Glen Park northeast of the Plan Area; Adams Park at the southeast corner of the Plan Area; and the 75-acre Lakeside Park surrounding Lake Merritt. Although not located within the Plan Area, and not designated parkland, Glen Echo Creek, which flows parallel to the Plan Area's eastern boundary and south into Lake Merritt, provides a linear open space accessible to the northern portion of the Plan Area. Oak Glen Park extends along the banks of the creek as it flows underneath I-580 just a block east of Piedmont Avenue, providing 2.79 acres of shaded parkland.

Southeast of the Plan Area, Adams Park features the Veterans' Memorial Building, which is the site of the Downtown Oakland Senior Center. Lakeside Park, between Grand Avenue and Lake Merritt, features paved trails for biking and walking and several specialty gardens including the Japanese Bonsai and Suiseki Gardens and other vegetable and fruit demonstration gardens.

Open space within city limits also contributes to the City's parkland acreage goal. The EBRPD, which acquires and develops regional parks, open spaces, and regional trails throughout the East Bay, also provides open space and recreational facilities within Oakland's city limits. EBRPD parks in Oakland include the 290-acre Leona Canyon Regional Open Space Preserve, the 741-acre Martin Luther King, Jr. Regional Shoreline Park, the 1,829-acre Redwoods Regional Park, the 660-acre Sibley Volcanic Regional Preserve, and the 82-acre Roberts Regional Recreational Area (EBRPD, 2013). Additionally, the Port of Oakland operates Middle Harbor Shoreline Park, a 38-acre shoreline park, with more than two miles of pathways encircling Middle Harbor Basin (Port of Oakland, 2013).

Recreational Facilities

The City's Office of Parks and Recreation also operates community-based centers located throughout City. The centers offer various public recreation, programs, including sports (swimming, boating,

golf, basketball, soccer, softball, tennis, horseback riding), arts and crafts, culture arts and dance, gardening, computer lab, drama, mentoring, general learning, summer and holiday day camps and after-school activities. OPR provides sports and physical activities for all ages and ability levels. There are no recreation centers within the Specific Plan Area; the nearest recreation center is Mosswood Park Recreation Center, at 3612 Webster Street. The Mosswood Performing Arts and Recreation Center features a dance studio, computer lab, kitchen and indoor rental space (Office of Parks and Recreation, 2011, 2013).

4.12.1 Regulatory Setting

Local Plans and Policies

City of Oakland General Plan

Policies contained in the Oakland General Plan pertain to the various public services and recreation:

Land Use and Transportation Element (LUTE)

- ***Policy N.12.1*:** The development of public facilities and staffing of safety-related services, such as fire stations, should be sequenced and timed to provide a balance between land use and population growth, and public services at all times.

- ***Policy N.12.2*:** Adequate public school capacity should be available to meet the needs of Oakland's growing community. The City and the Oakland Unified School District (OUSD) should work together to establish a continuing procedure for coordinating residential and commercial development and exploring the imposition of mutually agreed upon reasonable and feasible strategies to provide for adequate school capacity. The City and OUSD should jointly consider, where feasible and appropriate, funding mechanisms such as assessment districts, redevelopment Agency funding (AB1290), uses of surplus City-owned land, bond issues, and adjacent or shared use of land or school facilities with recreation, libraries, child care and other public uses.

- ***Policy N.12.5:*** In its capital improvement and public service programs, the City should give priority to reducing deficiencies in, and disparities between, existing residential areas.

Safety Element

- ***Policy FI-1:*** Maintain and enhance the city's capacity for emergency response, fire prevention and fire fighting.

  Action FI-1.1: Periodically assess the need for new or relocated fire stations and other facilities, changes in staffing levels, and additional or updated supplies, equipment, technologies and in-service training classes.

  Action FI-1.2: Strive to meet a goal of responding to fires and other emergencies within seven minutes of notification 90 percent of the time.

  Action FI-1.5: Continue to participate not only in general mutual-aid agreements but also in agreements with adjoining jurisdictions for cooperative response to fires.

- ***Policy FI-2***: Continue, enhance or implement programs that seek to reduce the risk of structural fires.

  Action FI-2.1: Adopt and amend as needed updated versions of the California building and fire codes so that optimal fire-protection standards are used in construction and renovation projects.

  Action FI-2.2: Continue to enforce provisions under the local housing code requiring the use of fire-resistant construction and the provision of smoke detectors and fire-extinguishing systems.

  Action FI-2.3: Continue to review development proposals to ensure that they incorporate required and appropriate fire-mitigation measures, including adequate provisions for occupant evacuation and access by fire-fighting personnel And Equipment.

  Action FI-2.5: Continue to conduct periodic fire-safety inspections of commercial, multi-family and institutional buildings.

Open Space, Conservation and Recreation (OSCAR) Element

- ***Policy REC-3.1:*** Use level of service standards of 10 acres of total parkland and 4 acres of local-serving parkland as a means of determining where unmet needs exist and prioritizing future capital investments.

- ***Policy REC-3.3:*** Consider a range of factors when locating new parks or recreational facilities, including local recreational needs, projected operating and maintenance costs, budgetary constraints, surrounding land uses, citizen wishes, accessibility, the need to protect or enhance a historic resource, and site visibility.

- ***Policy REC-10.2:*** To the extent permitted by law, require recreational needs created by future growth to be offset by resources contributed by that growth. In other words, require mandatory land dedication for large-scale residential development and establish a park impact fee for smaller-scale residential development projects, including individual new dwelling units. Calculate the dedication or fee requirement based on a standard of 4 acres of local-serving parkland per 1,000 residents.

In addition, the park and recreation portion of the OSCAR Element contains the following principles applicable to the implementation of the Specific Plan:

- A park should be available within walking distance of every Oakland resident. No person should have to travel too far from home to gain access to recreational services.

- Recreation needs created by new development should be offset by resources contributed by that growth. In other words, new development should pay its fair share to meet the increased demand for parks resulting from that development.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

The City of Oakland's standard practice is to incorporate relevant Standard Conditions of Approval (SCAs) as part of project approvals. SCAs relevant to reducing impacts on public services due to

the adoption and development under the Specific Plan are listed below. If the Specific Plan is approved by the City, all applicable SCA would be adopted as conditions of approval and required, as applicable, of the projects developed under the Specific Plan. These SCAs would help ensure less-than-significant impacts to public services.

- **SCA 4: Conformance with other Requirements**

  Prior to issuance of a demolition, grading, P-job, or other construction related permit (for a project constructed in the Specific Plan Area):

  a. The project applicant shall comply with all other applicable federal, state, regional and/or local laws/codes, requirements, regulations, and guidelines, including but not limited to those imposed by the City's Building Services Division, the City's Fire Marshal, and the City's Public Works Agency. Compliance with other applicable requirements may require changes to the approved use and/or plans. These changes shall be processed in accordance with the procedures contained in SCA 3, *Scope of This Approval, Major and Minor Changes*.

  b. The applicant shall submit approved building plans for project-specific needs related to fire protection to the Fire Services Division for review and approval, including, but not limited to automatic extinguishing systems, water supply improvements and hydrants, fire department access, and vegetation management for preventing fires and soil erosion.

- **SCA 71: Fire Safety Phasing Plan**

  Prior to issuance of a demolition, grading, and/or construction and concurrent with any p-job submittal permit (for a project constructed in the Specific Plan Area):

  The project applicant shall submit a separate fire safety phasing plan to the Planning and Zoning Division and Fire Services Division for their review and approval. The fire safety plan shall include all of the fire safety features incorporated into the project and the schedule for implementation of the features. Fire Services Division may require changes to the plan or may reject the plan if it does not adequately address fire hazards associated with the project as a whole or the individual phase.

- **SCA 73: Fire Safety**

  Prior to and ongoing throughout demolition, grading, and/or construction (for a project constructed in the Specific Plan Area):

  The project applicant and construction contractor will ensure that during project construction, all construction vehicles and equipment will be fitted with spark arrestors to minimize accidental ignition of dry construction debris and surrounding dry vegetation.

4.12.2 Impacts and Mitigation Measures

Significance Criteria

Adoption and development under the Specific Plan would have a significant impact on the environment if it were to:

1. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the following public services:

    - Fire protection;
    - Police protection;
    - Schools; or
    - Other public facilities.

2. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or

3. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Approach to Analysis

The increases in population and land use intensity that would result from adoption and development under the Specific Plan were evaluated based on the web-based information regarding the various public services agencies with jurisdiction over the Specific Plan Area and their service capabilities, service ratios, response times, and performance objectives. Additionally, the adoption and development under the Specific Plan was evaluated for conformity with the goals, objectives and policies of the General Plan related to public services and recreation.

Impacts

Police Services Impacts

Impact PSR-1: Adoption and development under the Specific Plan could result in an increase in calls for police services, but would not require new or physically altered police facilities in order to maintain acceptable performance objectives (Criterion 1). (Less than Significant)

Adoption and development under the Specific Plan would increase land use intensity and overall density in and around the Plan Area. This related population increase could result in an increase in reported crimes. However, adherence to General Plan Policies N.12.1 and N.12.5, described above, by the City during review of individual development projects would reduce the potential for project-related service deficiencies. Although a population increase could result in an increase in reported crime, the new construction and rehabilitation of existing structures under the Specific Plan would infill building sites currently vacant and underused; serve to revitalize the corridors and community; and could result in a reduction in criminal activity within the Plan Area. Therefore, adoption and development under the Specific Plan would not result in an increased demand for police services such that new or physically altered police facilities would be required, the construction of which could have significant environmental effects. As such, the adoption and development under the Specific Plan would have a less-than-significant impact on police services.

Mitigation: None Required.

Fire Protection and Emergency Medical Services Impacts

Impact PSR-2: Adoption and development under the Specific Plan could result in an increase in calls for fire protection and emergency medical response services, but would not require new or physically altered fire protection facilities in order to maintain acceptable performance objectives (Criterion 1). (Less than Significant)

The increase in development intensity and overall density in and around the Plan Area would result in an increase in demand for fire protection and emergency services. However, adherence by the City to General Plan Policies N.12.1, N.12.5, FI-1, and FI-2, as well as the SCAs described above, during review of individual development projects would reduce the potential for service deficiencies and related impacts. The Oakland Fire Department is currently able to meet or exceed their response time goal 90 percent of the time. As such, it is anticipated that the Specific Plan would have a less-than-significant impact on fire protection and emergency medical response services.

Mitigation: None Required.

Public Schools Impacts

Impact PSR-3: Adoption and development under the Specific Plan could result in new students for local schools, but would not require new or physically altered school facilities to maintain acceptable performance objectives (Criterion 1). (Less than Significant)

Adoption and development under the Specific Plan is assumed to include up to 1,800 new residential units within the Plan Area, likely increasing the student enrollment at local schools. These new students would be added to district-wide enrollment incrementally over time as development under the Specific Plan occurs. New students would be distributed among the schools within the Plan Area and beyond through OUSD's Options Enrollment Program, thereby reducing substantial enrollment impacts to any one school.

For projects developed under the Specific Plan, adherence to General Plan Policy N.12.2, described above, would reduce the potential for impacts to school facilities associated with increased enrollment. Moreover, given the declining student enrollment in OUSD schools, which is projected to continue, as well as the geographic distribution of students across the City resulting from the Options Enrollment Program, the district would have adequate capacity within its existing facilities to accommodate new students generated by adoption and development under the Specific Plan.

Pursuant to Senate Bill 50 (SB 50), applicants for individual development projects would be required to pay school impact fees established to offset potential impacts from new development on

school facilities. Therefore, although adoption and development under the Specific Plan could indirectly increase resident populations and potential student enrollment in Oakland, payment of fees mandated under SB 50 is the mitigation measure prescribed by the statute, and payment of such fees is deemed full and complete mitigation. Therefore, no additional mitigation would be required.

Mitigation: None Required.

Parks and Recreation Impacts

Impact PSR-4: Adoption and development under the Specific Plan could increase the use of existing neighborhood and regional parks and recreation centers, but not to the extent that substantial physical deterioration of the facilities would occur or be accelerated, nor would it cause the necessity for new or expanded facilities (Criteria 1 through 3). (Less than Significant)

No additions or expansions of parks or recreational facilities are proposed as part of the Specific Plan, and no new parks or recreational facilities, nor expansion of existing parks or recreational facilities, would be required as a result of adoption and development under the Specific Plan.

Adoption and development under the Specific Plan would increase residential and daytime populations within the Specific Plan Area. These additional residents would increase demand for, and use of, neighborhood parks and recreation centers serving the Specific Plan Area, as well as regional parks serving the East Bay area. New demand would be distributed evenly throughout the Specific Plan Area due to the mix of uses proposed (commercial, entertainment, and residential) throughout the Plan Area. Increases in permanent and daytime population as a result of adoption and development under the Specific Plan is commensurate with the growth envisioned in the General Plan; any demand generated by new residents of the Specific Plan Area was considered and included in the OSCAR Element of the General Plan (1996).

As stated above, the OSCAR identifies about 1.65 acres of local parkland per 1,000 residents in the Central Planning area of the City, which is below the 4.0 acres of local-serving parkland per 1,000 resident standard. The City of Oakland has remained short of its stated local-serving parks standard since 1994. However, the City also puts forth in its General Plan an overall parkland standard of 10 total acres per 1,000 residents. The City exceeded this standard in 2012, with 15.2 acres of parkland per 1,000 residents.

Adherence to the General Plan's OSCAR Policies 3.1, 3.3, and 3.10, described above, would reduce potential impacts to recreational facilities from adoption and development under the Specific Plan. The City would nevertheless continue to exceed its overall park standard of 10 acres of total parkland per 1,000 residents, and would continue to fall short of its stated local-serving parkland goal of 4 acres per 1,000 residents, regardless of adoption and development under the Specific Plan, and the impact would be less than significant.

Mitigation: None Required.

Cumulative Impacts

Impact PSR-5: Adoption and development under the Specific Plan, in combination with other past, present, existing, approved, pending, and reasonably foreseeable future projects within and around the Plan Area, would not result in a cumulative increase in demand for police, fire, and school services. (Less than Significant)

Geographic Context

The cumulative geographic context for public services and recreation considerations for adoption and development under the Specific Plan consists of the Specific Plan Area in addition to all areas of the City, as public services and recreation facilities are provided citywide.

Impacts

Cumulative development within Specific Plan boundaries, combined with cumulative development (which considers those projects in the Major Projects List in Appendix B to this Draft EIR), would increase demand for police and fire protection services. These developments, however, would provide additional tax revenue and other development fees that would go toward paying for increased public services. Adherence to the General Plan policies listed under Impacts PSR-1 and PSR-2 would reduce the potential for significant impacts. Cumulative development, in combination with adoption and development under the Specific Plan would result in a less-than-significant cumulative impact on police and fire services.

Regarding schools, as stated above under Impact PSR-3, OUSD has experienced substantially decreased enrollment over the past decade, and enrollment is anticipated to continue decreasing. In addition, pursuant to Senate Bill 50 (SB 50), individual project applicants would be required to pay school impact fees established to offset potential impacts from new development on school facilities. Under OUSD's Options Enrollment Program, students from the Specific Plan Area may attend schools anywhere in the City. Considering the existing educational facilities citywide and in the vicinity of the Plan Area, and declining enrollment trends and forecasts, the Specific Plan, in combination with past, present and reasonably foreseeable future projects, would not result in the need for new or physically altered school facilities and the impact would be less than significant.

Mitigation: None Required.

Impact PSR-6: Adoption and development under the Specific Plan, in combination with other past, present, existing, approved, pending, and reasonably foreseeable future projects within and around the Specific Plan Area, would result in an increased demand for recreational facilities. (Less than Significant)

As stated above, the City's goal is to provide 10 acres of total parkland and 4 acres of local-serving parkland per 1,000 residents, and the Central Planning area currently has 1.65 acres of local parkland per 1,000 residents. The Specific Plan would facilitate population growth, which would be combined with other growth in the vicinity to further reduce the 1.65-acre ratio. The growth in the vicinity could result from projects included in the Major Projects List in Appendix B to this Draft EIR. Therefore, growth from adoption and development under the Specific Plan, in combination with other past, present, and reasonably foreseeable future projects in the Plan Area and vicinity, would contribute to a cumulatively considerable deficit of local-serving parkland per resident.

Adherence to the General Plan policies 3.1, 3.3, and 3.10, described above, would reduce the potential impacts of projects developed under the Specific Plan. Therefore, the effect of the adoption and development under the Specific Plan, in combination with other foreseeable development, would not be cumulatively significant.

Mitigation: None Required.

4.12.3 References

Bolton, Christopher, Chief of Staff, personal communication, January 17, 2013.

City of Oakland, 1996. *Open Space, Conservation and Recreation (OSCAR), An Element of the Oakland General Plan,* adopted June 11, 1996.

City of Oakland, 1998. *Envision Oakland, City of Oakland General Plan, Land Use and Transportation Element (LUTE),* as amended through March 24, 1998.

City of Oakland, 2004. *Protect Oakland, City of Oakland General Plan, Safety Element,* adopted November 2004.

City of Oakland, 2008a. Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval, revised September 5, 2007, amended September 17, 2008.

City of Oakland, 2008b. Memorandum from Audree V. Jones-Taylor, OPR Director, to Jeffrey Taylor, Parks and Recreation Advisory Commission, Re: Allowing Dogs On-Leash in Mosswood Park, June 18, 2008.

City of Oakland, 2011. *City of Oakland Year End Crime Report 2011*, http://www2.oaklandnet.com/oakca/groups/police/documents/webcontent/oak032756.pdf, accessed January 8, 2013.

DataQuest, 2013. California Department of Education, Time Series – K-12 Public School Enrollment, Oakland Unified School District, http://data1.cde.ca.gov/dataquest/DQ/EnrTimeRpt.aspx?Level=District&cYear=2011-12&cname=OAKLAND%20UNIFIED&cCode=0161259, accessed January 3, 2013.

East Bay Regional Park District (EBRPD), 2013. Parks, http://www.ebparks.org/parks#nw, accessed January 8, 2013.

Greater Mosswood Neighborhood Association (GMNA), 2013. Mosswood Dog Run Proposal (undated PDF), http://www.greatermosswood.org/Mosswooddogrun.pdf, accessed January 14, 2013.

Hoffmann, Mark, Deputy Chief, Oakland Fire Department, personal communication, January 17, 2013.

McCarthy, 2011. Construction of Mosswood Park Tot Lot in Oakland Completed, http://www.mccarthy.com/news/2011/09/01/construction-of-mosswood-park-tot-lot-in-oakland-completed/, article dated September 1, 2011 (accessed January 14, 2013).

Oakland Fire Department (OFD), 2012a. Map of Oakland California Fire Stations, http://www.ww6or.com/OAKFIRE.HTM, accessed December 26, 2012b.

Oakland Fire Department (OFD), 2012b. Website: http://www2.oaklandnet.com/Government/o/OFD/index.htm. Accessed December 26, 2012a.

Oakland Police Department (OPD), 2010. *Strategic Plan Working Draft*, August 2010.

Oakland Police Department (OPD), 2012a. Website: http://www2.oaklandnet.com/Government/o/OPD/index.htm, accessed December 26, 2012a.

Oakland Police Department (OPD), 2012b. Neighborhood Crime Prevention Council Map, Accessed December 24, 2012b.

Oakland Public Works Agency, 2013. Our Services, online at http://www2.oaklandnet.com/Government/o/PWA/s/PCL/index.htm, accessed January 7, 2013.

Oakland Unified School District, 2011. *Community Schools, Thriving Students: A Five Year Strategic Plan, Summary Report*, Version 2.0, June 2011.

Oakland Unified School District, 2012. *Facilities Master Plan.*

Oakland Unified School District, 2013a, Interactive Maps, District 3 Reference Map http://mapstacker.ousd.k12.ca.us/MapStacker.htm, accessed January 3, 2013a.

Oakland Unified School District, 2013b, Enrollment in OUSD Schools: The Options Process (School Choice), http://www.ousd.k12.ca.us/enroll, accessed January 3, 2013b.

Office of Parks and Recreation, 2011. Playing with a Purpose, 2011. [Brochure, PDF.]

Office and Parks and Recreation, 2013. Website, Mosswood Recreation Center, http://www2.oaklandnet.com/Government/o/opr/s/facility/OAK029392, accessed January 14, 2013.

Port of Oakland, 2013. Middle Harbor Shoreline Park, http://www.portofoakland.com/communit/serv_midd.asp, accessed January 8, 2013.

State Allocation Board (SAB), Meeting Actions, www.documents.dgs.ca.gov/opsc/Resources/Index_Adj_Dev.pdf, *Developer Fee Adjustment*, January 25, 2012.

Trust for Public Land and Center for Park Excellence, 2012. *2012 City Park Facts*.

WRT, 2009. *Broadway Valdez District Specific Plan: Existing Conditions Report*, Draft, August 2009.

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4.13 Transportation and Circulation

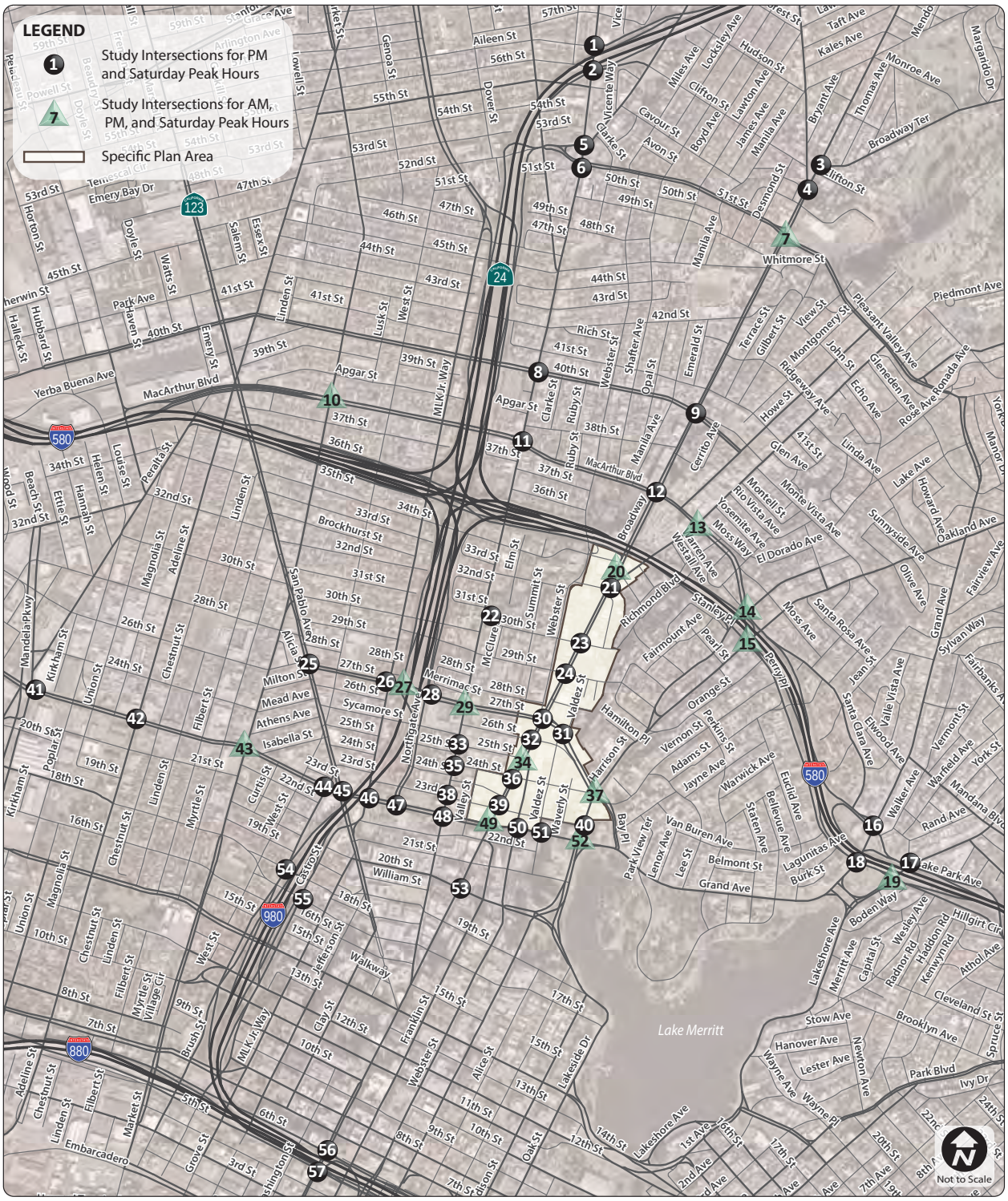
This section describes the transportation, circulation, and parking conditions, including transit services and pedestrian and bicycle facilities in the Broadway Valdez District Specific Plan Area and vicinity. This section describes the regulatory setting relevant to transportation and circulation issues in the Plan Area. Potential impacts of the development under the Specific Plan are discussed and evaluated, and appropriate mitigation measures or Standard Conditions of Approval (SCA) are identified, as necessary, followed by identification of the residual impact significance after mitigation measures are implemented.

Figure 4.13-1 illustrates the location of the Plan Area and the local and regional street system. The analysis evaluates the traffic-related impacts of the Broadway Valdez Development Program (i.e. the Project) during the weekday morning and evening and Saturday peak hours. The analysis was conducted in compliance with City of Oakland and Alameda County Transportation Commission (ACTC) guidelines. Traffic conditions are assessed for the following six scenarios:

- ***Existing*** – Represents existing conditions with volumes obtained from recent traffic counts and the existing roadway system.
- ***Existing Plus Project Buildout*** – Existing conditions plus project-related traffic resulting from the buildout of the Broadway Valdez Development Program.
- ***2020 No Project*** – Future conditions with planned population and employment growth, and planned transportation system improvements, for the year 2020. This scenario assumes no traffic growth in the Specific Plan area. Traffic projections were developed using the most recent version of the Alameda Countywide Travel Demand Model provided by the ACTC (ACTC Model).
- ***2020 Plus Project Phase 1*** – Future forecasted conditions for the year 2020. This scenario assumes completion of developments within the Specific Plan Area expected by year 2020. Traffic projections were developed using the ACTC Model.
- ***2035 No Project –*** Future conditions with planned population and employment growth, and planned transportation system improvements, for the year 2035. This scenario assumes no traffic growth in the Specific Plan Area. Traffic projections were developed using the ACTC Model.
- ***2035 Plus Project Buildout –*** Future forecasted conditions for the year 2035. This scenario assumes buildout of the Broadway Valdez Development Program. Traffic projections were developed using the ACTC Model.

4.13.1 Existing Setting

The existing transportation-related context in which the development under the Specific Plan would be constructed is described below, beginning with a description of the study area and the street network that serves the Plan Area. Existing transit service, bicycle and pedestrian facilities, and on- and off-street parking in the vicinity of the Plan Area are also described. Intersection and roadway levels of service are then defined and current conditions for roadways and intersections in the Plan Area vicinity are summarized. This subsection also discusses planned transportation improvements in the Plan Area vicinity as well as the applicable planning policies.



SOURCE: Fehr & Peers

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Figure 4.13-1
Study Area Context

Study Area

Intersection operations at 57 intersections in the vicinity of the Plan Area (listed below) were evaluated during the weekday evening (PM) and Saturday peak periods for Existing, 2020 and 2035 conditions. In addition, intersection operations at 14 intersections were also evaluated during the weekday morning (AM) peak period (**Bold** – Indicates intersection that were evaluated during the weekday AM peak period as well as the weekday PM and Saturday peak periods. All intersections located within the Downtown area or provide direct access to Downtown unless marked with *; intersections under jurisdiction of Caltrans are marked with #).

1. SR 24 Eastbound Off-Ramp/Aileen Street/ Telegraph Avenue #
2. SR 24 Westbound On-Ramp/56th Street/ Telegraph Avenue #
3. Broadway Terrace/Broadway
4. College Avenue/Broadway
5. Claremont Avenue/52nd Street/ Telegraph Avenue
6. 51st Street/Telegraph Avenue
7. **51st Street/Pleasant Valley Avenue/ Broadway**
8. 40th Street/Telegraph Avenue
9. 40th Street/Broadway
10. **West MacArthur Boulevard/ Market Street***
11. West MacArthur Boulevard/Telegraph Avenue
12. MacArthur Boulevard /Broadway
13. **MacArthur Boulevard/Piedmont Avenue***
14. **Santa Clara Avenue /Harrison Street**
15. **Perry Place/I-580 Eastbound Ramps/ Oakland Avenue #**
16. Grand Avenue/Lake Park Avenue/ Santa Clara Avenue
17. Lake Park Avenue/Lakeshore Avenue
18. Grand Avenue/MacArthur Boulevard
19. **MacArthur Boulevard/I-580 Eastbound On-Ramp/Lakeshore Avenue #**
20. **Piedmont Avenue/Broadway**
21. Hawthorne Avenue/Brook Street/ Broadway
22. Hawthorne Avenue/Telegraph Avenue
23. 30th Street/Broadway
24. 29th Street/Broadway
25. 27th Street/San Pablo Avenue
26. 27th Street/ Martin Luther King Jr. Way
27. **27th Street/I-980 Westbound Off-Ramp/ Northgate Avenue #**
28. 27th Street/I-980 Eastbound On-Ramp/ Northgate Avenue #
29. **27th Street/Telegraph Avenue**
30. 27th Street/Broadway
31. 26th Street/27th Street/Valdez Street*
32. 26th Street/Broadway
33. 25th Street/Telegraph Avenue
34. **25th Street/Webster Street/Broadway**
35. 24th Street/Telegraph Avenue
36. 24th Street/Broadway
37. **27th Street/24th Street/Bay Place/ Harrison Street**
38. 23rd Street/Telegraph Avenue
39. 23rd Street/Broadway
40. 23rd Street/Harrison Street
41. West Grand Avenue/Mandela Parkway
42. West Grand Avenue/Adeline Street
43. **West Grand Avenue/Market Street**
44. West Grand Avenue/Brush Street
45. West Grand Avenue/San Pablo Avenue
46. West Grand Avenue/Martin Luther King Jr. Way
47. West Grand Avenue/Northgate Avenue
48. West Grand Avenue/Telegraph Avenue
49. **Grand Avenue/Broadway**
50. Grand Avenue/Webster Street
51. Grand Avenue/Valdez Street
52. **Grand Avenue/Harrison Street**
53. 20th Street/Broadway
54. 18th Street/I-980 Westbound Off-Ramp/ Brush Street #
55. 17th Street/I-980 Eastbound On-Ramp/ Castro Street #
56. 5th Street/I-880 Southbound On-Ramp/ Broadway #
57. 6th Street/I-880 Northbound Off Ramp/ Broadway #

In general, major intersections along arterials where the development under the Specific Plan would increase traffic volumes by 50 or more peak-hour trips are identified as potential study intersections. This threshold is selected because it generally corresponds to five percent or more of current traffic volumes along major arterials, which is similar to the typical day-to-day fluctuation in traffic volumes and can be noticeable to most people. Figure 4.13-1 shows the 57 study intersections.

Considering that the development under the Specific Plan would generate fewer trips during the weekday AM peak hour than during the weekday PM or Saturday peak hours, and most study intersections currently operate at better conditions during the AM peak hour than during the PM peak hour, it is expected that evaluation of traffic operations during the weekday PM and Saturday peak hours would capture impacts at the study intersections. Therefore, this analysis evaluates operations at major intersections during the weekday AM peak hour only where the project would add 50 or more AM peak-hour trips, and where previous analyses have documented worse conditions during the AM peak hour than during the PM peak hour.

Existing Roadway Network

Regional vehicular access to the Plan Area is provided by Interstate 580 (I-580), Interstate 880 (I-880), Interstate 980 (I-980), and State Route 24 (SR 24), while local access is provided via Broadway, Telegraph Avenue, Harrison Street, Grand Avenue, and 27th Street. These and other major roadways in the study area are described below.

- ***I-980*** is an eight-lane freeway west of the Plan Area that connects SR 24 and I-580 to I-880. I-980 has an average annual daily traffic volume (AADT) of approximately 113,000 vehicles near the Plan Area (Caltrans, 2012a). Ramps at 17th and 27th Streets provide the nearest freeway access to the Plan Area.

- ***SR 24*** is an eight-lane freeway that is the continuation of I-980 east of I-580 and extends to Walnut Creek. SR 24 has an AADT of approximately 146,000 vehicles east of I-980 (Caltrans, 2012a). Ramps at Telegraph Avenue, 51st Street, and Martin Luther King Jr. Way provide the nearest freeway access to the Plan Area.

- ***I-580*** is an eight-lane freeway between SR 101, in Marin County, and I-5 south of Tracy. I-580 is located just north of the Plan Area and has an AADT of approximately 230,000 vehicles per day near SR 24/I-980 (Caltrans, 2012a). The Webster Street off-ramp and Oakland Avenue/Harrison Street and Grand Avenue/Lakeshore Avenue Interchanges provide the nearest access to the Plan Area.

- ***I-880*** is an eight-lane freeway between I-80 in Emeryville and I-280 in San Jose. I-880 has an AADT of approximately 199,000 vehicles south of Broadway (Caltrans, 2012a). Broadway and Jackson Street ramps provide the nearest access to the Plan Area.

- ***Broadway*** is a major north-south arterial between Jack London Square and SR 24. Broadway is the main thorough-fare through the Plan Area. It provides four travel lanes through the Plan Area, with a center median north of 27th Street.

- ***Telegraph Avenue*** is a major north-south arterial extending from Broadway in Downtown Oakland to Berkeley. Telegraph Avenue generally provides two travel lanes in each direction in the study area.

- ***Harrison Street*** is an arterial extending from Downtown Oakland to east of I-580. In the vicinity of I-580, Harrison Street forms a one-way couplet with Oakland Avenue. Harrison Street generally provides three travel lanes in each direction.

- ***MacArthur Boulevard*** is a major east-west arterial just north of the Plan Area that extends from Hollis Street in West Oakland/Emeryville generally paralleling I-580 to San Leandro in the east and beyond. It varies in width from four to six lanes, with a two-lane cross section and a center median just north of the Plan Area.

- ***27th Street/Bay Place*** is a generally four-lane, east-west arterial that extends from San Pablo Avenue to Grand Avenue.

- ***Grand Avenue/West Grand Avenue*** is a generally four-lane major arterial extending from West Oakland to Downtown Oakland and the City of Piedmont.

- ***Piedmont Avenue*** is a two-lane, minor north-south arterial extending from Broadway to 51st Street. Piedmont Avenue provides one lane in each direction.

- ***Webster Street*** is a north-south street extending from City of Alameda to 51st Street. In the Plan Area, Webster Street is discontinuous between 25th and 28th Streets. South of 25th Street, Webster Street is to the east of Broadway; north of 28th Street, Webster Street is to the west of Broadway. Webster Street provides one travel lane in each direction. South of Grand Avenue, Webster Street is one-way southbound.

Other local streets in the Specific Plan Area include:

- ***Valdez Street*** is a north-south street extending from Grand Avenue to 28th Street. North of 27th Street, Valdez Street provides one southbound-only lane. South of 27th Street, Valdez Street provides one travel lane in each direction.

- ***23rd Street*** is a two-lane east-west local street that extends between Harrison Street and Martin Luther King Jr. Way in Oakland.

- ***24rd Street*** is a two-lane east-west local street that extends between Harrison Street and Telegraph Avenue in Oakland. 24th Street is one-way westbound between Harrison and Valdez Streets.

- ***29th Street*** is a two-lane east-west local street that extends between Harrison Street / Oakland Avenue and Martin Luther King Jr. Way in Oakland.

- ***30th Street*** is a two-lane east-west local street that extends between Richmond Boulevard and Peralta Street in Oakland.

Other local streets in the project area include Hawthorne Avenue, Brook Street, Valdez Street, Waverly Street and 25th through 34th Streets. In general, these streets provide one travel lane in each direction and provide access to and from the adjacent uses.

Previous environmental documents have identified intersections that either currently operate at an unacceptable LOS or are projected to operate at an unacceptable LOS in the future. This EIR identifies these intersections as "impacted intersections" because components of the proposed project may affect those locations. Appendix G.A presents the intersections that previously published environmental documents identified as having significant and unavoidable impacts.

Existing Transit Service

Transit service providers in the Plan Area vicinity include Alameda-Contra Costa Transit District (AC Transit) which provides local and Transbay bus service with connections to the Transbay Terminal in San Francisco, the Bay Area Rapid Transit (BART) which provides regional rail service, and various shuttle services. **Figure 4.13-2** shows the existing transit services in the Plan Area. Each service is described below.

AC Transit

The Alameda-Contra Costa Transit District (AC Transit) is the primary bus service provider in 13 cities and adjacent unincorporated areas in Alameda and Contra Costa Counties, with Transbay service to destinations in San Francisco, San Mateo and Santa Clara Counties. **Table 4.13-1** summarizes the characteristics of the AC Transit routes operating in the Plan Area and vicinity.

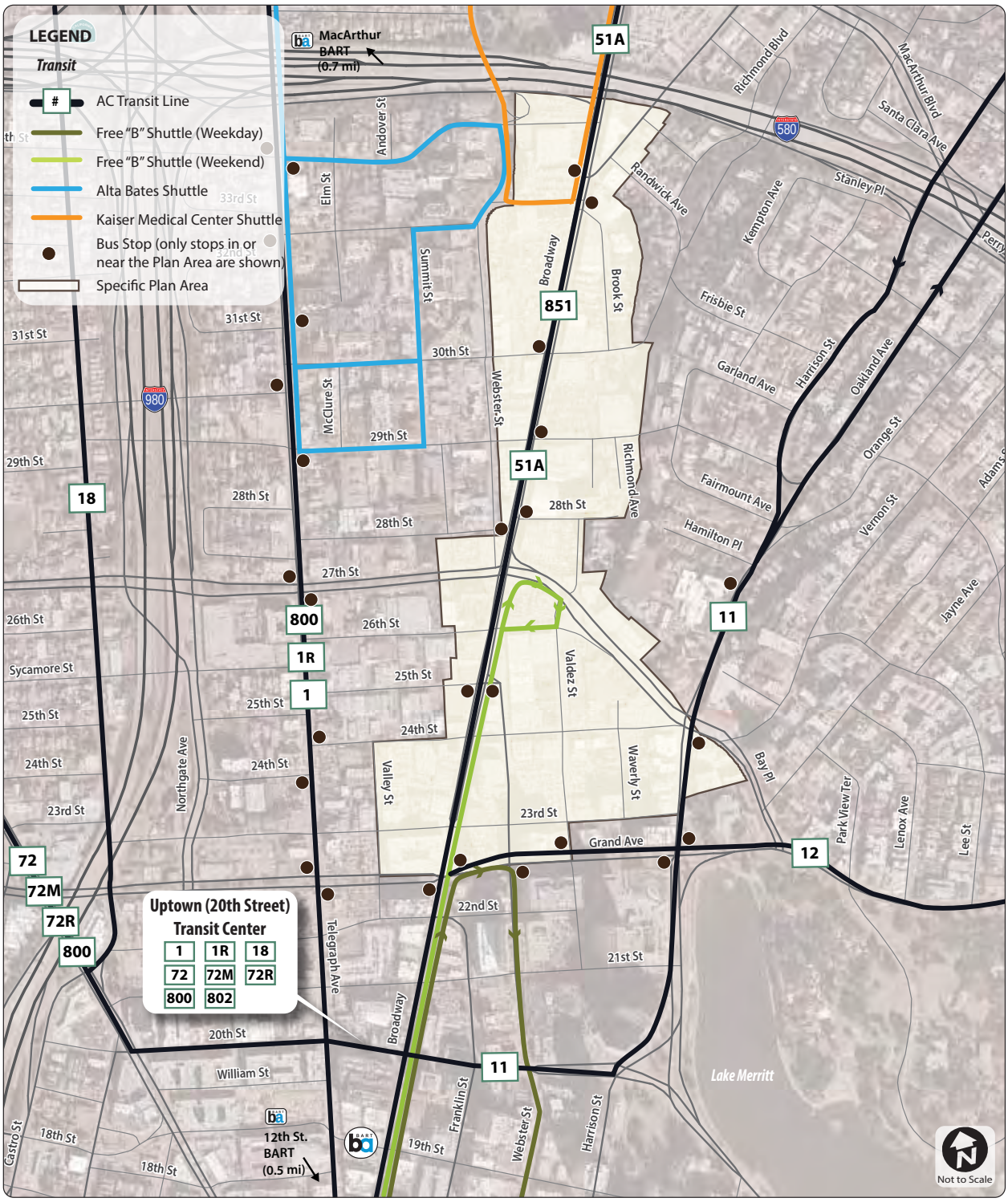
Table 4.13-2 shows the capacity and loads (passengers) of the AC Transit routes serving the Plan Area and vicinity. Average and maximum load factors are also shown. Load factor is defined as the ratio of occupied seats to the number of seats on the bus; i.e., a load factor of 100 percent or more indicates that the bus operates at or above its seated capacity. Route 51A directly serves the Plan Area along Broadway and is currently over capacity during peak service periods, with maximum loads of up to 166 percent, and average daily load factors of 38 to 57 percent. Route 1 along Telegraph Avenue is also over capacity, with a maximum load factor of 115 percent. Route 1R, the express route along Telegraph Avenue, experiences higher daily loads and reaches its seated capacity in the northbound direction near the Alta Bates Summit Campus. Route 11 along Harrison Street operates below capacity, and Route 12 along Grand Avenue, south of the Plan Area, operates at or below capacity. Both all-night routes, Routes 800 and 851, operate with excess capacity.

Bay Area Rapid Transit (BART)

BART provides regional rail service throughout the East Bay and across the Bay to San Francisco and the Peninsula. The nearest BART stations to the Plan Area are:

- The 19th Street BART station, about 0.3 miles south of the Plan Area, is located underground beneath Broadway in downtown Oakland. Four portals along Broadway between 18th and 20th Streets provide access to the station. The 19th Street Station does not have designated motor vehicle parking or pick-up/drop off facilities.

- The MacArthur BART Station, about 0.6 miles northwest of the Plan Area, is elevated and located in the median of SR 24. Station access is provided just south of 40th Street. The Station provides designated motor vehicle parking and pick-up/drop off facilities.



SOURCE: Fehr & Peers

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Figure 4.13-2
Existing Transit Services

TABLE 4.13-1
AC TRANSIT ROUTES IN THE VICINITY OF THE PLAN AREA

Line	Route	Nearest Stops	Weekday		Weekend		Bus Type
			Hours	Headway[a]	Hours	Headway[a]	
Local Routes							
1	Downtown Berkeley to Bay Fair BART station	Telegraph Ave. at 36th St., 34th St., 32nd St., 31st St., 30th St., 29th St., 27th St., 24th St., and W. Grand Ave	5:30 AM to 12:00 AM	15-20 minutes	5:00 AM to 1:00 AM	15-20 minutes	60-foot articulated buses with a 47-person seating capacity
1R	Downtown Berkeley to Bay Fair BART station (limited stops)	Telegraph Ave. at 31st St., 30th St., and 24th St.	6:00 AM to 8:00 PM	12 minutes	7:30 AM to 7:00 PM	15 minutes	
11	Piedmont to Dimond Business District	Harrison St. at Bay Place	6:00 AM to 8:00 PM	30 minutes	7:00 AM to 8:30 PM	60 minutes	40-foot buses with a 32-person or 40-person seating capacity
12	Berkeley BART station to downtown Oakland	W Grand Ave. at Harrison St., Webster St., Valdez St., and Broadway	6:00 AM to 10:50 PM	20-30 minutes	6:00 AM to 10:50 PM	30 minutes	30-foot buses with a 25-person seating capacity
51A	Rockridge BART station to Fruitvale BART station	Broadway at W. Grand Ave., 25th St., 28th St., 29th St., 30th St., and Piedmont Ave.	5:00 AM to 12:30 AM	10-20 minutes	5:30 AM to 12:30 AM	15-20 minutes	40-foot buses with a 32-person seating capacity
Night Routes							
800	Downtown San Francisco to Richmond BART Station	Telegraph Ave. at 34th St., 32nd St., 31st St., 30th St., 29th St., 27th St., and 24th St.	12:20 AM to 6:20 AM	60 minutes	11:50 PM to 7:30 AM	60 minutes	40-foot buses with a 32-person or 40-person seating capacity
851	Fruitvale BART Station to Downtown Berkeley	Broadway at 25th St., 28th St., 29th St., 30th St., and Piedmont Ave	12:20 AM to 5:00 AM	60 minutes	12:20 AM to 5:00 AM	60 minutes	40-foot buses with a 32-person or 40-person seating capacity

[a] The frequency, or interval of time between buses traveling in any given direction along a designated route.

SOURCE: AC Transit, August 2012.

