4.1 PLANS AND POLICIES

This section describes the major land use and development objectives, policies, and regulations embodied in the *San Francisco General Plan* and *San Francisco Planning Code* that pertain to the *Market and Octavia Neighborhood Plan* (the Plan). For information purposes, this section also describes citywide planning initiatives and programs that have shaped the underlying goals and implementation strategies of the Plan, and design guidelines affecting the land use and building form in the Project Area. The relationship to Redevelopment Area Plans that overlap the Project Area are also discussed. Regional plans pertaining to congestion management (*Countywide Congestion Management Plan*) and air quality (*Bay Area Air Quality Plan*) are discussed, respectively, in Section 4.7, Transportation, and Section 4.8, Air Quality.

Planning and regulatory control over the Project Area are governed by the San Francisco Planning Department and the San Francisco Redevelopment Agency. Development in the Project Area is generally covered by the San Francisco *General Plan*, but the San Francisco Redevelopment Agency (SFRA) would exercise control over the two designated redevelopment areas located with the Project Area: the Western Addition A-2 Redevelopment Plan Area and, if adopted, the Mid-Market Redevelopment Plan Area (see Figure 3-1, page 3-5).

Several aspects of the Plan are being analyzed in this EIR at the project level, including: the Central Freeway parcels and public street and open space improvements. This section addresses plans and policies for both program and project level land use changes, controls and improvements proposed by the Plan. See Appendix 9-B for a complete listing of all policies for land use changes and transportation improvements proposed in the Plan.

As part of the Plan approval and adoption process, the Plan will be reviewed by the Planning Department and the City Planning Commission to make findings of consistency with objectives, policies and principles of the *General Plan* at the program level and at the project level for the Central Freeway parcels and for the specifically identified public open space and transportation improvements. Other aspects of the *General Plan* would be addressed when detailed development projects and improvements, not covered at the project level in this EIR, are considered for approval.

San Francisco *General Plan*

The *General Plan*, adopted by the Planning Commission and the Board of Supervisors, is both a strategic and long-term document, broad in scope and specific in nature. The *General Plan* is the embodiment of the city's vision for the future of San Francisco, and is comprised of a series of elements, each of which deal with a particular topic, that applies citywide. The *General Plan* currently contains the following elements: Housing, Commerce and Industry, Recreation and Open Space, Community Facilities, Transportation, Community Safety, Air Quality, Environmental Protection, Urban Design and Arts. The *General Plan* also contains area plans that identify specific localized goals and objectives for a neighborhood or district of the city.

At the program level, the Plan is intended to encourage a variety of housing options, choices in transportation modes, and neighborhoods that provide a full range of services and amenities close to where people live and work. Since the *General Plan* serves as the basis for the Plan, these program level goals would be generally consistent with existing applicable *General Plan* objectives and policies.

The *General Plan*, which provides general policies and objectives to guide land use decisions, contains some policies that relate to physical environmental issues. The compatibility of the 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 proposed Plan and any potential conflicts identified as part of that process would not alter the physical environmental effects of the proposed Plan.

The following eight elements of the *General Plan* and the Downtown Area Plan are relevant to implementation of the *Market and Octavia Neighborhood Plan* at both the program level and project level.

Air Quality Element

The Air Quality Element of the *General Plan* promotes the goal of clean air planning through objectives and policies aimed at adherence to air quality regulations and encouraging a land use pattern that focuses development near to transit services and transportation programs that advocate alternatives to the private automobile. The Air Quality Element contains the following objectives and policies relevant to the *Market and Octavia Neighborhood Plan.*

Objective 1: Adhere to state and federal air quality standards and regional programs.

Policy 1.1: Cooperate with regional agencies to promote air quality improvement in San Francisco, which in turn, will contribute to air quality improvements at the regional level.

Policy 1.2: Adhere to State and Federal air quality standards in the future through sustained efforts and continued budgetary resources.

Objective 3: Decrease the air quality impacts of development by coordination of land use and transportation decisions.

Policy 3.1: Take advantage of the high density development in San Francisco to improve the transit infrastructure and also encourage high density and compact development where an extensive transportation infrastructure exists.

Policy 3.2: Encourage mixed land use development near transit lines and provide retail and other types of service oriented uses within walking distance to minimize automobile dependent development.