TABLE 4.13-2
AC TRANSIT BOARDINGS AND ALIGHTINGS (Weekday)

Bus Route and Stop Location	Direction	Average Capacity (Seats)	Average Load (Passengers)[a]	Average Load Factor[b]	Maximum Load (Passengers)[c]	Maximum Load Factor[d]	Boardings (Ons)[e]	Alightings (Offs)[f]
Route 1 on Telegraph Avenue at West Grand Avenue	Southbound	47	20.5	44%	44	94%	28	27
	Northbound		24.1	51%	53	113%	32	43
Route 1 on Telegraph Avenue at 24h Street	Southbound	47	20.5	44%	44	94%	97	54
	Northbound		23.7	50%	53	113%	60	87
Route 1 on Telegraph Avenue at 27h Street	Southbound	47	19.8	42%	44	94%	40	39
	Northbound		23.6	50%	54	115%	29	39
Route 1 on Telegraph Avenue at 29th/30th Street	Southbound	47	19.8	42%	44	94%	101	37
	Northbound		22.9	49%	50	106%	22	62
Route 1 on Telegraph Avenue at 31st/32nd Street	Southbound	47	18.8	40%	42	89%	12	15
	Northbound		23.6	50%	54	115%	29	39
Route 1 on Telegraph Avenue at 34h Street	Southbound	47	18.8	40%	42	89%	37	23
	Northbound		23.7	50%	53	113%	60	87
Route 1 on Telegraph Avenue at 36th Street	Southbound	47	18.6	40%	41	87%	27	7
	Northbound		24.1	51%	53	113%	32	43
Route 1R on Telegraph Avenue at 24th Street	Southbound	47	23.1	49%	45	96%	156	74
	Northbound		24.7	53%	62	132%	82	157
Route 1R on Telegraph Avenue at 30th/31st Street	Southbound	47	21.9	47%	44	94%	176	81
	Northbound		23.8	51%	59	126%	105	160
Route 11 on Harrison Street at West Lake Middle School/Bay Place	Eastbound	40	12.3	31%	24	60%	30	3
	Westbound		12.4	31%	35	88%	6	30
Route 12 on West Grand Avenue at Broadway	Eastbound	25	10.9	44%	19	76%	9	3
	Westbound		11.9	48%	24	96%	9	32
Route 12 on West Grand Avenue at Webster Street	Eastbound	25	11.5	46%	20	80%	25	3
	Westbound		12.5	50%	24	96%	3	19
Route 12 on West Grand Avenue at Harrison Street	Eastbound	25	11.7	47%	20	80%	20	12
	Westbound		12.9	52%	25	100%	19	28
Route 51A on Broadway at West Grand Avenue	Southbound	32	15.0	47%	37	116%	101	73
	Northbound		18.2	57%	53	166%	73	89
Route 51A on Broadway at 25th Street	Southbound	32	14.6	46%	37	116%	45	34
	Northbound		18.1	57%	53	166%	28	40
Route 51A on Broadway at 28th Street	Southbound	32	14.6	46%	37	116%	277	53
	Northbound		16.4	51%	53	166%	55	215
Route 51A on Broadway at 29th/30th Street	Southbound	32	12.3	38%	34	106%	76	47
	Northbound		15.5	48%	53	166%	67	158
Route 51A on Broadway at Piedmont Avenue	Southbound	32	12.0	38%	35	109%	71	21
	Northbound		14.8	46%	53	166%	20	93

TABLE 4.13-2 (Continued)
AC TRANSIT BOARDINGS AND ALIGHTINGS (Weekday)

Bus Route and Stop Location	Direction	Average Capacity (Seats)	Average Load (Passengers)[a]	Average Load Factor[b]	Maximum Load (Passengers)[c]	Maximum Load Factor[d]	Boardings (Ons)[e]	Alightings (Offs)[f]
Route 800 on Telegraph Avenue at 24th Street	Southbound	40	8.5	21%	12	30%	0	2
	Northbound		15.2	38%	26	65%	1	4
Route 800 on Telegraph Avenue at 27th Street	Southbound	40	8.9	22%	14	35%	0	1
	Northbound		15.2	38%	26	65%	1	1
Route 800 on Telegraph Avenue at 29th/30th Street	Southbound	40	9.1	23%	14	35%	3	0
	Northbound		14.9	37%	26	65%	1	2
Route 800 on Telegraph Avenue at 31st/32nd Street	Southbound	40	8.6	22%	14	35%	0	1
	Northbound		15.7	39%	26	65%	2	0
Route 800 on Telegraph Avenue at 34th Street	Southbound	40	8.7	22%	15	38%	0	1
	Northbound		15.6	39%	26	65%	1	1
Route 851 on Broadway at 25th Street	Southbound	40	4.0	10%	7	18%	0	0
	Northbound		6.3	16%	11	28%	0	0
Route 851 on Broadway at 28th Street	Southbound	40	4.0	10%	7	18%	0	1
	Northbound		6.1	15%	11	28%	0	1
Route 851 on Broadway at 29th/30th Street	Southbound	40	4.1	10%	7	18%	0	1
	Northbound		5.9	15%	10	25%	1	2
Route 851 on Broadway at Piedmont Avenue	Southbound	40	4.1	10%	7	18%	0	0
	Northbound		5.8	15%	10	25%	0	1

[a] Number of passengers on the bus averaged on a typical weekday.
[b] Average load divided by average seated capacity.
[c] Maximum number of passengers on the bus observed on a typical weekday.
[d] Maximum load divided by average seated capacity.
[e] Total number of passengers boarding the bus at this location on a typical weekday.
[f] Total number of passengers alighting the bus at this location on a typical weekday.

Bold indicates load factor above 100 percent.

SOURCE: Data collected in March 2012 through June 2012 and provided by AC Transit in August 2012.

Table 4.13-3 summarizes number of passengers using both 19th Street and MacArthur BART Stations. About 24,000 riders access the 19th Street Station, and about 19,000 riders access the MacArthur BART Station on a typical weekday.

The Richmond-Fremont, Richmond-Millbrae and Pittsburg/Bay Point-San Francisco International Airport (SFO) lines all provide service at the 19th Street and MacArthur BART Stations. Both stations are served by about 32 trains per hour during the peak periods. **Table 4.13-4** summarizes peak-hour loads near the Plan Area. Currently, the Pittsburg/Bay Point-Daily City route operates above BART's planning capacity, while the other routes operate below capacity.

TABLE 4.13-3
BART STATION ENTRIES AND EXITS (Weekday)

	AM Peak Hour (7:30 AM to 8:30 AM)	PM Peak Hour (5:00 PM to 6:00 PM)	Daily
19th Street BART Station			
Entries	930	2,370	11,850
Exits	2,340	990	12,000
Total[a]	3,270	3,360	23,850
MacArthur BART Station			
Entries	1,260	980	9,670
Exits	820	1,280	9,510
Total[a]	2,080	2,260	19,180

[a] Does not include passengers transferring between lines at the platform level.

SOURCE: BART, October 2012.

TABLE 4.13-4
BART PEAK-HOUR LOADS BY LINE

Line	Total Capacity (Passengers/Car)[a]	Maximum Load Peak Hour	Maximum Load (Passengers/Car)	Load Factor
Pittsburg/Bay Point-Daly City	**107**	**8:00 AM**	**114**	**1.07**
Daly City-Pittsburg/Bay Point	107	4:00 PM	106	0.99
Colma/Daly City-Richmond	107	5:00 PM	99	0.93
Richmond-Daly City/ Colma	107	8:00 AM	101	0.96
Fremont-Richmond	107	5:00 PM	92	0.86
Richmond-Fremont	107	5:00 PM	58	0.54

Bold indicates maximum load above capacity.

[a] BART defines total capacity to include 67 seated and 40 standing passengers.

SOURCE: September 2007 data provided by BART in January 2008.

Shuttle Service

The following shuttle services operate in or near the Plan Area:

- The Oakland Free Broadway shuttle ("Free B") operates along Broadway between Jack London Square and Grand Avenue on weekdays and between Jack London Square and 27th Street on weekend nights. The free shuttle service connects the Valdez Triangle to Downtown Oakland, Jack London Square, and 12th and 19th BART Stations. About 2,000 rider use the "Free B" on typical weekdays (City of Oakland, 2011).

- The Alta Bates Summit Medical Center shuttle operates a free shuttle system between the MacArthur BART Station, the Alta Bates Berkeley campus and the various Alta Bates Summit campus buildings during weekday business hours. The shuttle system primarily serves Alta Bates staff, patients, and visitors, but can also be used by the general public.

- Kaiser Medical Center shuttle operates a free shuttle system between the MacArthur BART Station and the various Kaiser Medical Center buildings and parking facilities during the weekday business hours. The shuttle system primarily serves Kaiser staff, patients, and visitors, but can also be used by the general public.

Existing Bicycle Network

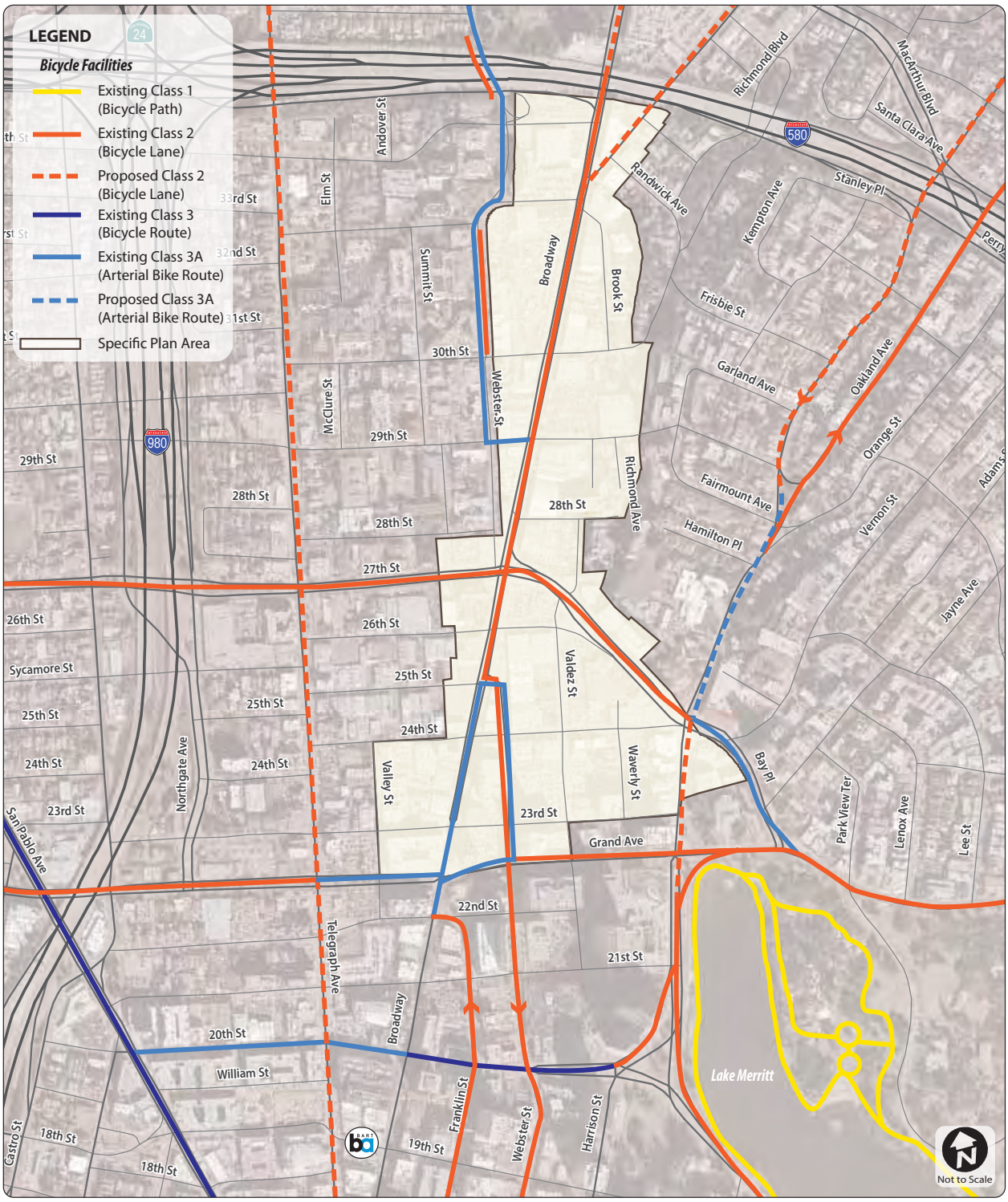
Bicycle and pedestrian facilities can be classified into several types, including:

- ***Class 1 Paths.*** These facilities are located off-street and can serve both bicyclists and pedestrians. Recreational trails can be considered Class 1 facilities. Class 1 paths are typically 8 to 10 feet wide excluding shoulders and are generally paved.
- ***Class 2 Bicycle Lanes.*** These facilities provide a dedicated area for bicyclists within the paved street width through the use of striping and appropriate signage. These facilities are typically 5 to 6 feet wide.
- ***Class 3 Bicycle Routes.*** These facilities are found along streets that do not provide sufficient width for dedicated bicycle lanes. The street is then designated as a bicycle route through the use of signage informing drivers to expect bicyclists.
  - *Class 3A Arterial Bicycle Routes* – These facilities are found along some arterial streets where bicycle lanes are not feasible and parallel streets do not provide adequate connectivity. Speed limits as low as 25 miles per hour (mph), shared lane bicycle stencils, wide curb lanes, and signage are used to encourage shared use.
  - *Class 3B Bicycle Boulevards* – These facilities are found along residential streets with low traffic volumes. Assignment of right-of-way to the route, traffic calming measures and bicycle traffic signal actuation are used to prioritize through-trips for bicycles.
- ***Sidewalks.*** The exclusive realm of pedestrians, sidewalks provide pedestrian access and circulation. Sidewalks can vary in width from about 5 to 20 feet; wider sidewalks are typically found in heavily urbanized and downtown areas.

Figure 4.13-3 shows the existing and planned bicycle facilities in the Plan Area and vicinity (based on the City of Oakland's 2007 *Bicycle Master Plan Update*). The majority of the planned bicycle network in the Plan Area and vicinity has been completed.

Class 2 bicycle lanes on Broadway serve as the primary north-south bicycle connection, and Class 2 bicycle lanes on 27th Street and Grand Avenue serve as the primary east-west bicycle connections in the Plan Area. In addition, Webster Street is designated as a Class 3A Arterial Bicycle Route south of Broadway (Webster Street and Franklin Street form a one-way couplet south of Grand Avenue and provide the primary bicycle access to and from Downtown Oakland) and Class 3B Bicycle Boulevard north of 29th Street. Class 2 bicycle lanes on Broadway and Class 3B facilities on 29th Street connect the two segments of Webster Street.

Major bicycle facilities in the Plan Area and surrounding areas that need to be completed include Class 2 bicycle lanes on Piedmont Avenue north of Broadway and on Broadway north of I-580, and a combination of Class 2 bicycle lanes and Class 3A arterial bicycle route on Harrison Street.



SOURCE: Fehr & Peers

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Figure 4.13-3

Existing and Proposed Bicycle Facilities

Existing Pedestrian Network

The City of Oakland's *Pedestrian Master Plan* (November 2002) designates Broadway and Grand and Telegraph Avenues as City Routes, 27th Street and Piedmont Avenue as District Routes, and Webster and 29th Streets as Neighborhood Routes. The *Pedestrian Master Plan* states the following about these types of routes:

> "City routes designate streets that are destinations in themselves – places to live, work, shop, socialize and travel. They provide the most direct connections between walking and transit and connect multiple districts in the City."
>
> "District routes have a more local function as the location of schools, community centers, and smaller scale shopping. They are often located within a single district and help to define the character of that district."
>
> "Neighborhood routes are local streets that connect schools, parks, recreational centers, and libraries. They are places for people to meet and they provide the basis for neighborhood life. They are used for walking to school, walking for exercise, and safe walking at night."

Pedestrian facilities include sidewalks, crosswalks, and pedestrian signals. Sidewalks are provided on both sides of all streets, except one segment, in the Plan Area. Webster Street under I-580 is the only street segment in the Plan Area that provides a sidewalk only on one side of the street. Sidewalks are typically 10 feet wide along Broadway, but can vary in width from 6 feet on a segment of Valdez Street and 24th Street to 15 feet along segments of Brook Street or 23rd Street.

Signalized intersections in the Plan Area provide striped crosswalks along with pedestrian signal heads, audible signals, and pedestrian push buttons on some approaches. Unsignalized intersections along arterials in the Plan Area provide striped crosswalks across some approaches.

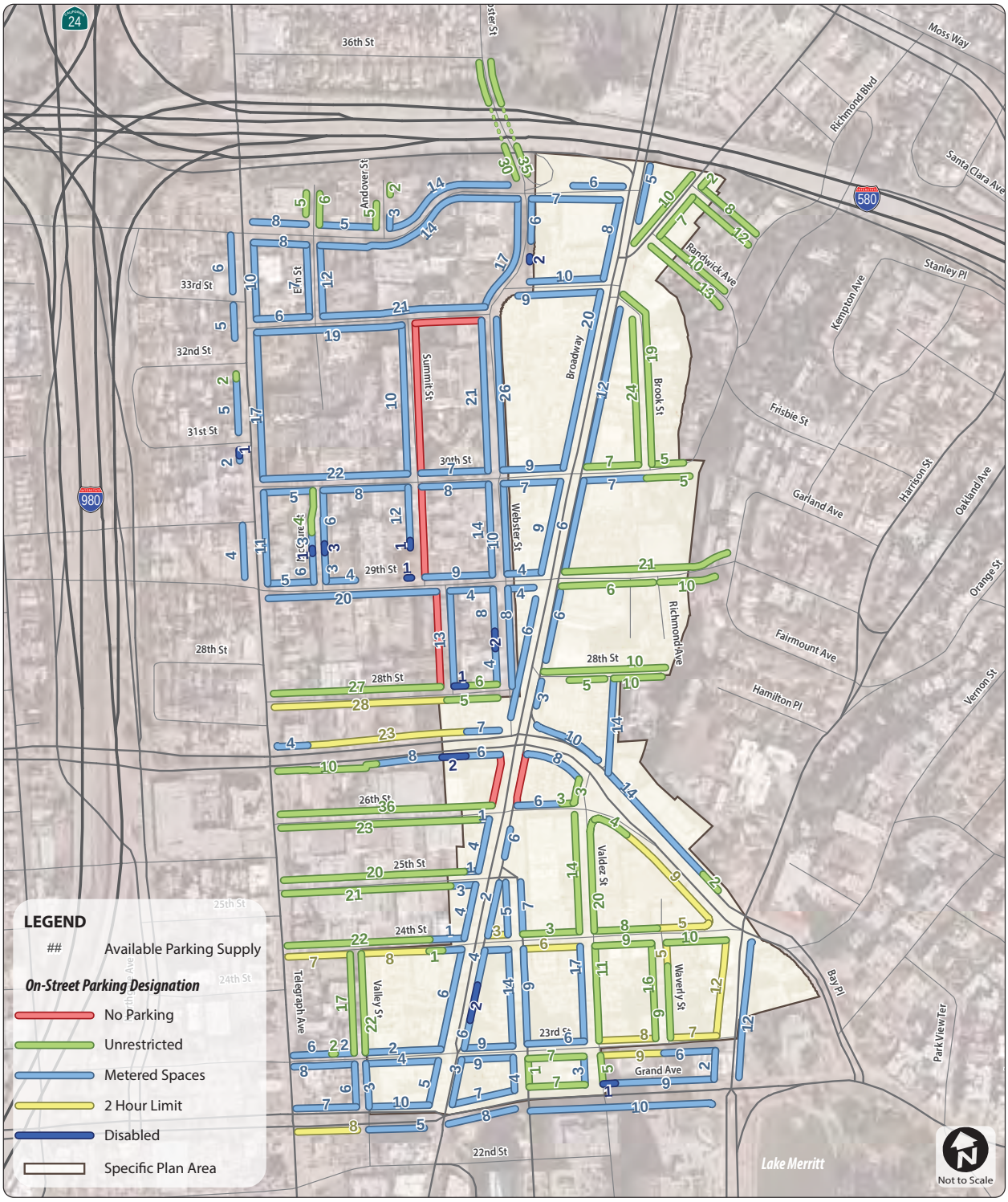
Marked crosswalks are also provided on at least one approach of unsignalized intersection along Broadway, 27th Street, and Harrison Street in the Plan Area. In addition, high visibility uncontrolled crosswalks (i.e., "ladder crossing") are provided across Broadway at 23rd Street and mid-block between Hawthorne Street and 30th Street. However, intersections of two local streets, such as Brook Street/30th Street and Waverly Street/24th Street intersections, occasionally provide marked crosswalks.

Existing Parking Conditions

Data was collected to assess current on-street and off-street parking conditions in the Plan Area. **Figure 4.13-4A** shows the on-street parking designation and supply within the Plan Area and surroundings; **Figure 4.13-4B** shows the publicly available major off-street parking facilities in the Plan Area and vicinity. Both on-street and off-street parking conditions are described below:

On-Street Parking

Nearly all the streets within the Plan Area provide some form of on-street parking. About 800 on-street parking spaces are within the Plan Area boundaries. On-street parking in the Plan Area can be classified into the following categories:

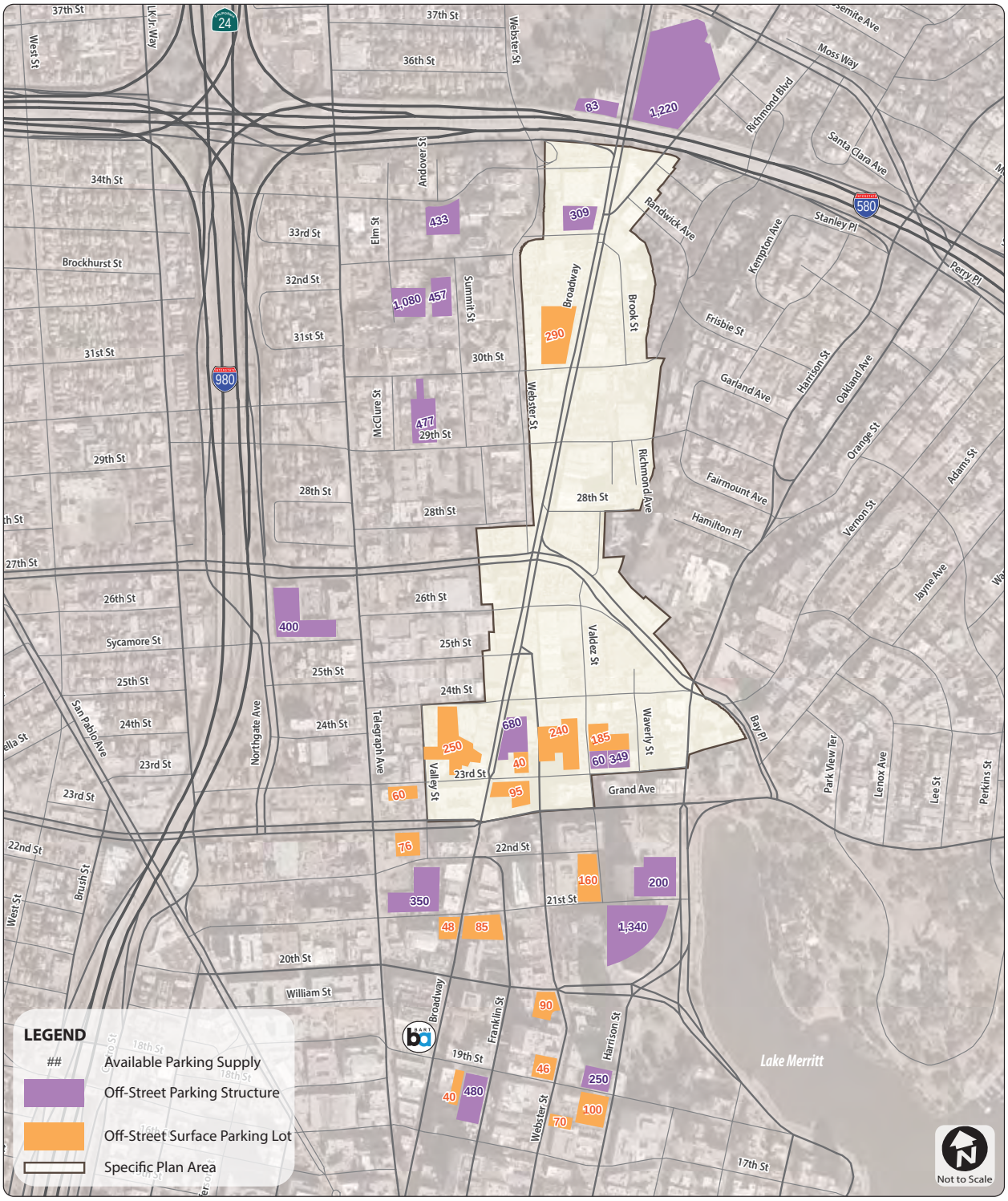


SOURCE: Fehr & Peers

Broadway Valdez District Specific Plan . 208522

Figure 4.13-4a

Existing On-Street Parking Supply



SOURCE: Fehr & Peers

Broadway Valdez District Specific Plan . 208522

Figure 4.13-4b

Existing Off-Street Parking Supply

- ***Metered Spaces*** are located along the major arterials, such as Broadway and 27th Street and surrounding the Alta Bates Summit Medical Center. Nearly all metered spaces have a two-hour time limit. The individual parking meters at many of the metered parking spaces have been replaced by parking pay stations that typically serve larger areas. The approximately 400 metered spaces in the Plan Area have an overall occupancy of about 70 to 80 percent during weekday afternoons.

- ***Time-Restricted*** free parking spaces are scattered throughout the Valdez subarea. All time-restrictive parking spaces in the Plan Area have a posted limit of two hours. Approximately 70 time-restricted spaces are located in the Plan Area with typical occupancy of about 80 to 85 percent during weekday afternoons.

- ***Unrestricted Parking*** is parking that is free year-round and has no time limits. Unrestricted parking is located along the majority of the side streets to the east and west of Broadway, with the exception of the area surrounding the Alta Bates Summit Medical Center. The Plan Area provides about 330 unrestricted on-street parking spaces with typical weekday afternoon parking occupancy of over 90 percent.

- ***Disabled Spaces*** are identified with a painted blue curb and handicap sign. A total of 6 disabled parking spaces are provided along major thoroughfares and near the major medical facilities.

Off-Street Parking

About 2,500 off-street parking spaces open to the general public are provided within the Plan Area boundaries, with about 1,400 spaces in public garages and about 1,100 spaces in surface lots. These facilities either charge an hourly rate and/or require purchase of a monthly pass.

About 1,900 spaces are in the Valdez subarea. Parking facilities in the Valdez subarea generally operate with excess capacity with typical occupancies between 50 and 70 percent on weekdays. Although, parking facilities near the south end of the Valdez subarea operate with higher parking occupancies.

About 600 parking spaces are provided in the North End subarea. Parking facility occupancies in the North End subarea are higher than the in the Valdez subarea, with most facilities operating at or near capacity on weekday afternoons.

In addition, the following off-street parking facilities are also available in the vicinity of the Plan Area:

- The Alta Bates and Kaiser Medical Centers provide more than 3,700 parking spaces in various garages near the North End subdistrict. These facilities are operated by the medical centers for their employees and patients/visitors; however, most garages are open to the general public for a fee. The medical center garages generally operate at or near capacity during weekday business hours.

- Northern portions of Downtown Oakland provide more than 2,600 spaces in parking garages and more than 700 spaces in surface parking lots.

Existing Traffic Conditions

New traffic data was collected in June 2012 at three major intersections in the Plan Area vicinity. In comparison to traffic volume data collected in association with separate projects in 2007/2008, the new 2012 volumes were generally lower (see Appendix G.B for more detail). Therefore, this analysis uses the previously-collected intersection traffic counts in 2008 through 2010 where available because it would yield more conservative results.

In June and November 2012 on sunny days while area schools were in normal session, weekday morning (7:00 to 9:00 AM) and evening (4:00 to 6:00 PM) peak period intersection traffic counts (vehicle turning movements, as well as pedestrian and bicycle volumes) were conducted at the study intersections that did not have previous data available (Table 4.13-6, under Existing Intersection Operations, below, indicates the data collection date for all study intersections and Appendix G.C presents the traffic counts at the study intersections). Saturday peak period (12:00 PM to 4:00 PM) traffic counts were conducted at all the study intersections in November 2012. For each intersection, the single hour with the highest traffic volumes during each of the three count periods was identified as the "peak hour" and used as the basis for the intersection operational analysis.

Appendix G.D presents the weekday AM and PM and Saturday peak-hour volumes, as well as the existing intersection lane configurations and traffic control devices, and existing pedestrian and bicycle volumes for all study intersections (Figures C-1, C-2, and C-3, respectively). Traffic signal timing data for all of the signalized study intersections was obtained from the City of Oakland Transportation Services Division.

Analysis Methods

Intersection operations are described using the term "Level of Service" (LOS). Level of Service is a qualitative description of traffic operations from the vehicle driver perspective and consists of the delay experienced by the driver at the intersection. It ranges from LOS A, with no congestion and little delay, to LOS F, with excessive congestion and delays. Different methods are used to assess signalized and unsignalized (stop-controlled) intersections.

Signalized Intersections

Signalized intersection operations are evaluated using methods provided in the 2000 *Highway Capacity Manual* (HCM), published by the Transportation Research Board (TRB, 2000), and the Synchro traffic analysis software program. These methods evaluate average control delays and then assign an LOS. Control delay is defined as the delay associated with deceleration, stopping, moving up in the queue, and acceleration experienced by drivers at an intersection. **Table 4.13-5** provides description of various LOS and the corresponding ranges of delays for signalized intersections.

Unsignalized Intersections

Unsignalized intersection LOS is also analyzed using the 2000 HCM and Synchro software. Delay is calculated for movements that are controlled by a stop sign or that must yield the right-of-way. The movement or approach with the highest delay is reported. The LOS ranges for unsignalized

TABLE 4.13-5
DEFINITIONS FOR INTERSECTION LEVEL OF SERVICE

Unsignalized Intersections		Level of Service Grade	Signalized Intersections	
Description	**Average Total Vehicle Delay (Seconds)**		**Average Control Vehicle Delay (Seconds)**	**Description**
No delay for stop-controlled approaches.	≤10.0	A	≤10.0	Free Flow or Insignificant Delays: Operations with very low delay, when signal progression is extremely favorable and most vehicles arrive during the green light phase. Most vehicles do not stop at all.
Operations with minor delay.	>10.0 and ≤15.0	B	>10.0 and ≤20.0	Stable Operation or Minimal Delays: Generally occurs with good signal progression and/or short cycle lengths. More vehicles stop than with LOS A, causing higher levels of average delay. An occasional approach phase is fully utilized.
Operations with moderate delays.	>15.0 and ≤25.0	C	>20.0 and ≤35.0	Stable Operation or Acceptable Delays: Higher delays resulting from fair signal progression and/or longer cycle lengths. Drivers begin having to wait through more than one red light. Most drivers feel somewhat restricted.
Operations with increasingly unacceptable delays.	>25.0 and ≤35.0	D	>35.0 and ≤55.0	Approaching Unstable or Tolerable Delays: Influence of congestion becomes more noticeable. Longer delays result from unfavorable signal progression, long cycle lengths, or high volume to capacity ratios. Many vehicles stop. Drivers may have to wait through more than one red light. Queues may develop, but dissipate rapidly, without excessive delays.
Operations with high delays, and long queues.	>35.0 and ≤50.0	E	>55.0 and ≤80.0	Unstable Operation or Significant Delays: Considered to be the limit of acceptable delay. High delays indicate poor signal progression, long cycle lengths and high volume to capacity ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles. Long queues form upstream from intersection.
Operations with extreme congestion, and with very high delays and long queues unacceptable to most drivers.	>50.0	F	>80.0	Forced Flow or Excessive Delays: Occurs with oversaturation when flows exceed the intersection capacity. Represents jammed conditions. Many cycle failures. Queues may block upstream intersections.

SOURCE: Transportation Research Board, Special Report 209, *Highway Capacity Manual*, 2000.

intersections are shown in Table 4.13-5. They are lower than the delay ranges for signalized intersections because drivers will tolerate more delay at signals.

Existing Intersection Operations

Existing operations were evaluated for the weekday PM and Saturday peak hours at all study intersections and for weekday AM peak hour at select study intersections. The existing vehicle, bicycle, and pedestrian volumes were used with the existing lane configurations and signal timing

parameters as inputs into the LOS calculations to evaluate current operations. **Table 4.13-6** summarizes the intersection analysis results. Appendix G.E provides the detailed intersection LOS calculation worksheets.

Most study intersections currently operate at acceptable LOS. The following two intersections currently experience unacceptable LOS during one or more peak hours. Both intersections are located in Downtown Oakland or provide direct access to Downtown Oakland where LOS E is the LOS standard.

39. 23rd Street/Broadway operates at LOS F during the PM peak hour on the eastbound side-street stop-controlled approach. This intersection currently does not meet the peak-hour volume signal warrant (per *California Manual on Uniform Traffic Control Devices* [Caltrans, 2012b]).

44. West Grand Avenue/Brush Street operates at an overall LOS D during the weekday PM peak hour and LOS A during the Saturday peak hour. Additionally, the southbound side-street stop-controlled approach operates at LOS F during both peak hours. The intersection currently meets the peak-hour volume signal warrant. Signalization of the intersection is currently under design and expected to be completed in 2013.

Alameda County Transportation Commission (ACTC) Analysis of Existing Conditions

The ACTC conducts periodic monitoring of the freeways and major roadways in Alameda County. The most recent *Level of Service Monitoring on the Congestion Management Program Roadway Network* was released in January 2013(ACTC, 2013). The ACTC monitoring report assesses existing freeway operations through "floating car" travel time surveys, which are conducted on all freeway segments during the evening peak hours (4:00 PM to 6:00 PM), and on selected freeway segments during the morning peak hours (7:00 AM to 9:00 AM). Based on the results of these surveys, ACTC assigns a LOS grade to each segment according to the method described in the 1985 HCM. Any segment with an average speed less than 30 miles per hour is assigned LOS F. Freeway interchanges with speeds below 50 percent of free flow speed are assigned LOS F. The travel time surveys concluded that 27 freeway segments, 11 arterial segments and one freeway-to-freeway connectors within Alameda County operate at LOS F during the PM peak hours, including the following nine freeway segments in the Plan Area vicinity:

- I-80 eastbound: Toll Plaza to I-580
- I-580 eastbound: I-80 to I-980 (grandfathered segment)
- I-580 westbound: SR 24 to I-880
- I-880 northbound: between I-80 Ramps
- SR 13 northbound: Moraga Avenue to Hiller Drive
- SR 13 southbound: Redwood Road to I-580
- SR 24 eastbound: I-580 to Broadway/SR 13 (grandfathered segment)
- SR 24 eastbound: Broadway/SR 13 to Caldecott Tunnel (grandfathered segment)
- SR 13/SR 24 Interchange

TABLE 4.13-6
EXISTING INTERSECTION LOS SUMMARY

	Intersection	Traffic Control[a]	Peak Hour	Count Date	Delay[b]	LOS[c]
1	SR 24 Eastbound Off-Ramp/ Aileen Street/Telegraph Avenue	Signal	AM	N/A	N/A	N/A
			PM	Nov. 11, 2008	11.5	B
			SAT	Nov. 10, 2012	10.7	B
2	SR 24 Westbound On-Ramp/ 56th Street/ Telegraph Avenue	Signal	AM	N/A	N/A	N/A
			PM	Nov. 11, 2008	20.4	C
			SAT	Nov. 10, 2012	12.9	B
3	Broadway Terrace/Broadway	Signal	AM	N/A	N/A	N/A
			PM	May 12, 2010	9.2	A
			SAT	Oct. 27, 2012	12.2	B
4	College Avenue/Broadway	Signal	AM	N/A	N/A	N/A
			PM	May 12, 2010	11.6	B
			SAT	Oct. 27, 2012	9.9	A
5	Claremont Avenue/52nd Street/Telegraph Avenue	Signal	AM	N/A	N/A	N/A
			PM	Nov. 11, 2008	13.7	B
			SAT	Nov. 10, 2012	14.1	B
6	51st Street/Telegraph Avenue	Signal	AM	N/A	N/A	N/A
			PM	Nov. 11, 2008	42.0	D
			SAT	Oct. 27, 2012	36.7	D
7	51st Street/Pleasant Valley Avenue/ Broadway	Signal	AM	Nov. 16, 2008	34.4	C
			PM	May 12, 2010	49.6	D
			SAT	Oct. 27, 2012	47.3	D
8	40th Street/Telegraph Avenue	Signal	AM	N/A	N/A	N/A
			PM	Nov. 11, 2008	31.9	C
			SAT	Nov. 10, 2012	22.5	C
9	40th Street/Broadway	Signal	AM	N/A	N/A	N/A
			PM	Nov. 11, 2008	22.9	C
			SAT	Oct. 27, 2012	14.1	B
10*	West MacArthur Boulevard/ Market Street	Signal	AM	May 19, 2009	15.9	B
			PM	May 19, 2009	15.2	B
			SAT	Dec. 1, 2012	12.4	B
11	West MacArthur Boulevard/ Telegraph Avenue	Signal	AM	N/A	N/A	N/A
			PM	Nov. 11, 2008	12.5	B
			SAT	Nov. 10, 2012	12.8	B
12	MacArthur Boulevard /Broadway	Signal	AM	N/A	N/A	N/A
			PM	Nov. 11, 2008	38.8	D
			SAT	Oct. 27, 2012	44.0	D
13*	MacArthur Boulevard/Piedmont Avenue	Signal	AM	Nov. 11, 2008	31.1	C
			PM	Nov. 11, 2008	37.4	D
			SAT	Dec. 1, 2012	28.2	C
14	Santa Clara Avenue /Harrison Street	Signal	AM	Nov. 11, 2008	13.1	B
			PM	Nov. 11, 2008	22.0	C
			SAT	Nov. 10, 2012	13.8	B
15	Perry Place/I-580 Eastbound Ramps/Oakland Avenue	Signal	AM	Nov. 11, 2008	20.1	C
			PM	Nov. 11, 2008	73.2	E
			SAT	Nov. 10, 2012	21.1	C
16	Grand Avenue/Lake Park Avenue/ Santa Clara Avenue	Signal	AM	N/A	N/A	N/A
			PM	Oct. 14, 2010	23.4	C
			SAT	Nov. 10, 2012	29.1	C

TABLE 4.13-6 (Continued)
EXISTING INTERSECTION LOS SUMMARY

Intersection		Traffic Control[a]	Peak Hour	Count Date	Delay[b]	LOS[c]
17	Lake Park Avenue/Lakeshore Avenue	Signal	AM	N/A	N/A	N/A
			PM	Oct. 14, 2010	55.6	E
			SAT	Nov. 10, 2012	46.7	D
18	Grand Avenue/MacArthur Boulevard	Signal	AM	N/A	N/A	N/A
			PM	Nov. 6, 2008	22.9	C
			SAT	Nov. 10, 2012	48.2	D
19	MacArthur Boulevard/I-580 Eastbound On-ramp/Lakeshore Avenue	Signal	AM	Nov. 12, 2008	29.3	C
			PM	Nov. 6, 2008	20.2	C
			SAT	Nov. 10, 2012	18.5	B
20 & 21	Piedmont Avenue/Broadway and Hawthorne Avenue/Brook Street/ Broadway	Signal	AM	Mar. 19, 2009	17.2	B
			PM	Mar. 19, 2009	16.9	B
			SAT	Nov. 10, 2012	16.3	B
22	Hawthorne Avenue/Telegraph Avenue	Signal	AM	N/A	N/A	N/A
			PM	Nov. 13, 2008	11.3	B
			SAT	Nov. 10, 2012	4.4	A
23	30th Street/Broadway	Signal	AM	N/A	N/A	N/A
			PM	Mar. 19, 2009	13.1	B
			SAT	Dec. 1, 2012	7.9	A
24	29th Street/Broadway	Signal	AM	N/A	N/A	N/A
			PM	Mar. 19, 2009	13.3	B
			SAT	Nov. 10, 2012	12.1	B
25	27th Street/San Pablo Avenue	Signal	AM	N/A	N/A	N/A
			PM	Nov. 8, 2012	8.7	A
			SAT	Nov. 10, 2012	9.6	A
26	27th Street/Martin Luther King Way	Signal	AM	N/A	N/A	N/A
			PM	Nov. 8, 2012	15.7	B
			SAT	Nov. 10, 2012	10.9	B
27	27th Street/I-980 Westbound Off-Ramp/Northgate Avenue	Signal	AM	Nov. 6, 2008	13.0	B
			PM	Nov. 6, 2008	17.8	B
			SAT	Nov. 10, 2012	11.3	B
28	27th Street/I-980 Eastbound On-Ramp/Northgate Avenue	Signal	AM	N/A	N/A	N/A
			PM	Nov. 6, 2008	21.9	C
			SAT	Nov. 10, 2012	14.9	B
29	27th Street/Telegraph Avenue	Signal	AM	Nov. 6, 2008	22.0	C
			PM	Nov. 6, 2008	22.9	C
			SAT	Nov. 10, 2012	16.7	B
30	27th Street/Broadway	Signal	AM	N/A	N/A	N/A
			PM	Mar. 19, 2009	18.5	B
			SAT	Nov. 10, 2012	17.6	B
31*	26th Street/27th Street/Valdez Street	Signal	AM	N/A	N/A	N/A
			PM	Mar. 19, 2009	18.2	B
			SAT	Nov. 10, 2012	14.2	B
32	26th Street/Broadway	Signal	AM	N/A	N/A	N/A
			PM	Mar. 19, 2009	11.4	B
			SAT	Nov. 10, 2012	12.8	B
33	25th Street/Telegraph Avenue	SSSC	AM	N/A	-N/A	N/A
			PM	Nov. 8, 2012	0.8 (15.7)	A (C)
			SAT	Nov. 10, 2012	0.9 (13.9)	A (B)
34	25th Street/Webster Street/Broadway	Signal	AM	Nov. 8, 2012	12.7	B
			PM	Nov. 8, 2012	11.2	B
			SAT	Nov. 10, 2012	8.3	A

TABLE 4.13-6 (Continued)
EXISTING INTERSECTION LOS SUMMARY

	Intersection	Traffic Control[a]	Peak Hour	Count Date	Delay[b]	LOS[c]
35	24th Street/Telegraph Avenue	SSSC	AM	N/A	N/A	N/A
			PM	June 5, 2012	1.4 (18.8)	A (C)
			SAT	Nov. 10, 2012	1.7 (14.4)	A (B)
36	24th Street/Broadway	SSSC	AM	N/A	N/A	N/A
			PM	June 5, 2012	2.6 (31.3)	A (D)
			SAT	Nov. 10, 2012	2.0 (19.2)	A (C)
37	27th Street/24th Street/ Bay Place/Harrison Street	Signal	AM	Aug. 7, 2008	56.1	E
			PM	Nov.20, 2008	60.3	E
			SAT	Nov. 10, 2012	52.8	D
38	23rd Street/Telegraph Avenue	SSSC	AM	N/A	N/A	N/A
			PM	June 5, 2012	3.1 (35.0)	A (D)
			SAT	Nov. 10, 2012	1.4 (20.8)	A (C)
39	23rd Street/Broadway	SSSC	AM	N/A	N/A	N/A
			PM	June 5, 2012	**4.4 (52.9)**	A (**F**)
			SAT	Nov. 10, 2012	1.2 (13.3)	A (B)
40	23rd Street/Harrison Street	SSSC	AM	N/A	N/A	N/A
			PM	Nov. 8, 2012	0.9 (11.6)	A (B)
			SAT	Nov. 10, 2012	0.6 (10.8)	A (B)
41	West Grand Avenue/Mandela Parkway	Signal	AM	N/A	N/A	N/A
			PM	2002	11.3	B
			SAT	Nov. 10, 2012	14.2	B
42	West Grand Avenue/Adeline Street	Signal	AM	N/A	N/A	N/A
			PM	Nov. 15, 2012	12.6	B
			SAT	Nov. 10, 2012	11.0	B
43	West Grand Avenue/Market Street	Signal	AM	Nov. 15, 2012	14.5	B
			PM	Nov. 15, 2012	19.9	B
			SAT	Nov. 10, 2012	25.3	C
44	West Grand Avenue/Brush Street	SSSC	AM	N/A	N/A	N/A
			PM	Mar. 10, 2009	26.8 **(256.4)**	D **(F)**
			SAT	Nov. 10, 2012	8.5 **(50.2)**	A (**F**)
45	West Grand Avenue/San Pablo Avenue	Signal	AM	N/A	N/A	N/A
			PM	Mar. 10, 2009	15.0	B
			SAT	Nov. 10, 2012	11.6	B
46	West Grand Avenue/ Martin Luther King Way	Signal	AM	N/A	N/A	N/A
			PM	Mar. 10, 2009	20.2	B
			SAT	Nov. 10, 2012	9.5	A
47	West Grand Avenue/Northgate Avenue	Signal	AM	N/A	N/A	N/A
			PM	Apr. 23, 2009	44.4	D
			SAT	Nov. 10, 2012	15.9	B
48	West Grand Avenue/Telegraph Avenue	Signal	AM	N/A	N/A	N/A
			PM	Nov. 6, 2008	19.6	B
			SAT	Nov. 10, 2012	16.6	B
49	Grand Avenue/Broadway	Signal	AM	Nov. 6, 2008	18.1	B
			PM	Nov. 6, 2008	18.5	B
			SAT	Nov. 10, 2012	13.4	B
50	Grand Avenue/Webster Street	Signal	AM	N/A	N/A	N/A
			PM	Aug. 6, 2008	18.8	B
			SAT	Nov. 10, 2012	20.5	C

TABLE 4.13-6 (Continued)
EXISTING INTERSECTION LOS SUMMARY

Intersection		Traffic Control[a]	Peak Hour	Count Date	Delay[b]	LOS[c]
51	Grand Avenue/Valdez Street	Signal	AM	N/A	N/A	N/A
			PM	June 5, 2012	10.0	A
			SAT	Nov. 10, 2012	3.3	A
52	Grand Avenue/Harrison Street	Signal	AM	May 22, 2008	26.3	C
			PM	May 22, 2008	30.9	C
			SAT	Nov. 10, 2012	25.2	C
53	20th Street/Broadway	Signal	AM	N/A	N/A	N/A
			PM	May 22, 2008	12.1	B
			SAT	Nov. 10, 2012	11.3	B
54	18th Street/I-980 Westbound Off-Ramp/Brush Street	Signal	AM	N/A	N/A	N/A
			PM	Nov. 6, 2008	9.4	A
			SAT	Nov. 10, 2012	8.1	A
55	17th Street/I-980 Eastbound On-Ramp/Castro Street	Signal	AM	N/A	N/A	N/A
			PM	Nov. 6, 2008	28.7	C
			SAT	Nov. 10, 2012	23.4	C
56	6th Street/I-880 Northbound Off-Ramp/Broadway	Signal	AM	N/A	N/A	N/A
			PM	Oct. 6, 2010	7.9	A
			SAT	Nov. 10, 2012	10.4	B
57	5th Street/I-880 Southbound On-Ramp/Broadway	Signal	AM	N/A	N/A	N/A
			PM	Oct. 6, 2010	33.6	C
			SAT	Nov. 10, 2012	23.4	C

[a] Signal = intersection is controlled by a traffic signal; SSSC = Intersection is controlled by a stop-sign on the side-street approach;
[b] For signalized intersections, average intersection delay and LOS based on the 2000 HCM method is shown. For side-street stop-controlled intersections, delays for worst movement and average intersection delay are shown: intersection average (worst movement)
[c] Intersections operating at unacceptable levels are shown in **bold**.

* Denotes an intersection not located in Downtown or that does not provide direct access to Downtown where LOS E (not LOS D) is the LOS standard.

SOURCE: Fehr & Peers, 2013.

Three of these segments operated at LOS F during the initial ACTC data collection effort in 1991, and are therefore "grandfathered," meaning that they are exempt from LOS standards. The other segments are not exempt meaning that they operate at unacceptable conditions based on ACTC standards. The evaluation of the Project impacts on the ACTC freeway and roadway segments are presented starting on page 4.13-88.

Planned Transportation Network Changes

A review of the available information indicates that several changes are planned for the various transportation modes in the Plan Area and vicinity, as described below. However, not all of these changes have finalized design plans, full approvals, and/or funding. Changes lacking final design, full approval, and/or full funding are not considered reasonably foreseeable, are not available to mitigate any deficient conditions in the No Project conditions, and therefore are not assumed in the analysis.

Planned Roadway Changes

The planned roadway changes identified in the study area include:

- As part of the mitigation measure in the *Alta Bates Summit Medical Center Summit Campus Seismic Upgrade and Master Plan Project Draft EIR* (December 2009), the following improvements at the Grand Avenue/Brush Street intersection (Intersection #44) are currently fully funded, under design and expected to be implemented in 2013:

  – Signalize intersection and coordinate timing with existing signal at Grand Avenue/San Pablo Avenue intersection.

  – Provide a left-turn lane on westbound Grand Avenue

  – Convert the segment of Brush Street between San Pablo and Grand Avenue to one-way southbound operations and prohibit the eastbound left-turn and westbound right-turn movements at the intersection.

  This improvement is expected to be completed prior to approval of the Specific Plan. Therefore it is assumed in the Existing Plus Project analysis and also in the analyses of 2020 and 2035 conditions.

- City of Oakland is currently planning the following improvements at the Grand Avenue/San Pablo Avenue intersection (Intersection #45) which are currently fully funded, approved, under design, and expected to be implemented in 2014:

  – Provide a left-turn lane on eastbound Grand Avenue

  – Remove the channelized eastbound right-turn lane on Grand Avenue

  – Upgrade signal equipment to provide protected left-turn phasing on all intersection approaches.

  This improvement is expected to be completed prior to approval of the Specific Plan. Therefore it is assumed in the Existing Plus Project analysis and also in the analyses of 2020 and 2035 conditions.

- As part of the mitigation measures recommended in the *Kaiser Oakland Medical Center Master Plan Draft EIR* (February 2006), the following improvements are currently fully funded, under design and expected to be implemented in 2014; therefore, they are assumed in the 2020 and 2035 analyses:

  – West MacArthur Boulevard/Broadway intersection (Intersection #12):

    - Modify westbound approach from the current configuration which provides one right-turn lane, two through lanes, and one left-turn lane to provide one shared through/right lane, two through lanes, and one left-turn lane.

    - Modify northbound approach from the current configuration which provides one shared through/right lane, one through lane, and one left-turn lane to provide one right-turn lane, two through lanes, and one left-turn lane.

    - Optimize signal timing at this intersection, and coordinate signal timing changes with the adjacent intersections that are in the same signal coordination group.

  – MacArthur Boulevard/Piedmont Avenue intersection (Intersection #13):

- Provide an additional through lane on the eastbound MacArthur Boulevard approach (temporary closed for construction).
- Modify northbound approach from the current configuration which provides one right-turn lane and one shared through/left lane to provide one right-turn lane, one through lane, and one left-turn lane.
- Upgrade intersection signal equipment, optimize signal timing at this intersection, and coordinate signal timing changes with the adjacent intersections that are in the same signal coordination group.

In addition, the following planned major improvements do not have finalized design plans, approvals, or full funding; thus, this EIR does not include these roadway changes as part of the analysis:

- The City of Alameda is planning improvements to the I-880/Broadway-Jackson Interchange to improve direct access to I-880 from the Posey/Webster Tubes. The design of this project has not been finalized.

- The proposed Safeway Redevelopment Project Broadway at Pleasant Valley Avenue (Draft EIR published in January 2013) proposes the following modifications at the Broadway / 51st Street / Pleasant Valley Avenue (Intersection #7)

  – Modify southbound approach to provide two left-turn lanes, one through lane, and one shared through/right lane.
  – Modify northbound approach to provide one left-turn lane, one through lane, and one shared through/right lane.
  – Upgrade signal equipment to replace the existing split phasing in the north/south direction with protected left turns.
  – Eliminate the existing northbound and southbound slip right-turn lanes and "pork chop" islands.

  The Safeway Redevelopment Project has not been approved. Because there is no guarantee that these improvements would occur, this EIR does not assume these improvements in the analysis of future conditions.

- The City of Oakland finalized the Harrison Street/Oakland Avenue Community-Based Transportation Plan (CBTP) in 2010. The Plan recommended improvements on the Harrison Street/Oakland Avenue couplet between Grand Avenue and Monte Vista Avenue to improve access for all modes. The recommended improvements include the following at the 27th Street/24th Street/Bay Place/Harrison Street intersection:

  – Partial closure of the 24th Street approach to allow only right-turning traffic from southbound 27th Street to enter.
  – Removal of the existing "pork chop" island and the slip right-turn lane from southbound Harrison Street to 27th Street
  – Realignment of pedestrian crosswalks and shortening of pedestrian walking distances, which allows more efficient operations of the traffic signal at the intersection.

  The recommendations in the Harrison Street/Oakland Avenue CBTP do not have funding; therefore, this EIR does not assume these improvements in the analysis of future conditions.

Planned Transit Changes

AC Transit is currently planning the Route 51 Transit Performance Initiative which will consist of improvements along Broadway to increase bus travel speeds. These improvements may include traffic signal coordination, transit priority at traffic signals, relocation of bus stops, providing bus bulbouts, left or right turn lanes, and/or queue jump lanes. The project has full funding and is expected to be completed in 2014. However, the specific improvements and the exact locations are not known at this time. Therefore, these improvements are not included in the analysis of 2020 and 2035 No Project conditions. However, some of these improvements are included as part of roadway modification proposed by the Broadway Valdez Specific Plan and are included in the project analysis for this EIR (See page 4.13-37 for more detail).

In 2012, AC Transit certified the *Environmental Impact Statement/Environmental Impact Report* for the implementation of Bus Rapid Transit (BRT) on Telegraph Avenue and International Boulevard connecting Berkeley, Oakland, and San Leandro. The proposed system would have dedicated one travel lane in each direction to bus operations only, allowing buses to provide a quicker and more reliable service than regular bus service today. AC Transit is proceeding with the segment of the project between Downtown Oakland and San Leandro. Currently, there are no plans to implement BRT along Telegraph Avenue. This EIR assumes that the BRT Project will be implemented; however, the BRT Project would not modify any of the study intersections.

The City of Oakland is currently investigating options for enhancing transit service along the Broadway corridor. One option under consideration is a streetcar operating on fixed rail in a shared lane with automobiles, buses and bicycles on Broadway between Jack London Square and 40th Street. The proposed Broadway cross-section in the Plan Area may need to be modified to accommodate streetcar tracks as part of a "complete street". This project is currently in early planning stages. It has not been approved and does not have full funding. In addition, the specific street modifications are not known at this time. Therefore, this EIR assumes that this project would not be implemented in the study area.

Planned Bicycle/Pedestrian Changes

Planned bicycle facilities in the study area include:

- City of Oakland is currently designing Class 2 bicycle lanes on Broadway between 38th Street and SR 24. The project would accommodate the bicycle lanes by generally eliminating one travel lane in each direction of Broadway. The project is funded, the segment between 38th Street and Broadway Terrace has been approved, and it is expected to be implemented in 2013. Therefore, the improvement is assumed in the 2020 and 2035 analyses. The proposed improvement would result in the following street modification at the project study intersections:

  – College Avenue/Broadway intersection (Intersection #4) – Eliminate one through lane on the southbound Broadway approach.

  – 40th Street/Broadway intersection (Intersection #9) - Eliminate one through lane on the southbound Broadway approach.

- City of Oakland has completed the design for Class 2 bicycle lanes on Piedmont Avenue between Broadway and Pleasant Valley Avenue. This improvement is approved, fully funded, and scheduled to be completed in 2013. Therefore, it is assumed in the analysis of future conditions. However, this project would not modify the existing travel lane configurations or controls at any of the study intersections; it would not affect the intersection operations analysis.

The City of Oakland *Bicycle Master Plan Update*, as adopted in December 2007, proposes the following improvements to the bicycle facilities in the Plan Area and vicinity:

- Provide Class 2 bicycle lanes along Telegraph Avenue. Telegraph Avenue (Aileen Street to 20th Street) is provisionally designated as part of the proposed bikeway network. The provisional designation will only be lifted, and this segment automatically incorporated into the proposed bikeway network, if further environmental review is performed, and appropriate CEQA findings are adopted by the City.

- Provide a combination of Class 2 bicycle lanes and Class 3A arterial bike routes along Harrison Street.

Because these improvements are not currently planned for implementation, do not have finalized design plans, and are not fully funded; this EIR assumes that these changes will not be provided in the study area.

The Caldecott Tunnel Improvement Project Settlement Agreement

The Caldecott Tunnel Improvement Project Settlement Agreement provided funds to the Fourth Bore Coalition, and Cities of Oakland and Berkeley to ameliorate the impacts of adding a fourth bore to the Caldecott Tunnel in the greater community surrounding the SR 24 corridor between I-580 and Caldecott Tunnel, and improve pedestrian, bicycle, transit, and local circulation.

City of Oakland finalized and approved a list of 37 improvement projects in March 2011 based on public input and preliminary conceptual designs and cost estimates. The cost of all improvement projects in the City of Oakland's final project list exceeds the funding provided by the Settlement Agreement. Thus, the project list has been prioritized with 21 improvement projects expected to be funded. This EIR assumes that improvement projects expected to be funded that do not require approvals by other jurisdictions would be completed regardless of the Specific Plan and are included in the future conditions analyses. Out of the 37 improvement project approved in March 2011, three are located in the study area. Their current status are described below:

- SR 24 Westbound On-Ramp/56th Street/Telegraph Avenue intersection (intersection #2) – Reduce the westbound on-ramp approach to one lane with installation of a bulbout and upgrade traffic signal equipment at the intersection. This improvement is not currently one of the 21 improvement projects expected to be funded. Therefore, it is not included in the analysis of future conditions.

- Claremont Avenue /52nd Street/Telegraph Avenue intersection (Intersection #5) – Eliminate the slip right-turn lane from northbound Telegraph Avenue to Claremont Avenue, upgrade traffic signal control equipment to allow countdown pedestrian signal heads. This improvement is not currently one of the 21 improvement projects expected to be funded. Therefore, it is not included in the analysis of future conditions.

- Upgrade traffic signal equipment along Broadway between 40th Street and College Avenue to provide transit priority for AC Transit Route 51A buses. This improvement is not currently one of the 21 improvement projects expected to be funded at this time. Therefore, it is not included in the analysis of future conditions.

Local Plans and Policies

The Oakland General Plan comprises numerous elements, and those containing policies relevant to transportation resources primarily are contained in the *Land Use and Transportation Element* (LUTE). The goals and policies contained in the various General Plan Elements are often competing. In reviewing a project for conformity with the General Plan, the City is required to 'balance' the competing goals and policies. The Specific Plan is reviewed for compliance with the following local plans and policies:

- General Plan LUTE
- City of Oakland Pedestrian Master Plan
- City of Oakland Bicycle Master Plan
- City of Oakland Public Transit and Alternative Modes Policy

City of Oakland General Plan LUTE

The City of Oakland, through various policy documents, states a strong preference for encouraging use of pedestrian, bicycle, and transit travel modes. The following polices are included in the LUTE:

> **LUTE Policy Framework: Encouraging Alternative Means of Transportation.** "A key challenge for Oakland is to encourage commuters to carpool or use alternative modes of transportation, including bicycling or walking. The Policy Framework proposes that congestion be lessened by promoting alternative means of transportation, such as transit, biking, and walking, providing facilities that support alternative modes, and implementing street improvements. The City will continue to work closely with local and regional transit providers to increase accessibility to transit and improve intermodal transportation connections and facilities. Additionally, policies support the introduction of light rail and trolley buses along appropriate arterials in heavily traveled corridors, and expanded use of ferries in the bay and estuary."
>
> - ***Policy T3.5, Including Bikeways and Pedestrian Walks*:** The City should include bikeways and pedestrian walks in the planning of new, reconstructed, or realized streets, wherever possible.
>
> - ***Policy T3.6, Encouraging Transit.*** The City should encourage and promote use of public transit in Oakland by expediting the movement of and access to transit vehicles on designated "transit streets" as shown on the Transportation Plan. (Policies T3.6 and T3.7 are based on the City Council's passage of "Transit First" policy in October 1996.)
>
> - ***Policy T3.7, Resolving Transportation Conflicts.*** The City, in constructing and maintaining its transportation infrastructure, should resolve any conflicts between public transit and single occupant vehicles in favor of the transportation mode that has the potential to provide the greatest mobility and access for people, rather than

vehicles, giving due consideration to the environmental, public safety, economic development, health and social equity impacts.

- ***Policy T4.1, Incorporating Design Features for Alternative Travel.*** The City will require new development, rebuilding, or retrofit to incorporate design features in their projects that encourage use of alternative modes of transportation such as transit, bicycling, and walking.

City of Oakland Pedestrian Master Plan

In November 2002, the *Pedestrian Master Plan* (PMP) was adopted by the City Council and incorporated into the adopted General Plan. The PMP identifies policies and implementation measures that promote a walkable City. In the study area, the PMP designates a Pedestrian Route Network throughout Oakland and identifies a "City Route" on Broadway, and Telegraph and Grand Avenues, a "District Route" on 27th Street and Piedmont Avenue, and a "Neighborhood Route" on Webster and 29th Streets.

The *PMP* includes the following relevant policies and actions:

- ***Policy 1.1. Crossing Safety*:** Improve pedestrian crossings in area of high pedestrian activity where safety is an issue.

  Action 1.1.1. Consider the full range of design elements – including bulbouts and refuge islands – to improve pedestrian safety.

- ***Policy 1.2: Traffic Signals*:** Use traffic signals and their associated features to improve pedestrian safety at dangerous intersections.

  Action 1.2.7. Consider using crossing enhancement technologies like countdown pedestrian signals at the highest pedestrian volume locations.

- ***Policy 1.3. Sidewalk Safety:*** Strive to maintain a complete sidewalk network free of broken or missing sidewalks or curb ramps.

  Action 1.3.7. Conduct a survey of all street intersections to identify corners with missing, damaged, or non-compliant curb ramps and create a plan for completing their installation.

- ***Policy 2.1: Route Network:*** Create and maintain a pedestrian route network that provides direct connections between activity centers.

  Action 2.1.8. To the maximum extent possible, make walkway accessible to people with physical disabilities.

- ***Policy 2.3: Safe Routes to Transit:*** Implement pedestrian improvements along major AC Transit lines and at BART stations to strengthen connections to transit.

  Action 2.3.1: Develop and implement street designs (like bus bulbouts) that improve pedestrian/bus connections.

  Action 2.3.3: Prioritize the implementation of street furniture (including bus shelters) at the most heavily used transit stops.

Action 2.3.4: Improve pedestrian wayfinding by providing local area maps and directional signage at major AC Transit stops and BART stations.

- ***Policy 3.2. Land Use:*** Promote land uses and site designs that make walking convenient and enjoyable.

  Action 3.2.1. Use building and zoning codes to encourage a mix of uses, connect entrances and exits to sidewalks, and eliminate "blank walls" to promote street level activity.

  Action 3.2.2. Promote parking and development policies that encourage multiple destinations within an area to be connected by pedestrian trips.

  Action 3.2.4: Require contractors to provide safe, convenient, and accessible pedestrian rights-of-way along construction sites that require sidewalk closure.

  Action 3.2.8: Discourage motor vehicle parking facilities that create blank walls, unscreened edges along sidewalks, and/or gaps between sidewalks and building entrances.

City of Oakland Bicycle Master Plan

The Oakland City Council adopted the *Oakland Bicycle Master Plan Update* in December 2007. The adopted plan includes the following policy-supporting actions that are applicable to the Specific Plan:

- ***Policy 1A: Bikeway Network:*** Develop and improve Oakland's bikeway network.

  Action 1A.1 – Bicycle Lanes (Class 2): Install bicycle lanes where feasible as the preferred bikeway type for all streets on the proposed bikeway network (except for the bicycle boulevards proposed for local streets with low traffic volumes and speeds).

  Action 1A.3 – Bicycle Boulevards (Class 3B): Enhance bicycle routes on local streets by developing bicycle boulevards with signage, striping, and intersection modifications to prioritize bicycle travel.

  Action 1A.6 – Dedicated Right Turn Lanes and "Slip Turns": Where feasible, avoid the use of dedicated right turn lanes on streets included in the bikeway network. Where infeasible, consider a bicycle through lane to the left of the turn lane or a combined bicycle lane/right turn lane.

- ***Policy 1B: Routine Accommodation:*** Address bicycle safety and access in the design and maintenance of all streets.

  Action 1B.2 – Traffic Signals: Include bicycle-sensitive detectors, bicycle detector pavement markings, and adequate yellow time for cyclists with all new traffic signals and in the modernization of all existing signals.

- ***Policy 1C – Safe Routes to Transit:*** Improve bicycle access to transit, bicycle parking at transit facilities, and bicycle access on transit vehicles.

  Action 1C.1 – Bikeways to Transit Stations: Prioritize bicycle access to major transit facilities from four directions, integrating bicycle access into the station design and connecting the station to the surrounding neighborhoods.

- ***Policy 1D – Parking and Support Facilities:*** Promote secure and conveniently located bicycle parking at destinations throughout Oakland.

  Action 1D.6 – Bicycle Parking Ordinance: Adopt an ordinance as part of the City's Planning Code that would require new development to include short and long-term bicycle parking.

  Action 1D.7 – Development Incentives: Consider reduced automobile parking requirements in exchange for bicycle facilities as part of transportation demand management strategies in new development.

City of Oakland Public Transit and Alternative Modes Policy

The City of Oakland adopted the Public Transit and Alternative Modes Policy, also known as the "Transit-First Policy," in October 2006 (City Council Resolution 73036 C.M.S.). This resolution supports public transit and other alternatives to single occupant vehicles, and directs the LUTE to incorporate "various methods of expediting transit services on designated streets, and encouraging greater transit use." The resolution also directs the City, in constructing and maintaining its transportation infrastructure, to resolve any conflicts between public transit and single occupant vehicles on City streets in favor of the transportation mode that provides the greatest mobility for people rather than vehicles giving due consideration to the environment, public safety, economic development, health, and social equity impacts.

City of Oakland Complete Streets Policy

The City of Oakland adopted the Complete Street Policy to Further Ensure that Oakland Streets Provide Safe and Convenient Travel Options for all Users in January 2013 (City Council Resolution 84204 C.M.S.). This resolution, consistent with the California Complete Streets Act of 2008, directs the City of Oakland to plan, design, construct, operate, and maintain the street network in the City to accommodate safe, convenient, comfortable travel for all modes, including pedestrians, bicyclists, transit users, motorists, trucks, and emergency vehicles.

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards

The City's Standard Conditions of Approval (SCA) that directly pertain to transportation and circulation and that apply to the development under the Specific Plan are listed below. If the Specific Plan is adopted by the City, all applicable SCAs will be adopted as conditions of approval and required, as applicable, of the development under the Specific Plan to help ensure no significant impacts. Because the conditions of approval are incorporated as part of the Specific Plan, they are not listed as mitigation measures.

- **SCA 20: Improvements in the Public Right-of-Way (General)**

  Approved prior to the issuance of a P-job or building permit

  a. The project applicant shall submit Public Improvement Plans to Building Services Division for adjacent public rights-of-way (ROW) showing all proposed improvements and compliance with the conditions and/or mitigations and City requirements including but not limited to curbs, gutters, sewer laterals, storm drains, street trees, paving details,

locations of transformers and other above ground utility structures, the design specifications and locations of facilities required by the East Bay Municipal Utility District (EBMUD), street lighting, on-street parking and accessibility improvements compliant with applicable standards and any other improvements or requirements for the project as provided for in this Approval. Encroachment permits shall be obtained as necessary for any applicable improvements- located within the public ROW.

b. Review and confirmation of the street trees by the City's Tree Services Division is required as part of this condition and/or mitigations.

c. The Planning and Zoning Division and the Public Works Agency will review and approve designs and specifications for the improvements. Improvements shall be completed prior to the issuance of the final building permit.

d. The Fire Services Division will review and approve fire crew and apparatus access, water supply availability and distribution to current codes and standards.

- **SCA 21: Improvements in the Public Right-of-Way (Specific)**

Approved prior to the issuance of a grading or building permit. Final building and public improvement plans submitted to the Building Services Division shall include the following components:

a. Install additional standard City of Oakland streetlights.

b. Remove and replace any existing driveway that will not be used for access to the property with new concrete sidewalk, curb and gutter.

c. Reconstruct drainage facility to current City standard.

d. Provide separation between sanitary sewer and water lines to comply with current City of Oakland and Alameda Health Department standards.

e. Construct wheelchair ramps that comply with Americans with Disabilities Act requirements and current City Standards.

f. Remove and replace deficient concrete sidewalk, curb and gutter within property frontage.

g. Provide adequate fire department access and water supply, including, but not limited to currently adopted fire codes and standards.

- **SCA 25: Parking and Transportation Demand Management**

This SCA would apply to development projects under the Specific Plan generating 50 or more net new AM or PM peak hour vehicle trips.

Prior to issuance of a final inspection of the building permit. The project applicant shall submit a Transportation and Parking Demand Management (TDM) for review and approval by the City. The intent of the TDM plan shall be to reduce vehicle traffic and parking demand generated by the project to the maximum extent practicable consistent with the potential traffic and parking impacts of the project.

The goal of the TDM shall be to achieve the following project vehicle trip reductions (VTR):

- Projects generating 50 – 99 net new AM or PM peak hour vehicle trips: 10 percent VTR

- Projects generating 100 or more net new AM or PM peak hour vehicle trips: 20 percent VTR

The TDM plan shall include strategies to increase pedestrian, bicycle, transit, and carpool use, and reduce parking demand. All four modes of travel shall be considered, as appropriate. VTR strategies to consider include, but are not limited to, the following:

a. Inclusion of additional long term and short term bicycle parking that meets the design standards set forth in chapter five of the Bicycle Master Plan, and Bicycle Parking Ordinance (chapter 17.117 of the Oakland Planning Code), and shower and locker facilities in commercial developments that exceed the requirement.

b. Construction of and/or access to bikeways per the Bicycle Master Plan; construction of priority Bikeway Projects, on-site signage and bike lane striping.

c. Installation of safety elements per the Pedestrian Master Plan (such as cross walk striping, curb ramps, count-down signals, bulb outs, etc.) to encourage convenient and safe crossing at arterials, in addition to safety elements required to address safety impacts of the project.

d. Installation of amenities such as lighting, street trees, trash receptacles per the Pedestrian Master Plan and any applicable streetscape plan.

e. Construction and development of transit stops/shelters, pedestrian access, way finding signage, and lighting around transit stops per transit agency plans or negotiated improvements.

f. Direct on-site sales of transit passes purchased and sold at a bulk group rate (through programs such as AC Transit Easy Pass or a similar program through another transit agency).

g. Provision of a transit subsidy to employees or residents, determined by the project sponsor and subject to review by the City, if the employees or residents use transit or commute by other alternative modes.

h. Provision of an ongoing contribution to AC Transit service to the area between the development and nearest mass transit station prioritized as follows: 1) Contribution to AC Transit bus service; 2) Contribution to an existing area shuttle or streetcar service; and 3) Establishment of new shuttle or streetcar service. The amount of contribution (for any of the above scenarios) would be based upon the cost of establishing new shuttle service (Scenario3).

i. Guaranteed ride home program for employees, either through 511.org or through separate program.

j. Pre-tax commuter benefits (commuter checks) for employees.

k. Free designated parking spaces for on-site car-sharing program (such as City Car Share, Zip Car, etc.) and/or car-share membership for employees or tenants.

l. Onsite carpooling and/or vanpooling program that includes preferential (discounted or free) parking for carpools and vanpools.

m. Distribution of information concerning alternative transportation options.

n. Parking spaces sold/leased separately for residential units. Charge employees for parking, or provide a cash incentive or transit pass alternative to a free parking space in commercial properties.

o. Parking management strategies; including attendant/valet parking and shared parking spaces.

p. Requiring tenants to provide opportunities and the ability to work off-site.

q. Allow employees or residents to adjust their work schedule in order to complete the basic work requirement of five eight-hour workdays by adjusting their schedule to reduce vehicle trips to the worksite (e.g., working four, ten-hour days; allowing employees to work from home two days per week).

r. Provide or require tenants to provide employees with staggered work hours involving a shift in the set work hours of all employees at the workplace or flexible work hours involving individually determined work hours.

The TDM Plan shall indicate the estimated VTR for each strategy proposed based on published research or guidelines. For TDM Plans containing ongoing operational VTR strategies, the Plan shall include an ongoing monitoring and enforcement program to ensure the Plan is implemented on an ongoing basis during project operation. If an annual compliance report is required, as explained below, the TDM Plan shall also specify the topics to be addressed in the annual report.

The project applicant shall implement the approved TDM Plan on an ongoing basis. For projects that generate 100 or more net new a.m. or p.m. peak hour vehicle trips and contain ongoing operational VTR strategies, the project applicant shall submit an annual compliance report for the first five years following completion of the project (or completion of each phase for phased projects) for review and approval by the City. The annual report shall document the status and effectiveness of the TDM program, including the actual VTR. If deemed necessary, the City may elect to have a peer review consultant, paid for by the project applicant, review the annual report. If timely reports are not submitted and/or the annual reports indicate that the project applicant has failed to implement the TDM Plan, the project will be considered in violation of the Conditions of Approval and the City may initiate enforcement action as provided for in these Conditions of Approval. The project shall not be considered in violation of this Condition if the TDM Plan is implemented but the VTR goal is not achieved.

- **SCA 33: Construction Traffic and Parking**

  Prior to the issuance of a demolition, grading or building permit. The project sponsor and construction contractor shall meet with appropriate City of Oakland agencies to determine traffic management strategies to reduce, to the maximum extent feasible, traffic congestion and the effects of parking demand by construction workers during construction of this project and other nearby projects that could be simultaneously under construction. The project sponsor shall develop a construction management plan for review and approval by the Planning and Zoning Division, the Building Services Division, and the Transportation Services Division. The plan shall include at least the following items and requirements:

  a. A set of comprehensive traffic control measures, including scheduling of major truck trips and deliveries to avoid peak traffic hours, detour signs if required, lane closure procedures, signs, cones for drivers, and designated construction access routes.

b. Notification procedures for adjacent property owners and public safety personnel regarding when major deliveries, detours, and lane closures will occur.

c. Location of construction staging areas for materials, equipment, and vehicles at an approved location.

d. A process for responding to, and tracking, complaints pertaining to construction activity, including identification of an onsite complaint manager. The manager shall determine the cause of the complaints and shall take prompt action to correct the problem. Planning and Zoning shall be informed who the Manager is prior to the issuance of the first permit issued by Building Services.

e. Provision for accommodation of pedestrian flow.

f. Provision for parking management and spaces for all construction workers to ensure that construction workers do not park in on-street spaces.

g. Any damage to the street caused by heavy equipment, or as a result of this construction, shall be repaired, at the project sponsor's expense, within one week of the occurrence of the damage (or excessive wear), unless further damage/excessive wear may continue; in such case, repair shall occur prior to issuance of a final inspection of the building permit. All damage that is a threat to public health or safety shall be repaired immediately. The street shall be restored to its condition prior to the new construction as established by the City Building Inspector and/or photo documentation, at the project sponsor's expense, before the issuance of a Certificate of Occupancy.

h. Any heavy equipment brought to the construction site shall be transported by truck, where feasible.

i. No materials or equipment shall be stored on the traveled roadway at any time.

j. Prior to construction, a portable toilet facility and a debris box shall be installed on the site, and properly maintained through project completion.

k. All equipment shall be equipped with mufflers.

l. Prior to the end of each work day during construction, the contractor or contractors shall pick up and properly dispose of all litter resulting from or related to the project, whether located on the property, within the public rights-of-way, or properties of adjacent or nearby neighbors.

4.13.2 Project Transportation Characteristics

Various characteristics of the Broadway Valdez District Specific Plan Project are described below.

Broadway Valdez Development Program

The Specific Plan is designed to encourage residential, retail, office, and mixed-use developments within the 96-acre Specific Plan Area in Oakland. The Broadway Valdez Development Program represents the *reasonable foreseeable maximum development* that the City has projected can reasonably be expected to occur in the Plan Area over the next 25 years, and is thus the level of development envisioned by the Specific Plan and analyzed in this EIR. In total, approximately 3.7 million square feet of development is envisioned, including 1,800 residential units, a new

180-room hotel, and 5,000 new jobs. It is difficult to project the exact location, amount, and type of development; however, the traffic impact analysis presented in this EIR requires assumptions about the location, amount and type of development. Thus, the Broadway Valdez Development Program does not assign land uses to individual parcels; rather, land uses are distributed to Subdistricts within the Plan Area. **Figure 4.13-5** shows the Subdistricts within the Plan Area and **Table 4.13-7** presents the likely developments expected in the Subdistricts for the years 2020 and 2035 for the purposes of this analysis.

TABLE 4.13-7
BROADWAY VALDEZ DEVELOPMENT PROGRAM BY SUBDISTRICT

Year/Subdistrict	Multi-Family Residential (DU)	Retail (KSF)	General. Office (KSF)	Medical Office (KSF)	Hotel (Rooms)
Year 2020					
Subdistrict 1	414	141.4	0	0	0
Subdistrict 2	236	255.5	0	0	0
Subdistrict 3	0	0	0	0	0
Subdistrict 4	0	0	0	0	0
Subdistrict 5	341	205.0	179.4	358.9	0
Year 2020 Total	***991***	***601.9***	***179.4***	***358.9***	***0***
Year 2035 (Buildout)					
Subdistrict 1	438	153.9	0	0	180
Subdistrict 2	487	388.2	0	0	0
Subdistrict 3	40	251.4	116.1	0	0
Subdistrict 4	387	111.1	40.5	0	0
Subdistrict 5	445	209.5	179.4	358.9	0
Year 2035 Total	***1,797***	***1,114.1***	***336.0***	***358.9***	***180***

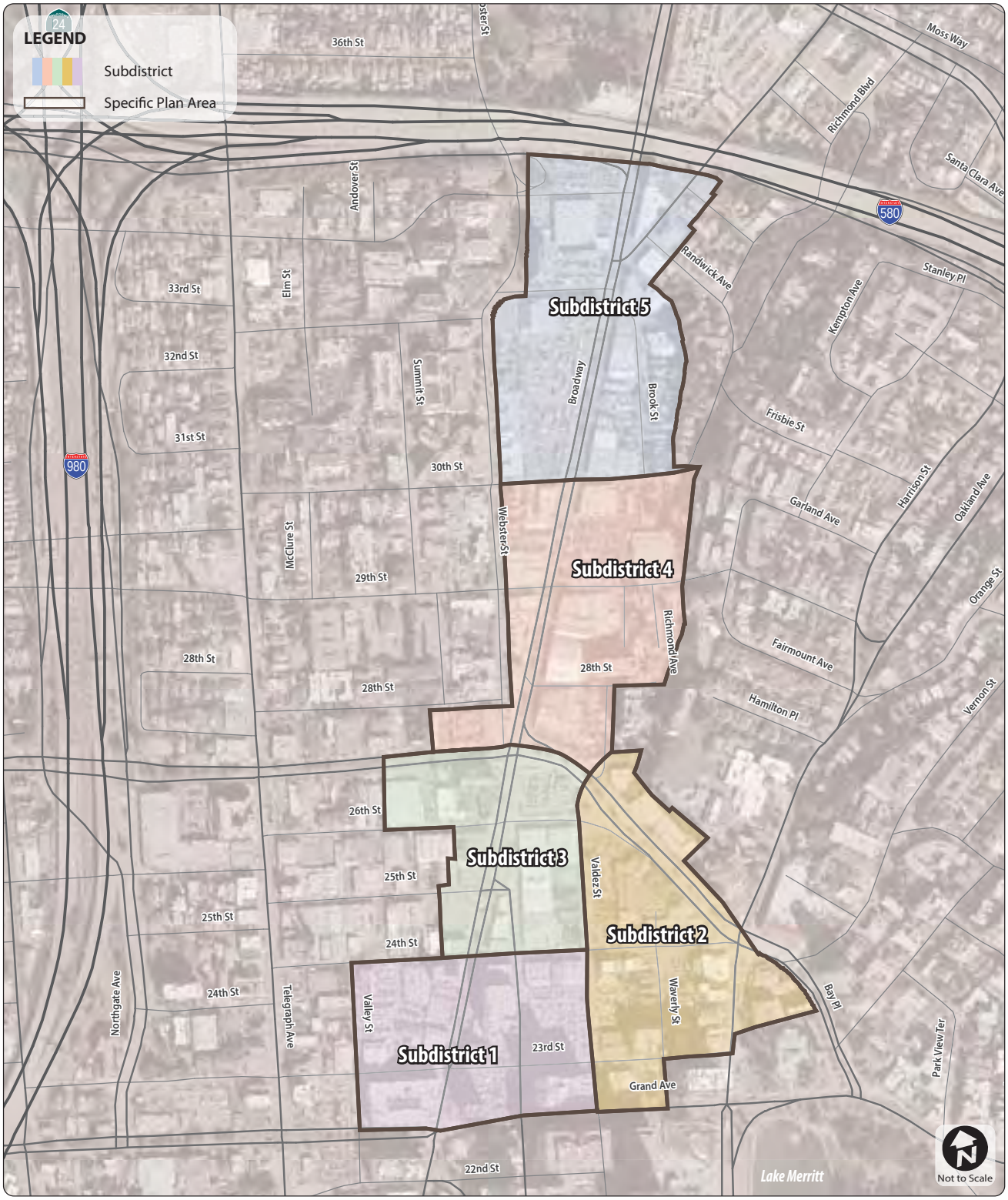
DU = Dwelling units, KSF = 1,000 square feet

SOURCE: City of Oakland and WRT, 2012.

Project Modifications to Transportation Network

The Broadway Valdez District Specific Plan proposes a number of modifications to the street network in the Plan Area to improve access and circulation for all travel modes. This EIR analyzes the following street modifications as part of the Project:

- Widen sidewalks along segments of 24th and Valdez Streets.
- Enhance the existing mid-block pedestrian crossing on Broadway between 30th Street and Hawthorne Avenue with bulbouts, enhanced crosswalk treatment, and installations of Rectangular Rapid Flash Beacons (RRFB).
- Implement bicycle improvements, such as bicycle signal actuations, at key intersections such as Broadway/Webster Street, Broadway/27th Street, and Harrison Street/27th Street.



SOURCE: Fehr & Peers

Broadway Valdez District Specific Plan . 208522

Figure 4.13-5

Specific Plan Area Subdistricts

- Collaborate with AC Transit to improve bus service along Broadway by incorporating the following recommendations in AC Transit's Transit Performance Initiative:
  - Move bus stop locations to provide optimum spacing (about 900 to 1,000 feet between stops) that effectively serves the local uses and maintains bus operating speeds.
  - Locate bus stops on far-side of intersections to improve service times and reduce bus/auto conflicts at intersections.
  - Create curb extensions to accommodate in-lane stops that enhance bus service times and provide adequate space for bus stop amenities
  - Improve bus stop facilities (shelters, benches, real-time transit arrival displays, route maps/schedules, trash receptacles, etc.) to enhance user experience.
  - Increase the length of bus stops to 60 feet to meet AC Transit standards.
  - Install Transit Signal Priority (TSP) at signalized intersections along Broadway to improve bus travel times by prioritizing signal green times for approaching buses.
- Remove the channelized right-turn lane from westbound 27th Street to Broadway at the 27th Street/Broadway intersection (Intersection #30).
- Remove the channelized right-turn lane from eastbound 27th Street to Valdez Street and from northbound Valdez Street to 27th Street at the 27th Street/Valdez Street intersection (Intersection #31).
- Square the Broadway/Webster Street/25th Street intersection (Intersection #34) by:
  - Removing the channelized island on the Webster Street approach.
  - Aligning the westbound Webster Street approach with the eastbound 25th Street approach to allow the through movement from Webster Street to 25th Street.
  - Extending the existing southbound left-turn lane on Broadway.
  - Providing a crosswalk on the north approach of Broadway.
- Remove the channelized right-turn lane from southbound Harrison Street to 27th Street at the 27th Street/24th Street/Bay Place/Harrison Street intersection (Intersection #37). This improvement is consistent with the recommendation in the Harrison Street/Oakland Avenue CBTP (see page 4.13-27 for more detail).
- Potential temporary or full closure of following streets to through traffic:
  - Waverly Street between 23 and 24th Streets
  - 26th Street between Broadway and Valdez Street
  - 34th Street between I-580 Off-Ramp and Broadway

Project Trip Generation

Buildout of the Broadway Valdez Development Program would result in a net increase of about 1,800 residential units, over 1 million square feet of retail, and about 700 thousand square feet of office at buildout. This development would occur within one of the denser urban environments in the East Bay where travel mode opportunities (i.e., auto, bike, pedestrian and transit) are substantial.

If vehicle trip reduction in mixed-use dense urban developments such as this is understated, the result can be excessive traffic impacts and related mitigation that can discourage development of otherwise desirable projects or transportation infrastructure that is not sized to the urban setting of the development. The Project trip generation estimated in this analysis accounts for the mix of uses provided in the development under the Specific Plan, the urban setting, and transit service provided in the area.

Current accepted methodologies, such as the Institute of Transportation Engineers (ITE) Tr*ip Generation* methodology, are primarily based on data collected at suburban, single-use, freestanding sites (ITE, 2008). These defining characteristics limit their applicability to mixed-use or multi-use development projects, such as the Specific Plan, which is in a high-density walkable urban setting with frequent and nearby local and regional transit service. The land use mix, design features, and setting of the Specific Plan would include characteristics that influence travel behavior differently from typical single-use suburban developments. Thus, traditional data and methodologies, such as ITE, would not accurately estimate the project vehicle trip generation. In response to the limitations in the ITE methodology, and to provide a straightforward and empirically validated method of estimating vehicle trip generation at mixed-use developments, the US Environmental Protection Agency (EPA) sponsored a national study of the trip generation characteristics of multi-use sites. Based on travel survey data gathered from 239 mixed-use developments (MXDs) in six major metropolitan regions and correlated with the characteristics of the sites and their surroundings, the MXD methodology estimates the amount of external traffic that a mixed use development would generate by reducing the ITE-based estimates to account for internal trips and external non-auto trips. Appendix G.F describes the MXD methodology and its applicability to the development under the Specific Plan in more detail.

The Broadway Valdez Development Program includes a large retail component, which typically generates more traffic on weekends than on weekdays. Thus, in addition to analyzing traffic impacts during weekday AM and PM peak hours, this document also analyzes traffic impacts during the Saturday peak hour. This analysis conservatively assumes that trip generation for all Broadway Valdez Development Program land uses would peak at the same time on Saturdays. Because the MXD methodology is only applicable to weekday trips, the relationship between weekday and weekend trips as documented in the 2000 Bay Area Travel Surveys (2000 BATS) was used to estimate the reduction for Saturday peak-hour trip generation.

Tables 4.13-8 and **4.13-9** summarize the weekday daily, weekday AM, weekday PM and Saturday peak-hour Project trip generation in 2020 and 2035, respectively. Based on the MXD Model, the ITE-based trip generation for 2020 was reduced by about 28 percent for weekdays and 18 percent for Saturdays. The ITE-based 2035 trip generation was reduced by about 34 percent for weekdays and 25 percent for Saturdays. The MXD model forecasts a larger reduction in 2035 than in 2020 because it accounts for the local and regional growth in land use which encourages additional pedestrian, bike, and transit trips.

TABLE 4.13-8
BROADWAY VALDEZ DEVELOPMENT PROGRAM
2020 TRIP GENERATION SUMMARY

Land Use	Units[a]	ITE Code	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Net New Uses												
Multi-Family Residential	991 DU	220[b]	6,129	98	391	489	366	197	563	278	237	515
Retail	601.9 KSF	820[c]	21,809	271	173	444	1,038	1,080	2,118	1,431	1,321	2,752
General Office	179.4 KSF	710[d]	2,093	263	36	299	48	232	280	32	27	59
Medical Office	358.9 KSF	720[e]	12,966	652	173	825	235	634	869	108	81	189
Total			*42,996*	*1,284*	*773*	*2,057*	*1,687*	*2,143*	*3,830*	*1,849*	*1,666*	*3,515*
Reduction[f]												
Internal Capture (Non-Auto)			-3,326	-75	-45	-120	-124	-158	-282			
External Walk, Bike and Transit			-8,930	-280	-168	-448	-338	-429	-767			
Total			*-12,256*	*-355*	*-213*	*-568*	*-462*	*-587*	*-1,049*	*-333*	*-300*	*-633*
Net New Project Trips			**30,740**	**929**	**560**	**1,489**	**1,225**	**1,556**	**2,781**	**1,516**	**1,366**	**2,882**

[a] DU = dwelling unit. KSF = 1,000 square feet.
[b] ITE *Trip* Generation *(8th Edition)* land use category 220 (Apartments):
Daily: T = 6.06(X) + 123.56
AM Peak Hour: T = 0.49(X) + 3.73 (20% in, 80% out)
PM Peak Hour: T = 0.55(X) + 17.65 (65% in, 35% out)
Saturday: T = 0.52(X) (54% in, 46% out)
[c] ITE *Trip Generation (8th Edition)* land use category 820 (Shopping Center):
Daily: Ln(T) = 0.65*ln(X) + 5.83
AM Peak Hour: Ln(T) = 0.59*ln(X)+2.32 (61% in, 39% out)
PM Peak Hour: Ln(T) = 0.67*ln(X)+3.37 (49% in, 51% out)
Saturday: Ln(T) = 0.65*ln(X) + 3.76 (52% in, 48% out)
[d] ITE *Trip Generation (8th Edition)* land use category 710 (General Office):
Daily: Ln(T) = 0.77*ln(X) + 3.65
AM Peak Hour: Ln(T) = 0.80*ln(X)+1.55 (88% in, 12% out)
PM Peak Hour: T = 1.12*(X) +78.81 (17% in, 83% out)
Saturday: Ln(T) = 0.81*ln(X) - 0.12 (54% in, 46% out)
[e] ITE *Trip Generation (8th Edition)* land use category 720 (Medical-Dental Office):
Daily: T = 36.13(X)
AM Peak Hour: T = 2.3(X) (79% in, 21% out)
PM Peak Hour: Ln(T) = 0.88*ln(X) +1.59 (27% in, 73% out)
Saturday: Based on the ratio of weekday PM and Saturday peak-hour trips for general office, T = 0.53(X) (57% in, 43% out)
[f] For weekdays, reductions based on application of MXD model: Daily = 29%, AM Peak Hour = 28%, PM Peak Hour = 27%
Internal Capture (Non-Auto): Daily = 8%, AM Peak Hour = 6%, PM Peak Hour = 7% (Internal auto trips are estimated to be about one-third of all internal trips and included in the net new project trips)
External Walk/Bike/Transit: Daily = 21%, AM Peak Hour = 22%, PM Peak Hour = 20%
For Saturday peak hour, reduction based on comparison of BATS 2000 data weekday and weekend data. Total Saturday Reduction = 18%

SOURCE: Fehr & Peers, 2013.

TABLE 4.13-9
BROADWAY VALDEZ DEVELOPMENT PROGRAM
2035 TRIP GENERATION SUMMARY

Land Use	Units[a]	ITE Code	Daily	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
				In	Out	Total	In	Out	Total	In	Out	Total
Net New Uses												
Multi-Family Residential	1,797 DU	220[b]	11,007	177	707	884	654	352	1,005	504	430	934
Retail	1,114.1 KSF	820[c]	32,541	390	249	639	1,567	1,631	3,199	2,135	1,971	4,106
General Office	336.0 KSF	710[d]	3,392	435	59	495	77	378	455	53	46	99
Medical Office	358.9 KSF	720[e]	12,966	652	173	825	235	634	869	108	81	189
Hotel	180 rooms	310[f]	1,615	65	47	111	53	55	109	88	69	157
Total			*61,520*	*1,719*	*1,235*	*2,954*	*2,586*	*3,050*	*5,637*	*2,888*	*2,597*	*5,485*
Reduction[g]												
Internal Capture (Non-Auto)			-5,862	-118	-84	-202	-248	-292	-540			
External Walk, Bike and Transit			-15,357	-450	-322	-772	-637	-751	-1,388			
Total			*-21,219*	*-568*	*-406*	*-974*	*-885*	*-1,043*	*-1,928*	*-722*	*-649*	*-1,371*
Net New Project Trips			**40,301**	**1,151**	**829**	**1,980**	**1,701**	**2,007**	**3,709**	**2,166**	**1,948**	**4,114**

[a] DU = dwelling unit. KSF = 1,000 square feet.
[b] ITE *Trip* Generation *(8th Edition)* land use category 220 (Apartments):
Daily: T = 6.06(X) + 123.56
AM Peak Hour: T = 0.49(X) + 3.73 (20% in, 80% out)
PM Peak Hour: T = 0.55(X) + 17.65 (65% in, 35% out)
Saturday: T = 0.52(X) (54% in, 46% out)
[c] ITE *Trip Generation (8th Edition)* land use category 820 (Shopping Center):
Daily: Ln(T) = 0.65*ln(X) + 5.83
AM Peak Hour: Ln(T) = 0.59*ln(X)+2.32 (61% in, 39% out)
PM Peak Hour: Ln(T) = 0.67*ln(X)+3.37 (49% in, 51% out)
Saturday: Ln(T) = 0.65*ln(X) + 3.76 (52% in, 48% out)
[d] ITE *Trip Generation (8th Edition)* land use category 710 (General Office):
Daily: Ln(T) = 0.77*ln(X) + 3.65
AM Peak Hour: Ln(T) = 0.80*ln(X)+1.55 (88% in, 12% out)
PM Peak Hour: T = 1.12*(X) +78.81 (17% in, 83% out)
Saturday: Ln(T) = 0.81*ln(X) - 0.12 (54% in, 46% out)
[e] ITE *Trip Generation (8th Edition)* land use category 720 (Medical-Dental Office):
Daily: T = 36.13(X)
AM Peak Hour: T = 2.3(X) (79% in, 21% out)
PM Peak Hour: Ln(T) = 0.88*ln(X) +1.59 (27% in, 73% out)
Saturday: Based on the ratio of weekday PM and Saturday peak-hour trips for general office, T = 0.53(X) (57% in, 43% out)
[f] ITE *Trip Generation (8th Edition)* land use category 310 (Hotel):
Daily: T = 8.92(X)
AM Peak Hour: T = 0.78(X) – 29.8 (58% in, 42% out)
PM Peak Hour: Ln(T) = 1.2*ln(X) – 1.55 (49% in, 51% out)
Saturday: T = 0.87(X) (56% in, 44% out)
[g] For weekdays, reductions based on application of MXD model: Daily = 34%, AM Peak Hour = 33%, PM Peak Hour = 34%
Internal Capture (Non-Auto): Daily = 10%, AM Peak Hour = 7%, PM Peak Hour = 10% (Internal auto trips are estimated to be about one-third of all internal trips and included in the net new project trips)
External Walk/Bike/transit: Daily = 25%, AM Peak Hour = 26%, PM Peak Hour = 25%
For Saturday peak hour, reduction based on comparison of BATS 2000 data weekday and weekend data. Total Saturday Reduction = 25%

SOURCE: Fehr & Peers, 2013.

The Broadway Valdez Development Program is estimated to generate about 30,700 daily, 1,490 AM peak-hour, 2,780 PM peak-hour trips, and 2,880 Saturday peak-hour trips in the year 2020, and about 40,300 daily, 1,980 AM peak-hour, 3,710 PM peak-hour, and 4,110 Saturday peak-hour trips in the year 2035.

Table 4.13-10 presents the net new Project trips allocated to the Subdistricts proportionate with the expected land uses in each Subdistrict.

TABLE 4.13-10
BROADWAY VALDEZ DEVELOPMENT PROGRAM TRIP GENERATION SUMMARY BY SUBDISTRICT

Year / Subdistrict	Weekday AM Peak Hour			Weekday PM Peak Hour			Saturday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Year 2020									
Subdistrict 1	87	148	237	277	224	499	371	335	706
Subdistrict 2	122	130	253	366	336	700	552	506	1,058
Subdistrict 3	0	0	0	0	0	0	0	0	0
Subdistrict 4	0	0	0	0	0	0	0	0	0
Subdistrict 5	719	282	998	582	996	1,582	593	525	1,118
Total	***928***	***560***	***1,488***	***1,225***	***1,556***	***2,781***	***1,516***	***1,366***	***2,882***
Year 2035									
Subdistrict 1	118	165	283	273	233	506	364	322	686
Subdistrict 2	161	200	361	475	435	910	668	610	1,278
Subdistrict 3	178	77	255	265	325	590	398	365	763
Subdistrict 4	92	119	211	194	178	372	241	217	458
Subdistrict 5	603	268	871	495	836	1,331	495	434	929
Total	***1,152***	***829***	***1,981***	***1,702***	***2,007***	***3,709***	***2,166***	***1,948***	***4,114***

SOURCE: Fehr & Peers, 2013.

The Specific Plan includes policies and strategies, such as implementation of a robust TDM program in the Plan Area, to provide incentives and infrastructure improvements that encourage walking, biking and transit and reduce single-occupant automobile trips and parking. However, the trip generation assumptions used in this analysis do not account for the effectiveness of the TDM program and similar policies in order to present a more conservative analysis.

Traffic Forecasting Methodology

A project of the size, density, and mix of the Broadway Valdez Development Program in urban Alameda County is expected to change local and regional travel patterns. Therefore, the traditional methodology of applying isolated project trip generation, distribution, and assignment procedures would not accurately reflect such a project's impact on the surrounding transportation system.

The traffic volume forecasts were developed using the ACTC Model and existing traffic volumes. The main inputs to the 2020 and 2035 forecasting process are the existing traffic counts and year

2020 and 2035 outputs from a modified version of the ACTC Model. Thus, the following basic steps were used in developing traffic forecasts for this analysis:

- **Step 1: Develop Future No Project traffic forecasts.**

  The ACTC Model released in June 2011, which uses land use and socio-economic data consistent with Association of Bay Area Government (ABAG) *Projection 2009*, was used for this analysis. The land use database was modified to reflect more accurate land use projections in the City of Oakland, including the changes in land use proposed by the Lake Merritt Station Area Specific Plan and other major developments on the City's Active Major Project list. These modifications assure that the ACTC Model correctly accounts for traffic growth from past, present, and reasonably foreseeable development (i.e., pending, planned, proposed, and recently completed residential and non-residential developments) in the study area. The 2020 and 2035 No Project scenario assumes the existing land uses in the Plan Area**.** Appendix G.H presents the ACTC Model output plots for the different scenarios used in this analysis.

  The AM and PM peak-hour roadway segment volumes forecasted by the constrained ACTC Model for years 2020 and 2035 were used to develop 2020 and 2035 turning movement forecasts at the study intersections using the "Furness" process, which "grows" existing turning movement volumes to reflect increases in roadway segment volumes forecasted by the ACTC Model.[1] Because the ACTC model does not include non-weekday time periods, the ratio between the weekday PM peak-hour existing volumes and the forecasted 2020 and 2035 No Project volumes were applied to the existing Saturday peak-hour volumes to estimate Saturday peak-hour volumes under the 2020 and 2305 No Project conditions, respectively.

- **Step 2: Estimate Project auto trip generation.**

  As summarized in Tables 4.13-8 and 4.13-9, the MXD methodology was used to estimate the automobile trip generation for the Broadway Valdez Development Program in 2020 and 2035. The net new auto trips were then assigned to the Subdistricts based on estimated growth in each Subdistrict as shown in Table 4.13-10.

- **Step 3: Develop 2020 and 2035 Plus Project traffic forecasts.**

  The 2020 and 2035 No Project ACTC Model land use database was adjusted to account for the Broadway Valdez Development Program as shown in Table 4.13-7, and the ACTC Model was run through the final distribution step. The number of vehicle trips generated by the Specific Plan in the ACTC Model after final distribution were adjusted to match the number of project vehicle trips estimated in Step 2 using MXD and shown in Table 4.13-10. The ACTC Model was then run through final assignment. Similar to Step 1, the AM and PM peak-hour roadway segment volumes forecasted by the ACTC Model were used to develop turning movement forecasts at the study intersections using the Furness method. In addition, this analysis assumes that pedestrian and bicycle volumes under future scenarios at the study intersections would increase proportionally to the projected growth in land uses in the study area.

[1] Outlined in NCHRP-255, the industry-standard Furness technique is used to estimate projected (future) intersection turning movement volumes based on comparing existing traffic volume counts and the Model results. It uses mathematical formulae to balance roadway segment volumes approaching, and departing from, the intersection and thus balances turning volumes that make sense compared to the existing counts and Model results. This process improves the level of confidence in the forecasted future turning movement volumes.

As a result, the 2020 and 2035 Project traffic assigned to the street network are consistent with the trip generation estimates presented in Table 4.13-10, and the 2020 and 2035 Plus Project forecasts reflect the potential changes in traffic patterns caused by the mix and size of the Broadway Valdez Development Program. **Figure 4.13-6** shows the approximate number of PM peak-hour auto trips the Project would add to roadway segments in the Plan Area vicinity.

- **Step 4: Develop Existing Plus Project traffic forecasts.**

  Intersection turning volumes for Existing Plus Project conditions were estimated by adding the incremental difference between 2035 Plus Project and 2035 No Project conditions to the Existing intersection volumes.

4.13.3 Impacts and Mitigation Measures

Significance Criteria/Thresholds

Development under the Specific Plan would have a significant impact on the environment if it were to:

Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to, intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit, specifically:

Traffic Load and Capacity Thresholds

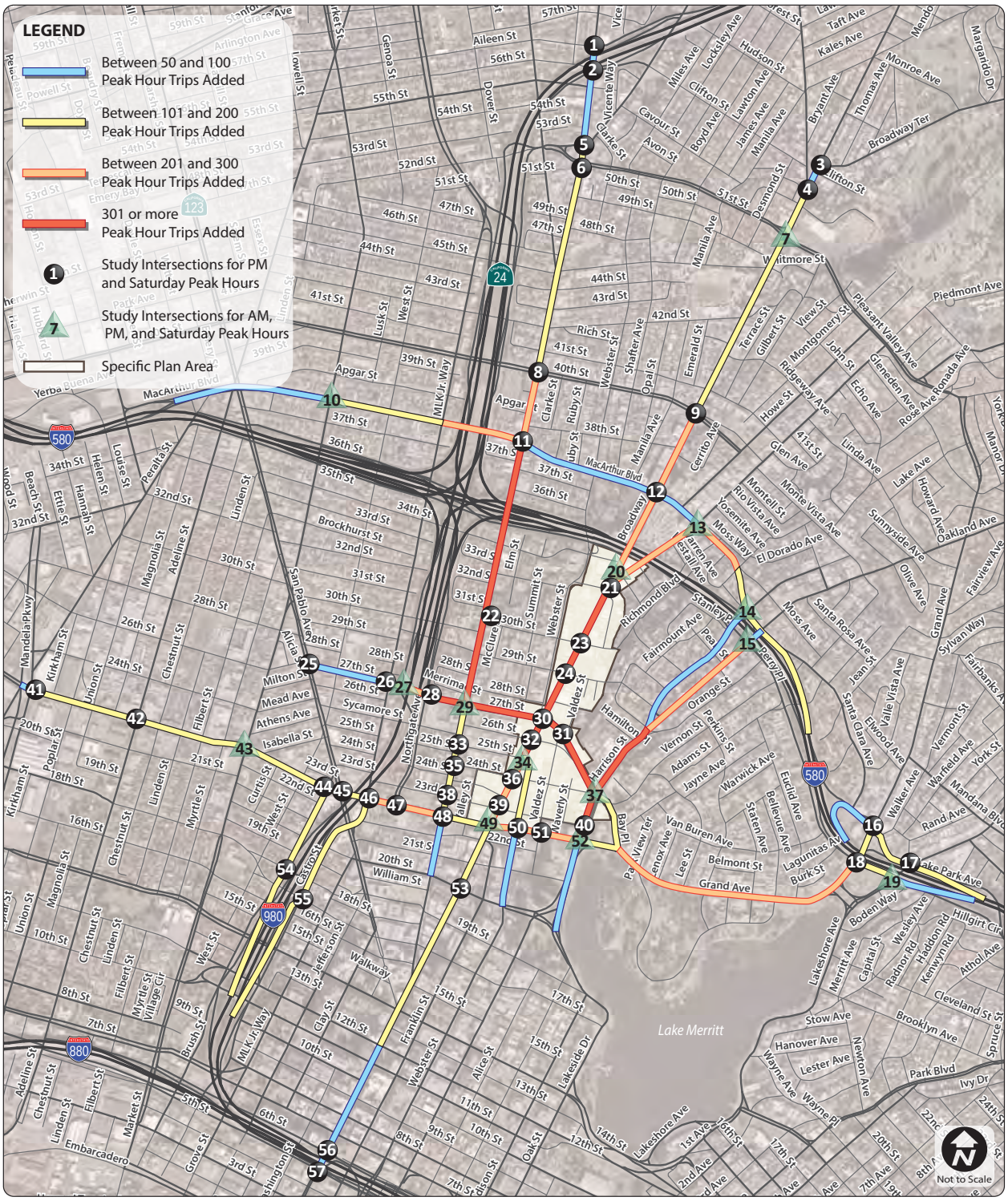
1. At a study, signalized intersection which is located **outside the Downtown**[2] **area and that does not provide direct access to Downtown**, the project would cause the motor vehicle level of service (LOS) to degrade to worse than LOS D (i.e., LOS E or LOS F) and cause the total intersection average vehicle delay to increase by four (4) or more seconds;

2. At a study, signalized intersection which is located **within the Downtown area or that provides direct access to Downtown**, the project would cause the motor vehicle LOS to degrade to worse than LOS E (i.e., LOS F) and cause the total intersection average vehicle delay to increase by four (4) or more seconds;

3. At a study, signalized intersection **outside the Downtown area and that does not provide direct access to Downtown** where the motor vehicle level of service is LOS E, the project would cause the total intersection average vehicle delay to increase by four (4) or more seconds;

4. At a study, signalized intersection **outside the Downtown area and that does not provide direct access to Downtown** where the motor vehicle level of service is LOS E, the project would cause an increase in the average delay for any of the critical movements of six (6) seconds or more;

[2] The Downtown area is defined in the Land Use and Transportation Element of the General Plan (page 67) as the area generally bounded by the West Grand Avenue to the north, Lake Merritt and Channel Park to the east, the Oakland Estuary to the south, and I-980/Brush Street to the west. Intersections that provide direct access to downtown are generally defined as principal arterials within two (2) miles of Downtown and minor arterials within one (1) mile of Downtown, provided that the street connects directly to Downtown.



SOURCE: Fehr & Peers

Broadway Valdez District Specific Plan . 208522

Figure 4.13-6

Weekday PM Peak Hour Trip Assignment and Study Intersections

5. At a study, signalized intersection for all areas where the motor vehicle level of service is LOS F, the project would cause (a) the overall volume-to-capacity ("V/C") ratio to increase 0.03 or more or (b) the critical movement V/C ratio to increase 0.05 or more;

6. At a study, unsignalized intersection the project would add ten (10) or more vehicles to the critical movement, and after project completion, satisfy the California Manual on Uniform Traffic Control Devices (MUTCD) peak-hour volume traffic signal warrant;

7. For a roadway segment of the Congestion Management Program (CMP) Network, the project would cause (a) the LOS to degrade from LOS E or better to LOS F or (b) the V/C ratio to increase 0.03 or more for a roadway segment that would operate at LOS F without the project;[3]

8. Cause congestion of regional significance on a roadway segment on the Metropolitan Transportation System (MTS) evaluated per the requirements of the Land Use Analysis Program of the CMP;[4]

9. Result in substantially increased travel times for AC Transit buses;

Traffic Safety Thresholds

10. Directly or indirectly cause or expose roadway users (e.g., motorists, pedestrians, bus riders, bicyclists) to a permanent and substantial transportation hazard due to a new or existing physical design feature or incompatible uses;

11. Directly or indirectly result in a permanent substantial decrease in pedestrian safety;

12. Directly or indirectly result in a permanent substantial decrease in bicyclist safety;

13. Directly or indirectly result in a permanent substantial decrease in bus rider safety;

14. Generate substantial multi-modal traffic traveling across at-grade railroad crossings that cause or expose roadway users (e.g., motorists, pedestrians, bus riders, bicyclists) to a permanent and substantial transportation hazard.[5]

Other Thresholds

15. Fundamentally conflict with adopted City policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities adopted for the purpose of avoiding or mitigating an environmental effect and actually result in a physical change in the environment;

16. Result in a substantial, though temporary, adverse effect on the circulation system during construction of the project; or

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3 Refer to the ACTC *Congestion Management Program* for a description of the CMP Network. In Oakland, the CMP Network includes all state highways plus the following streets: portions of Martin Luther King Jr. Way, Webster/Posey Tubes, 23rd Avenue, 29th Avenue, and Hegenberger Road.

4 Refer to ACTC's *Congestion Management Program* for a description of the MTS and the Land Use Analysis Program. The ACTC identified the roadway segments of the MTS that require evaluation in its letter commenting on the Notice of Preparation (NOP) issued by the City for the project (See page 4.13-119 for list of these roadway segments). Note that the City is required to send NOPs and notices of proposed general plan amendments to ACTC under the Land Use Analysis Program regardless of how many project-related trips are expected to be generated.

5 Refer to the City's Standard Conditions of Approval for conditions related to at-grade railroad crossings.

17. Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks.

Cumulative Impacts

18. A project's contribution to cumulative impacts is considered "considerable" (i.e., significant) when the project exceeds at least one of the thresholds listed above in a future year scenario.

Planning-Related Non-CEQA Issues

The following transportation-related topics are not considerations under CEQA, but should be evaluated in order to inform decision-makers and the public about these issues.

Parking-Related Impacts

The Court of Appeal has held that parking is not part of the permanent physical environment, that parking conditions change over time as people change their travel patterns, and that unmet parking demand created by a project need not be considered a significant environmental impact under CEQA unless it would cause significant secondary effects.[6] Similarly, the December 2009 amendments to the State CEQA Guidelines (which became effective March 18, 2010) removed parking from the State's Environmental Checklist (Appendix G of the State CEQA Guidelines) as an environmental factor to be considered under CEQA. Parking supply/demand varies by time of day, day of week, and seasonally. As parking demand increases faster than the supply, parking prices rise to reach equilibrium between supply and demand. Decreased availability and increased costs result in changes to people's mode and pattern of travel. However, the City of Oakland, in its review of the proposed project, wants to ensure that the project's provision of parking spaces along with measures to lessen parking demand (by encouraging the use of non-auto travel modes) would result in minimal adverse effects to project occupants and visitors, and that any secondary effects (such as on air quality due to drivers searching for parking spaces) would be minimized. As such, although not required by CEQA, parking conditions are evaluated in this document as a non-CEQA topic for informational purposes.

Parking deficits may be associated with secondary physical environmental impacts, such as air quality and noise effects, caused by congestion resulting from drivers circling as they look for a parking space. However, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, shuttles, taxis, bicycles or travel by foot), may induce drivers to shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to alternative modes of travel would be in keeping with the City's Public Transit and Alternative Modes Policy (sometimes referred to as the "Transit First" policy).

Additionally, regarding potential secondary effects, cars circling and looking for a parking space in areas of limited parking supply is typically a temporary condition, often offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area.

6 San Franciscans Upholding the Downtown Plan v. the City and County of San Francisco (2002) 102 Cal.App.4th 656.

Hence, any secondary environmental impacts that might result from a shortfall in parking in the vicinity of the proposed project are considered less than significant.

This document evaluates if the project's estimated parking demand (both project-generated and project-displaced) would be met by the project's proposed parking supply or by the existing parking supply within a reasonable walking distance of the Plan Area.[7] Project-displaced parking results from the project's removal of standard on-street parking, City or Redevelopment Agency owned/controlled parking, and/or legally required off-street parking (non-open-to-the-public parking which is legally required).

Transit Ridership

Transit load is not part of the permanent physical environment; transit service changes over time as people change their travel patterns. Therefore, the effect of the proposed project on transit ridership need not be considered a significant environmental impact under CEQA unless it would cause significant secondary effects, such as causing the construction of new permanent transit facilities which in turn causes physical effects on the environment. Furthermore, an increase in transit ridership is an environmental benefit, not an adverse impact. One of the goals of the *Land Use and Transportation Element* of the Oakland General Plan is to promote transit ridership. The City of Oakland, however, in its review of the proposed project, wants to understand the project's potential effect on transit ridership. As such, although not required by CEQA, transit ridership is evaluated in this document as a non-CEQA topic for informational purposes.

This document evaluates whether the Specific Plan would exceed any of the following:

- Increase the average ridership on AC Transit lines by three (3) percent at bus stops where the average load factor with the project in place would exceed 125 percent over a peak 30-minute period;
- Increase the peak-hour average ridership on BART by three (3) percent where the passenger volume would exceed the standing capacity of BART trains; or
- Increase the peak-hour average ridership at a BART station by three (3) percent where average waiting time at fare gates would exceed one minute.

Queuing

This document evaluates whether development under the Specific Plan would

- Cause an increase in 95th percentile queue length of 25 feet or more at a study, signalized intersection under the Existing Plus Project condition or the Near-Term Future Baseline Plus Project condition.

[7] The analysis must compare the proposed parking supply with both the estimated demand **and** the Oakland Planning Code requirements.

Traffic Control Devices

This document evaluates the need for additional traffic control devices (e.g., stop signs, street lighting, crosswalks, traffic calming devices) using the California Manual for Uniform Traffic Control Devices (MUTCD) and applicable City standards.

Collision History

This document evaluates three years of vehicle, pedestrian, and bicycle collision data for intersections and roadway segments within three blocks of the Plan Area to determine if the development under the Specific Plan would contribute to an existing problem or if any improvements are recommended in order to alleviate potential effects of the project.

Analysis of the Development under the Specific Plan

As stated on page 4.13-1, the analysis that follows evaluates the traffic-related impacts of the development under the Specific Plan during weekday PM and Saturday peak hours at all study intersections and during the weekday AM peak hour at select intersections. The analysis was conducted in compliance with City of Oakland and ACTC guidelines.

Traffic conditions in the study area assessed under the following six scenarios:

- ***Existing*** – Represents existing conditions with volumes obtained from recent traffic counts and the existing roadway system.
- ***Existing Plus Project Buildout*** – Existing conditions plus project-related traffic resulting from the buildout of the Broadway Valdez Development Program.
- ***2020 No Project*** – Future conditions with planned population and employment growth and planned transportation system improvements for the year 2020. This scenario assumes no traffic growth in the Specific Plan Area. Traffic projections were developed using the most recent version of the Alameda Countywide Travel Demand Model provided by the ACTC (ACTC Model).
- ***2020 Plus Project Phase 1*** – Future forecasted conditions for the year 2020. This scenario assumes completion of developments within the Specific Plan Area expected by year 2020. Traffic projections were developed using the ACTC Model.
- ***2035 No Project –*** Future conditions with planned population and employment growth and planned transportation system improvements for the year 2035. This scenario assumes no traffic growth in the Specific Plan Area. Traffic projections were developed using the ACTC Model.
- ***2035 Plus Project Buildout –*** Future forecasted conditions for the year 2035. This scenario assumes buildout of the Broadway Valdez Development Program. Traffic projections were developed using the ACTC Model.

Following the intersection analysis, the Specific Plan's potential effects on: regional roadways; construction; vehicle, pedestrian and bicycle safety; and consistency with local plans is presented. An assessment of non-CEQA issues, such as parking and transit ridership, is also provided.

Existing Plus Project Intersection Analysis

This section analyzes the transportation system with trips generated by the buildout of the Broadway Valdez Development Program added to the existing traffic volumes. This analysis presents the extent of impacts relative to existing conditions.

Traffic Volumes

Figure C-4 in Appendix G.D shows the traffic volumes under Existing Plus Project conditions. They include existing traffic volumes plus net change in traffic patterns caused by the Project. The Traffic Forecasting Methodology discussion starting on page 4.13-43 describes the process used to develop Existing Plus Project traffic volumes.

Existing Plus Project Roadway Network

As previously described, the signalization of the Grand Avenue/Brush Street intersection (Intersection #44) and improvements at Grand Avenue/San Pablo Avenue intersection (Intersection #45) are currently under design and expected to be constructed and operative in 2013. Therefore, this analysis assumes both improvements in the Existing Plus Project analysis. In addition, this analysis assumes that the improvements listed starting on page 4.13-37 would also be implemented as part of the Specific Plan. No other modifications to the roadway network, including signal timing optimization, are assumed for the Existing Plus Project analysis. Figure D-5 in Appendix G.D shows the intersection lane configurations and controls under Existing Plus Project conditions.

Existing Plus Project Intersection Operations

Intersection LOS calculations were completed with the traffic volumes and roadway network described above. In consideration of conciseness, **Table 4.13-11** shows only those eight study intersections projected to operate at an unacceptable LOS under Existing Plus Project scenario, or where the Project would cause a significant impact. Appendix G.G presents a full summary table for LOS at all 57 study intersections. Appendix G.I presents the detailed intersection LOS calculation worksheets.

As shown in Table 4.13-11, the following intersections would operate at an unacceptable LOS under Existing Plus Project conditions (all intersections, except one, are located in Downtown Oakland or provide direct access to Downtown Oakland where LOS E is the LOS standard.):

13. The signalized MacArthur Boulevard/Piedmont Avenue intersection (which is not located in Downtown Oakland and would not provide direct access to Downtown Oakland where LOS D is the LOS standard) would degrade from LOS D under Existing conditions to LOS E during the weekday PM peak hour.

TABLE 4.13-11
EXISTING PLUS PROJECT INTERSECTION LOS SUMMARY[a]

Intersection		Traffic Control[b]	Peak Hour	Existing		Existing Plus Project		Significant Impact?[e]	Existing Plus Project Mitigated		Significance After Mitigation
				Delay[c]	LOS[d]	Delay[c]	LOS[d]		Delay[c]	LOS[d]	
13*	MacArthur Boulevard/Piedmont Avenue	Signal	AM	31.1	C	40.0	D	No	41.0	D	Less Than Significant
			PM	37.4	D	**70.1**	**E**	Yes (1)	43.2	D	
			SAT	28.2	C	38	D	No	33.8	C	
15	Perry Place/I-580 Eastbound Ramps/Oakland Avenue	Signal	AM	20.1	C	20.1	C	No	20.1	C	Significant and Unavoidable
			PM	73.2	E	**120.9 (v/c=0.93)**	**F**	Yes (2)	68.0	E	
			SAT	21.1	C	45.6	D	No	45.6	D	
17	Lake Park Avenue/Lakeshore Avenue	Signal	AM	-	-	-	-		-	-	Less than Significant
			PM	55.6	E	**86.7 (v/c=0.87)**	**F**	Yes (2)	51.4	D	
			SAT	46.7	D	77.1	**F**	No	77.1	E	
35	24th Street/Telegraph Avenue	SSSC	AM	-	-	-	-		-		
			PM	1.4 (18.8)	A (C)	5.2 **(56.7)**	A (**F**)	No[f]	**5.2 (56.7)**	A (**F**)	
			SAT	1.7 (14.4)	A (B)	3.7 (29.3)	A (D)	No	3.7 (29.3)	A (D)	
36	24th Street/Broadway	SSSC/ Signal	AM	-	-	-	-		-		Less Than Significant
			PM	2.6 (31.3)	A (D)	**** (**)**	**F (F)**	Yes (6)	13.4	B	
			SAT	2.0 (19.2)	A (C)	**** (**)**	**F (F)**	No[f]	13.8	B	
38	23rd Street/Telegraph Avenue	SSSC	AM	-	-	-	-		-	-	
			PM	3.1 (34.9)	A (E)	16.9 **(170.8)**	C (**F**)	No[f]	**16.9 (170.8)**	C (**F**)	
			SAT	1.4 (20.8)	A (C)	3.5 (36.5)	A (E)	No[f]	3.5 (36.5)	A (E)	
39	23rd Street/Broadway	SSSC/ Signal	AM	-	-	-	-		-	-	Less Than Significant
			PM	**4.4 (52.9)**	A (**F**)	**** (**)**	**F (F)**	Yes (6)	12.0	B	
			SAT	1.2 (13.3)	A (B)	**** (**)**	**F (F)**	No[f]	13.4	B	

TABLE 4.13-11 (Continued)
EXISTING PLUS PROJECT INTERSECTION LOS SUMMARY[a]

	Intersection	Traffic Control[b]	Peak Hour	Existing		Existing Plus Project		Significant Impact?[e]	Existing Plus Project Mitigated		Significance After Mitigation
				Delay[c]	LOS[d]	Delay[c]	LOS[d]		Delay[c]	LOS[d]	
40	23rd Street/Harrison Street	SSSC/ Signal	AM	-	-	-	-		-	-	Conservatively Significant and Unavoidable
			PM	0.9 (11.6)	A (B)	1.3 (15.0)	A (C)	Yes (6)	5.8	A	
			SAT	0.6 (10.8)	A (B)	1.5 (14.5)	A (B)	No	4.4	A	

a See Appendix G.G for LOS summary of all study intersections.
b Signal = intersection is controlled by a traffic signal; SSSC = Intersection is controlled by a stop-sign on the side-street approach;
c For signalized intersections, average intersection delay and LOS based on the 2000 HCM method is shown. For side-street stop-controlled intersections, delays for worst movement and average intersection delay are shown: intersection average (worst movement)
d Intersections operating at unacceptable levels are shown in **bold**.
e Number in parenthesis refers to the significance criteria triggering the impact, as listed on page 4.13-45.
f The Project would not cause an impact at this unsignalized intersection because the intersection would not meet the peak-hour signal warrant, although it would operate at LOS F.
g The intersection is currently side-street stop-controlled. The intersection is expected to be signalized in 2013. Therefore, this analysis assumes that the intersections would be signalized under Existing Plus Project conditions.

* Denotes an intersection not located in Downtown or that does not provide direct access to Downtown where LOS E (not LOS D) is the threshold.
** Denotes intersections where delay cannot be calculated accurately due to high amount of delay.

SOURCE: Fehr & Peers, 2013.

15. The signalized Perry Place/I-580 Eastbound Ramps/Oakland Avenue intersection would continue to operate at LOS F during the weekday PM peak hour.

17. The signalized Lake Park Avenue/Lakeshore Avenue intersection would degrade from LOS E under Existing conditions to LOS F under Existing Plus Project conditions during the weekday PM peak hour.

35. The unsignalized 24th Street/Telegraph Avenue intersection would degrade from LOS C under Existing conditions to LOS F under Existing Plus Project conditions during the weekday PM peak hour on the eastbound side-street stop-controlled approach. This intersection would not meet the peak-hour volume signal warrant under Existing Plus Project conditions.

36. The unsignalized 24th Street/Broadway intersection would degrade from LOS D during the weekday PM peak hour and LOS C during the Saturday peak hour under Existing conditions to LOS F under Existing Plus Project conditions on the westbound side-street stop-controlled approach. This intersection would meet the peak-hour volume signal warrant under Existing Plus Project conditions.

38. The unsignalized 23rd Street/Telegraph Avenue intersection would degrade from LOS D during the weekday PM peak hour under Existing conditions to LOS F under Existing Plus Project conditions, on the eastbound side-street stop-controlled approach. This intersection would not meet the peak-hour volume signal warrant.

39. The unsignalized 23rd Street/Broadway intersection would continue to operate at LOS F during the weekday PM peak hour and degrade from LOS B under Existing conditions to LOS F under Existing Plus Project conditions during the Saturday peak hour on the eastbound side-street stop-controlled approach. This intersection would meet the peak-hour volume signal warrant under Existing Plus Project conditions.

40. The unsignalized 23rd Street/Harrison Street intersection would continue to operate at LOS C or better during the weekday PM and Saturday peak hours under Existing Plus Project conditions. However, this intersection would meet the peak-hour volume signal warrant under Existing Plus Project conditions.

Existing Plus Project Impacts and Mitigations

Impact TRANS-1: The development under the Specific Plan would degrade the *MacArthur Boulevard/Piedmont Avenue* intersection (Intersection #13) from LOS D to LOS E (Significant Threshold #1) during the weekday PM peak hour under Existing Plus Project conditions. (Significant)

The following mitigation measure is currently under design and will be implemented in 2014 as part of the mitigation measures recommended in the *Kaiser Oakland Medical Center Master Plan Draft EIR*.

Mitigation Measure TRANS-1: Implement the following measures at the MacArthur Boulevard/Piedmont Avenue intersection:

- Provide an additional through lane on the eastbound MacArthur Boulevard approach (currently temporarily closed for construction of Kaiser Hospital; expected to open in 2014 after completion of that construction).

- Modify northbound approach from the current configuration which provides one right-turn lane and one shared through/left lane to provide one right-turn lane, one through lane, and one left-turn lane.

- Upgrade intersection signal equipment, optimize signal timing at this intersection, and coordinate signal timing changes with the adjacent intersections that are in the same signal coordination group.

The project sponsor shall fund the cost of preparing and implementing these plans. However, if the City adopts a transportation impact fee program prior to implementation of this mitigation measure, the project sponsor shall have the option to pay the applicable fee in lieu of implementing this mitigation measure and payment of the fee shall mitigate the impact to less than significant.

A straight line interpolation of intersection traffic volume between Existing and Existing Plus Project conditions indicates that mitigation at this intersection may be required when about 55 percent of the Development Program is developed. Investigation of the need for this mitigation shall be studied at the time when this threshold is reached and every three years thereafter until 2035 or until the mitigation measure is implemented, whichever occurs first.

After implementation of this measure, the intersection would operate at LOS D during the weekday AM and PM peak hours and LOS C during the Saturday peak hour. No secondary impacts would result from the implementation of this measure.

Significance after Mitigation: Less than significant.

Impact TRANS-2: The development under the Specific Plan would degrade the *Perry Place/I-580 Eastbound Ramps/ Oakland Avenue* intersection (Intersection #15) from LOS E to LOS F and increase intersection average delay by four seconds or more (Significant Threshold #2) during the weekday PM peak hour under Existing Plus Project conditions. (Significant and Unavoidable)

The impact and mitigation measure at this intersection are consistent with the ones identified in the *Alta Bates Summit Medical Center Summit Campus Seismic Upgrade and Master Plan Project Draft EIR* (December 2009) and *Kaiser Center Office Project Draft EIR* (August 2010).

Mitigation Measure TRANS-2: Implement the following measures at the Perry Place / I-580 Eastbound Ramps/Oakland Avenue intersection:

- Optimize signal timing (i.e., changing the amount of green time assigned to each lane of traffic approaching the intersection) for the PM peak hour

- Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group. This intersection is under the jurisdiction of Caltrans so any equipment or facility upgrades must be approved by Caltrans prior to installation.

To implement this measure, the project sponsor shall submit the following to City of Oakland's Transportation Services Division and Caltrans for review and approval:

- Plans, Specifications, and Estimates (PS&E) to modify intersection. All elements shall be designed to City and Caltrans standards in effect at the time of construction and all new or upgraded signals should include these enhancements. All other facilities supporting vehicle travel and alternative modes through the intersection should be brought up to both City standards and Americans with Disabilities Act (ADA) standards (according to Federal and State Access Board guidelines) at the time of construction. Current City Standards call for the elements listed below:
  - 2070L Type Controller with cabinet assembly
  - GPS communications (clock)
  - Accessible pedestrian crosswalks according to Federal and State Access Board guidelines with signals (audible and tactile)
  - Countdown pedestrian head module switch out
  - City standard ADA wheelchair ramps
  - Video detection on existing (or new, if required)
  - Mast arm poles, full actuation (where applicable)
  - Polara push buttons (full actuation)
  - Bicycle detection (full actuation)
  - Pull boxes
  - Signal interconnect and communication with trenching (where applicable), or through (E) conduit (where applicable)- 600 feet maximum
  - Conduit replacement contingency
  - Fiber Switch
  - PTZ Camera (where applicable)
  - Transit Signal Priority (TSP) equipment consistent with other signals along corridor
- Signal timing plans for the signals in the coordination group.

The project sponsor shall fund the cost of preparing and implementing these plans. However, if the City adopts a transportation impact fee program prior to implementation of this mitigation measure, the project sponsor shall have the option to pay the applicable fee in lieu of implementing this mitigation measure and payment of the fee shall be considered the equivalent of implementing the mitigation measure, which would still result in significant unavoidable impacts.

A straight line interpolation of intersection traffic volume between Existing and Existing Plus Project conditions indicates that mitigation at this intersection may be required when about 15 percent of the Development Program is developed. Investigation of the need for this mitigation shall be studied at the time when this threshold is reached and every three years thereafter until 2035 or until the mitigation measure is implemented, whichever occurs first.

After implementation of this measure, the intersection would continue improve to LOS E during the weekday PM peak hour and reduce the impact to a less than significant level. It is

not certain that this mitigation measure could be implemented because the intersection is under the jurisdiction of Caltrans. City of Oakland, as lead agency, does not have jurisdiction at this intersection and the mitigation would need to be approved and implemented by Caltrans. Therefore, the impact is considered significant and unavoidable. No secondary impacts would result from implementation of this measure.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-3: The development under the Specific Plan would degrade overall intersection operations from LOS E to LOS F and increase intersection average delay by four seconds or more (Significant Threshold #2) at the *Lake Park Avenue/Lakeshore Avenue* intersection (Intersection #17) during the weekday PM peak hour under Existing Plus Project conditions. (Significant)

Mitigation Measure TRANS-3: Implement the following measures at the Lake Park Avenue/Lakeshore Avenue intersection:

- Optimize signal timing (i.e., changing the amount of green time assigned to each lane of traffic approaching the intersection).

- Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group.

To implement this measure, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- Plans, Specifications, and Estimates (PS&E) to modify intersection as detailed in Mitigation Measure TRANS-2.

- Signal timing plans for the signals in the coordination group.

The project sponsor shall fund the cost of preparing and implementing these plans. However, if the City adopts a transportation impact fee program prior to implementation of this mitigation measure, the project sponsor shall have the option to pay the applicable fee in lieu of implementing this mitigation measure and payment of the fee shall mitigate the impact to less than significant.

A straight line interpolation of intersection traffic volume between Existing and Existing Plus Project conditions indicates that mitigation at this intersection may be required when about 80 percent of the Development Program is developed. Investigation of the need for this mitigation shall be studied at the time when this threshold is reached and every three years thereafter until 2035 or until the mitigation measure is implemented, whichever occurs first.

After implementation of this measure, the intersection would improve to LOS D during the weekday PM peak hour and reduce the impact to a less than significant level. No secondary impacts would result from implementation of this measure.

Significance after Mitigation: Less than significant.

Impact TRANS-4: The development under the Specific Plan Project would add more than 10 peak-hour trips to *24th Street/Broadway* intersection (Intersection #36) which would meet peak-hour signal warrant (Significant Threshold #6) under Existing Plus Project conditions. (Significant)

Mitigation Measure TRANS-4: Implement the following measures at the 24th Street/ Broadway intersection.

- Signalize the intersection providing actuated operations, with permitted left turns on all movements,
- Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group.

To implement this measure, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- PS&E to modify intersection as detailed in Mitigation Measure TRANS-2.
- Signal timing plans for the signals in the coordination group.

The project sponsor shall fund the cost of preparing and implementing these plans. However, if the City adopts a transportation impact fee program prior to implementation of this mitigation measure, the project sponsor shall have the option to pay the applicable fee in lieu of implementing this mitigation measure and payment of the fee shall mitigate the impact to less than significant.

A straight line interpolation of intersection traffic volume between Existing and Existing Plus Project conditions indicates that mitigation at this intersection may be required when about 75 percent of the Development Program in Subdistrict 1, 2, and 3 are developed. Investigation of the need for this mitigation shall be studied at the time when this threshold is reached and every three years thereafter until 2035 or until the mitigation measure is implemented, whichever occurs first.

After implementation of this measure, the intersection would improve to LOS B during both weekday PM and Saturday peak hours. No secondary impacts would result from implementation of this measure.

Significance after Mitigation: Less than significant.

Impact TRANS-5: The development under the Specific Plan Project would add more than 10 peak-hour trips to *23rd Street/Broadway* intersection (Intersection #39) which would meet peak-hour signal warrant (Significant Threshold #6) under Existing Plus Project conditions. (Significant)

Mitigation Measure TRANS-5: Implement the following measures at the 23rd Street/ Broadway intersection.

- Signalize the intersection providing actuated operations, with permitted left turns on all movements,
- Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group.

To implement this measure, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- PS&E to modify intersection as detailed in Mitigation Measure TRANS-2.
- Signal timing plans for the signals in the coordination group.

The project sponsor shall fund the cost of preparing and implementing these plans. However, if the City adopts a transportation impact fee program prior to implementation of this mitigation measure, the project sponsor shall have the option to pay the applicable fee in lieu of implementing this mitigation measure and payment of the fee shall mitigate the impact to less than significant.

A straight line interpolation of intersection traffic volume between Existing and Existing Plus Project conditions indicates that mitigation at this intersection may be required when about 65 percent of the Development Program in Subdistrict 1, 2, and 3 are developed. Investigation of the need for this mitigation shall be studied at the time when this threshold is reached and every three years thereafter until 2035 or until the mitigation measure is implemented, whichever occurs first.

After implementation of this measure, the intersection would improve to LOS B during both weekday PM and Saturday peak hours. No secondary impacts would result from implementation of this measure.

Significance after Mitigation: Less than significant.

Impact TRANS-6: The development under the Specific Plan Project would add more than 10 peak-hour trips to *23rd Street/Harrison Street* intersection (Intersection #40) which would meet peak-hour signal warrant (Significant Threshold #6) under Existing Plus Project conditions. (Significant and Unavoidable)

Mitigation Measure TRANS-6: This impact can be mitigated to less than significant level by signalizing the intersection. Signalizing the 23rd Street/Harrison Street intersection would also improve pedestrian and bicyclist access and circulation by providing a protected crossing of Harrison Street. However, the signalization may result in secondary impacts.

This intersection is about 150 feet north of the Grand Avenue/Harrison Street intersection (Intersection #52). Considering the proximity of the two intersections, signalization of the 23rd Street/Harrison Street intersection may adversely affect traffic operations and pedestrian and bicycle circulation at the Grand Avenue/Harrison Street intersection (As shown in Table 4.13-24, Queuing Summary, later in this chapter, signalization of 23rd Street/Harrison Street intersection would result in queues on northbound Harrison Street at 23rd Street to spill back to Grand Avenue during the weekday PM peak hour).

Thus, installing a signal at this intersection may not be desirable. Depending on the specific location, type, and amount of development that would have vehicular and pedestrian access at this intersection and timing of other mitigation measures in the area (such as Mitigation Measure TRANS-5 at the 23rd Street/Broadway intersection and Mitigation Measure TRANS-10 at the 27th Street/24th Street/Bay Place/Harrison Street intersection), other improvements, such as prohibiting turns at this intersection, may mitigate the impact without degrading overall access in the area.

Specifically, to implement this measure, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- A Traffic Study Report providing detailed analysis of signalizing the intersection and potential impacts on traffic operations and pedestrian and bicycle circulation at the Grand Avenue/Harrison Street intersection. The report shall study various design options such as turn prohibitions, various signal timing and phasing, signal cycle lengths, and signal coordination to determine the feasibility of signalizing the intersection. In addition to traffic operations, the report shall also address safety, access, and circulation for motorists, bicyclists, and pedestrians under different options explored.

  If the Traffic Study Report recommends signalization of the study, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

  – PS&E to modify intersection as detailed in Mitigation Measure TRANS-2.

  – Signal timing plans for the signals in the coordination group.

  – Design plans for other intersection improvements, if recommended by the Traffic Study Report.

The project sponsor shall fund the cost of preparing and implementing these plans. However, if the City adopts a transportation impact fee program prior to implementation of this mitigation measure, the project sponsor shall have the option to pay the applicable fee in lieu of implementing this mitigation measure and payment of the fee shall be considered the equivalent of implementing the mitigation measure, which would still result in significant unavoidable impacts.

A straight line interpolation of intersection traffic volume between Existing and Existing Plus Project conditions indicates that mitigation at this intersection may be required when about 85 percent of the Development Program in Subdistrict 2 is developed. Investigation of the need for this mitigation shall be studied at the time when this threshold is reached

and every three years thereafter until 2035 or until the mitigation measure is implemented, whichever occurs first.

Depending on the specific improvements implemented under this measure, the intersection may improve to LOS A during both weekday PM and Saturday peak hours. Because the specific improvements to be implemented, according to City standards, must be finalized after a detailed intersection/signalization engineering design study is performed and a preferred, detailed design selected by the City and because the improvement may result in potential secondary impacts at Grand Avenue/Harrison Street intersection, this EIR conservatively identifies the impact as significant and unavoidable.

Significance after Mitigation: Conservatively Significant and Unavoidable

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Existing Plus Project Mitigated Conditions

Table 4.13-11 summarizes intersection operations after implementation of the recommended mitigation measures at the above-described six intersections where significant impacts would occur. Mitigation measures would reduce the impacts at four of those six intersections to a less than significant level. However, the impact at two of the intersections would remain significant and unavoidable.

As previously stated, the Specific Plan would include implementation of a robust TDM program as well as other policies and strategies that encourage walking, biking and transit. These policies and strategies are intended to reduce the Project vehicle trip generation, which would either eliminate or reduce the magnitude of the impacts described above. The effectiveness of these policies and strategies on reducing the Project vehicle trip generation cannot be accurately estimated at this time. Therefore, this EIR conservatively does not account for them in estimating Project trip generation and does not rely on them to mitigate or reduce the magnitude of the identified impacts.

2020 Plus Project Phase 1 Intersection Analysis

This section addresses the intersection impacts that would occur in 2020 with the anticipated buildout of the Broadway Valdez Development Program in 2020 (referred to as “Phase 1”). As summarized in Table 4.13-7, by 2020, the Broadway Valdez Development Program is expected to consist of about 990 residential units, 600,000 square feet of retail, and 540,000 square feet of office. Items discussed in this section include the development of traffic volume forecasts for the 2020 No Project and 2020 Plus Project Phase 1 scenarios, intersection operations results, and Project impacts and mitigations at intersections.

2020 Intersection Traffic Forecasts

Figure D-6 and D-8 in Appendix G.D shows intersection traffic volumes under 2020 No Project and 2020 Plus Project Phase 1 scenarios, respectively. The Traffic Forecasting Methodology discussion starting on page 4.13-43 describes the process used to develop traffic volumes under 2020 No Project and 2020 Plus Project Phase 1 conditions.

2020 Roadway Network

As previously described starting on page 4.13-24, this analysis assumes the following roadway modifications for the 2020 No Project conditions:

- Installation of Class 2 bicycle lanes on Broadway between 38th Street and SR 24 which would eliminate of one southbound through lane on Broadway at the College Avenue/ Broadway (Intersection #4) and 40th Street/Broadway (Intersection #9) intersections.
- Reconfiguration and optimization of signal timing parameters at the West MacArthur Boulevard/ Broadway intersection (Intersection #12)
- Reconfiguration and optimization of signal timing parameters at the MacArthur Boulevard/ Piedmont Avenue intersection (Intersection #13)
- Signalization and reconfiguration of the Grand Avenue/Brush Street intersection (Intersection #44)
- Reconfiguration and optimization of signal timing parameters at the Grand Avenue/San Pablo Avenue intersection (Intersection #45)

Figure D-7 in Appendix G.D shows the intersection lane configurations and controls under 2020 No Project conditions.

In addition to the roadway modifications listed above, the improvements listed starting on page 4.13-37 would also be implemented as part of the Specific Plan and are assumed for the 2020 Plus Project Phase 1 conditions. No other modifications to the roadway network are assumed for the 2020 No Project or 2020 Plus Project Phase 1 analyses.

This analysis assumes that signal timing parameters that do not require upgrades to the signal equipment, such as amount of green time assigned to each intersection approach, would be optimized at the signalized study intersections under 2020 No Project and 2020 Plus Project Phase 1 conditions. This assumption reflects current City of Oakland practice that incorporates basic signal timing changes into routine maintenance of the traffic signal system. It is expected that retiming of signals in areas with the greatest need (e.g., major streets, areas with rapidly shifting traffic patterns) would be prioritized as part of the regular ongoing maintenance of signal equipment.

2020 Intersection Operations

Intersection LOS calculations for 2020 No Project and 2020 Plus Project Phase 1 scenarios were completed with the traffic volumes and roadway network described above. **Table 4.13-12** summarizes the results for study intersections projected to operate at an unacceptable LOS under 2020 No Project or 2020 Plus Project Phase 1 scenarios, or where the Project Phase 1 would cause a significant impact. Appendix G.G presents a full summary table for LOS at all 57 study intersections. Appendix G.J and Appendix G.K present the detailed intersection LOS calculation worksheets under 2020 No Project conditions and 2020 Plus Project Phase 1 conditions, respectively.

TABLE 4.13-12
2020 CONDITIONS INTERSECTION LOS SUMMARY[a]

	Intersection	Traffic Control[b]	Peak Hour	2020 No Project		2020 Plus Project		Significant Impact?[e]	2020 Plus Project Mitigated		Significance After Mitigation
				Delay[c]	LOS[d]	Delay[c]	LOS[d]		Delay[c]	LOS[d]	
15	Perry Place/I-580 Eastbound Ramps/Oakland Avenue	Signal	AM	21.4	C	21.5	C	No	21.5	C	Significant and Unavoidable
			PM	65.5	E	**86.7 (v/c=0.98)**	**F**	Yes (2)	**86.7 (v/c=0.98)**	**F**	
			SAT	24.4	C	43.2	D	No	43.2	D	
17	Lake Park Avenue/Lakeshore Avenue	Signal	AM	-	-	-	-		-	-	Significant and Unavoidable
			PM	**80.3 (v/c=1.06)**	**F**	**115.2 (v/c=1.15)**	**F**	Yes (5)	**115.2 (v/c=1.15)**	**F**	
			SAT	54.1	D	**65.3**	E	No	65.3	E	
35	24th Street/Telegraph Avenue	SSSC	AM	-	-	-	-		-	-	
			PM	2.1 (30.3)	A (D)	12.3 **(151.9)**	B (**F**)	No[f]	**12.3 (151.9)**	B (**F**)	
			SAT	2.1 (19.0)	A (C)	4.1 (36.9)	A (E)	No[f]	4.1 (36.9)	A (E)	
36	24th Street/Broadway	SSSC/ Signal	AM	-	-	-	-		-	-	Less Than Significant
			PM	4.4 **(50.8)**	A (**F**)	**** (**)**	**F (F)**	Yes (6)	12.2	B	
			SAT	2.6 (26.3)	A (D)	**** (**)**	**F (F)**	No[f]	10.4	B	
37	27th Street/24th Street/Bay Place/Harrison Street	Signal	AM	**90.8 (v/c=0.91)**	**F**	**108.0 (v/c=1.00)**	**F**	Yes (5)	59.4	E	Significant and Unavoidable
			PM	**141.4 (v/c=1.13)**	**F**	**202.8 (v/c=1.38)**	**F**	Yes (5)	**115.1 (v/c=1.02)**	**F**	
			SAT	58.3	E	77.9	E	No	41.2	D	
38	23rd Street/Telegraph Avenue	SSSC	AM	-	-	-	-		-	-	
			PM	6.6 **(87.9)**	A (**F**)	**80.8 (**)**	**F (F)**	No[f]	**80.8 (**)**	**F (F)**	
			SAT	2.4 (33.2)	A (D)	5.0 **(58.7)**	A (**F**)	No[f]	5**.0 (58.7)**	A (**F**)	
39	23rd Street/Broadway	SSSC/ Signal	AM	-	-	-	-		-	-	Less Than Significant
			PM	**8.7 (109.2)**	A (**F**)	**** (**)**	**F (F)**	Yes (6)	11.0	B	
			SAT	1.7 (16.8)	A (C)	**112.3 (**)**	**F (F)**	No[f]	12.8	B	
40	23rd Street/Harrison Street	SSSC/ Signal	AM	-	-	-	-		-	-	Conservatively Significant and Unavoidable
			PM	0.7 (11.9)	A (B)	1.2 (15.7)	A (C)	Yes (6)	7.3	A	
			SAT	0.6 (12.5)	A (B)	1.4 (16.7)	A (C)	No[f]	4.3	A	

TABLE 4.13-12 (Continued)
2020 CONDITIONS INTERSECTION LOS SUMMARY[a]

	Intersection	Traffic Control[b]	Peak Hour	2020 No Project		2020 Plus Project		Significant Impact?[e]	2020 Plus Project Mitigated		Significance After Mitigation
				Delay[c]	LOS[d]	Delay[c]	LOS[d]		Delay[c]	LOS[d]	
47	West Grand Avenue/Northgate Avenue	Signal	AM	-	-	-	-	Yes (5)	-	-	Significant and Unavoidable
			PM	**86.8 (v/c=0.91)**	**F**	**119.3 (v/c=1.00)**	**F**		**119.3 (v/c=1.00)**	**F**	
			SAT	17.4	B	17.5	B	No	17.5	B	

a See Appendix G.G for LOS summary of all study intersections.
b Signal = intersection is controlled by a traffic signal; SSSC = Intersection is controlled by a stop-sign on the side-street approach;
c For signalized intersections, average intersection delay and LOS based on the 2000 HCM method is shown. For side-street stop-controlled intersections, delays for worst movement and average intersection delay are shown: intersection average (worst movement)
d Intersections operating at unacceptable levels are shown in **bold**. All intersection summarized in the table located in Downtown or provide direct access to Downtown where LOS E (not LOS D) is the threshold.
e Number in parenthesis refers to the significance criteria triggering the impact, as listed on page 4.13-45.
f The Project would not cause an impact at this unsignalized intersection because the intersection would not meet the peak-hour signal warrant, although it would operate at LOS F.
** Denotes intersections where delay cannot be calculated accurately due to high amount of delay.

SOURCE: Fehr & Peers, 2013.

The following nine intersections, which are all located in Downtown Oakland or provide direct access to Downtown Oakland where LOS E is the LOS standard, are projected to operate at a deficient level in 2020 with or without the development under the Specific Plan:

15. The signalized Perry Place/I-580 Eastbound Ramps/Oakland Avenue intersection would degrade from LOS E under 2020 No Project conditions to LOS F under 2020 Plus Project conditions during the weekday PM peak hour in 2020 regardless of the Project.

17. The signalized Lake Park Avenue/Lakeshore Avenue intersection would operate at LOS F during the weekday PM in 2020 regardless of the Project.

35. The unsignalized 24th Street/Telegraph Avenue intersection would degrade from LOS D under 2020 No Project conditions to LOS F under 2020 Plus Project conditions during the weekday PM peak. This intersection would not meet the peak-hour volume signal warrant under the 2020 scenarios.

36. The unsignalized 24th Street/Broadway intersection would operate at LOS F during the weekday PM peak hour in 2020 regardless of the Project and degrade from LOS D to LOS F during the Saturday peak hour on the westbound side-street stop-controlled approach. This intersection would meet the peak-hour volume signal warrant under 2020 Plus Project conditions.

37. The signalized 27th Street/24th Street/Bay Place/Harrison Street intersection would operate at LOS F during the weekday AM and PM peak hours in 2020 regardless of the Project.

38. The unsignalized 23rd Street/Telegraph Avenue intersection would operate at LOS F during the weekday PM peak hour in 2020 regardless of the Project and degrade from LOS D to LOS F during the Saturday peak hour on the eastbound side-street stop-controlled approach. This intersection would not meet the peak-hour volume signal warrant under the 2020 scenarios.

39. The unsignalized 23rd Street/Broadway intersection would operate at LOS F during the weekday PM peak hour in 2020 regardless of the Project and degrade from LOS C to LOS F during the Saturday peak hour on the eastbound side-street stop-controlled approach. This intersection would meet the peak-hour volume signal warrant under 2020 Plus Project conditions.

40. The unsignalized 23rd Street/Harrison Street intersection would continue to operate at LOS C or better during the weekday PM and Saturday peak hours under 2020 Plus Project conditions. However, this intersection would meet the peak-hour volume signal warrant under Existing Plus Project conditions.

47. The signalized West Grand Avenue/Northgate Avenue intersection would operate at LOS F during the PM peak hour in 2020 regardless of the Project.

2020 Plus Project Impacts and Mitigations

Impact TRANS-7: The development under the Specific Plan would degrade the intersection from LOS E to LOS F and increase intersection average delay by four seconds or more (Significant Threshold #2) at the *Perry Place/I-580 Eastbound Ramps/ Oakland Avenue* intersection (Intersection #15) which would operate at LOS F during the weekday PM peak hour under 2020 conditions. (Significant and Unavoidable)

Mitigation Measure TRANS-7: No feasible mitigation measures are available that would mitigate the Project impacts at the Perry Place/I-580 Eastbound Ramps/Oakland Avenue (Intersection #15) intersection. Traffic operations at the intersection can be improved by providing additional automobile travel lanes, such as a third lane on the Eastbound I-580 Off-Ramp, a third through lane on northbound Oakland Avenue, or a second lane on the Eastbound I-580 On-Ramp and conversion of the existing northbound through lane to a shared through/right-turn lane. However, these modifications cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way, and/or loss of bicycle lanes, and are considered to be infeasible. Therefore, the impact is considered significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-8: The development under the Specific Plan would increase the total intersection v/c ratio by 0.03 or more and increase the v/c ratio for a critical movement by 0.05 or more (Significant Threshold #5) during the weekday PM peak hour which would operate at LOS F under 2020 conditions at the *Lake Park Avenue/Lakeshore Avenue* intersection (Intersection #17). (Significant and Unavoidable)

Mitigation Measure TRANS-8: No feasible mitigation measures are available that would mitigate the Project impacts at the Lake Park Avenue/Lakeshore Avenue (Intersection #17) intersection. Traffic operations at the intersection can be improved by providing additional automobile travel lanes, such as a third lane on eastbound Lake Park Avenue, or a third left-turn lane on northbound Lakeshore Avenue. However, these modifications cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way, and/or loss of medians and/or on-street parking, and are considered to be infeasible. Therefore, the impact is considered significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-9: The development under the Specific Plan Project would add more than 10 peak-hour trips to *24th Street/Broadway* intersection (Intersection #36) which would meet peak-hour signal warrant (Significant Threshold #6) under 2020 Plus Project conditions. (Significant)

Mitigation Measure TRANS-9: Implement Mitigation Measure TRANS-4.

After implementation of this measure, the intersection would improve to LOS B during both weekday PM and Saturday peak hours. No secondary impacts would result from implementation of this measure.

Significance after Mitigation: Less than significant.

Impact TRANS-10: The development under the Specific Plan would increase the total intersection v/c ratio by 0.03 or more and increase the v/c ratio for a critical movement by 0.05 or more (Significant Threshold #5) at an intersection operating at LOS F during the weekday AM and PM peak hours at the *27th Street/24th Street/Bay Place/Harrison Street* intersection (Intersection #37) under 2020 conditions. (Significant and Unavoidable)

This mitigation measure is consistent with the recommendations of the Harrison Street/ Oakland Avenue Community-Based Transportation Plan (CBTP) completed in 2010 (see page 4.13-27 for more detail).

Mitigation Measure TRANS-10: Implement the following measures at the 27th Street/24th Street/Bay Place/Harrison Street intersection:

- Reconfigure the 24th Street approach at the intersection to restrict access to 24th Street to right turns only from 27th Street and create a pedestrian plaza at the intersection approach.
- Convert 24th Street between Valdez and Harrison Streets to two-way circulation and allow right turns from 24th Street to southbound Harrison Street south of the intersection, which would require acquisition of private property in the southwest corner of the intersection.
- Modify eastbound 27th Street approach from the current configuration (one right-turn lane, two through lanes, and one left-turn lane) to provide one right-turn lane, one through lane, and two left-turn lanes.
- Realign pedestrian crosswalks to shorten pedestrian crossing distances.
- Reduce signal cycle length from 160 to 120 seconds, and optimize signal timing (i.e., changing the amount of green time assigned to each lane of traffic approaching the intersection).
- Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group.

To implement this measure, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- PS&E to modify intersection as detailed in Mitigation Measure TRANS-2.
- Signal timing plans for the signals in the coordination group.

The project sponsor shall fund the cost of preparing and implementing these plans. However, if the City adopts a transportation impact fee program prior to implementation of this mitigation measure, the project sponsor shall have the option to pay the applicable fee in lieu of implementing this mitigation measure and payment of the fee shall be considered the equivalent of implementing the mitigation measure, which would still result in significant unavoidable impacts.

A straight line interpolation of intersection traffic volume between Existing and 2020 Plus Project conditions indicates that mitigation at this intersection may be required by 2017. Investigation of the need for this mitigation shall be studied at that time and every three years thereafter until 2035 or until the mitigation measure is implemented, whichever occurs first.

After implementation of this measure, the intersection would improve to LOS E during the weekday AM peak hour and LOS D during the Saturday peak hour and continue to operate at LOS F during the weekday PM peak hour. Although the mitigation measure would reduce the total intersection v/c ratio during the weekday PM peak hour, it would not reduce the v/c ratio for critical movements to 0.05 or less. Therefore, the impact would remain significant and unavoidable.

No other feasible mitigation measures are available that would mitigate the Project impacts at the 27th Street/24th Street/Bay Place/Harrison Street (Intersection #37) intersection. Traffic operations at the intersection can be further improved by providing additional automobile travel lanes, such as a third lane on northbound or southbound Harrison Street, or a second through lane on eastbound 27th Street. However, these modifications cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way, and/or loss of existing bicycle lanes, medians and/or on-street parking, and are considered to be infeasible. Therefore, the impact is considered significant and unavoidable.

This mitigation measure would also reduce pedestrian delays at the intersection and improve pedestrian safety by realigning the crosswalks at the intersection and reducing pedestrian crossing distances. No other secondary impacts would result from implementation of this measure.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-11: The development under the Specific Plan Project would add more than 10 peak-hour trips to *23rd Street/Broadway* intersection (Intersection #39) which would meet peak-hour signal warrant (Significant Threshold #6) under 2020 Plus Project conditions. (Significant)

Mitigation Measure TRANS-11: Implement Mitigation Measure TRANS-5.

After implementation of this measure, the intersection would improve to LOS B during both weekday PM and Saturday peak hours. No secondary impacts would result from implementation of this measure.

Significance after Mitigation: Less than significant.

Impact TRANS-12: The development under the Specific Plan Project would add more than 10 peak-hour trips to *23rd Street/Harrison Street* intersection (Intersection #40) which would meet peak-hour signal warrant (Significant Threshold #6) under 2020 Plus Project conditions. (Significant and Unavoidable)

Mitigation Measure TRANS-12: Implement Mitigation Measure TRANS-6.

After implementation of this measure, the intersection would improve to LOS B during the weekday PM peak hour and LOS A during the Saturday peak hour. This intersection is about 150 feet north of the Grand Avenue/Harrison Street intersection (Intersection #52). Considering the proximity of the two intersections, signalization of the 23rd Street/Harrison Street intersection may adversely affect traffic operations at the Grand Avenue/Harrison Street intersection. Because the improvement may result in potential secondary impacts, this EIR conservatively identifies the impact as significant and unavoidable.

Significance after Mitigation: Conservatively Significant and Unavoidable

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Impact TRANS-13: The development under the Specific Plan would increase the v/c ratio for the total intersection by 0.03 or more and increase the v/c ratio for a critical movement by 0.05 or more (Significant Threshold #5) at the *West Grand Avenue/Northgate Avenue* intersection (Intersection #47) which would operate at LOS F during the PM peak hour in 2020. (Significant and Unavoidable)

Mitigation Measure TRANS-13: No feasible mitigation measures are available that would mitigate the Project impacts at the West Grand Avenue/Northgate Avenue intersection (Intersection #47). Traffic operations at the intersection can be improved by providing additional automobile travel lanes, such as a third through lane on westbound Grand Avenue or a second left-turn lane on eastbound Grand Avenue. However, these modifications cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way, and/or loss of medians, bicycle lanes, and/or on-street parking, and are considered to be infeasible. Therefore, the impact is considered significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

2020 Plus Project Mitigated Conditions

Table 4.13-12 summarizes intersection operations after implementation of the mitigation measures described above. Mitigation measures would reduce two of the seven identified significant impacts to less than significant levels.

2035 Intersection Impacts

This section addresses the intersection impacts that would occur in 2035 with the full buildout of the Broadway Valdez Development Program in 2035. As summarized in Table 4.13-7, the Broadway Valdez Development Program would consist of a net increase of about 1,800 residential units, 1,114,000 square feet of retail, 695,000 square feet of office, and a 180-room hotel in the Plan Area. Items addressed in this section include the development of traffic volume forecasts for the 2035 No Project and 2035 Plus Project scenarios, intersection operations results, and project impacts and mitigations at intersections.

2035 Intersection Traffic Forecasts

Figure D-9 and D-10 in Appendix G.D shows intersection traffic volumes under 2035 No Project and 2035 Plus Project scenarios, respectively. The Traffic Forecasting Methodology discussion starting on page 4.13-43 describes the process used to develop traffic volumes under 2035 No Project and 2035 Plus Project conditions.

2035 Roadway Network

Similar to the 2020 analysis and as previously described starting on page 4.13-24, this analysis assumes the following roadway modifications for the 2035 No Project conditions:

- Installation of Class 2 bicycle lanes on Broadway between 38th Street and SR 24, which would eliminate one southbound through lane on Broadway at the College Avenue/ Broadway (Intersection #4) and 40th Street/Broadway (Intersection #9) intersections.
- Reconfiguration and optimization of signal timing parameters at the West MacArthur Boulevard/Broadway intersection (Intersection #12)
- Reconfiguration and optimization of signal timing parameters at the MacArthur Boulevard/ Piedmont Avenue intersection (Intersection #13)
- Signalization and reconfiguration of the Grand Avenue/Brush Street intersection (Intersection #44)
- Reconfiguration and optimization of signal timing parameters at the Grand Avenue/San Pablo Avenue intersection (Intersection #45)

In addition to the roadway modifications listed above, the improvements listed starting on page 4.13-37 would also be implemented as part of the Specific Plan and are assumed for the 2035 Plus Project conditions. No other modifications to the roadway network are assumed for the 2035 No Project or 2035 Plus Project analyses.

This analysis assumes that signal timing parameters that do not require upgrades to the signal equipment, such as amount of green time assigned to each intersection approach, would be optimized at the signalized study intersections under 2035 No Project and 2035 Plus Project conditions. This assumption reflects current City of Oakland practice that incorporates basic signal timing changes into routine maintenance of the traffic signal system. It is expected that retiming of

signals in areas with the greatest need (e.g., major streets, areas with rapidly shifting traffic patterns) would be prioritized as part of the regular ongoing maintenance of signal equipment.

2035 Intersection Operations

Intersection LOS calculations for 2035 No Project and 2035 Plus Project scenarios were completed with the traffic volumes and roadway network described above. **Table 4.13-13** summarizes the results for study intersections projected to operate at an unacceptable LOS under 2035 No Project or 2035 Plus Project scenarios, or where the Project would cause a significant impact. Appendix G.G presents a full summary table for LOS at all 57 study intersections. Appendix G.L and Appendix G.M present the detailed intersection LOS calculation worksheets under 2035 No Project conditions and 2035 Plus Project conditions, respectively.

The following 19 intersections, which are all, except one, located in Downtown Oakland or provide direct access to Downtown Oakland where LOS E is the LOS standard, are projected to operate at a deficient level in 2035 with or without the development under the Specific Plan:

7. The signalized 51st Street/Pleasant Valley Avenue/Broadway intersection would operate at LOS F during the weekday PM and Saturday peak hours in 2035 regardless of the Project.

8. The signalized 40th Street/Telegraph Avenue intersection would operate at LOS F during the weekday PM peak hour, in 2035 regardless of the Project.

11. The signalized West MacArthur Boulevard/Telegraph Avenue intersection would operate at LOS F during the weekday PM peak hour in 2035 regardless of the Project.

15. The signalized Perry Place/I-580 Eastbound Ramps/Oakland Avenue intersection would operate at LOS F during the weekday PM peak hour in 2035 regardless of the Project.

16. The signalized Grand Avenue/Lake Park Avenue/Santa Clara Avenue intersection would operate at LOS F during the Saturday peak hour in 2035 regardless of the Project.

17. The signalized Lake Park Avenue/Lakeshore Avenue intersection would operate at LOS F during the weekday PM and Saturday peak hours in 2035 regardless of the Project.

20/21. The signalized Piedmont Avenue/Broadway and Hawthorne Avenue/Brook Avenue/Broadway intersections (which operate as one signal) would operate at LOS D under 2035 No Project conditions and LOS F under 2035 Plus Project conditions during the weekday PM peak hour.

29. The signalized 27th Street/Telegraph Avenue intersection would operate at LOS F during the weekday PM peak hour in 2035 regardless of the Project.

30. The signalized 27th Street/Broadway intersection would operate at LOS D under 2035 No Project conditions, and at LOS F under 2035 Plus Project conditions during the weekday PM peak hour.

TABLE 4.13-13
2035 CONDITIONS INTERSECTION LOS SUMMARY[a]

	Intersection	Traffic Control[b]	Peak Hour	2035 No Project		2035 Plus Project		Significant Impact?[e]	2035 Plus Project Mitigated		Significance After Mitigation
				Delay[c]	LOS[d]	Delay[c]	LOS[d]		Delay[c]	LOS[d]	
7	51st Street/Pleasant Valley Avenue/ Broadway	Signal	AM	47.8	D	51.2	D	No	44.4	D	Significant and Unavoidable
			PM	**105.5 (v/c=1.12)**	**F**	**118.5 (v/c=1.14)**	**F**	Yes (5)	**125.7 (v/c=1.17)**	**F**	
			SAT	**99.9 (v/c=1.11)**	**F**	**108.3 (v/c=1.14)**	**F**	Yes (5)	**85.6 (v/c=1.10)**	**F**	
8	40th Street/Telegraph Avenue	Signal	AM	-	**-**	-	**-**		-	-	Less Than Significant
			PM	**123.0 (v/c=1.75)**	**F**	**135.0 (v/c=1.80)**	**F**	Yes (5)	**147.2 (v/c=1.29)**	**F**	
			SAT	55.0	D	56.3	E	Yes (4)	51.2	D	
11	West MacArthur Boulevard/Telegraph Avenue	Signal	AM	-	-	-	-		-	-	Less Than Significant
			PM	**80.7 (v/c=1.82)**	**F**	**126.5 (v/c=2.23)**	**F**	Yes (5)	**85.7 (v/c=1.06)**	**F**	
			SAT	17.1	B	39.7	D	No	35.7	D	
15	Perry Place/I-580 Eastbound Ramps/Oakland Avenue	Signal	AM	24.9	C	25.3	C	No	25.3	C	Significant and Unavoidable
			PM	**95.5 (v/c=1.02)**	**F**	**127.0 (v/c=1.12)**	**F**	Yes (5)	**127.0 (v/c=1.12)**	**F**	
			SAT	32.3	C	68.6	E	No	68.6	E	
16	Grand Avenue/Lake Park Avenue/Santa Clara Avenue	Signal	AM	-	-	-	-		-	-	Significant and Unavoidable
			PM	65.1	E	73.8	E	No	73.8	E	
			SAT	**90.8 (v/c=1.21)**	**F**	**98.0 (v/c=1.25)**	**F**	Yes (5)	**98.0 (v/c=1.25)**	**F**	
17	Lake Park Avenue/Lakeshore Avenue	Signal	AM	-	-	-	-		-	-	Significant and Unavoidable
			PM	**216.3 (v/c=1.50)**	**F**	**256.0 (v/c=1.63)**	**F**	Yes (5)	**256.0 (v/c=1.63)**	**F**	
			SAT	**96.6 (v/c=1.13)**	**F**	**141.3 (v/c=1.32)**	**F**	Yes (5)	**141.3 (v/c=1.32)**	**F**	
20 & 21	Piedmont Avenue/Broadway & Hawthorne Avenue/Brook Street/Broadway	Signal	AM	18.7	B	24.8	C	No	24.8	C	Significant and Unavoidable
			PM	52.0	D	**88.3 (v/c=1.32)**	**F**	Yes (3,4)	**88.1 (v/c=1.32)**	**F**	
			SAT	16.5	B	30.4	C	No	30.6	C	

TABLE 4.13-13 (Continued)
2035 CONDITIONS INTERSECTION LOS SUMMARY[a]

Intersection		Traffic Control[b]	Peak Hour	2035 No Project		2035 Plus Project		Significant Impact?[e]	2035 Plus Project Mitigated		Significance After Mitigation
				Delay[c]	LOS[d]	Delay[c]	LOS[d]		Delay[c]	LOS[d]	
29	27th Street/Telegraph Avenue	Signal	AM	27.1	C	29.3	C	No	40.7	D	Significant and Unavoidable
			PM	**103.7 (v/c=1.77)**	**F**	**142.6 (v/c=2.04)**	**F**	Yes (5)	**105.5 (v/c=1.21)**	**F**	
			SAT	23.1	C	41.7	D	No	36.2	D	
30	27th Street/Broadway	Signal	AM	-	-	-	-		-	-	Significant and Unavoidable
			PM	53.9	D	**172.8 (v/c=2.58)**	**F**	Yes (3,4)	**150.9 (v/c=1.77)**	**F**	
			SAT	19.9	B	40.7	D	No	35.3	D	
31*	26th Street/27th Street/Valdez Street	Signal	AM	-	-	-	-		-	-	
			PM	**141.2 (v/c=0.68)**	**F**	19.6	B	No	33.0	C	
			SAT	15.1	B	13.0	B	No	14.3	B	
35	24th Street/Telegraph Avenue	SSSC	AM	-	-	-	-				
			PM	**2.9 (57.5)**	A (**F**)	**34.7 (**)**	D **(F)**	No [f]	34.7 (******)	D (**F**)	
			SAT	2.7 (26.4)	A (D)	**17.0 (175.5)**	C (**F**)	No [f]	17.0 **(175.5)**	C (**F**)	
36	24th Street/Broadway	SSSC /Signal	AM	-	-	-	-		-	-	Less Than Significant
			PM	**6.2 (85.2)**	A (**F**)	**** (**)**	**F (F)**	Yes (6)	19.1	B	
			SAT	**3.8 (45.0)**	A (E)	**** (**)**	**F (F)**	Yes (6)	14.1	B	
37	27th Street/24th Street/Bay Place/Harrison Street	Signal	AM	**164.6 (v/c=1.22)**	**F**	**213.0 (v/c=1.38)**	**F**	Yes (5)	**92.1 (v/c=1.04)**	**F**	Significant and Unavoidable
			PM	**299.3 (v/c=1.69)**	**F**	**402.8 (v/c=2.01)**	**F**	Yes (5)	**189.3 (v/c=1.39)**	**F**	
			SAT	68.2	E	**127.9 (v/c=1.08)**	**F**	Yes (3,4)	51.3	D	
38	23rd Street/Telegraph Avenue	SSSC	AM	-	-	-	-		-	-	
			PM	**44.5 (**)**	E **(F)**	**** (**)**	**F (F)**	No [f]	**** (**)**	**F (F)**	
			SAT	**3.0 (51.7)**	A (**F**)	18.6 **(**)**	C **(F)**	No [f]	18.6 **(**)**	C **(F)**	
39	23rd Street/Broadway	SSSC /Signal	AM	-	-	-	-		-	-	Less Than Significant
			PM	**26.2 (414.0)**	D (**F**)	**** (**)**	**F (F)**	Yes (6)	16.2	B	
			SAT	1.9 (20.3)	A (C)	**** (**)**	**F (F)**	Yes (6)	15.3	B	
40	23rd Street/Harrison Street	SSSC /Signal	AM	-	-	-	-		-	-	Conservatively Significant and Unavoidable
			PM	1.3 (28.4)	A (D)	**6.4 (125.0)**	A (**F**)	Yes (6)	10.9	B	
			SAT	0.8 (14.9)	A (C)	2.2 (27.5)	A (D)	Yes (6)	5.4	A	

TABLE 4.13-13 (Continued)
2035 CONDITIONS INTERSECTION LOS SUMMARY[a]

	Intersection	Traffic Control[b]	Peak Hour	2035 No Project		2035 Plus Project		Significant Impact?[e]	2035 Plus Project Mitigated		Significance After Mitigation
				Delay[c]	LOS[d]	Delay[c]	LOS[d]		Delay[c]	LOS[d]	
47	West Grand Avenue/Northgate Avenue	Signal	AM	-	-	-	-		-	-	Significant and Unavoidable
			PM	**170.9 (v/c=1.16)**	**F**	**198.2 (v/c=1.24)**	**F**	Yes (5)	**198.2 (v/c=1.24)**	**F**	
			SAT	17.6	B	19.0	B	No	19.0	B	
49	Grand Avenue/Broadway	Signal	AM	49.4	D	61.6	E	No	75.6	E	Significant and Unavoidable
			PM	52.0	D	**98.9 (v/c=1.74)**	**F**	Yes (2,4)	**84.8 (v/c=1.53)**	**F**	
			SAT	17.4	B	21.3	C	No	21.3	C	
57	5th Street/I-880 Southbound On-Ramp/Broadway	Signal	AM	-	-	-	-		-	-	
			PM	**92.4 (v/c=1.19)**	**F**	**92.3 (v/c=1.20)**	**F**	No	**92.3 (v/c=1.20)**	**F**	
			SAT	43.4	D	45.1	D	No	45.1	D	

[a] See Appendix G.G for LOS summary of all study intersections.
[b] Signal = intersection is controlled by a traffic signal; SSSC = Intersection is controlled by a stop-sign on the side-street approach;
[c] For signalized intersections, average intersection delay and LOS based on the 2000 HCM method is shown. For side-street stop-controlled intersections, delays for worst movement and average intersection delay are shown: intersection average (worst movement)
[d] Intersections operating at unacceptable levels are shown in **bold**.
[e] Number in parenthesis refers to the significance criteria triggering the impact, as listed on page 4.13-45.
[f] The Project would not cause an impact at this unsignalized intersection because the intersection would not meet the peak-hour signal warrant, although it would operate at LOS F.

* Denotes an intersection not located in Downtown or that does not provide direct access to Downtown where LOS E (not LOS D) is the threshold.
** Denotes intersections where delay cannot be calculated accurately due to high amount of delay.

SOURCE: Fehr & Peers, 2013.

31. The signalized 26th Street/27th Street/Valdez Street intersection (which is not located in Downtown Oakland and would not provide direct access to Downtown Oakland where LOS D is the LOS standard) would operate at LOS F during the 2035 No Project conditions. The intersection would improve to LOS C under 2035 Plus Project conditions.

35. The unsignalized 24th Street/Telegraph Avenue intersection would operate at LOS F during the weekday PM peak hour under 2035 No Project and 2035 Plus Project conditions and degrade from LOS D under 2035 No Project conditions to LOS F under 2035 Plus Project conditions during the Saturday peak hour on the eastbound side-street stop-controlled approach. This intersection would not meet the peak-hour volume signal warrant under the 2035 scenarios.

36. The unsignalized 24th Street/Broadway intersection would operate at LOS F during the weekday PM regardless of the Project and degrade from LOS E under 2035 No Project conditions to LOS F under 2035 Plus Project conditions during the Saturday peak hour on the westbound side-street stop-controlled approach. This intersection would meet the peak-hour volume signal warrant under 2035 Plus Project conditions.

37. The signalized 27th Street/24th Street/Bay Place/Harrison Street intersection would operate at LOS F during the weekday AM and PM peak hours in 2035 regardless of the Project and operate at LOS E under 2035 No Project conditions and LOS F under 2035 Plus Project conditions during the Saturday peak hour.

38. The unsignalized 23rd Street/Telegraph Avenue intersection would operate at LOS F during the weekday PM and Saturday peak hours in 2035 regardless of the Project on the eastbound side-street stop-controlled approach. This intersection would not meet the peak-hour volume signal warrant under 2035 scenarios.

39. The unsignalized 23rd Street/Broadway intersection would operate at LOS F during the weekday PM peak hour in 2035 regardless of the Project and degrade from LOS C to LOS F during the Saturday peak hour on the eastbound side-street stop-controlled approach. This intersection would meet the peak-hour volume signal warrant under 2035 Plus Project conditions.

40. The unsignalized 23rd Street/Harrison Street intersection would degrade from LOS D to LOS F during the weekday PM peak hour on the eastbound side-street stop-controlled approach. This intersection would meet the peak-hour volume signal warrant under 2035 Plus Project conditions.

47. The signalized West Grand Avenue/Northgate Avenue intersection would operate at LOS F during the weekday PM peak hour in 2035 regardless of the Project.

49. The signalized Grand Avenue/Broadway intersection would operate at LOS D under 2035 No Project conditions and LOS F under 2035 Plus Project conditions during the weekday PM peak hour.

57. The signalized 5th Street/I-880 Southbound On-Ramp/Broadway intersection would operate at LOS F during the weekday AM and PM peak hours in 2035 regardless of the Project.

2035 Plus Project Impacts and Mitigations

Impact TRANS-14: The development under the Specific Plan would increase the v/c ratio for a critical movement by 0.05 or more (Significant Threshold #5) during the weekday PM and Saturday peak hours at the *51st Street/Pleasant Valley Avenue/Broadway* intersection (Intersection #7) under 2035 conditions. (Significant and Unavoidable)

This mitigation measure is consistent with the modifications proposed at this intersection as part of the Safeway Redevelopment Project and documented in the *Safeway Redevelopment Project Broadway at Pleasant Valley Avenue Draft EIR* (January 2013).

Mitigation Measure TRANS-14: Implement the following measures at the 51st Street / Pleasanton Valley Avenue/Broadway intersection:

- Modify southbound approach to provide two left-turn lanes, one through lane, and one shared through/right lane.
- Modify northbound approach to provide one left-turn lane, one through lane, and one shared through/right lane.
- Upgrade signal equipment to replace the existing split phasing in the north/south direction with protected left turns.
- Eliminate the existing northbound and southbound slip right-turn lanes and "pork chop" islands.
- Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group.

To implement this measure, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- PS&E to modify intersection as detailed in Mitigation Measure TRANS-2.
- Signal timing plans for the signals in the coordination group.

The project sponsor shall fund the cost of preparing and implementing these plans. However, if the City adopts a transportation impact fee program prior to implementation of this mitigation measure, the project sponsor shall have the option to pay the applicable fee in lieu of implementing this mitigation measure and payment of the fee shall be considered the equivalent of implementing the mitigation measure, which would still result in significant unavoidable impacts.

A straight line interpolation of intersection traffic volume between Existing and 2035 Plus Project conditions indicates that mitigation at this intersection may be required by 2031. Investigation of the need for this mitigation shall be studied at that time and every three years thereafter until 2035 or until the mitigation measure is implemented, whichever occurs first.

After implementation of this measure, the intersection would continue to operate at LOS F during the weekday PM and Saturday peak hours. The mitigation measure would not reduce the increase in v/c ratio for a critical movement to 0.05 or less.

No other feasible mitigation measures are available that would mitigate the Project impacts at the 51st Street/Pleasanton Valley Avenue/Broadway intersection (Intersection #7). Traffic operations at the intersection can be further improved by providing additional automobile travel lanes, such as a second left-turn lane on either the westbound Pleasant Valley Avenue or the eastbound 51st Street, or a third lane on northbound Broadway. However, these modifications cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way, and/or loss of bicycle lanes, medians and/or on-street parking, and are considered to be infeasible.

In addition, introduction of an additional vehicle lane would increase the pedestrian crossing distance and would require increasing the signal cycle length to accommodate the increased pedestrian crossing distance, which would conflict with City policy concerning pedestrian safety and comfort. Therefore, the impact is considered significant and unavoidable. No other secondary impacts would result from implementation of this measure.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-15: The development under the Specific Plan would increase the total intersection v/c ratio by 0.03 or more and increase the v/c ratio for a critical movement by 0.05 or more (Significant Threshold #5) during the weekday PM peak hour at the *40th Street/Telegraph Avenue* intersection (Intersection #8) under 2035 conditions. (Significant)

The impact and mitigation measure at this intersection are consistent with the one identified in the *MacArthur Transit Village Project Draft EIR* (January 2008).

Mitigation Measure TRANS-15: Implement the following measures at the 40th Street / Telegraph Avenue intersection:

- Provide permitted-protected operations on the eastbound and westbound approaches
- Optimize signal timing (i.e., changing the amount of green time assigned to each lane of traffic approaching the intersection).
- Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group.

To implement this measure, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- PS&E to modify intersection as detailed in Mitigation Measure TRANS-2.
- Signal timing plans for the signals in the coordination group.

The project sponsor shall fund the cost of preparing and implementing these plans. However, if the City adopts a transportation impact fee program prior to implementation of this mitigation measure, the project sponsor shall have the option to pay the applicable fee in lieu of implementing this mitigation measure and payment of the fee shall mitigate the impact to less than significant.

A straight line interpolation of intersection traffic volume between Existing and 2035 Plus Project conditions indicates that mitigation at this intersection may be required by 2034. Investigation of the need for this mitigation shall be studied at that time and every three years thereafter until 2035 or until the mitigation measure is implemented, whichever occurs first.

After implementation of this measure, the intersection would continue to operate at LOS F during the weekday PM peak hour. However, the mitigation measure would reduce the total intersection v/c ratio during the weekday PM peak hour to less than 2035 No Project conditions and the increase in v/c ratio for a critical movement to 0.03 or less. No secondary impacts would result from implementation of this measure.

Significance after Mitigation: Less than Significant.

Impact TRANS-16: The development under the Specific Plan would increase the total intersection v/c ratio by 0.03 or more and increase the v/c ratio for a critical movement by 0.05 or more (Significant Threshold #5) at an intersection operating at LOS F during the weekday PM peak hour at the *West MacArthur Boulevard/Telegraph Avenue* intersection (Intersection #11) under 2035 conditions. (Significant)

The impact and mitigation measure at this intersection are consistent with the one identified in the *Alta Bates Summit Medical Center Summit Campus Seismic Upgrade and Master Plan Project Draft EIR* (December 2009).

Mitigation Measure TRANS-16: Implement the following measures at the West MacArthur Boulevard/Telegraph Avenue intersection:

- Provide protected left-turn phase(s) for the northbound and southbound approaches.
- Optimize signal timing (i.e., changing the amount of green time assigned to each lane of traffic approaching the intersection).
- Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group.

To implement this measure, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- PS&E to modify intersection as detailed in Mitigation Measure TRANS-2. Signal timing plans for the signals in the coordination group.

The project sponsor shall fund the cost of preparing and implementing these plans. However, if the City adopts a transportation impact fee program prior to implementation of

this mitigation measure, the project sponsor shall have the option to pay the applicable fee in lieu of implementing this mitigation measure and payment of the fee shall mitigate the impact to less than significant.

A straight line interpolation of intersection traffic volume between Existing and 2035 Plus Project conditions indicates that mitigation at this intersection may be required by 2030. Investigation of the need for this mitigation shall be studied at that time and every three years thereafter until 2035 or until the mitigation measure is implemented, whichever occurs first.

After implementation of this measure, the intersection would continue to operate at LOS F during the weekday PM peak hour. However, the mitigation measure would reduce the total intersection v/c ratio to less than under 2035 No Project conditions and the increase in v/c ratio for a critical movement to 0.03 or less. No secondary impacts would result from implementation of this measure.

Significance after Mitigation: Less than Significant.

Impact TRANS-17: The development under the Specific Plan would increase the total intersection v/c ratio by 0.03 or more and increase the v/c ratio for a critical movement by 0.05 or more (Significant Threshold #5) at an intersection operating at LOS F during the weekday PM peak hour at the *Perry Place/I-580 Eastbound Ramps/ Oakland Avenue* intersection (Intersection #15) under 2035 conditions. (Significant and Unavoidable)

Mitigation Measure TRANS-17: No feasible mitigation measures are available that would mitigate the Project impacts at the Perry Place/I-580 Eastbound Ramps/Oakland Avenue (Intersection #15) intersection. Traffic operations at the intersection can be improved by providing additional automobile travel lanes, such as a third lane on the Eastbound I-580 Off-Ramp, a third through lane on northbound Oakland Avenue, or a second lane on the Eastbound I-580 On-Ramp and conversion of the existing northbound through lane to a shared through/right-turn lane. However, these modifications cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way, and/or loss of bicycle lanes, and are considered to be infeasible. Therefore, the impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-18: The development under the Specific Plan would increase the total intersection v/c ratio by 0.03 or more (Significant Threshold #5) at an intersection operating at LOS F during the Saturday peak hour at the *Grand Avenue/Lake Park Avenue/Santa Clara Avenue* intersection (Intersection #16) under 2035 conditions. (Significant and Unavoidable)

Mitigation Measure TRANS-18: No feasible mitigation measures are available that would mitigate the Project impacts at the Grand Avenue/Lake Park Avenue/Santa Clara Avenue intersection (Intersection #16). Traffic operations at the intersection can be improved by providing additional automobile travel lanes, such as a third through lane on northbound or southbound Grand Avenue. However, these modifications cannot be accommodated within

the existing automobile right-of-way and would require additional right-of-way, and/or loss of on-street parking sidewalks, and/or bulbouts, and are considered to be infeasible. Therefore, the impact would remain significant and unavoidable. Therefore, the impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-19: The development under the Specific Plan would increase the total intersection v/c ratio by 0.03 or more and increase the v/c ratio for a critical movement by 0.05 or more (Significant Threshold #5) at the *Lake Park Avenue/Lakeshore Avenue* intersection (Intersection #17) during the weekday PM and Saturday peak hours which would operate at LOS F under 2035 conditions. (Significant and Unavoidable)

Mitigation Measure TRANS-19: No feasible mitigation measures are available that would mitigate the Project impacts at the Lake Park Avenue/Lakeshore Avenue (Intersection #17) intersection. Traffic operations at the intersection can be improved by providing additional automobile travel lanes, such as a third lane on eastbound Lake Park Avenue, or a third left-turn lane on northbound Lakeshore Avenue. However, these modifications cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way, and/or loss of medians and/or on-street parking, and are considered to be infeasible. Therefore, the impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-20: The development under the Specific Plan would degrade overall intersection operations from LOS E to LOS F and increase intersection average delay by four seconds or more (Significant Threshold #2) during the weekday PM peak hour at the *Piedmont Avenue/Broadway and Hawthorne Avenue/Brook Street/Broadway* intersection (Intersections #20 and #21) under 2035 conditions. (Significant and Unavoidable)

Mitigation Measure TRANS-20: No feasible mitigation measures are available that would mitigate the Project impacts at the Piedmont Avenue/Broadway and Hawthorne Avenue/Brook Street/Broadway intersection (Intersections #20 and #21). Traffic operations at the intersection can be improved by providing additional automobile travel lanes, such as a third through lane on northbound or southbound Broadway. However, these modifications cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way, and/or loss of bicycle lanes, medians, and/or on-street parking, and are considered to be infeasible. Therefore, the impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-21: The development under the Specific Plan would increase the v/c ratio for the total intersection by 0.03 or more and increase the v/c ratio for a critical movement by 0.05 or more (Significant Threshold #5) at the *27th Street/Telegraph Avenue* intersection (Intersection #29) which would operate at LOS F during the weekday PM peak hour under 2035 conditions. (Significant and Unavoidable)

The impact and mitigation measure are consistent with the ones identified in the *Alta Bates Summit Medical Center Summit Campus Seismic Upgrade and Master Plan Project Draft EIR* (December 2009).

Mitigation Measure TRANS-21: Implement the following measures at the 27th Street/ Telegraph Avenue intersection:

- Provide protected left-turn phases for the northbound and southbound approaches.
- Optimize signal timing (i.e., changing the amount of green time assigned to each lane of traffic approaching the intersection).
- Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group.

To implement this measure, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- PS&E to modify intersection as detailed in Mitigation Measure TRANS-2.
- Signal timing plans for the signals in the coordination group.

The project sponsor shall fund the cost of preparing and implementing these plans. However, if the City adopts a transportation impact fee program prior to implementation of this mitigation measure, the project sponsor shall have the option to pay the applicable fee in lieu of implementing this mitigation measure and payment of the fee shall be considered the equivalent of implementing the mitigation measure, which would still result in significant unavoidable impacts.

A straight line interpolation of intersection traffic volume between Existing and 2035 Plus Project conditions indicates that mitigation at this intersection may be required by 2029. Investigation of the need for this mitigation shall be studied at that time and every three years thereafter until 2035 or until the mitigation measure is implemented, whichever occurs first.

After implementation of this measure, the intersection would continue to operate at LOS F during the weekday PM peak hour. Although the mitigation measure would reduce the total intersection v/c ratio during the weekday PM peak hour, it would not reduce the increase in v/c ratio for critical movements to 0.05 or less. Therefore, the impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-22: The development under the Specific Plan would degrade overall intersection operations from LOS E to LOS F and increase intersection average delay by four seconds or more (Significant Threshold #2) during the weekday PM peak hour and at the *27th Street/ Broadway* intersection (Intersection #30) under 2035 conditions. (Significant and Unavoidable)

Mitigation Measure TRANS-22: Implement the following measures at the 27th Street / Broadway intersection:

- Upgrade traffic signal operations at the intersection to actuated-coordinated operations
- Reconfigure westbound 27th Street approach to provide a 150-foot left-turn pocket, one through lane, and one shared through/right-turn lane.
- Provide protected left-turn phase(s) for the northbound and southbound approaches.
- Optimize signal timing (i.e., changing the amount of green time assigned to each lane of traffic approaching the intersection).
- Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group.

To implement this measure, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- PS&E to modify intersection as detailed in Mitigation Measure TRANS-2. Signal timing plans for the signals in the coordination group.

The project sponsor shall fund the cost of preparing and implementing these plans. However, if the City adopts a transportation impact fee program prior to implementation of this mitigation measure, the project sponsor shall have the option to pay the applicable fee in lieu of implementing this mitigation measure and payment of the fee shall be considered the equivalent of implementing the mitigation measure, which would still result in significant unavoidable impacts.

A straight line interpolation of intersection traffic volume between Existing and 2035 Plus Project conditions indicates that mitigation at this intersection may be required by 2024. Investigation of the need for this mitigation shall be studied at that time and every three years thereafter until 2035 or until the mitigation measure is implemented, whichever occurs first.

After implementation of this measure, the intersection would continue to operate at LOS F during the weekday PM peak hour. Traffic operations at the intersection can be further improved by providing additional automobile travel lanes, such as a third through lane on northbound or southbound Broadway. However, these modifications cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way, and/or loss of bicycle lanes, medians, and/or on-street parking, and are considered to be infeasible. Therefore, the impact would remain significant and unavoidable. No other secondary impacts would result from implementation of this measure.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-23: The development under the Specific Plan Project would add more than 10 peak-hour trips to *24th Street/Broadway* intersection (Intersection #36) which would meet peak-hour signal warrant (Significant Threshold #6) under 2035 Plus Project conditions. (Significant)

Mitigation Measure TRANS-23: Implement Mitigation Measure TRANS-4.

After implementation of this measure, the intersection would improve to LOS B during both weekday PM and Saturday peak hours. No secondary impacts would result from implementation of this measure.

Significance after Mitigation: Less than significant.

Impact TRANS-24: The development under the Specific Plan would increase the total intersection v/c ratio by 0.03 or more and increase the v/c ratio for a critical movement by 0.05 or more (Significant Threshold #5) at an intersection operating at LOS F during the weekday AM and PM peak hours and degrade overall intersection operations from LOS E to LOS F and increase intersection average delay by four seconds or more (Significant Threshold #2) during the Saturday peak hour at the *27th Street/24th Street/Bay Place/Harrison Street* intersection (Intersection #37) under 2035 conditions. (Significant and Unavoidable)

Mitigation Measure TRANS-24: Implement Mitigation Measure TRANS-10.

After implementation of this measure, the intersection would continue to operate at LOS F during the AM and PM peak hours and improve to LOS D during the Saturday peak hour. Although the mitigation measure would reduce the total intersection v/c ratio during the weekday AM and PM peak hours, it would not reduce the v/c ratio for critical movements to 0.02 or less. Therefore, the impact would remain significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-25: The development under the Specific Plan Project would add more than 10 peak-hour trips to *23rd Street/Broadway* intersection (Intersection #39) which would meet peak-hour signal warrant (Significant Threshold #6) under 2035 Plus Project conditions. (Significant)

Mitigation Measure TRANS-25: Implement Mitigation Measure TRANS-5.

After implementation of this measure, the intersection would improve to LOS B during both weekday PM and Saturday peak hours. No secondary impacts would result from implementation of this measure.

Significance after Mitigation: Less than significant.

Impact TRANS-26: The development under the Specific Plan Project would add more than 10 peak-hour trips to *23rd Street/Harrison Street* intersection (Intersection #40) which would meet peak-hour signal warrant (Significant Threshold #6) under 2035 Plus Project conditions. (Significant and Unavoidable)

Mitigation Measure TRANS-26: Implement Mitigation Measure TRANS-6.

After implementation of this measure, the intersection would improve to LOS B during the weekday PM peak hour and LOS A during the Saturday peak hour. This intersection is about 150 feet north of the Grand Avenue/Harrison Street intersection (Intersection #52). Considering the proximity of the two intersections, signalization of the 23rd Street/Harrison Street intersection may adversely affect traffic operations at the Grand Avenue/Harrison Street intersection. Because the improvement may result in potential secondary impacts, this EIR conservatively identifies the impact as significant and unavoidable.

Significance after Mitigation: Conservatively Significant and Unavoidable.

Impact TRANS-27: The development under the Specific Plan would increase the v/c ratio for the total intersection by 0.03 or more and increase the v/c ratio for a critical movement by 0.05 or more (Significant Threshold #5) at the West *Grand Avenue/Northgate Avenue* intersection (Intersection #47) which would operate at LOS F during the weekday PM peak hour in 2035. (Significant and Unavoidable)

Mitigation Measure TRANS-27: No feasible mitigation measures are available that would mitigate the Project impacts at the West Grand Avenue/Northgate Avenue intersection (Intersection #47). Traffic operations at the intersection can be improved by providing additional automobile travel lanes, such as a third through lane on westbound Grand Avenue or a second left-turn lane on eastbound Grand Avenue. However, these modifications cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way, and/or loss of medians, bicycle lanes, and/or on-street parking, and are considered to be infeasible. Therefore, the impact is considered significant and unavoidable.

Significance after Mitigation: Significant and Unavoidable.

Impact TRANS-28: The development under the Specific Plan would degrade intersection operations from LOS D to LOS F and increase intersection average delay by four seconds or more (Significant Threshold #2) during the weekday PM peak hour at the *Grand Avenue/Broadway* intersection (Intersection #49) in 2035. (Significant and Unavoidable)

Mitigation Measure TRANS-28: Implement the following measures at the Grand Avenue/ Broadway intersection:

- Provide permitted-protected left-turn phasing for the northbound and southbound approaches.
- Optimize signal timing (i.e., changing the amount of green time assigned to each lane of traffic approaching the intersection).
- Coordinate the signal timing changes at this intersection with the adjacent intersections that are in the same signal coordination group.

To implement this measure, the project sponsor shall submit the following to City of Oakland's Transportation Services Division for review and approval:

- PS&E to modify intersection as detailed in Mitigation Measure TRANS-2. Signal timing plans for the signals in the coordination group.

The project sponsor shall fund the cost of preparing and implementing these plans. However, if the City adopts a transportation impact fee program prior to implementation of this mitigation measure, the project sponsor shall have the option to pay the applicable fee in lieu of implementing this mitigation measure and payment of the fee shall be considered the equivalent of implementing the mitigation measure, which would still result in significant unavoidable impacts.

A straight line interpolation of intersection traffic volume between Existing and 2035 Plus Project conditions indicates that mitigation at this intersection may be required by 2031. Investigation of the need for this mitigation shall be studied at that time and every three years thereafter until 2035 or until the mitigation measure is implemented, whichever occurs first.

After implementation of this measure, the intersection would continue to operate at LOS F during the weekday PM peak hour. Therefore, the impact would remain significant and unavoidable.

Traffic operations at the intersection can be further improved by providing additional automobile travel lanes, such as an exclusive left-turn lane on westbound Grand Avenue or an additional through lane on northbound or southbound Broadway. However, these modifications cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way, and/or loss of on-street parking, and are considered to be infeasible. No other secondary impacts would result from implementation of this measure.

Significance after Mitigation: Significant and Unavoidable.

2035 Plus Project Mitigated Conditions

Table 4.13-13 summarizes intersection operations after implementation of the mitigation measures described above. Mitigation measures would reduce seven of the identified significant impacts to less than significant levels, while 21 of the identified impacts would remain significant and unavoidable.

Freeway Impacts

Table 4.13-14, **Table 4.13-15**, and **Table 4.13-16** show mainline traffic volumes and LOS based on freeway mainline density under Existing, 2015, and 2035 conditions, respectively. The existing freeway volumes are based on Caltrans Performance Measurement System (PeMS) data collected in Fall 2012, and the 2015 and 2035 freeway volumes were developed based on the results of the ACTC Model. As shown, traffic generated by the development under the Specific Plan would not cause any mainline segments to worsen to an unacceptable LOS F. Therefore, the Project would not cause a significant impact on freeway segment operations.

TABLE 4.13-14
EXISTING FREEWAY MAINLINE LEVELS OF SERVICE

Mainline Segment, Direction, & Location	Peak Hour	Existing			Existing Plus Project		
		Volume[a]	Density[b]	LOS	Volume	Density[b]	LOS
SR 24 Eastbound from 52nd St to Telegraph Ave	AM	3,370	13.1	B	3,380	13.2	B
	PM	5,770	22.5	C	5,810	22.6	C
SR 24 Westbound from Telegraph Ave to 52nd St	AM	6,570	25.7	C	6,600	25.8	C
	PM	3,300	12.9	B	3,330	13.0	B
I-580 Eastbound from MacArthur Blvd to SR24/I-980 Junction	AM	5,640	18.9	C	5,780	19.4	C
	PM	6,840	22.9	C	6,940	23.2	C
I-580 Westbound from SR24/I-980 to Jct. MacArthur Blvd	AM	6,760	22.6	C	6,780	22.7	C
	PM	5,480	18.4	C	5,510	18.5	C
I-580 Eastbound from Grand Ave to Oakland Ave	AM	4,250	16.4	B	4,370	16.9	B
	PM	6,410	24.8	C	6,690	26.0	D
I-580 Westbound from Oakland Ave to Grand Ave	AM	7,790	31.5	D	7,940	32.4	D
	PM	5,260	20.3	C	5,490	21.2	C
I-880 Southbound from Oak Street to 5th Avenue	AM	6,980	33.5	D	7,020	33.7	D
	PM	7,480	36.2	E	7,560	36.7	E
I-880 Northbound from 5th Avenue to Oak St	AM	7,060	33.9	D	7,100	34.1	D
	PM	7,050	33.8	D	7,100	34.1	D
I-980 Eastbound from 14th Street to I-580	AM	2,610	13.7	B	2,640	13.8	B
	PM	4,470	23.4	C	4,540	23.8	C
I-980 Westbound from I-580 to 14th Street	AM	4,830	25.4	C	5,000	26.4	D
	PM	2,970	15.6	B	3,100	16.3	B

[a] Existing volumes based on Caltrans PeMS data, fall 2012.
[b] Density is presented in passenger cars per mile per lane (pc/mi/ln) and calculated based on the 2000 HCM methodology.

SOURCE: Fehr & Peers and Caltrans, 2013.

TABLE 4.13-15
2020 MAINLINE LEVELS OF SERVICE

Mainline Segment, Direction, & Location	Peak Hour	2020 No Project			2020 Plus Project		
		Volume	Density[a]	LOS	Volume	Density[a]	LOS
SR 24 Eastbound from 52nd St to Telegraph Ave	AM	3,600	14.0	B	3,610	14.1	B
	PM	6,360	24.8	C	6,400	25.0	C
SR 24 Westbound from Telegraph Ave to 52nd St	AM	6,890	27.1	D	6,920	27.3	D
	PM	3,840	15.0	B	3,870	15.1	B
I-580 Eastbound from MacArthur Blvd to SR24/I-980 Junction	AM	6,180	20.7	C	6,290	21.1	C
	PM	7,280	24.4	C	7,350	24.6	C
I-580 Westbound from SR24/I-980 to Jct. MacArthur Blvd	AM	7,340	24.6	C	7,360	24.7	C
	PM	6,030	20.2	C	6,060	20.3	C
I-580 Eastbound from Grand Ave to Oakland Ave	AM	6,000	23.2	C	6,100	23.6	C
	PM	6,550	25.4	C	6,760	26.3	D
I-580 Westbound from Oakland Ave to Grand Ave	AM	7,930	32.4	D	8,040	33.1	D
	PM	6,110	23.6	C	6,280	24.3	C
I-880 Southbound from Oak Street to 5th Avenue	AM	7,350	35.4	E	7,380	35.6	E
	PM	7,630	37.2	E	7,700	37.6	E
I-880 Northbound from 5th Avenue to Oak St	AM	6,650	31.8	D	6,690	32.0	D
	PM	6,910	33.1	D	6,960	33.4	D
I-980 Eastbound from 14th Street to I-580	AM	2,940	15.4	B	2,970	15.6	B
	PM	4,790	25.2	C	4,860	25.6	C
I-980 Westbound from I-580 to 14th Street	AM	5,180	27.5	D	5,320	28.4	D
	PM	3,600	18.9	C	3,700	19.4	C

[a] Density is presented in passenger cars per mile per lane (pc/mi/ln) and calculated based on the 2000 HCM methodology.

SOURCE: Fehr & Peers and Caltrans, 2013.

TABLE 4.13-16
2035 CONDITIONS MAINLINE LEVELS OF SERVICE

Mainline Segment, Direction, & Location	Peak Hour	2035 No Project			2035 Plus Project		
		Volume	Density[a]	LOS	Volume	Density[a]	LOS
SR 24 Eastbound from 52nd St to Telegraph Ave	AM	4,230	16.5	B	4,240	16.5	B
	PM	6,640	26.0	D	6,680	26.2	D
SR 24 Westbound from Telegraph Ave to 52nd St	AM	7,270	29.0	D	7,300	29.1	D
	PM	4,850	18.9	C	4,880	19.0	C
I-580 Eastbound from MacArthur Blvd to SR24/I-980 Junction	AM	6,790	22.7	C	6,930	23.2	C
	PM	7,550	25.3	C	7,650	25.6	C

TABLE 4.13-16 (Continued)
2035 CONDITIONS MAINLINE LEVELS OF SERVICE

Mainline Segment, Direction, & Location	Peak Hour	2035 No Project			2035 Plus Project		
		Volume	Density[a]	LOS	Volume	Density[a]	LOS
I-580 Westbound from SR24/I-980 to Jct. MacArthur Blvd	AM	7,710	25.8	C	7,730	25.9	C
	PM	6,720	22.5	C	6,750	22.6	C
I-580 Eastbound from Grand Ave to Oakland Ave	AM	6,630	25.8	C	6,750	26.3	D
	PM	6,890	26.9	D	7,170	28.2	D
I-580 Westbound from Oakland Ave to Grand Ave	AM	8,050	33.1	D	8,200	34.1	D
	PM	6,500	25.2	C	6,730	26.2	D
I-880 Southbound from Oak Street to 5th Avenue	AM	7,630	37.2	E	7,670	37.4	E
	PM	8,060	40.3	E	8,140	41.0	E
I-880 Northbound from 5th Avenue to Oak St	AM	6,920	33.2	D	6,960	33.4	D
	PM	7,740	37.9	E	7,790	38.2	E
I-980 Eastbound from 14th Street to I-580	AM	3,220	16.9	B	3,250	17.0	B
	PM	4,660	24.5	C	4,730	24.9	C
I-980 Westbound from I-580 to 14th Street	AM	5,460	29.4	D	5,630	30.6	D
	PM	4,080	21.4	C	4,210	22.1	C

[a] Density is presented in passenger cars per mile per lane (pc/mi/ln) and calculated based on the 2000 HCM methodology.

SOURCE: Fehr & Peers and Caltrans, 2013.

Required Congestion Management Program (CMP) Evaluation

The CMP evaluation is based on application of Significance Thresholds #7 and #8. The Alameda County Congestion Management Program (CMP) requires the assessment of development-driven impacts to regional roadways. Because the development under the Specific Plan would generate more than 100 "net new" PM peak-hour trips, ACTC requires the use of the Countywide Travel Demand Forecasting Model to assess the impacts on regional roadways in the Plan Area vicinity. The CMP and Metropolitan Transportation System (MTS) roadways in the Plan Area vicinity identified in the NOP comments by ACTC (June 14, 2012 letter) include:

> I-580, I-880, I-980, SR 24, Broadway, Harrison Street, Telegraph Avenue, Martin Luther King Jr. Way, San Pablo Avenue, Webster Street, Castro Street, Brush Street, Grand Avenue, MacArthur Boulevard, 14th Street, and 12th Street.[9]

The ACTC Model used in this study is a regional travel demand model that uses socio-economic data and roadway and transit network assumptions to forecast traffic volumes and transit ridership using a four-step modeling process that includes trip generation, trip distribution, mode split, and trip assignment. This process takes into account changes in travel patterns due to future growth

[9] The roadway segments included in this evaluation are not based on an assessment of the project trip distribution or application of screening criteria to determine if the project would contribute enough new trips to warrant analysis.

and balances trip productions and attractions. This version of the Countywide Model is based on Association of Bay Area Governments (ABAG) *Projections 2009* land uses for 2020 and 2035.

For the purposes of this CMP and MTS analysis, the Broadway Valdez Development Program is assumed to not be included in the ACTC Model in order to present a more conservative analysis. The "constrained" traffic forecasts for the 2020 and 2035 scenarios were extracted from the ACTC Model for the CMP and MTS roadway segments from that model and used as the "No Project" forecasts. Vehicle trips generated by the Broadway Valdez Development Program were added to the "No Project" forecasts to estimate the "Plus Project" forecasts.[10]

The CMP and MTS segments were assessed using a v/c ratio methodology (TRB, 1985). For freeway segments, a per-lane capacity of 2,000 vehicles per hour (vph) was used, consistent with the latest CMP documents. For surface streets, a per-lane capacity of 800 vph was used. Roadway segments with a v/c ratio greater than 1.00 signify LOS F.

The "Plus Project" results were compared to the baseline results for the 2020 and 2035 horizon years. Appendix G.O provides the 2020 and 2035 peak-hour volumes, v/c ratios and the corresponding levels of service for No Project and Plus Project conditions.

Impact TRANS-29: The development under the Specific Plan would degrade from LOS E or better to LOS F or increase the v/c ratio by 0.03 or more for segments operating at LOS F on the following CMP or MTS roadway segments:

- **MacArthur Boulevard in both eastbound and westbound directions between Piedmont Avenue and I-580 in 2020 and 2035.**
- **Grand Avenue in the eastbound direction from Adeline Street to MacArthur Boulevard, and in westbound direction from Harrison Street to San Pablo Avenue in 2035.**
- **Broadway in the northbound direction from 27th Street to College Avenue, and in the southbound direction from Piedmont Avenue to 27th Street in 2035.**
- **Telegraph Avenue in the northbound direction from MacArthur Boulevard to Shattuck Avenue in 2035.**
- **San Pablo Avenue in the southbound direction from Market Street to 27th Street in 2035.**

[10] Due to differences in the land use assumptions and differences in analysis methodologies, the forecasted traffic volumes on the roadway links can be different from the intersection volumes, particularly at the local level. The first area of difference is the land use data sets employed for the intersection forecasts and the MTS forecasts. The intersection forecasts, which are used to assess project traffic impacts on City of Oakland intersections, are based on land use data adjusted to reflect all past, present, existing, approved, pending and reasonably foreseeable projects in the City of Oakland, which differs from the data in the ACTC Model. The second area of difference is the use of the Furness process. The intersection forecasts use the output of the ACTC Model as an input to develop intersection volumes in conjunction with existing traffic counts. The CMP and MTS roadway analysis is based on the outputs of the ACTC Model directly on a roadway segment level. It is not unusual to have discrepancies given that the two analyses measure impacts at a different scale. For local streets, intersections are typically a more accurate measure of operating conditions because the capacity of an urban street, defined as the number of vehicles that can pass through its intersections, is controlled by the capacity at its intersections.

- **Harrison Street in the northbound direction from 27th Street to Oakland Avenue in 2035. (Significant and Unavoidable)**

  Mitigation Measure TRANS-29: Implement Mitigation Measures TRANS-1, TRANS-10, TRANS-13, TRANS-14, TRANS-15, TRANS-16, TRANS-20, TRANS 22, TRANS-24, TRANS-27, and TRANS-28.

  Traffic operations along the adversely affected roadway segments would improve, but would continue to operate at LOS F after implementation of the mitigation measures.

  In addition, as previously described, the Broadway Valdez Specific Plan includes policies and strategies that encourage walking, biking and transit, including a TDM program. These policies and strategies would reduce the Project vehicle trip generation, which would either eliminate or reduce the magnitude of this impact. Because the effectiveness of these policies and strategies on reducing the Project vehicle trip generation cannot be accurately estimated, this EIR conservatively does not account for them in estimating Project trip generation and does not rely on them to mitigate this impact.

  No other feasible mitigation measures are available that would mitigate the Project impacts at the adversely affected roadway segments. The LOS at these roadway segments can be improved by providing additional automobile travel lanes on the affected roadway segments. However, additional travel lanes cannot be accommodated within the existing automobile right-of-way and would require additional right-of-way, and/or loss of bicycle lanes, medians and/or on-street parking or narrowing of existing sidewalks, and are considered to be infeasible. Therefore, the impact would remain significant and unavoidable.

  Significance after Mitigation: Significant and Unavoidable.

Transit Travel Time

The discussion of transit travel time is based on application of Significance Threshold #9. In general, the City of Oakland has no basis to establish a numerical threshold for "substantially increased travel times" due to several factors:

- First, bus service, in general, is extremely transitory, and can change quite frequently, as is the case with AC Transit's bus network. Existing routes may be eliminated, or new routes may be put in service by the time the Broadway Valdez Development Program is built out. Similar to parking, transit service is not part of the physical environment, and can change over time in response to external factors. In fact, AC Transit has generally reduced its bus service over the past few years in response to budget issues.

- Second, any numerical threshold to determine the significance of increased travel times needs to consider additional characteristics of the bus service, including its headway (the amount of time between scheduled trips) and total travel time. Considering the transitory nature of bus service, establishing such thresholds is not reasonable, as service can be rerouted, eliminated, or created at any time. Consideration would also have to be given to

different types of transit service (e.g., trunk service, Transbay service, local service, and community service), as they generally operate with different characteristics.

- Third, unlike the situation for intersections or roadway facilities, there are no well-established methodologies for characterizing the operations of transit service in relation to travel times. For intersections, clear distinctions are made between intersections that operate at acceptable conditions (e.g., LOS D or better) and those that operate at unacceptable conditions (e.g., LOS E or LOS F), and separate impact thresholds are provided. For bus service, however, there is no well-established LOS equivalent for characterizing transit service in relation to travel times.

The three factors described above would make establishing numerical thresholds for AC Transit travel times difficult and impractical, as the City would have little background or experience on which to base such thresholds. However to the extent feasible, this section provides an analysis of how development under the Specific Plan would affect transit travel times for local bus routes.

The analysis of bus travel times along a corridor requires the analysis of traffic operations at all or most of the intersections along the corridor. As previously shown on Figure 4.13-1, buses currently operate along a number of corridors in the Plan Area and vicinity. Route 51A, which operates along Broadway, directly serves the Plan Area. In addition, the intersection impact assessment discussed in previous sections, only analyzed all intersection along Broadway within the Plan Area (Between Grand and Piedmont Avenues) during the weekday PM and Saturday peak hours. Because intersections along other corridors were not analyzed in as much detail, impacts of the development under the Specific Plan on bus travel times along these corridors cannot be assessed accurately.

Table 4.13-17 shows peak-hour travel times along Broadway between Grand and Piedmont Avenues. Existing average travel speeds along this corridor range between 14 and 17 mph during the peak hours.

TABLE 4.13-17
TRAVEL TIMES ALONG BROADWAY

Direction	Peak Hour	Existing		Existing Plus Project		Existing Plus Project (Mitigated)	
		Travel Time (min:sec)[a]	Average Speed (mph)	Travel Time (min:sec)[a]	Average Speed (mph)	Travel Time (min:sec)[a]	Average Speed (mph)
Northbound between Grand Avenue and Piedmont Avenue	PM	2:10	14	2:30	13	2:30	13
	Saturday	2:10	15	2:20	14	2:20	14
Southbound between Piedmont Avenue and Grand Avenue	PM	1:40	17	1:50	16	2:10	14
	Saturday	1:50	15	1:50	15	2:20	13

[a] Corridor travel times were calculated using intersection delay and free-flow segment speeds from Synchro 7.0.

SOURCE: Fehr & Peers, 2013.

The traffic generated by the development under the Specific Plan would result in increased congestion along the Broadway corridor. In addition, the Project and the mitigations included in this EIR would also include a number of roadway modifications, such as new traffic signal on Broadway at 23rd and 24th Streets and retiming of signals at various intersections that would affect travel time along the corridor. As shown in Table 4.13-17, average speeds on Broadway in both northbound and southbound directions would decrease under Existing Plus Project conditions.

Overall, it is estimated that the congestion caused by the Project-generated traffic in combination with the roadway modifications proposed by the Specific Plan and mitigation measures presented in this EIR would increase travel times for most buses on this segment of Broadway by as much as 30 seconds.

Although not reflected in the quantitative travel time analysis presented above, Policy C.5.1 of the Specific Plan includes the following modifications that would improve bus travel times along Broadway:

- Move bus stops from the near-side (before the intersection) to the far-side (after the intersection) of the intersection. In general, moving a bus stop from the near-side to the far-side of the intersection would reduce the delay experienced by buses as they would experience less delay waiting for signals.

- Provide bulbouts at bus stops, which would eliminate the need for buses to pull out of the travel lane before the stop and then merge back into the traffic flow. Bus bulbouts would also allow for quicker passenger loading and unloading, reducing the time buses dwell at a bus stop. It is estimated that this strategy combined with the previous one would reduce bus travel times by as much as 15 to 20 seconds at each bus stop. In addition, bus bulbouts would result in automobiles temporarily queuing behind buses when buses are stopped at the bulbouts. However, these queues clear when buses leave the bus stop.

- Install TSP at signalized intersections along Broadway to improve bus travel times by prioritizing signal green times for approaching buses. The effectiveness of the third strategy, TSP, on bus travel times and automobile traffic cannot be determined at this time because adequate detail about its implementation is not known at this time.

While the Project may increase some bus travel times, the resulting increases would have a minor effect on transit service within the Plan Area as most of the travel time increase would be offset by implementation of the improvements discussed above. The estimated increase in travel time is within the variability in travel time experienced by each bus on these corridors. This impact is less than significant.

Vehicle, Pedestrian and Bicycle Safety

The discussion of vehicle, pedestrian, and bicycle safety is based on application of Significance Thresholds #10 through #14. The development under the Specific Plan would result in increased vehicular traffic and pedestrian and bicycle activity in and around the Plan Area. In addition, the Specific plan would also modify some of the streets in the Plan Area. Access and circulation for different travel modes are discussed below.

Transportation Hazards

The discussion of transportation hazards is based on application of Significance Threshold #10. The Specific Plan would include developments and changes in the public right-of-way that could affect transportation safety.

The location or design elements of individual future developments under the Specific Plan are not known at this time. Thus, it is beyond the scope of this EIR to determine if individual developments would adversely affect traffic safety.

In addition, the Specific Plan includes the following policies that would ensure that developments would not adversely affect safety for all street users:

- Policy C.2.1 would eliminate existing and minimize future driveways and curb-cuts along key pedestrian streets including Broadway, Webster Street, and segments of 24th Street and Valdez Street. This Policy would minimize potential conflicts between vehicles entering and exiting driveways and automobiles, bicycles, and pedestrians traveling along these streets.

- Policy C.2.2 would widen sidewalks along Broadway, 24th Street and Valdez Street, which would provide a larger buffer between pedestrians on sidewalks and vehicles on the streets.

- Policy C.2.3 would install bulb-outs and crosswalk markings at intersections on key pedestrian streets which would reduce street crossing distances and increase pedestrian visibility.

- Policy C.2.4 would improve landscaping along streets in the Plan Area and widen the existing median on 27th Street. Both measures would improve pedestrian safety by improving the buffer between pedestrians on sidewalks and vehicles in the street and providing a wider median refuge for pedestrians crossings 27th Street.

- Policy C.2.7 would remove unnecessary channelized right turns which would shorten pedestrian crossings, reduce vehicle speeds, and minimize potential conflicts between turning automobiles and pedestrians and bicyclists.

- Policy C.3.2 would enhance bicycle facilities at key intersections with high bicycle and automobile traffic.

- Policy C.4.1 would locate vehicular parking and service access away from primary pedestrian streets which would minimize potential conflicts between automobiles/trucks turning into and out of driveways with other vehicles, bicycles, and pedestrians

- Policy C.4.4 would minimize cut-through traffic on residential streets by implementing traffic calming.

- Policy C.5.1 would include improvements at bus stops including locating bus stops on the far side of the intersection which would reduce potential bus/auto conflicts.

In addition, the design for each individual development project under the Specific Plan would be required to be consistent with appropriate regulations and design standards in effect at the time. Furthermore, SCA 20, *Improvements in the Public Right-of-Way (General)*, and SCA 21,

Improvements in the Public Right-of-Way (Specific), require that public improvement plans and building plans for individual development projects incorporate design requirements such as curbs, gutters, disabled access, adequate emergency access, and other measures to improve vehicle, bicycle, and pedestrian safety.

In addition, potential impacts of the Project on pedestrian, bicyclist, and bus rider safety are discussed in the subsequent sections. This EIR also includes the following mitigation measures that would improve transportation safety, but are not required to mitigate impacts on transportation safety:

- Mitigation Measure TRANS-5 would modify the 27th Street/24th Street/Bay Place/ Harrison Street (Intersection #37) to reduce pedestrian crossing distances and improve visibility for all users

- A number of mitigations measures, such as Mitigation Measure TRANS-16 at 27th Street/ Telegraph Avenue (Intersection #29), TRANS-28 at West MacArthur Boulevard/ Telegraph Avenue (Intersection #11), TRANS-22 at 27th Street/Broadway (Intersection #30) and other locations would provide for protected left turns at signalized intersections which would reduce potential conflicts between left-turning vehicles and vehicles traveling in the opposite direction and pedestrians in the crosswalk.

Overall, the Broadway Valdez Specific Plan would not have a significant impact on transportation hazards. This is a less than significant impact, and no mitigation measures are required.

Pedestrian Safety

The discussion of pedestrian safety is based on application of Significance Threshold #11. One of the goals of the Specific Plan is to increase pedestrian activity in the Plan Area. In order to accommodate the increased pedestrian activity, the Specific Plan also includes policies and physical changes that would improve pedestrian safety in the Plan Area. They include:

- Policy C.2.1 would eliminate existing and minimize future driveways and curb-cuts along key pedestrian streets including Broadway and segments of 24th Street and Valdez Street. This Policy would minimize potential conflicts between vehicles entering and exiting driveways and pedestrians traveling along these streets.

- Policy C.2.2 would widen sidewalks along Broadway 24th Street and Valdez Street, which would minimize overcrowding on sidewalks and provide a larger buffer between pedestrians on sidewalks and vehicles on the streets.

- Policy C.2.3 would install bulb-outs and crosswalk markings at intersections on key pedestrian streets which would reduce pedestrian street crossing distances and increase pedestrian visibility.

- Policy C.2.4 would improve landscaping along streets in the Plan Area and widen the existing median on 27th Street. Both measures would improve pedestrian safety by improving the buffer between pedestrians on sidewalks and vehicles in the street and providing a wider median refuge for pedestrians crossings 27th Street.

- Policy C.2.5 would provide pedestrian-scale street lighting which would improve pedestrian visibility.
- Policy C.2.6 would ensure that sidewalks have a minimum 5.5 feet clear of any obstacles for pedestrian circulation.
- Policy C.2.7 would remove unnecessary channelized right turns which would shorten pedestrian crossings, reduce vehicle speeds, and minimize potential conflicts between vehicles and pedestrians.
- Policy C.2.8 would improve uncontrolled pedestrian crossings. For example, it would improve the current midblock crossing on Broadway between 30th Street and Hawthorne Avenue through installation of bulbouts and RRFB.
- Policy C.4.1 would locate vehicular parking and service access away from primary pedestrian streets which would minimize potential conflicts between automobiles/trucks turning into and out of driveways with pedestrians.
- Policy C.4.4 would minimize cut-through traffic on residential streets by implementing traffic calming.

Other policies and infrastructure improvements included in the Specific Plan would not result in permanent substantial decrease in pedestrian safety, such as removing existing bulbouts, increasing street crossing distances, or adding new vehicular travel lanes. This EIR also includes the following mitigation measures that are not required to mitigate impacts on pedestrian safety; however, if implemented, they would improve pedestrian safety:

- Mitigation Measures TRANS-4, TRANS-5, and TRANS-6, would signalize the 24th Street/Broadway (Intersection #36), 23rd Street/Broadway (Intersection #39), and 23rd Street/Harrison Street (Intersection #40) intersections which would provide a protected pedestrian crossing across Broadway and Harrison Street.
- Mitigation Measure TRANS-10 would modify the 27th Street/24th Street/Bay Place/ Harrison Street (Intersection #37) to reduce pedestrian crossing distances.
- A number of mitigations measures, such as Mitigation Measure TRANS-16 at West MacArthur Boulevard/ Telegraph Avenue (Intersection #11), TRANS-21 at 27th Street/ Telegraph Avenue (Intersection #29), TRANS-22 at 27th Street/Broadway (Intersection #30) and other locations would provide for protected left turns at signalized intersections which would reduce potential conflicts between left-turning vehicles and pedestrians in the opposing crosswalk.
- Other mitigation measures described in previous sections that require additional upgrades to the traffic signal equipment would also include improvements to pedestrian environment, such as providing count-down pedestrian signal heads, in order to comply with the local, state, and federal requirements, which would improve pedestrian safety.

The Broadway Valdez Specific Plan would not result in permanent substantial decrease in pedestrian safety. This is a less than significant impact, and no mitigation measures are required,

Bicyclist Safety

The discussion of bicyclist safety is based on application of Significance Threshold #12. One of the goals of the Specific Plan is to increase bicycling in the Plan Area. In order to accommodate the increased bicycling activity, the Specific Plan also includes policies and physical changes that would improve bicyclist safety in the Plan Area. They include:

- Policy C.2.1 would eliminate existing and minimize future driveways and curb-cuts along key pedestrian streets including Broadway and segments of 24th Street and Valdez Street. This Policy would minimize potential conflicts between vehicles entering and exiting driveways and bicycles traveling along these streets.
- Policy C.2.3 would install bulb-outs at intersections on key pedestrian streets which would reduce pedestrian street crossing distances and improve visibility between pedestrians and conflicting motorists and bicyclists. These bulbouts would be designed to not encroach on bicycle lanes or interfere with bicyclists.
- Policy C.2.7 would remove unnecessary channelized right turns which would reduce vehicle speeds and reduce potential conflicts between turning automobiles and bicyclists.
- Policy C.3.1 would complete the planned bicycle network as envisioned in the *2007 Bicycle Master Plan Update* in the Plan Area and surroundings. Completing the Class 2 bicycle lanes on Piedmont Avenue north of Broadway and on Broadway north of I-580, and on segments of Harrison Street would improve bicyclist safety by providing a dedicated facility for bicyclists.
- Policy C.3.2 would enhance bicycle facilities at key intersections with high bicycle and automobile traffic in order to improve bicycle safety.
- Policy C.3.3 would minimize activities, such as valet parking, that may block bicycle lanes.
- Policy C.4.1 would locate vehicular parking and service access away from primary pedestrian streets which would minimize potential conflicts between automobiles/trucks turning into and out of driveways with other bicycles.
- Policy C.4.4 would minimize cut-through traffic on residential streets by implementing traffic calming which would reduce potential conflicts between automobiles and bicyclists on residential streets.

Other policies and infrastructure improvements included in the Specific Plan would not result in permanent substantial decrease in bicyclist safety, such as removing existing bikeways or adding new vehicular travel lanes. This EIR also includes the following mitigation measures that are not required to mitigate impacts on bicyclist safety; however, if implemented, they would improve bicyclist safety:

- Mitigation Measures TRANS-4, TRANS-5, and TRANS-6 would signalize the 24th Street/Broadway (Intersection #36), 23rd Street/Broadway (Intersection #39), and 23rd Street/Harrison Street (Intersection #40) intersections which would provide crossing of Broadway and Harrison Street by bicyclists.
- A number of mitigations measures, such as Mitigation Measure TRANS-16 at West MacArthur Boulevard/ Telegraph Avenue (Intersection #11), TRANS-21 at 27th Street/

Telegraph Avenue (Intersection #29), TRANS-22 at 27th Street/Broadway (Intersection #30) and other locations would provide for protected left turns at signalized intersections which would reduce potential conflicts between left-turning vehicles and bicyclists traveling in the opposite direction.

- Other mitigation measures described in previous sections that require additional upgrades to the traffic signal equipment would also include improvements to bicycle environment, such as bicycle actuation, in order to comply with the local, state, and federal requirements, which would improve bicyclist safety.

The Broadway Valdez Specific Plan would not result in permanent substantial decrease in Bicyclist safety. This is a less than significant impact, and no mitigation measures are required,

Bus Rider Safety

The discussion of bus rider safety is based on application of Significance Threshold #13. Bus riders use pedestrian facilities to travel between the bus stops and their destinations. Thus, changes to the pedestrian environment described above would also benefit bus rider safety. In addition, the Specific Plan includes the following that would improve safety for bus riders:

- Policy C.5.1 includes a number of improvements, such as bulbouts at bus stops which minimize overcrowding at bus stops, and shelters at bus stops, which would improve bus rider safety.

- Mitigation Measure TRANS-4 which would signalize the 24th Street/Broadway intersection would provide a protected pedestrian crossing to access the proposed relocated bus stops on the far side of the intersection.

The Broadway Valdez Specific Plan does not propose to change the lane widths on Broadway. Broadway would continue to provide 11-foot wide lanes in both directions within the Plan Area, which is the minimum lane width for AC Transit bus operations.

Other policies and infrastructure improvements included in the Specific Plan, as well as mitigation measures identified in this EIR, would not result in permanent substantial decrease in bus rider safety, such as removing existing bus stop facilities or citing new bus stops in locations with insufficient sidewalks. The Specific Plan would have a less than significant impact on bus rider safety, and no mitigation measures are required.

The Broadway Valdez Specific Plan would not result in permanent substantial decrease in bus rider safety. This is a less than significant impact, and no mitigation measures are required.

At-Grade Railroad Crossings

The discussion of at-grade railroad crossing safety is based on application of Significance Threshold #14. The Specific Plan Project is not located near any at-grade railroad crossings. Therefore, it would not generate substantial traffic of any travel mode travelling across at-grade railroad crossings. This is a less than significant impact, and no mitigation measures are required.

Consistency with Adopted Policies, Plans or Programs Supporting Alternative Transportation

The discussion of consistency with adopted policies, plans or programs supporting is based on application of Significance Threshold #15. A discussion of applicable polices and plans is provided below. The Specific Plan, and the associated mitigation measures presented in this EIR, are consistent with these policies, plans and programs, and would not cause a significant impact by conflicting with adopted policies, plans, or programs supporting public transit, bicycle, or pedestrian transportation.

The City of Oakland General Plan LUTE, as well as the City's Public Transit and Alternative Mode Policy, states a strong preference for encouraging the use of non-automobile transportation modes, such as transit, bicycling, and walking and directs the City, in constructing and maintaining its transportation infrastructure, to resolve any conflicts between public transit and single occupant vehicles on City streets in favor of the transportation mode that provides the greatest mobility for people rather than vehicles giving due consideration to the environment public safety economic development health and social equity impacts. The Specific Plan would provide for high-density development in a compact area with excellent pedestrian and bicycle infrastructure and transit service. As previously documented in the trip generation section (page 4.13-40), the Broadway Valdez Development Program is estimated to generate about 34 percent fewer automobile trips than same uses in a more suburban setting.

The high usage of non-auto modes is due to the Broadway Valdez Development Program locating a variety of uses in proximity to Downtown Oakland, residential neighborhoods, AC Transit's Routes 51A and 1/1R (two of the busiest AC Transit bus routes), the "Free B" Shuttle, and 19th Street and MacArthur BART Stations. By providing a mix of uses in a dense walkable urban environment with quality pedestrian, bicycle, and transit infrastructure and a limited parking supply, the Specific Plan encourages the use of non-automobile transportation modes. Policies and infrastructure improvements, as outlined in the previous section, would also provide for safer and more attractive pedestrian, bicycle, and transit infrastructure and further encourage these activities.

The Specific Plan includes the following TDM strategies, which are consistent with the City of Oakland's SCA 25, *Parking and Transportation Demand Management,* and would encourage more residents, employees and visitors to shift from driving alone to other modes of travel**:**

- Policy C.6.1 would explore forming an areawide Transportation and Parking Management Agency (TPMA) and requiring all commercial and residential developments in the Plan Area to participate. The TPMA would coordinate all TDM efforts, including:
  - Providing residents, employers, employees, and visitors with information regarding available transportation alternatives
  - Implementing and coordinating trip reduction strategies
  - Maintaining a website to include transportation-related data
  - Establishing and monitoring parking demand management strategies
  - Managing the parking supply

  - Monitoring the effectiveness of various strategies, identifying new strategies and revising them when necessary
  - Contributing to existing transit/shuttle services and/or managing the shuttle program

  If an areawide TPMA is not formed, then each development in the Plan Area would be responsible for implementing TDM strategies as required by the City's SCA 25.

- Policy C.6.2 would implement a comprehensive wayfinding signage program in the District with an emphasis on pedestrian, bicycle and parking facilities.
- Policy C.6.3 would provide bicycle support facilities such as attendant bicycle parking/bike station, and/or bike sharing/rental program.
- Policy C.6.4 would consider providing Plan Area residents with a transit pass and/or transit subsidies.
- Policy C.6.5 would explore providing transit validation for shoppers in order to encourage them to use transit
- Policy C.6.6 would provide dedicated car-sharing spaces throughout the Plan Area.
- Policy C.6.7 would encourage all employers in the Plan Area to participate in TDM programs.

As previously described, the Specific Plan includes a number of modifications to the public right-of-way. These street modifications, along with the Specific Plan policies, would encourage pedestrian activity by creating a safer and more attractive pedestrian environment. The Specific Plan includes previously discussed policies, such as minimizing driveways on major pedestrian thoroughfares, widening sidewalks, and providing pedestrian scale lighting, that further encourage pedestrian activity. Therefore, the Specific Plan is consistent with the City's *Pedestrian Master Plan* by including infrastructure improvements, policies, and facilitating developments that would improve pedestrian safety and encourage and promote pedestrian activity.

Policy C.4.3 of the Broadway Valdez Specific allows the potential permanent or temporary closure to through traffic of Waverly Street south of 24th Street, 26th Street between Broadway and Valdez Street, and 34th Street between I-580 Off-Ramp and Broadway. Temporary or permanent closure of these streets would enhance the pedestrian orientation of the streets and surrounding areas and encourage pedestrian activity on these streets. Furthermore, these streets only serve the fronting parcels and carry very little through traffic. Thus, their closure would not result in noticeable traffic increase on other streets.

As previously discussed, most of the bicycle network in the Plan Area and surroundings envisioned in the City of Oakland *Bicycle Master Plan* has been completed. Policy C.3.1 of the Specific Plan encourages the completion of the bicycle network in the Plan Area and surroundings. In addition, Policy C.3.2 would enhance bicycle facilities at intersections with high bicycle and automobile traffic to reduce potential conflicts between bicycles and automobiles. Furthermore, other infrastructure modification proposed by the Specific Plan or mitigation measures in this EIR would not interfere with the completion of the bicycle network or conflict with existing bicycle facilities in the Plan Area.

Developments in the Plan Area are required to provide short-term and long-term bicycle parking consistent with the City of Oakland Bicycle Parking Ordinance (addressed in more detail in a subsequent section). Policy C.3.4 of the Specific Plan would provide for additional bicycle parking in the public right-of-way where feasible. Therefore, the Specific Plan is consistent with the City's *Bicycle Master Plan* by including infrastructure improvements, policies, and facilitating developments that would improve bicycle safety and encourage and promote bicycle use.

The Broad Valdez Specific Plan includes the following policies that encourage and promote transit use in the Plan Area and surroundings and are therefore consistent with the City's Public Transit and Alternative Mode Policy (i.e., "Transit First" Policy):

- Policy C.5.1 includes a number of improvements along Broadway as described in the Transit Travel Time subsection that would improve bus travel times along Broadway.
- Policy C.5.1 also includes improvements at bus stops such as shelters, benches, real-time transit arrival displays, route maps/schedules, trash receptacles that enhance the user experience and make bus travel more attractive.
- Policy C.5.2 promotes work with local shuttle operators to explore expanding the geographic area, extending the hours of operations, and funding shuttle service in the Plan Area.
- Policy C.5.3 encourages enhancements to Broadway between the Plan Area and the 19th Street BART Station in order to provide a more welcoming pedestrian connection between the Plan Area and 19th Street BART Station.
- Policy C.5.4 ensures that modifications on Broadway would not preclude the possibility for future streetcar service along the corridor.

The Specific Plan would not conflict with adopted City policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities. This is a less than significant impact, and no mitigation measures are required.

Construction-Period Impacts

The discussion of construction-period impacts is based on application of Significance Threshold #16. During the construction of each of the development projects under the Specific Plan, temporary and intermittent transportation impacts may result from truck movements as well as construction worker vehicles to and from the construction site. The construction-related traffic may temporary reduce capacities of roadways in the vicinity because of the slower movements and larger turning radii of construction trucks compared to passenger vehicles.

Truck traffic that occurs during the peak commute hours (weekdays, 7:00 to 9:00 AM and 4:00 to 6:00 PM) may result in worse LOS and higher delays at study intersections during the construction period. Also, if parking of construction workers' vehicles cannot be accommodated within the construction site, it would temporarily increase parking occupancy levels in the area.

In addition, temporary closure of sidewalks during construction of adjacent parcels may affect pedestrian safety and circulation; similarly, potential closure of bicycle lanes may affect bicycle safety and circulation. It is likely that construction of potential developments along Broadway may require temporary closure of sidewalks, parking lanes, bicycle lanes, and/or one lane of travel. Any such closures may impact access or operations of AC Transit Route 51A buses along Broadway.

The City of Oakland SCA 33, *Construction Traffic and Parking*, as described on page 4.13-35, requires that a Construction Traffic Management Plan be developed as part of a larger Construction Management Plan to address potentially significant impacts during a project's construction. To further implement SCA 33, the Construction Traffic Management Plan developed for a project shall include the following:

m) A set of comprehensive traffic control measures for motor vehicles, transit, bicycle, and pedestrian access and circulation during each phase of construction.

n) A construction period parking management plan to ensure that parking demands for construction workers, site employees, and customers are accommodated during each phase of construction.

Thus, with the implementation of SCA 33 as part of each development project, the Specific Plan would result in less-than-significant impact. Although no mitigation measures are required, There may be temporary, adverse affect on the circulation system during construction of each development, roadway modification, or infrastructure improvement project.

Changes in Air Traffic Patterns

The discussion of changes in air traffic patterns is based on application of Significance Threshold #17. The Oakland International Airport is located about eight miles south of the Plan Area. The development under the Specific Plan Project would increase density and increase building heights in the Plan Area. However, building heights would not interfere with current flight patterns of Oakland International Airport or other nearby airports. Therefore, the development under the Specific Plan would result in a less-than-significant impact on air traffic patterns.

4.13.4 Planning-Related Non-CEQA Issues Discussion

The items discussed in this section include:

- Parking Considerations for Bicycles and Automobiles
- Transit Ridership
- Intersection Queuing Analysis
- Collisions Characteristics

While these subjects do not relate to environmental impacts that are required to be evaluated under CEQA, they are discussed for informational purposes to aid the public and decision makers in evaluating and considering the merits of the Specific Plan.

Parking for Bicycles and Automobiles

Bicycle Parking

City of Oakland Bicycle Parking Ordinance (Municipal Code Chapter 17.117) provides requirements for quantity, type, location, and layout of bicycle parking for new facilities and additions to existing facilities. Although the specific uses, size, or location of each individual development project anticipated under the Specific Plan are not known, all developments would be required to meet the City of Oakland Bicycle Parking Ordinance requirements.

Furthermore, Specific Plan Policy C.3.4 would increase parking supply in the public realm by providing bicycle parking in pedestrian plazas, intersection bulb-outs, or in on-street bike corrals.

Automobile Parking

This transportation analysis assesses parking as a non-CEQA impact. Parking impacts are assessed according to the language previously discussed on page 4.13-33.

As previously described, the specific uses, exact size, or the proposed parking supply of each future project under Specific Plan are not known. In addition, the Plan Area currently contains a number of surface parking lots that may be replaced by development; thus, potential development projects may also modify the existing parking supply. This EIR provides a broad overview of the existing parking supply that would be displaced, the estimated parking supply that would be provided by the Specific Plan Development Program, the parking management policies provided in the Specific Plan, and the estimated parking demand generated by the Specific Plan Development Program.

Current Parking Supply that would be Eliminated

Figure 4.13-4B shows the location of existing surface parking lots in the Specific Plan area. These parking lots are open to the general public on an hourly, daily, and/or monthly basis, and are used by area residents, employees, and visitors throughout the day. The parking lots in the southern portions of the Specific Plan area are likely also used by employees who work in Downtown Oakland as these parking lots charge less for parking than most Downtown parking facilities.

The existing surface parking lots in the Specific Plan area provide about 1,100 spaces and are likely to be developed in the early phases of the plan's buildout; and so would not be available to current users or parking demand generated by the development replacing the surface parking. Motorists currently parking in these surface lots would either shift to other travel modes or continue to drive and park in other parking facilities in the Specific Plan area, Downtown, Uptown, or other surrounding areas.

The following existing parking supplies are expected to remain in and around the Specific Plan area:

- There are currently about 1,400 spaces in public parking garages within the Specific Plan area that are expected to remain. Since the current occupancies at these garages are not known, the number of spaces that may be available in the future is not known.

- The Alta Bates and Kaiser Medical Centers provide more than 3,700 parking spaces in various garages. These garages operate at or near capacity during weekday business hours but are expected to have capacity on weekday evenings and weekends. In addition, since these facilities are operated by the medical centers for their employees and patients/visitors, they may not be available to non-medical center users.

- Northern portions of Downtown Oakland provide more than 2,600 spaces in parking garages and more than 700 spaces in surface parking lots. Most of these facilities are expected to operate at or near capacity during weekday business hours but are expected to have capacity on weekday evenings and weekends. Similar to surface parking lots in the Plan Area, the surface parking lots in Downtown Oakland may also be developed and not be available for parking.

It is expected that some of the existing parking facilities described above would have adequate capacity and be available to motorists that currently park at the surface lots in the Plan Area and the parking demand that the Specific Plan Development Program would generate. However, the amount of existing unused parking that would be available cannot be quantified at this time. Therefore, this analysis does **not** account for the existing parking supply that may be available.

Parking Supply under Specific Plan

The Broadway Valdez Specific Plan recommends parking supply ratios based on parking requirements in Metropolitan Transportation Commission's (MTC) *Toolbox/Handbook: Parking Best Practices and Strategies for Supporting Transit Oriented Development in the San Francisco Bay Area* for City Center/ Urban Neighborhoods. **Table 4.13-18** presents the estimated parking supply, using these parking ratios, for the Development Program buildout.

TABLE 4.13-18
BROADWAY VALDEZ SPECIFIC PLAN DEVELOPMENT PROGRAM
ESTIMATED PARKING SUPPLY[a]

Land Use	Units	Parking Ratio	Supply (Parking Spaces)
Multi-Family Residential	1,797 DU	1.0	1,797
Retail	1,114.1 KSF	2.5	2,785
General Office	336.0 KSF	2.0	672
Medical Office	358.9 KSF	3.0	1,077
Hotel	180 rooms	0.5	90
Total			***6,421***

[a] Based on parking ratios presented in the Broadway Valdez Specific Plan.

SOURCE: Fehr & Peers, 2013.

Based on the Specific Plan parking ratios, the Development Program would provide about 6,420 new parking spaces throughout the plan area.

Parking Management Policies

Previously, this EIR discussed Specific Plan policies that would reduce automobile demand in the Plan Area. These policies would also reduce parking demand. The Specific Plan also includes the following policies to reduce overall parking supply and maximize parking use:

- ***Policy C.7.1*** would encourage shared parking within each development and between different developments. Shared Parking is defined as the ability to share parking spaces due variations in the accumulation of vehicles by hour, by day, or by season at individual land uses. For example, shared parking is where an office has high use during the day and a restaurant has high use during the evening, enabling both uses to utilize the same space at different times. Shared parking would reduce the overall parking supply by allowing one parking space to be used by more than one use.

- ***Policy C.7.2*** would encourage construction of centralized parking facilities that do not assign parking spaces to specific uses in order to encourage a "park once" strategy. Instead of driving to multiple destinations, this strategy would allow users visiting multiple sites to park once and walk to the various destinations within the Plan Area and adjacent neighborhoods.

- ***Policy C.7.3*** would explore publicly funding construction of parking that serves the catalyst retail projects in the early phases of Specific Plan development in order to compete with other destination retail in the area and encourage retailers to the Plan Area.

- ***Policy C.7.4*** would explore establishing a Community Benefit District or a Parking Benefit District to manage the on-street and off-street parking supply and use the parking revenue to fund additional parking facilities and/or improve circulation and transportation in the Plan Area.

- ***Policy C.7.5*** would encourage residential developments to unbundle the cost of parking from the cost of housing. When parking is bundled (a parking space is included in an apartment rent or is sold with a condominium) into apartment tenant leases or condominium prices, the true cost of parking is hidden. For example the price for an apartment with one parking space may be rented for $1,000 per month. However, if the parking spaces were unbundled, the rent for the apartment may be $900 per month, plus $100 per month for the parking space. Unbundled parking would help tenants understand the cost of parking, and may influence a resident's decision to own a car. Not including the cost of parking in the apartment rent or condominium price would attract and/or residents that do not own an automobile.

- ***Policy C.7.6*** would encourage the use of existing parking facilities in the Plan Area and vicinity, rather than construction new parking facilities. Currently, Alta Bates and Kaiser Medical Centers provide more than 3,700 parking spaces in or near the northern portions of the Specific Plan area. There are also more than 2,600 spaces in the northern portions of Downtown Oakland. Most of these parking facilities generally operate at or near capacity during weekday business hours. However, many are far below capacity on weekday evenings and nights and weekends and may be available to Specific Plan area parkers.

- ***Policy C.7.7*** would encourage implementing an areawide real-time parking information system that would direct visitors to the Plan Area to the nearest available parking, which would improve efficiency of the parking facilities and reduce excessive automobile circulation looking for parking.

- ***Policy C.7.8*** would consider using attendant parking during peak shopping periods. Considering that most retail uses peak during the holiday shopping period. Using attendant or valet parking during the peak demand periods would avoid constructing large amounts of surplus parking that remain unused throughout the rest of the year.

- ***Policy C.7.9*** would explore implementing a parking pricing strategy that encourages Plan Area employees to walk, bike or use transit. Combined with the TDM strategies previously discussed, setting reasonable short-term parking rates and high long-term rates can discourage employees from driving and ensure parking availability for shoppers.

- ***Policy C.7.10*** would provide metered on-street parking along commercial frontages and explore strategies, such as smart meters, variable demand-based pricing and time restrictions, to better manage the on-street parking supply in order to provide convenient parking with high turnover rates for short-term commercial customers.

- ***Policy C.7.11*** would consider monitoring parking demand in the Plan Area in the early phases of development so that parking supply and strategies in later phases of development can be adjusted to reflect observed conditions.

- ***Policy C.7.12*** would study the need for implementing Residential Parking Permit (RPP) on nearby residential streets to discourage potential parking spillover from the Plan Area into nearby residential neighborhoods.

In addition, SCA 25, *Parking and Transportation Demand Management*, discussed on page 4.13-32, would be applicable to the Specific Plan developments and would require implementation of programs and strategies to reduce a project's parking demand.

Estimated Automobile Parking Demand

Automobile parking demand generated by the buildout of the Specific Plan Development Program is estimated under two scenarios without and with implementation of the parking management strategies described above. This analysis is based on data and methodology published in Urban Land Institute's *Shared Parking*, adjusted to account for the non-automobile mode share and mixed-use characteristics of the area.

Parking Demand with no Parking Management Strategies. Table 4.13-19 summarizes the estimated parking demand by the Specific Plan Development Program at buildout assuming that each development would provide its own parking supply with no opportunity for sharing parking supply between developments. This scenario also assumes that the parking management strategies described above would not be implemented.

It is estimated that buildout of the Development Program would have a peak parking demand of about 7,400 spaces on weekdays and 7,870 spaces on weekends, which would exceed the recommended supply by about 980 and 1,450 spaces on weekday and weekends, respectively. Both peak weekday and weekend peak demand would occur in December, when the retail components of the project would generate about 40 percent of the weekday demand and 50 percent of the weekend demand. The parking deficit would be smaller during other times of the year.

TABLE 4.13-19
BROADWAY VALDEZ SPECIFIC PLAN DEVELOPMENT PROGRAM
ESTIMATED PARKING DEMAND WITH NO PARKING MANAGEMENT STRATEGIES

Land Use	Units	Parking Demand		Parking Supply[a]	Surplus (Deficit)	
		Weekday	Weekend		Weekday	Weekend
Multi-Family Residential[b]	1,797 DU	2,182	2,182	1,797	-385	
Retail - December[c]	1,114.1 KSF	3,218	4,191	2,785	-433	-1,406
Retail – Non-December[d]		2,408	3,155		+377	-370
General Office[e]	336.0 KSF	598	79	672	+74	+593
Medical Office[f]	358.9 KSF	1,227	1,227	1,077	-150	-150
Hotel[g]	180 rooms	179	187	90	-89	-97
Total – December		***7,403***	***7,865***	***6,421***	***-983***	***-1,445***
Total – Non-December		***6,593***	***6,829***		***-173***	***-409***

Parking demand based on base rates published in *Shared Parking* and reduced to account for non-automobile traffic and mixed-use character of the project area.

[a] See Table 4.13-18 for details.
[b] Based on adjusted demand rate of 1.21 parking spaces per dwelling unit on weekdays and weekends.
[c] Based on adjusted demand rate of 2.89 parking spaces per KSF on weekdays and 3.76 spaces per KSF on weekends for December.
[d] Based on adjusted demand rate of 2.16 parking spaces per KSF on weekdays and 2.83 spaces per KSF on weekends for non-December.
[e] Based on adjusted demand rate of 1.78 spaces per KSF on weekdays and 0.23 spaces per KSF on weekends.
[f] Based on adjusted demand rate of 3.42 spaces per KSF on weekdays and weekends.
[g] Based on adjusted demand rate of 0.99 spaces per room on weekdays and 1.04 spaces per KSF on weekends.

SOURCE: Fehr & Peers, 2013.

Parking Demand with Parking Management Strategies Implemented. Table 4.13-20 summarizes the estimated parking demand by the Specific Plan Development Program at buildout assuming that the parking management strategies previously discussed would be implemented. Specifically, this scenario accounts for the following strategies:

- All new off-street parking spaces in the Specific Plan area would be available to parking generated by the Development Program per Policies C.7.1 and C.7.2.

- Instead of reserved parking spaces, residential developments would be provided with parking passes for unreserved spaces for sale or lease separately from the cost of housing, per Policy C.7.5. Thus, parking spaces used by residents at night would be available to area employees during the day.

- Implementation of a robust TDM program per Policy C.6.1 and SCA 25, would incentivize area residents, employees, and visitors to use non-automobile modes to travel to and from the Specific Plan area. TDM strategies would be most effective in reducing commute trips by residents and employees who travel to and from the project area daily and would be familiar with all travel options in the area. Consistent with the goals of the SCA 25, this analysis assumes that the TDM program would reduce parking demand by area employees by 20 percent and area residents by 10 percent (Although more residents would most likely shift to other travel modes for their commute trips, this analysis conservatively assumes that many would continue to own an automobile and park it in the plan area).

TABLE 4.13-20
BROADWAY VALDEZ SPECIFIC PLAN DEVELOPMENT PROGRAM
ESTIMATED PARKING DEMAND WITH PARKING MANAGEMENT STRATEGIES

Scenario	Parking Demand		Parking Supply [a]	Surplus (Deficit)	
	Weekday	Weekend		Weekday	Weekend
No Parking Management Strategies[b]					
December	7,403	7,865	6,421	-983	-1,445
Non-December	6,593	6,829		-173	-409
Parking Management Strategies Implemented[c]					
December	6,073	5,542	6,421	348	879
Non-December	5,299	4,696		1,122	1,725

Parking demand based on base rates published in *Shared Parking* and reduced to account for non-automobile traffic and mixed-use character of the project area.

[a] See Table 4.13-18 for details.
[b] See Table 4.13-19 for details.
[c] See Appendix G.Q for details.

SOURCE: Fehr & Peers, 2013.

As previously discussed, the Specific Plan includes other parking management policies that would reduce overall parking supply and maximize parking use. These strategies are either in support of the strategies described above or their effectiveness on reducing parking demand cannot be accurately assessed at this time.

As shown in Table 4.13-20, the implementation of the parking management strategies is estimated to reduce the overall peak parking demand generated by the Development Program to about 6,070 spaces on weekday and 5,540 spaces on weekends, which corresponds to an approximately 18 to 30 percent reduction in parking demand compared to the scenario with no parking management strategies. The peak parking demand would occur in December and would be less at other times during the year. If implemented, parking management strategies would reduce the overall estimated parking demand to below the parking supply recommended in the Specific Plan.

Parking Conclusions

The discussion in previous sections provides a broad overview of parking demand and supply for the Broadway Valdez Specific Plan. The Broadway Valdez Specific Plan Development Program would have a peak parking demand of about 7,870 parking spaces at buildout but the recommended parking ratios provided in the Specific Plan would yield 6,420 parking spaces, which would not be adequate to meet the estimated overall peak parking demand. To eliminate this parking deficit, the Specific Plan would implement parking management strategies that can reduce the peak parking demand to about 6,070 spaces.

As previously described, the location or amount of parking supply under the Specific Plan is not known at this time. Furthermore, although the implementation of the parking management strategies would reduce the parking demand, the specific strategies that would be implemented by

individual developments are not known at this time. Thus, individual developments or areas within the plan area, as well as the overall Specific Plan area, may experience parking deficits at certain times. In addition, development of existing parking lots in the Specific Plan area would eliminate about 1,100 spaces that are currently available. Although parking facilities in and around the Specific Plan area would continue to have parking available, their availability cannot be assessed at this time. Thus, this EIR cannot accurately determine if the proposed Specific Plan would result in a parking deficit or surplus.

Parking deficits may be associated with secondary physical environmental impacts, such as air quality and noise effects, caused by congestion resulting from drivers circling as they look for a parking space. However, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, shuttles, taxis, bicycles or walking), may induce drivers to shift to other modes of travel, or change their overall travel habits. Any such resulting shifts would be in keeping with the City's Public Transit and Alternative Modes (i.e., "Transit First") and Complete Street Policies, and would be consistent with the goals of the Specific Plan.

Additionally, regarding potential secondary effects, cars circling and looking for a parking space in areas of limited parking supply is typically a temporary condition, often offset by a reduction in automobile trips due to others who are aware of constrained parking conditions. Hence, any secondary environmental impacts that may result from a shortfall in parking in the vicinity of the Plan Area are considered less than significant.

Development under the Specific Plan would include a mix of uses in a dense urban neighborhood. The proximity of uses to each other, combined with the transportation infrastructure that promotes walking, bicycling, and transit, is intended to reduce reliance on the automobile and the need for parking. Therefore, many residents and workers who choose to live and work in the Plan Area may not have an automobile or need parking. Thus, the parking demand estimate presented in this EIR may overestimate the actual parking demand at Specific Plan buildout.

However, one of the primary goals of the Specific Plan is development of destination retail that would draw regional visitors. Many potential shoppers may not consider transit a viable travel mode due to lack of access and/or convenience. The destination retail in the Plan Area would also compete with other destination retail areas in the region that have convenient and/or inexpensive parking. Thus, availability and cost of parking may be a key factor for many shoppers in deciding to shop at the Broadway Valdez District. In general, the parking management strategies proposed by the Specific Plan intend to reduce the overall demand for parking, better manage the available parking supply, and provide adequate flexibility to attract and retain destination retail in the Plan Area. It is expected that early developments in the Plan Area would provide higher parking supplies; however, the parking demand rates would decrease over time and later developments would provide smaller parking supplies.

Transit Ridership

One of the stated goals in City of Oakland General Plan LUTE is the promotion of transit ridership and encouragement of transit accessibility and improvement of transit service throughout Oakland. The Specific Plan includes policies and infrastructure improvements that encourage transit use and that would increase transit ridership in the study area. Thus, as described on page 4.13-49, an increase in transit ridership is not identified as an adverse impact under CEQA because transit load is not part of the permanent physical environment and transit service changes over time due to a variety of factors. Any resulting shifts from driving to transit would be in keeping with the City's Public Transit and Alternative Modes (i.e., "Transit First") and Complete Street Policies, as well as the goals of the Broadway Valdez Specific Plan.

As previously described, transit service is not a part of the permanent physical environment, and can change over time in response to a variety of factors. The supply (transit service) and demand (transit ridership) for both AC Transit bus and BART service change over time. **Table 4.13-21** shows the level of supply (revenue vehicle hours which is an indicator for transit service provided) and demand (systemwide weekday average ridership) and for both AC Transit and BART over the last ten years. As shown in the table, both AC Transit and BART have generally reduced service in the last ten years, while AC Transit ridership has also generally decreased, and BART ridership has fluctuated. AC Transit ridership peaked in fiscal year 2006-2007, while revenue vehicle hours peaked in fiscal year 2008-2009. The most recent available data for AC Transit shows that both ridership and revenue vehicle hours were the lowest in fiscal year 2010-2011. BART ridership peaked in fiscal year 2011-2012, while revenue vehicle hours were about seven percent less than the peak which occurred in fiscal year 2006-2007.

TABLE 4.13-21
OVERALL TRANSIT RIDERSHIP (2003-2012)

	AC Transit		BART	
	Average Weekday Ridership	Revenue Vehicle Hours (x 1,000)	Average Weekday Ridership	Revenue Vehicle Hours (x 1,000)
FY 2003-2004	215,466	1,915	324,993	1,768
FY 2004-2005	210,496	1,800	329,199	1,775
FY 2005-2006	226,732	1,817	343,026	1,820
FY 2006-2007	226,855	1,822	362,483	1,959
FY 2007-2008	218,245	1,870	384,231	1,940
FY 2008-2009	197,208	1,897	379,007	1,942
FY 2009-2010	197,445	1,853	357,461	1,780
FY 2010-2011	190,948	1,660	367,505	1,775
FY 2011-2012	N/A	N/A	391,777	1,814

SOURCE: MTC, 2008 and 2013.

Various factors, such as the following, have affected transit supply and demand in the last decade:

- Both AC Transit and BART have generally reduced service in the last few years due to reduction in operating budget caused by the 2007/2008 Recession. AC Transit has

generally eliminated routes, and reduced frequency of service and hours of operations on some routes, while BART has reduced frequency of service and the number of cars in some trains, resulting in fewer revenue vehicle hours for both transit providers.

- The increase in overall unemployment, caused by the 2007/2008 Recession, resulted in fewer transit riders as less people commuted to work. However, ridership has started increasing as employment levels increase.

- External factors such as increase in cost and decrease in availability of parking especially in major employment areas such as downtowns, increase in cost of fuel, and increase in employer TDM incentives such as free or partially subsidized transit employee costs, have generally increased transit ridership in the region.

In addition, the level of supply (transit service) and demand (transit ridership) influence each other. Just as drivers change their travel behavior depending on the nature of the parking supply, transit riders will adapt their travel behavior depending on the nature of the transit service. Transit ridership generally increases as additional routes are added, hours of operations are expanded, and frequency of service is increased.

Although not considered an impact under CEQA requirements, this section analyzes the transit system with trips associated with the Broadway Valdez Development Program would be added to the existing system. This analysis presents the extent of impacts relative to existing transit conditions. This EIR does not analyze future transit ridership and load factors because they cannot be estimated accurately due to the uncertainty and volatility in both transit service and various factors affecting transit ridership.

Based on the application of the MXD Model and the results of the ACTC Model, **Table 4.13-22** summarizes the transit trip generation by the Broadway Valdez Development Program.

TABLE 4.13-22
TRANSIT TRIP GENERATION ESTIMATE
(BROADWAY VALDEZ DEVELOPMENT PROGRAM BUILDOUT)

	AC Transit	BART	Total Transit
Daily	2,340	6,430	8,780
AM Peak Hour	100	450	550
PM Peak Hour	230	780	1,010

SOURCE: Fehr & Peers, 2013.

AC Transit Ridership

As shown in Table 4.13-18, the Broadway Valdez Development Program is estimated to generate about 2,340 weekday daily, 100 AM peak-hour, and 230 PM peak-hour trips on AC Transit buses. Currently five bus routes directly serve the Plan Area. Because the PM peak hour generates the most number of bus trips, the Project-generated PM peak-hour AC Transit trips were distributed among the five AC Transit routes that serve the Plan Area, in proportion to their

existing ridership. **Table 4.13-23** summarizes maximum load factors on buses serving the Plan Area with and without the trips generated by the Broadway Valdez Development Program.

TABLE 4.13-23
AC TRANSIT BOARDINGS AND ALIGHTINGS (WITH AND WITHOUT PROJECT)

Bus Route	Direction	Average Capacity (Seats)	Existing		Existing Plus Project	
			Maximum Load (Passengers)[a]	Maximum Load Factor[b]	Maximum Load (Passengers)[c]	Maximum Load Factor[b]
Route 1	SB	47	44	94%	50	106%
	NB		54	115%	**61**	**130%**
Route 1R	SB	47	45	96%	51	109%
	NB		**59**	**126%**	**67**	**143%**
Route 11	EB	40	24	60%	27	68%
	WB		35	88%	40	99%
Route 12	EB	25	20	80%	23	90%
	WB		25	100%	29	114%
Route 51A	SB	32	37	116%	**42**	**131%**
	NB		53	166%	60	188%

[a] Maximum number of passengers on the bus observed on a typical weekday based on data collected in spring 2012 by AC Transit.
[b] Maximum load divided by average seated capacity.
[c] Maximum number of existing passengers on the bus plus Broadway Valdez Development Program generated bus trips.

Bold indicates load factor above 125 percent.

SOURCE: Fehr & Peers, 2013.

As previously described, the Project would affect bus load factors if it would increase ridership on AC Transit lines by three percent at bus stops where the load factor with the project in place would exceed 125 percent over a peak 30-minute period. As shown in Table 4.13-23, the bus trips generated by the Broadway Valdez Development Program would result in buses on Routes 1, 1R, and 51A to operate with a load factor above 125 percent with the Project increasing the load factor by more than three percent. The analysis summarized in Table 4.13-23 is conservative in that it is based on the maximum load factor, rather than the average load factor over a peak 30-minute period, which would be lower than the maximum load factor.

As previously described, increase in bus ridership is not considered a significant impact under CEQA; based on the goals of the Specific Plan and City of Oakland General Plan, the increase in bus ridership is considered a benefit. Furthermore, it is expected that AC Transit bus trips generated by the Plan Area would increase as the Plan Area develops and policies and infrastructure improvements that support transit are implemented.

BART Ridership

As shown in Table 4.13-22, the Broadway Valdez Development Program is estimated to generate about 6,430 weekday daily, 450 AM peak-hour, and 780 PM peak-hour trips on BART. The

Project-generated BART trips were distributed among the six BART lines that serve the Specific Plan Area, in proportion to their existing ridership. **Table 4.13-24** summarizes maximum load factors on BART trains with and without the trips generated by the Broadway Valdez Development Program.

TABLE 4.13-24
BART PEAK HOUR LOADS BY LINE (WITH AND WITHOUT PROJECT)

Line	Total Capacity (Passengers/Car)[a]	Existing		Existing Plus Project	
		Maximum Load (Passengers/Car)	Load Factor	Maximum Load (Passengers/Car)	Load Factor
Pittsburg/Bay Point-Daly City	107	**114**	**1.07**	**116**	**1.09**
Daly City-Pittsburg/ Bay Point	107	106	0.99	**110**	**1.03**
Colma/Daly City-Richmond	107	99	0.93	103	0.96
Richmond-Daly City/Colma	107	101	0.86	103	0.96
Fremont-Richmond	107	92	0.86	95	0.88
Richmond-Fremont	107	58	0.54	60	0.56

Bold indicates maximum load above capacity.

[a] BART defines total capacity to include 67 seated and 40 standing passengers.

SOURCE: Fehr & Peers, 2013.

As previously described, the Project would affect BART load factors if it were to increase the peak-hour average ridership on BART by three percent where the passenger volume would exceed the standing capacity of BART trains. As shown in Table 4.13-24, BART trips generated by the Broadway Valdez Development Program would add ridership on all BART lines serving the Plan Area. The Daly City-Pittsburg/Bay Point line is the only line that maximum passenger load would exceed the standing capacity of the train and increase peak-hour ridership by more than three percent in both directions. The analysis summarized in Table 4.13-24 is conservative in that it is based on the maximum load factor on each BART line, rather than the average load factor over the peak hour, which would be lower than the maximum load factor. This analysis also conservatively assumes that each BART car has a capacity of 107 passengers (67 seated and 40 standing passengers), which is much less than the actual capacity of the cars. All BART cars can carry more than 200 passengers in a crush load.

As previously described, increase in BART ridership is not considered a significant impact under CEQA; based on the goals of the Specific Plan and City of Oakland General Plan, the increase in BART ridership is considered a benefit. Furthermore, it is expected that BART trips generated by the Plan Area would increase as the Plan Area develops and policies and infrastructure improvements that support transit are implemented.

BART Faregates

Although the Plan Area can be accessed through 19th Street and MacArthur BART Stations, it is expected that most Project generated BART trips would use the 19th Street Station, because it is closer to most of the Plan Area. It is assumed that all Project generated BART trips would use the 19th Street Station portals nearest to the Plan Area, which are at the northeast and southwest corners of the 20th Street/Broadway intersection. The following two faregate arrays in the north end of the station are the nearest to the portals and would most likely be used by Project BART trips:

- The northeast array consists of five faregates, configured to provide three exit faregates, one entry faregate, and one bidirectional (for bikes, ADA, etc.) faregate during the AM peak period.
- The northwest array consists of three faregates, which are configured to provide two exit faregates and one entry faregate during the AM peak period.

Based on observations in January 2013, more passengers use the northeast array than the northwest array to enter and exit the train platforms. This is most likely because more office buildings are located on the east side of Broadway than the west side.

Faregate queuing is typically most critical for exiting travelers as trains, and passengers they carry, arrive at the station at the same time. As previously shown in Table 4.13-3, exiting passengers at the 19th Street Station peak during the AM peak period.

Based on January 2013 observations, maximum faregate queues occur when a Richmond bound and a Pittsburg/Bay Point bound train arrive at the station at the same time because of the timed transfer at the 19th Street Station which is scheduled to occur every 15 minutes during peak periods. At this time, the maximum observed queue at the north faregate arrays in the 19th Street BART Station was about 10 passengers which took approximately 25 seconds to clear (i.e., the 10th person was in the queue for about 25 seconds). The rolling queue, which never exceeded 10 persons took about one to 1.5 minutes to clear. Note that this maximum queue and associated delay only occurs when two trains arrive simultaneously at the station. It is very difficult to measure average wait times during the peak hour through observations. Because faregate queues and associated delays are much lower at all other times, it is estimated that the average peak-hour wait time at the at the north faregate arrays in the 19th Street BART Station are much lower than the maximum observed wait time of 25 seconds.

As previously stated, the Project would affect faregate operations if it would increase peak-hour average ridership at a BART station by three percent where average waiting time at fare gates would exceed one minute. Because the current average wait time at the 19th Street BART Station north faregate arrays, which are most likely to be used by Plan Area BART passengers, is currently substantially below one minute, the development under the Specific Plan would not affect faregate operations.

Transit Ridership Conclusion

As previously described, Project's effects on both AC Transit and BART ridership are not considered CEQA impacts due to the transitory nature of both transit ridership and service in general and because they are not impacts to the physical environment. In addition, various other factors contribute to both transit ridership and service. Similar to parking, as previously discussed in this Draft EIR as a non-CEQA topic, transit riders will adjust their travel behavior depending on the available transit service.

As described starting on page 4.13-37, the proposed Specific Plan includes infrastructure improvements that would improve bus service and increase ridership in the project area. The proposed Specific Plan would not modify BART infrastructure such as station features or tracks. The BART system would continue to operate with the current effectiveness and safety and the proposed project would not decrease the performance or safety of the BART system.

Therefore, identification of impacts to AC Transit and BART service, as well as the mitigation of any such impacts, is not required. Furthermore, the Broadway Valdez Development Program would result in an increase in property and sales taxes which will contribute to the operating budget for both AC Transit and BART which can be used to increase transit service.

Intersection Queuing Analysis

Environmental impacts of the Broadway Valdez Development Program on intersection traffic operations were analyzed through the delay/LOS analysis presented earlier in this document. Although not an environmental impact, an analysis of project's impacts on queuing at intersections within the Plan Area was also completed to provide additional information to aid the public and decision makers in evaluating and considering the merits of the Specific Plan.

Queuing analysis for intersections in the Plan Area was completed for the Existing and 2020 scenarios using the Synchro software. The software calculates the expected queue using a formula that extrapolates the length of queue based on two cycle lengths. This methodology provides reasonable results for locations operating in the LOS A through LOS D, but can misrepresent conditions as intersection operations approach capacity. In these instances, the software output denotes the condition with a letter/symbol adjacent to the analysis output worksheet.

Queuing impacts were identified where the Project trips would add 25 or more feet to the 95th percentile queue if the 95th percentile queue was over the available storage length with or without the Project. **Table 4.13-25** presents queues at locations where the Project would increase queue length over the available storage length by 25 or more feet during the weekday PM or Saturday peak hours. Appendix G.Q summarizes queues at all intersections in the Plan Area.

Collision Characteristics

Collision data in the Plan Area and surroundings for the five year period from 2007 through 2011 was obtained through the Statewide Integrated Traffic Records System (SWITRS). A total of 178 collisions, including 25 (about 14 percent) involving bicycles and 12 (about seven percent)

TABLE 4.13-25
QUEUING SUMMARY

Intersection	Movement[a]	Storage (feet)	Existing[b]		Existing Plus Project[b]		Existing Plus Project Mitigated[b]		2020 No Project[b]		2020 Plus Project[b]		2020 Plus Project Mitigated[b]	
			PM (feet)	SAT (feet)	PM (feet)	SAT (feet)	PM (feet)	SAT (feet)	PM (feet)	SAT (feet)	PM (feet)	SAT (feet)	PM (feet)	SAT (feet)
20. Piedmont Ave./Broadway														
	WB Left	60	100	50	**140**	**90**			120	50	**160**	**80**		
	NB Right	75	#240	120	**m#330**	**m180**			m#250	m140	**m#290**	**m#170**		
	SB Thru	150	190	130	**230**	**210**			220	160	**250**	**230**		
21. Hawthorne Ave./Brook St./Broadway														
	EB Right	60	20	20	**90**	40			30	20	**70**	40		
	NB Left	100	m10	10	**m#160**	**#140**			m10	20	**m#130**	**#170**		
23. 30th St./Broadway														
	EB	250	110	40	**#260**	110			120	40	#200	110		
24. 29th St./Broadway														
	EB	150	170	70	**200**	90			190	90	190	90		
	SB Left	125	10	20	**m#160**	50			20	30	m#110	m20		
30. 27th St./Broadway														
	WB Thru	350	130	50	190	80			190	70	**#400**	120		
	NB Left	90	120	70	**#170**	90			130	80	#140	80		
	SB Left	75	90	80	**m#220**	**#190**			#200	110	**#340**	**#180**		
	SB Thru	225	200	130	**260**	**210**			220	170	**260**	**240**		
34. 25th St/Broadway/Webster St.														
	NB Thru	250	180	80	**290**	190	120	120	230	90	**m300**	180	150	70
	SB Left	85/125[c]	160	90	**#220**	70	**#220**	70	170	100	**#240**	70	**#240**	70
36. 24th St/Broadway														
	WB	150	30	20	**	**	150	140	70	30	**	**	120	80
37. 27th St./24th Street/Bay Pl./Harrison St.														
	EB Right	50	#180	80	**#480**	**#400**			#540	100	**#790**	**#370**	300	90
	WB Left	175	110	#130	110	#130			#230	#200	**#260**	#200	#170	100
	WB Thru	175	210	250	**310**	**360**			230	340	**300**	**420**	240	320
	NB Left	400	#250	110	#310	140			#630	140	**#370**	170	#450	110
	NB Thru	400	600	180	**670**	230			#910	250	**#970**	280	#820	250
	SB Thru	325	250	160	300	220			310	220	**360**	280	320	240

TABLE 4.13-25 (Continued)
QUEUING SUMMARY

Intersection	Movement[a]	Storage (feet)	Existing[b]		Existing Plus Project[b]		Existing Plus Project Mitigated[b]		2020 No Project[b]		2020 Plus Project[b]		2020 Plus Project Mitigated[b]	
			PM (feet)	SAT (feet)	PM (feet)	SAT (feet)	PM (feet)	SAT (feet)	PM (feet)	SAT (feet)	PM (feet)	SAT (feet)	PM (feet)	SAT (feet)
39. 23rd St/Broadway														
	EB	350	50	10	******	330	m80	m40	90	10	******	300	m70	m50
	WB	500	40	10	******	**700**	160	150	70	10	******	**570**	140	130
40. 23rd St/ Harrison St.														
	NB	150	10	10	10	10	**200**	90	10	10	10	10	**#390**	120
49. Grand Ave./Broadway														
	WB Thru	325	170	120	180	160			#260	160	**#360**	180		
	NB Left	150	150	40	**#240**	50			#250	50	**#290**	70		
	NB Thru	150	110	60	**160**	90			150	70	170	100		
52. Grand Ave./Harrison Street														
	NB Thru	500	320	110	350	140			#620	160	**#650**	180		
	SB Thru	150	150	90	**200**	130			230	120	**280**	150		

NOTES: **Bold** indicates where project would increase queues by more than 25 feet and queues would be longer than available storage.

[a] NB = Northbound, SB = Southbound, EB = Eastbound, WB = Westbound.
[b] 95th Percentile queue as estimated by Synchro for weekday PM and Saturday peak hours. Only movements where queue would increase by more than 25 feet are reported.
[c] Storage at this location is currently 85 feet, but would increase to 125 feet with the Plan Area.

# = 95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.
m = Volume for 95th percentile queue is metered by upstream signal.
** = queue cannot be estimated accurately.

SOURCE: Fehr & Peers, 2013.

involving pedestrians were reported at intersections and mid-block in the study area. About 37 percent of all collisions resulted in injury, including 68 percent of collisions involving bicycles and 92 percent of collisions involving pedestrians. No fatal collisions were reported during this period in the study area. Appendix G.R summarizes the data for vehicle/vehicle, vehicle/bicycle, and vehicle/pedestrian collisions.

The highest number of collisions was reported at the Harrison Street/27th Street/24th Street/Bay Place intersection. A total of 21 collisions were reported over the five year period, with four resulting in injuries. The intersection has five approaches and one of the highest traffic volumes in the study area, which contribute to the high number of reported collisions. The highest number of injuries from vehicle/vehicle collisions was reported at the 24th Street/Broadway and 29th Street/Broadway intersections where five collisions resulting in injuries were reported at each intersection. The most common vehicle/vehicle collision type at intersections was broadside.

Vehicle collisions with bicycles and pedestrians accounted for about 21 percent of reported collisions at intersections in the Plan Area. Eight bicycle collisions were reported along 27th Street. The 27th Street/Broadway intersection had the highest number of bicycle collisions with six collisions and four resulting in injury, while the Grand Avenue/Broadway intersection followed with four collisions, with three collisions resulting in injury.

Pedestrian collisions accounted for the fewest number of collisions of the three types of collisions. Two pedestrian collisions were reported at the Grand Avenue/Broadway, 27th Street/ Broadway, 29th Street/Broadway and Webster Street/Grand Avenue intersections, with one or no collisions reported elsewhere.

Similar to other urban areas, a relatively small percentage of the collisions (about 16 percent) within the study area were reported mid-block between intersections. These collisions were largely between vehicles, with sideswipe and rear-end the most common. One mid-block collision involving pedestrians and three mid-block collisions involving a bicycle was reported. The highest number of vehicle collisions was reported on Broadway between 30th Street and Piedmont Avenue.

4.13.5 References

Alameda County Transportation Commission (ACTC), 2012. *Level of Service Monitoring on the Congestion Management Program Roadway Network,* October 2012

Bay Area Rapid Transit (BART), 2012. Monthly Ridership Report, October 2012, available online at: www.bart.gov/about/reports/ridership.aspx, accessed October 2012.

California Department of Transportation (Caltrans), 2012a. 2011 Traffic Volumes on California State Highways, 2012; at http://traffic-counts.dot.ca.gov/2011TrafficVolumesAug2012.pdf; accessed December 10, 2012.

California Department of Transportation (Caltrans), 2012b. California Manual on Uniform Traffic Control Devices (MUTCD) for Streets and Highways, Part 4: Highway Traffic Signals, Chapter 4C: Traffic Control Signal Needs Studies. Available online at: www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/; accessed December 10, 2012.

Institute of Transportation Engineers (ITE), 2008. *Trip Generation*, 8th Edition.

City of Oakland, 1998. *Envision Oakland, City of Oakland General Plan, Land Use and Transportation (LUTE) Element*, as amended through March 24, 1998.

City of Oakland, 2002. *Pedestrian Master Plan*, November 2002.

City of Oakland, 2007. *Bicycle Master Plan Update*, December 2007.

Metropolitan Transportation Commission (MTC), 2013. *Statistical Summary of Bay Area Transit Operations Fiscal Years 2003-04 Through 2007-08,* June 2009.

Metropolitan Transportation Commission (MTC), 2013. *Statistical Summary of Bay Area Transit Operations Fiscal Years 2007-08 Through 2011-12,* June 2013.

Transportation Research Board (TRB), 1985. *Highway Capacity Manual*.

Transportation Research Board (TRB), 2000. *2000 Highway Capacity Manual*.

Urban Land Institute, *Shared Parking*, 2nd Edition. 2006.

4.14 Utilities and Service Systems

This section describes existing public utilities in the Specific Plan Area and evaluates the impact of the adoption and development under the Specific Plan on the provision of public utilities and possible adverse physical impacts to the environment that could result from adoption and development under the Specific Plan. Topics analyzed in this section include public water supply, sanitary sewer (wastewater), stormwater drainage facilities, solid waste, and energy services. This section describes the environmental and regulatory setting relevant utilities and service systems in the Plan Area. Potential impacts are discussed and evaluated, and appropriate mitigation measures or Standard Conditions of Approval (SCA) are identified, as necessary.

4.14.1 Environmental Setting

Water Service

Water Supply System

The East Bay Municipal Utility District (EBMUD) is a publicly owned water utility supplying water and wastewater treatment for parts of western Alameda and Contra Costa Counties, including the Specific Plan Area. The 627-square-mile Mokelumne River watershed is the major water source for EBMUD, with the source of water originating in the Sierra Nevada Mountains of eastern California. The watershed of this river collects snowmelt from western slope of the Sierra Nevada in Alpine, Amador, and Calaveras counties. Water from the river is collected at the Pardee Dam and Reservoir, located 38 miles northeast of Stockton near the town of Jackson. A portion of the water stored in Pardee Reservoir is conveyed to the EBMUD service area via the Mokelumne Aqueducts. The remainder of the water is released into the nearby Camanche Reservoir. EBMUD has water rights and contracts for up to 325 million gallons per day (mgd) from the Mokelumne River, but the precise amount of this entitlement available in any given year is dependent on a range of variables.

In addition, EBMUD has been recycling water at its main wastewater treatment facility since the early 1970s. Recycled water is suitable for land uses that do not require potable water sources, such as golf courses, some agricultural areas, and industrial uses. Incentives used by EBMUD to encourage customers to utilize recycled water include rate discounts on recycled water and low-interest loans used to retrofit buildings so that they can accommodate recycled water. EBMUD's existing and committed inventory of recycled water projects were estimated to generate 9.3 mgd of recycled water in 2010 (EBMUD, 2012a).

The East Bayshore Recycled Water Project, currently under construction, will use water treated in EBMUD's wastewater treatment plant (see Sanitary Sewer Service, below) and supply an annual average of 2.2 mgd of recycled water to portions of Alameda, Albany, Berkeley, Emeryville, and Oakland. Recycled water will be used for irrigation, industrial, and commercial activities and possibly wetland restoration projects and will offset demands for potable water supply. The first customers received deliveries in 2008 and in fiscal year 2011, the project delivered recycled

water to offset the need for more than 30 million gallons of drinking water (EBMUD, 2011b). The closest available recycled water connection to the Specific Plan Area is approximately 0.6 miles southwest at the intersection of 14th Street and San Pablo Avenue (City Hall Plaza) (BKF, 2012).

There are six water treatment plants in the EBMUD water supply and distribution system. Combined, the six plants have a treatment capacity of over 375 mgd (EBMUD, 2011c). Potable water to the Plan Area is supplied by the Orinda Water Treatment Plant and treats water through coagulation, filtration, and disinfection (BKF, 2012).

Water Demand

EBMUD's *2010 Urban Water Management Plan* (UWMP) was adopted by the EBMUD Board of Directors on June 28, 2011 to assess current and projected water usage, water supply planning, water conservation, and recycling programs over a 20-year planning horizon. The UWMP sets minimum performance goals for water supply in the service area including reliability, flexibility, and the minimization of water rationing. Key components of the UWMP are water conservation and recycling. According to the UWMP, the projected water demand in 2010 was 216 mgd and is anticipated to increase to 229 mgd in 2030. This projection assumes that the existing EBMUD water conservation program would reduce annual demand by 56 mgd and the water recycling program would decrease water demand by 19 mgd (EBMUD, 2011a).

On April 24, 2012, EBMUD adopted the *Water Supply Management Program 2040 Plan* (WSMP). The WSMP is a program-level effort that estimates EBMUD's dry-year water supply needs through 2040 and anticipates 50 mgd of future supply being provided by water conservation and recycling. The demand for water in the EBMUD's service area is projected to increase to 247 mgd by 2040 under a 15 percent maximum customer rationing scenario (EBMUD, 2012a).

Sanitary Sewer Service

Sanitary Sewer Conveyance

The City of Oakland is responsible for operation and maintenance of the local sanitary sewer collection system within the Plan Area, while EBMUD is responsible for operation and maintenance of interceptor lines and the treatment of sewage. The City's sewer collection system includes over 1,000 miles of pipes ranging in size from 6-inches to 72-inches, as well as seven pump stations. Local collection lines within the Plan Area range in size from 8- to 12-inches. The collection system is separated into basins and sub-basins with the Plan Area located within Basin 52 and sub-basins 5205, 5206, 5209, 5210, and 5211 (BKF, 2012). Each numbered sub-basin encompasses a specific physical area, and its sewer flows are assigned to a single discharge point from the City's collection system into EBMUD's interceptor lines.

The City has instituted an Inflow and Infiltration (I&I) Correction Program to reduce wet weather overflows into the sanitary sewer system. This program is anticipated to increase the capacity of

the collection system to allow an approximately 20 percent increase in wastewater flows for each subarea within the City.

In 1986, the City completed a Sewer System Evaluation Survey (SSES) for North Oakland, which included the Plan Area. The SSES identified improvements needed to reduce I&I and provide additional capacity for wastewater flows. These improvements included repair of fractured sewer pipes/manholes and removal of unpermitted storm drain connections. The City has indicated that I&I improvements to the sewer system have been completed for Basin 52 (BKF, 2012).

The only reported existing collection system capacity issue in the vicinity of the Specific Plan Area is related to an existing 24-inch trunk main south of the Plan Area within Harrison Street that has a history of backing up due to an accumulation of sediment and grease in the lines. There have been no other reports of deficiencies for other existing trunk lines within and downstream of the Plan Area (BKF, 2012).

Sanitary Sewer Treatment

EBMUD provides sanitary sewer treatment services to approximately 655,00 people within an 83-square-mile area of Alameda and Contra Costa counties, including the City of Oakland (also known as Special District No.1). EBMUD's collection system includes approximately 29 miles of interceptor pipeline and 15 pump stations. EBMUD's Main Wastewater Treatment Plant is located southwest of the Interstate 580/Interstate 80 interchange in Oakland, adjacent to the San Francisco/Oakland Bay Bridge approach. The plant is designed to provide primary treatment for up to 320 mgd and secondary treatment for a maximum flow of 168 mgd. Average daily flow is 73 mgd (EBMUD, 2012b).

Stormwater Drainage Facilities

Stormwater runoff in Oakland is collected from the southwesterly flows from the Oakland/Berkeley hills to the developed flatlands, where it then flows primarily through underground storm drains and culverts to the San Francisco Bay via the Oakland Estuary (directly or by way of Lake Merritt) or through the City of Emeryville. The Plan Area generally slopes from northwest to southeast and is largely covered with impervious surfaces (buildings and pavement) with the majority of runoff draining overland to curbside inlets that enter the City's piped storm drainage system. Storm drainage from the Plan Area generally flows south and east, eventually discharging into the Glen Echo Creek system and Lake Merritt.

The Plan Area is located within two watersheds: the Rockridge and Glen Echo Creeks watershed north of 25th Street and the 14th Avenue Creek and the Oakland Estuary watershed south of 25th Street. The City of Oakland is responsible for operation and maintenance of the local storm drainage system within the Plan Area while the Alameda County Flood Control and Water Conservation District (ACFCWCD) is responsible for portions of Glen Echo Creek and other major creeks and flood control channels generally downstream of the City's storm drain facilities. Glen Echo Creek has alternating daylighted and culverted sections along its 1.25-mile length from its origin above the Mountain View Cemetery at the northern terminus of Piedmont Avenue,

southwest to its outlet in Lake Merritt. The City is responsible for the part of the Broadway Creek culvert system that crosses through the northern portion of the Plan Area before joining Glen Echo Creek, as well as the portion of the creek under 27th and Harrison Streets, between 26th Street and where the creek resurfaces at 23rd Street.

In 2006, the City completed a comprehensive inventory and assessment of the storm drain infrastructure, the Storm Drainage Master Plan (SDMP). According to this report, the City's storm drainage infrastructure is nearing the end of its useful life cycle and is generally in poor condition, primarily due to inadequate resources to keep up with required improvements. The SDMP states that demand and burden on the system have increased due to infill development and that normal storm events as well as El Nino-type events have led to increasing instances of flooding, erosion, and property damage. The SDMP notes that storm drainage structures within the Plan Area, as well as much of downtown, were observed to have three inches or more of debris accumulation in 2003. However, of the three locations within the Plan Area that were assessed, two had no silt accumulation and the other only showed a half-inch of silt depth as observed by the City in 2004. This data indicates that reduction in capacity due to debris accumulation has a relatively minimal impact to the performance of the storm drain system in the Plan Area. The SDMP identifies a Capital Improvement Project (CIP) within the Plan Area to increase the capacity of 622 linear feet of storm drain line in 26th Street between Broadway and 27th Street in order to alleviate hydraulic grade line issues. The SDMP proposes upsizing an existing 30-inch storm drain to 48-inches that would need to tie-in with an existing hydrodynamic separator unit at the downstream reach prior to connecting to the culverted portion of Glen Echo Creek at 27th Street. The City has indicated that funding is not currently available to begin the required improvements (BKF, 2012).

In 2002, ACFCWCD completed improvements to Glen Echo Creek between 28th and 29th Streets, which included rehabilitation of the culvert and replacement of piping. These improvements, known as Phase 1, removed flow restrictions to the creek that caused occasional winter flooding at 30th Street and Richmond Boulevard. ACFCWCD also has plans for Phase 2 improvements that include increasing channel capacity and restoration of the greenbelt from 29th Street to Frisbie Street. However, based on discussions with City of Oakland Public Works Agency staff, Phase 2 is currently on hold since Phase 1 has so far successfully resolved flooding (BKF, 2012).

Solid Waste

Waste Management and Disposal

Non-hazardous waste in the City of Oakland is collected by Waste Management of Alameda County (WMAC), which provides curbside pickup for residential, commercial and industrial non-hazardous waste, and transports it to WMAC's Davis Street Transfer Station in San Leandro. Transfer trucks haul waste to the Altamont Landfill and Resource Facility, located approximately 35 miles east of Oakland near Livermore. In 2012, approximately 284,149 tons of disposed solid waste was generated in Oakland, including 235,478 tons that went to the Altamont Landfill (CalRecycle, 2013a). Most of the remaining solid waste was sent to four other landfills: Forward Landfill in San Joaquin County; the Keller Canyon Landfill in Contra Costa County, Potrero Hills Landfill in Solano County, and the Vasco Road Landfill in Alameda County. The Altamont

Landfill has a maximum permitted capacity of 62,000,000 cubic yards. As of 2005, 74 percent of this capacity was remaining (CalRecycle, 2013b).

Alameda County's Integrated Waste Management Plan, prepared by the Alameda County Waste Management Authority pursuant to Assembly Bill 939 (see below), projects an expected closure for the Vasco Road Landfill in 2022 and Altamont Landfill in 2040 (ACWMA, 2011).

Waste Generation and Diversion

AB 939, enacted in 1989, requires Source Reduction and Recycling Element of each city and county to include an implementation schedule to divert a percentage of its solid waste from landfill disposal through source reduction, recycling, and composting activities. AB 939 specifies a required diversion rate of at least 50 percent of wastes by the year 2000. The California Department of Resources Recycling and Recovery (CalRecycle) indicates that the Oakland's diversion rate was 59 percent in 2006. Beginning with the 2007 jurisdiction annual reports, diversion rates were no longer measured. With the passage of SB 1016 in 2006, the Per Capita Disposal Measurement System, only per capita disposal rates are measured to determine if jurisdiction's efforts are meeting the intent of AB 939. In 2012, Oakland had a per resident disposal target rate of 5.8 pounds per day (PPD) and a per employee disposal target rate of 15.3 PPD. In 2012, the City reported an actual annual per resident PPD of 3.9 and 9.0 PPD per employee, thereby meeting the City's waste diversion goals for 2012 (City of Oakland, 2013).

Energy Services

Electricity and gas service in the City of Oakland is provided primarily by Pacific Gas and Electric (PG&E), which owns the gas and electrical utility supply lines. Some users purchase energy services directly from alternate power providers. Other companies may also provide electricity, but PG&E delivers the service. Electrical energy is supplied to the City of Oakland via electrical substations, to which electricity is transported through high-voltage electric cables. Large transformers at the local substations convert the electricity which is provided to the existing PG&E customers. Throughout most of Oakland, electrical power is delivered via overhead distribution and transmission lines, and natural gas is distributed through underground piping. PG&E expands its services on an as-needed basis and requires the user to fund the extension of service.

The majority of the electrical infrastructure in the Plan Area is comprised of 12-kilovolt (kV) transmission lines from the PG&E substation located in 21st Street west of Telegraph Avenue. The substation receives 155 kV and transmits electrical power to both the Upper Downtown and West Oakland areas. Existing gas lines within the Plan Area include low pressure lines and semi-high pressure lines that range in size from 2- to 24- inches (BKF, 2012).

4.14.2 Regulatory Setting

Water Quality, Supply, and Distribution

Safe Drinking Water Act

The USEPA administers the Safe Drinking Water Act (SDWA), the primary federal law that regulates the quality of drinking water and establishes standards to protect public health and safety. The Department of Health Services (DHS) implements the SDWA and oversees public water system quality statewide. DHS establishes legal drinking water standards for contaminates that could threaten public health.

Senate Bill (SB) 610 / Senate Bill (SB) 221

Senate Bill (SB) 610, codified as Sections 10910-10915 of the California Public Resources Code, requires local water providers to conduct a water supply assessment for projects proposing over 500 housing units[1], 250,000 square feet of commercial office space (or more than 1,000 employees), a shopping center or business establishment with over 500,000 square feet (or more than 1,000 employees), or equivalent usage. Local water suppliers must also prepare or have already prepared an Urban Water Management Plan to guide planning and development in the water supplier's service area, and specifically pursue efficient use of water resources.

Water Conservation in Landscaping Act (Assembly Bill 1881, 2006)

The Water Conservation in Landscaping Act of 2006 (Assembly Bill 1881, Laird) requires cities, counties, and charter cities and charter counties to adopt landscape water conservation ordinances by January 1, 2010. Pursuant to this law, the Department of Water Resources (DWR) has prepared a Model Water Efficient Landscape Ordinance (Model Ordinance) for use by local agencies. Most new and rehabilitated landscapes are subject to a water efficient landscape ordinance. Public landscapes and private development projects are subject to the Model Ordinance. However, the Ordinance does not apply to registered local, state, or federal historic sites, ecological restoration projects, mined-land reclamation projects, or plant collections.

Stormwater Drainage

Regulations related to the quality and quantity of stormwater runoff (i.e., Federal Clean Water Act / NPDES) are discussed in Section 4.8, *Hydrology and Water Quality*.

[1] Senate Bill (SB) 221 similarly amended the Subdivision Map Act to ensure confirmation that public water supply is sufficient to serve proposed development projects of 500 dwelling units or more.

Solid Waste

Assembly Bill (AB) 939

Assembly Bill (AB) 939, enacted in 1989 and known as the Integrated Waste Management Act, required each city and/or county to prepare a Source Reduction and Recycling Element to demonstrate reduction in the amount of waste being disposed to landfills, with diversion goals of 50 percent by the year 2000. Diversion includes waste prevention, reuse, and recycling. Senate Bill (SB) 1016 revised the reporting requirements of AB 939 by implementing a per capita disposal rate based on a jurisdiction's population (or employment) and its disposal. The 50 percent equivalent per capita disposal target is the average amount of disposal a jurisdiction would have had during 2003 to 2006 if it had been exactly at a 50 percent diversion rate.

Assembly Bill (AB) 341

Assembly Bill (AB) 341, enacted in 2011 applies to businesses generating four or more cubic yards of garbage per week, and to multi-family residential buildings with five or more units. Effective July 1, 2012, it requires affected businesses and multi-family property owners to have recycling service sufficient to handle the amount of recyclable material produced at the business or property.

Alameda County Waste Reduction and Recycling Initiative (Measure D)

In addition to AB 939, the 1990 Voter Initiative Measure D (Alameda County Waste Reduction and Recycling Initiative) mandates Alameda County to divert 75 percent of its solid waste from landfills by the year 2010.

Alameda County Ordinance Prohibiting the Landfill Disposal of Plant Debris (Ordinance 2008-01)

Ordinance 2008-01 was enacted in 2009 and applies to any businesses or organization generating significant amounts of plant debris, and that hauls the material to Alameda County disposal facilities, or places the material in bins for collection. Affected businesses and organizations include but are not limited to: residential landscapers and gardeners; commercial landscapers and gardeners; commercial and residential property managers; municipalities and institutions (e.g. colleges, hospitals); and businesses subscribing to four cubic yards or more of weekly solid waste collection service.

Alameda County Mandatory Recycling Ordinance (Ordinance 2012-01)

Ordinance 2012-01 was enacted in 2012 and applies to businesses generating four or more cubic yards of solid waste per week, and to multi-family residential buildings with five or more units. Phase 1 of the ordinance, effective July 1, 2012, requires affected businesses and multi-family property owners to have recycling service sufficient to handle the amount of recyclable material produced at their business or property. This includes paper, cardboard, and recyclable food and beverage glass containers, aluminum and metal containers, and HDPE and PET plastic bottles.

Phase 2 of the ordinance, effective July 1, 2014, will add discarded food and compostable papers to the materials covered in Phase 1, and apply to all businesses that generate solid waste.

Construction and Demolition (C&D) Debris Waste Reduction and Recycling Ordinance (Oakland Municipal Code 15.34)

The City of Oakland's Construction and Demolition (C&D) Ordinance is intended to further the goals of AB 939 and Alameda County's Measure D. The C&D Ordinance affects the following projects:

- All New Construction;
- All Alterations, Renovations, Repairs, or Modifications with construction value of $50,000 or greater, excluding R-3;
- All Demolition, including Soft Demo, and excluding R-3;

Building permit applicants (Applicants) must complete a Waste Reduction and Recycling Plan (WRRP) as part of the Building Permit Application process to detail the plan for salvaging and recycling C&D debris generated during the course of the project. Standards current at the time of this writing call for salvage and/or recycling 100% of asphalt and concrete, and at least 65% of all remaining debris. These standards are subject to administrative adjustment and applicants must follow the standards published at the time of building permit application.

The City will not issue a building permit for a covered project without an approved WRRP on file.

Upon approval of the WRRP and issuance of the permit(s), the applicant shall execute the plan. Prior to the Final Inspection, Temporary Certificate of Occupancy or Certificate of Occupancy, the Applicant must complete and obtain approval of a Construction and Demolition Summary Report (CDSR). The CDSR documents the salvage, recycling and disposal activities that took place during the project. The CDSR must include documentation, such as scale tickets, that support the data provided in the CDSR.[2]

Energy

Buildings constructed after June 30, 1977 must comply with standards identified in Title 24 of the California Code of Regulations. Title 24, established by the California Energy Commission (CEC) in 1978, requires the inclusion of state-of-the-art energy conservation features in building design and construction including the incorporation of specific energy conserving design features, use of non-depletable energy resources, or a demonstration that buildings would comply with a designated energy budget.

[2] More details are available at: http://www2.oaklandnet.com/Government/o/PWA/o/FE/s/GAR/OAK024368.

Local Plans and Policies

City of Oakland General Plan

The Oakland General Plan includes the following policy related to the provision of utilities and infrastructure:

- ***Policy I/C 1.9:*** Adequate public infrastructure should be ensured within existing and proposed industrial and commercial areas to retain viable uses, improve the marketability of existing, vacant or underutilized sites, and encourage future use and development of these areas with activities consistent with the goals of the *General Plan.*

City of Oakland Standard Conditions of Approval and Uniformly Applied Development Standards Imposed as Standard Conditions of Approval

The City's Standard Conditions of Approval (SCA) relevant to reducing impacts on utilities and service systems and that apply to the adoption and development under the Specific Plan are listed below. If the Specific Plan is adopted by the City, all applicable SCAs would be adopted as conditions of approval and required, as applicable, of the development under the Specific Plan to help ensure less-than-significant impacts to utilities. Because the conditions of approval are incorporated as part of the Specific Plan, they are not listed as mitigation measures.

- **SCA 36: Waste Reduction and Recycling**

  The project applicant will submit a Construction and Demolition WRRP and an Operational Diversion Plan (ODP) for review and approval by the Public Works Agency.

  Chapter 15.34 of the Oakland Municipal Code outlines requirements for reducing waste and optimizing construction and demolition (C&D) recycling. Affected projects include:

  - All New Construction;
  - All Alterations, Renovations, Repairs, or Modifications with construction value of $50,000 or greater, excluding R-3;
  - All Demolition, including Soft Demo, and excluding R-3;

  Applicants must complete a Waste Reduction and Recycling Plan (WRRP) as part of the Building Permit Application process to detail the plan for salvaging and recycling C&D debris generated during the course of the project. Standards current at the time of this writing call for salvage and/or recycling 100% of asphalt and concrete, and at least 65% of all remaining debris. These rates are subject to administrative adjustment and Applicants must follow the standards published at the time of building permit application. The City will not issue an affected permit without an approved WRRP on file.

  Upon approval of the WRRP and issuance of the permit(s), the Applicant shall execute the plan. Prior to the Final Inspection, Temporary Certificate of Occupancy or Certificate of Occupancy, the Applicant must complete and obtain approval of a Construction and Demolition Summary Report (CDSR). The CDSR documents the salvage, recycling and disposal activities that took place during the project. The CDSR must include documentation, such as scale tickets, that support the data provided in the CDSR.

Additional information is available at: http://www2.oaklandnet.com/Government/o/PWA/o/FE/s/GAR/OAK024368

The ODP will identify how the project complies with the Recycling Space Allocation Ordinance, (Chapter 17.118 of the Oakland Municipal Code), including capacity calculations, and specify the methods by which the development will meet the current City recycling standards for materials generated by operation of the proposed project. The proposed program shall be in implemented and maintained for the duration of the proposed activity or facility, and conform with the requirements of the Alameda County Mandatory Recycling Ordinance. Any incentive programs shall remain fully operational as long as residents and businesses exist at the project site.

- **SCA 91: Stormwater and Sewer**

  Confirmation of the capacity of the City's surrounding stormwater and sanitary sewer system and state of repair shall be completed by a qualified civil engineer with funding from the project applicant. The project applicant shall be responsible for the necessary stormwater and sanitary sewer infrastructure improvements to accommodate the proposed project. In addition, the applicant shall be required to pay additional fees to improve sanitary sewer infrastructure if required by the Sewer and Stormwater Division. Improvements to the existing sanitary sewer collection system shall specifically include, but are not limited to, mechanisms to control or minimize increases in infiltration/inflow to offset sanitary sewer increases associated with the proposed project. To the maximum extent practicable, the applicant will be required to implement Best Management Practices to reduce the peak stormwater runoff from the project site. Additionally, the project applicant shall be responsible for payment of the required installation or hook-up fees to the affected service providers.

- **SCA H: Compliance with the Green Building Ordinance, OMC Chapter 18.02**

  Prior to issuance of a demolition, grading, or building permit. The applicant shall comply with the requirements of the California Green Building Standards (CALGreen) mandatory measures and the applicable requirements of the Green Building Ordinance, OMC Chapter 18.02.

  a) The following information shall be submitted to the Building Services Division for review and approval with the application for a building permit:

     i. Documentation showing compliance with Title 24 of the 2008 California Building Energy Efficiency Standards.

     ii. Completed copy of the final green building checklist approved during the review of the Planning and Zoning permit.

     iii. Copy of the Unreasonable Hardship Exemption, if granted, during the review of the Planning and Zoning permit.

     iv. Permit plans that show, in general notes, detailed design drawings, and specifications as necessary, compliance with the items listed in subsection (b) below.

     v. Copy of the signed statement by the Green Building Certifier approved during the review of the Planning and Zoning permit that the project complied with the requirements of the Green Building Ordinance.

vi. Signed statement by the Green Building Certifier that the project still complies with the requirements of the Green Building Ordinance, unless an Unreasonable Hardship Exemption was granted during the review of the Planning and Zoning permit.

vii. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance.

b) The set of plans in subsection (a) shall demonstrate compliance with the following:

i. CALGreen mandatory measures.

ii. All pre-requisites per the LEED / GreenPoint Rated checklist approved during the review of the Planning and Zoning permit, or, if applicable, all the green building measures approved as part of the Unreasonable Hardship Exemption granted during the review of the Planning and Zoning permit.

iii. [Insert green building point level/certification requirement: (See Green Building Summary Table; for New Construction of Residential or Non-residential projects that remove a Historic Resource (as defined by the Green Building Ordinance) the point level certification requirement is 75 points for residential and LEED Gold for non-residential)] per the appropriate checklist approved during the Planning entitlement process.

iv. All green building points identified on the checklist approved during review of the Planning and Zoning permit, unless a Request for Revision Plan-check application is submitted and approved by the Planning and Zoning Division that shows the previously approved points that will be eliminated or substituted.

v. The required green building point minimums in the appropriate credit categories.

During construction. The applicant shall comply with the applicable requirements CALGreen and the Green Building Ordinance, Chapter 18.02.

a) The following information shall be submitted to the Building Inspections Division of the Building Services Division for review and approval:

i. Completed copies of the green building checklists approved during the review of the Planning and Zoning permit and during the review of the building permit.

ii. Signed statement(s) by the Green Building Certifier during all relevant phases of construction that the project complies with the requirements of the Green Building Ordinance.

iii. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance.

After construction, as specified below. Within sixty (60) days of the final inspection of the building permit for the project, the Green Building Certifier shall submit the appropriate documentation to Build It Green / Green Building Certification Institute and attain the minimum certification/point level identified in subsection (a) above. Within one year of the final inspection of the building permit for the project, the applicant shall submit to the

Planning and Zoning Division the Certificate from the organization listed above demonstrating certification and compliance with the minimum point/certification level noted above.

I. Compliance with the Green Building Ordinance, OMC Chapter 18.02, for Building and Landscape Projects Using the StopWaste.Org Small Commercial or Bay Friendly Basic Landscape Checklist

Prior to issuance of a building permit. The applicant shall comply with the requirements of the California Green Building Standards (CALGreen) mandatory measures and the applicable requirements of the Green Building Ordinance, (OMC Chapter 18.02.) for projects using the StopWaste.Org Small Commercial or Bay Friendly Basic Landscape Checklist.

a) The following information shall be submitted to the Building Services Division for review and approval with application for a Building permit:

   i. Documentation showing compliance with the 2008 Title 24, California Building Energy Efficiency Standards.

   ii. Completed copy of the green building checklist approved during the review of a Planning and Zoning permit.

   iii. Permit plans that show in general notes, detailed design drawings and specifications as necessary compliance with the items listed in subsection (b) below.

   iv. Other documentation to prove compliance.

b) The set of plans in subsection (a) shall demonstrate compliance with the following:

   i. CALGreen mandatory measures.

   ii. All applicable green building measures identified on the StopWaste.Org checklist approved during the review of a Planning and Zoning permit, or submittal of a Request for Revision Plan-check application that shows the previously approved points that will be eliminated or substituted.

During construction. The applicant shall comply with the applicable requirements of CALGreen and Green Building Ordinance, Chapter 18.02 for projects using the StopWaste.Org Small Commercial or Bay Friendly Basic Landscape Checklist.

a) The following information shall be submitted to the Building Inspections Division for review and approval:

   i. Completed copy of the green building checklists approved during review of the Planning and Zoning permit and during the review of the Building permit.

   ii. Other documentation as deemed necessary by the City to demonstrate compliance with the Green Building Ordinance.

SCAs related to Hydrology and Water Quality, including those related to stormwater, are described in Section 4.8, *Hydrology and Water Quality* of this document.

4.14.3 Impacts and Mitigation Measures

Significance Criteria

Adoption and development under the Specific Plan would have a significant impact on the environment if it were to:

1. Exceed wastewater treatment requirements of the San Francisco Bay Regional Water Quality Control Board;

2. Require or result in construction of new stormwater drainage facilities or expansion of existing facilities, construction of which could cause significant environmental effects;

3. Exceed water supplies available to serve the project from existing entitlements and resources, and require or result in construction of water facilities or expansion of existing facilities, construction of which could cause significant environmental effects;

4. Result in a determination by the wastewater treatment provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new wastewater treatment facilities or expansion of existing facilities, construction of which could cause significant environmental effects;

5. Be served by a landfill with insufficient permitted capacity to accommodate the project's solid waste disposal needs and require or result in construction of landfill facilities or expansion of existing facilities, construction of which could cause significant environmental effects;

6. Violate applicable federal, state, and local statutes and regulations related to solid waste;

7. Violate applicable federal, state and local statutes and regulations relating to energy standards; or

8. Result in a determination by the energy provider which serves or may serve the project that it does not have adequate capacity to serve the project's projected demand in addition to the providers' existing commitments and require or result in construction of new energy facilities or expansion of existing facilities, construction of which could cause significant environmental effects.

Approach to Analysis

The increases in population and land use intensity that would result from adoption and development under the Specific Plan were evaluated based on information regarding the various utilities agencies with jurisdiction over the Plan Area and their service capabilities.

Impacts

Water Supply

Impact UTIL-1: The water demand generated by adoption and development under the Specific Plan would not exceed water supplies available from existing entitlements and resources (Criterion 3). (Less than Significant)

As stated above, the projected water demand in the EBMUD service area in 2010 was 216 mgd and is anticipated to increase to 229 mgd in 2030. This projection assumes that the existing EBMUD water conservation program would reduce annual demand by 56 mgd and the water recycling program would decrease water demand by 19 mgd (EBMUD, 2011a). The demand is projected to increase to 247 mgd by 2040 under a 15 percent maximum customer rationing scenario (EBMUD, 2012a).

Pursuant to Sections 10910 through 10915 (SB 610) of the California Water Code, the City of Oakland requested a Water Supply Assessment from EBMUD to verify that adequate water supply is available to meet proposed demand anticipated with adoption and development under the Specific Plan. In its response to the City's request, EBMUD provided an estimated existing demand of approximately 185,000 gpd and a Specific Plan buildout of 860,000 gpd. EBMUD confirmed that the water demands for the adoption and development under the Specific Plan are accounted for in its water demand projections as published in the district's UWMP (EBMUD, 2013) (see Appendix H).

As discussed under the Drought Management Program of the UWMP, EBMUDs system storage generally allows it to continue serving its customers during dry-year events. Despite water savings from EBMUD's conservation and recycling programs and rationing of up to 15 percent, additional supplemental supplies would be needed during a multi-year drought. The UWMP also identified a variety of projects for providing supplemental supplies that will allow EBMUD to meet water demand in the future.

Pressure and flow data provided by EBMUD indicates that there is adequate system wide pressure and flow capacity. Based on this data, adoption and development under the Specific Plan would not require expansion of existing water delivery facilities. However, 4-inch and 6-inch distribution lines would need to be upgraded to 8-inches to achieve the minimum fire flow for compliance with the California Fire Code and to address fire flow issues identified by the Oakland Fire Department. These upgrades are only proposed where new building service connections are necessary or older existing buildings are renovated (BKF, 2012).

No recycled water system improvements are proposed in the Plan Area since the closest available service is approximately 0.6 miles southwest at the intersection of 14th Street and San Pablo Avenue (City Hall Plaza). However, given water conservation incentives from EBMUD and the likely buildout of the Broadway Valdez Development Program over many years or even decades, planning for future use of recycled water in the Plan Area could include the installation of such

features as dual plumbing and irrigation systems constructed to recycled water standards that can be connected to an expanded recycled water system in the future (BKF, 2012).

In conclusion, adoption and development under the Specific Plan would not require new water supply entitlements, resources, facilities, or expansion of existing facilities beyond that which is already planned for in EBMUD's water supply planning analyses, and the impact would be less than significant.

Mitigation: None Required.

Sanitary Sewer

Impact UTIL-2: Adoption and development under the Specific Plan would not exceed the wastewater treatment requirements of the San Francisco Regional Water Quality Control Board or result in a determination that new or expanded wastewater treatment facilities would be required (Criteria 1 and 4). (Less than Significant)

Adoption and development under the Specific Plan would increase the amount of wastewater generated within the Specific Plan Area. Approximately 357,442 gpd of wastewater is currently generated in the Specific Plan Area. Buildout of the Specific Plan is estimated to increase wastewater generation to approximately 958,281 gpd, or an increase of 600,839 (BKF, 2012). As discussed above, EBMUD's Main Wastewater Treatment Plant is currently operating at approximately 43 percent of its 168 mgd secondary treatment capacity (EBMUD, 2012b). Proposed sewer generation within the Plan Area was reviewed by EBMUD's Wastewater Planning Engineering Group, which indicated that that there will be adequate wastewater treatment capacity to accommodate increased sewer generation for the Specific Plan Area (BKF, 2012). Therefore, expansion of existing treatment facilities would not be required.

In terms of wastewater flow conveyance to EBMUD treatment facilities, adoption and development under the Specific Plan may require localized investment in new or upgraded local City-owned sanitary sewer infrastructure, or in the larger EBMUD-owned sanitary sewer transmission infrastructure. Proposed sewer generation has been reviewed with the City of Oakland Public Works Agency to determine if there is capacity within Basin 52 to support adoption and development under the Specific Plan. The City has commented that sub-basins 5205, 5206, 5209, 5210, and 5211, either individually or combined do not have enough capacity to serve additional sewer capacity demand.

Any development within the Specific Plan Area that increases sewer capacity demand beyond the existing demand would need to perform I&I rehabilitation projects in other basins in order to reallocate additional capacity to Basin 52. Repairing I&I problem areas in other basins would help to offset the increase in demand in Basin 52. By repairing I&I issues in other basins, the overall amount of sewage to be treated from the City decreases and the differential volume can be reallocated to Basin 52, which would support the increased demand generated by adoption and

development under the Specific Plan. The City has provided an estimated sewer mitigation that is included as part of the infrastructure costs. This fee represents the proportional share of improvement costs associated with I&I rehabilitation improvements within other basins to reallocate basin capacity to Basin 52.

In terms of specific capacity upgrades, the 24-inch sewer line within Harrison Street may require upgrades, specifically in the area from 23rd Street to 20th Street where the Harrison Street line connects with a 66-inch interceptor within 20th Street. Local collection lines in the Plan Area range from 8- to 12-inches and these lines likely have sufficient conveyance capacity (BKF, 2012).

Further, implementation of SCA 91, *Stormwater and Sewer*, would require that the applicants of future projects under the Specific Plan to construct the necessary sanitary sewer infrastructure improvements, the environmental impacts of which are discussed in this document. However, these projects would not require or result in the construction of new wastewater treatment facilities or expansion of existing treatment facilities because EBMUD has adequate capacity to treat this projected demand in addition to its existing commitments. Adoption and development under the Specific Plan would have a less-than-significant impact on sanitary sewer service and treatment.

Mitigation: None Required.

Stormwater Drainage Facilities

Impact UTIL-3: Adoption and development under the Specific Plan would not require or result in construction of new stormwater drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects (Criteria 2). (Less than Significant)

Given the location of the Specific Plan Area within a built-out urban environment, much of the area comprises impervious surfaces. The Specific Plan would facilitate construction of projects that could alter the composition of the overall impervious surfaces. The City of Oakland Storm Drainage Design Guidelines require the post-project peak discharge rate be maintained at a level less than or equal to the pre-project peak discharge. To the extent possible, the City has set a goal of reducing the peak runoff into the City's storm drains by 25 percent. Given the existing urban nature of the Plan Area, proposed land uses would likely decrease storm drain runoff since the majority of existing surfaces are already paved. For development within the Plan Area to meet the City's goal of reducing peak runoff by 25 percent, incorporation of additional pervious area through landscaping (e.g., bio-filtration) is recommended by the City of Oakland Environmental Services Division. Other options, including storm water detention, may also be required to achieve the City's goal of reducing peak runoff into storm drains by 25 percent (BKF, 2012).

Implementation of SCA 91, *Stormwater and Sewer,* would require that the applicants of future projects under the Specific Plan to construct the necessary stormwater infrastructure improvements, the environmental impacts of which are discussed in this document. Future projects under the Specific Plan also would be required to implement SCA 80, *Post-construction Stormwater Pollution Prevention Plan*, which requires compliance with Provision C.3 of the Alameda Countywide Clean Water Program and regulates post-construction stormwater runoff; and SCA 75, *Stormwater Pollution Prevention Plan* (see Section 4.8, *Hydrology and Water Quality*).

Because adoption and development under the Specific Plan would not result in an increase in stormwater runoff, and individual projects would be required to meet the SCA listed above, the adoption and development under the Specific Plan would have a less-than-significant impact on storm drainage facilities.

Mitigation: None Required.

Solid Waste Services

Impact UTIL-4: Adoption and development under the Specific Plan would not violate applicable federal, state, and local statutes and regulations related to solid waste; nor generate solid waste that would exceed the permitted capacity of the landfills serving the area (Criteria 5 and 6). (Less than Significant)

Adoption and development under the Specific Plan would generate construction/demolition debris. In addition, the residential and employee population increase associated with adoption and development under the Specific Plan would increase demand for recycling and solid waste services.

As stated above, the Altamont Landfill is projected to have capacity through 2040; therefore, adoption and development under the Specific Plan would have a less-than-significant impact on solid waste services and landfill capacity. Therefore, the Specific Plan would not impede the ability of the City to meet waste diversion requirements or cause the City to violate other applicable federal, state, and local statutes and regulations related to solid waste. In addition, future projects under the Specific Plan would be required to implement SCA 36, *Waste Reduction and Recycling*, which requires the preparation of an Operational Diversion Plan to identify how projects would comply with the City's Recycling Space Allocation Ordinance (Chapter 17.118 OMC). Therefore, adoption and development under the Specific Plan would have a less-than-significant impact on solid waste services and landfill capacity.

Mitigation: None Required.

Energy

Impact UTIL-5: Adoption and development under the Specific Plan would not violate applicable federal, state and local statutes and regulations relating to energy standards; nor result in a determination by the energy provider which serves or may serve the area that it does not have adequate capacity to serve projected demand in addition to the providers' existing commitments and require or result in construction of new energy facilities or expansion of existing facilities (Criteria 7 and 8). (Less than Significant)

The adoption and development under the Specific Plan would result in an incremental increase in the demand for gas and electrical power. PG&E stated that there are currently no known capacity limitations within the existing electrical system, and the Plan Area is not anticipated to have significant adverse impacts to the electrical system. Therefore, upgrades to the existing system would only include the undergrounding of existing overhead lines and providing service to both proposed and existing structures from the undergrounded lines. PG&E also stated there are currently no known capacity limitations within the existing gas system. The gas distribution network within the Plan Area is well supported given that there is an existing 20-inch semi-high pressure transmission main in Broadway, 26th Street, 27th Street, and Harrison Street (BKF, 2012).

Adoption and development under the Specific Plan would comply with all standards of Title 24 of the California Code of Regulations, as well as with SCAs H and I, which requires construction projects to incorporate energy-conserving design measures into projects. Adoption and development under the Specific Plan would not be expected to violate applicable federal, state, and local statutes and regulations relating to energy standards or exceed PG&E's service capacity or require new or expanded facilities. Therefore, impacts to energy services would be less than significant.

Mitigation: None Required.

Cumulative Impacts

Impact UTIL-6: Adoption and development under the Specific Plan in combination with other past, present, existing, approved, pending, and reasonably foreseeable future projects within and around the Plan Area, would result in an increased demand for utilities services. (Less than Significant)

Geographic Context

The cumulative geographic context for utilities and service systems for the adoption and development under the Specific Plan consists of the Plan Area in addition to all areas of the city since utilities services are provided citywide as well as regionally. Cumulative development considers those projects in the Major Projects List in Appendix B to this Draft EIR and discussed in Section 4.07.2, *Cumulative Context*, in Chapter 4 of this Draft EIR.

Impacts

EBMUD's projections for water and wastewater demand incorporate growth pursuant to service-area-wide growth projections. As stated above, EBMUD has determined that it would meet area-wide water demand in wet and normal years, as well as meet demand during multiple dry years through a combination of conservation, recycled water, and new water supply projects. EBMUD and the City of Oakland plans regarding wastewater capacity similarly include cumulative development.

Adoption and development under the Specific Plan would not result in a significant impact related to stormwater, solid waste, and energy services. Thus, the adoption and development under the Specific Plan would not combine with, or add to, any potential adverse impacts on the provision of stormwater, solid waste or energy services that may be associated with other cumulative development. In addition, past projects have been subject to, and current and reasonably foreseeable future projects would be subject to, SCA 36, *Waste Reduction and Recycling*, SCA 91, *Stormwater and Sewer*, SCA 75, *Stormwater Pollution Prevention Plan*, and SCA 80, *Post-construction Stormwater Management Plan*. Based on the information in this section and for the reasons summarized above, the adoption and development under the Specific Plan would not contribute to any significant adverse cumulative impacts on utilities or service systems when considered together with past, present, existing, approved, pending and reasonably foreseeable development.

Mitigation: None Required.

4.14.4 References

Alameda County Waste Management Authority (ACWMA), 2011. *Alameda County Integrated Waste Management Plan, Countywide Element*, adopted February 26, 2003, amended December 14, 2011.

BKF Engineers (BKF), 2012. *Broadway/Valdez District Specific Plan, Infrastructure Analysis*, prepared for the City of Oakland, November 2012.

California Department of Resources Recycling and Recovery (CalRecycle), 2013a. Disposal Reporting System,www.calrecycle.ca.gov/LGCentral/Reports/DRS/Destination/JurDspFa.aspx, accessed February 11, 2013.

CalRecycle, 2013b. Facility/Site Summary Details, Altamont Landfill and Resource Recovery (01-11-0009), www.calrecycle.ca.gov/SWFacilities/Directory/01-AA-0009/Detail/, accessed February 11, 2013.

City of Oakland, 2013. *Electronic Annual Report Summary to CalRecycle: Oakland (2012)*, July 25, 2013.

East Bay Municipal Utility District (EBMUD), 2011a. *2010 Urban Water Management Plan*, June 2011.

EBMUD, 2011b. *East Bayshore Recycled Water Project Fact Sheet*, December 2011.

EBMUD, 2011c. *2011 Annual Water Quality Report*, May 2012.

EBMUD, 2012a. *Water Supply Management Program 2040 Plan*, April 2012.

EBMUD, 2012b. *Sewer System Management Plan*, updated 2012.

EBMUD, 2013. Letter from William R. Kirkpatrick, Manager of Water Distribution Planning Division to Alisa Shen, Planner III, City of Oakland, Re: Water Supply Assessment, Broadway/Valdez District Specific Plan, January 22, 2013.