The overall objective of the Plan is to promote a land use pattern that emphasizes additional housing in a neighborhood that is conveniently located near transit services and neighborhood serving businesses. The Plan proposes changes to the *Planning Code* that would allow increased residential density in this neighborhood, which already has a high degree of public services, and proposes mixed-use development (residential over ground-floor retail) on key corridors in support of a pedestrian-oriented lifestyle rather than one which is dependent upon the automobile. The Plan is generally consistent with the objectives and policies of the Air Quality Element listed above. There are no specific policies which address adherence to air quality standards and regulations in the Plan, however, policies included in the Plan which encourage and facilitate the use of public transit, pedestrian-oriented development, and reduced parking would help improve air quality in light of the increased development.

Commerce and Industry Element

The Commerce and Industry Element of the *General Plan* serves as a guide for the public and private sectors when making decisions related to economic growth and change in San Francisco. The three goals of the element – continued economic vitality, social equity (with respect to employment opportunities), and environmental quality – address general citywide objectives, as well as objectives for each of the four major sectors of San Francisco's economy, including neighborhood commercial

retail. The Commerce and Industry Element contains the following objectives and policies relevant to the *Market and Octavia Neighborhood Plan.*

Objective 6: Maintain and strengthen viable neighborhood commercial areas easily accessible to city residents.

Policy 6.1: Ensure and encourage the retention and provision of neighborhood-serving goods and services in the city's neighborhood commercial districts, while recognizing and encouraging diversity among the districts.

Policy 6.2: Promote economically vital neighborhood commercial districts which foster small business enterprises and entrepreneurship and which are responsive to economic and technological innovation in the marketplace and society.

Policy 6.3: Preserve and promote the mixed commercial-residential character in neighborhood commercial districts. Strike a balance between the preservation of existing affordable housing and needed expansion of commercial activity.

Policy 6.4: Encourage the location of neighborhood shopping areas throughout the city so that essential retail goods and personal services are accessible to all residents.

Policy 6.5: Discourage the creation of major new commercial areas except in conjunction with new supportive residential development and transportation capacity.

Policy 6.6: Adopt specific zoning districts which conform to a generalized neighborhood commercial land use plan.

Policy 6.7: Promote high quality urban design on commercial streets.

Policy 6.8: Preserve historically and/or architecturally important buildings or groups of buildings in neighborhood commercial districts.

Policy 6.9: Regulate uses so that traffic impacts and parking problems are minimized.

At both the program and project level, the Plan proposes land use, urban form and development densities that encourage and increase active ground-floor retail and neighborhood commercial areas within walking distance of residences. These Plan goals are reflected in the new zoning districts proposed for the Project Area, particularly the Neighborhood Commercial-Transit district which provides for mixed-use development near transit services. The Plan also emphasizes managing

parking and improving vehicular circulation to minimize effects on commercial uses. The Plan supports *General Plan* goals to maintain and strengthen neighborhood commercial areas that are accessible to residents. The Plan is generally consistent with the objectives and policies of the Commercial and Industry Elements listed above. The plan does not specifically address the preservation of historical architectural commercial buildings, except through general design guidelines calling for preservation of the character of the neighborhood.

Environmental Protection Element

The Environmental Protection Element of the General Plan addresses the impact of urbanization including the use of oil and gas resources, hazardous waste management, ~~and~~ transportation noise, and energy use on the natural environment. The following noise and energy consumption-related objectives and policies of the Environmental Protection Element are relevant to the Project Area and the redevelopment of the Central Freeway parcels and the proposed public street improvements. The Plan's fundamental goal of developing the Project Area into a mixed-use, dense urban neighborhood that encourages complementary, pedestrian-scale uses would increase transportation efficiency and encourage land use patterns that use less energy.

Objective 9: Reduce transportation-related noise.

Policy 9.2: Impose traffic restrictions to reduce transportation noise.

Policy 9.6: Discourage changes in streets that result in more traffic noise near noise-sensitive receptors.

Objective 10: Minimize the impact of noise on affected areas.

Policy 10.1: Promote site planning, building orientation and design and interior layouts that lessen noise intrusion.

Objective 11: Promote land uses that are compatible with various transportation noise levels.

Policy 11.1: Discourage new uses in areas in which the noise level exceeds the noise compatibility guidelines for that use.

Policy 11.2: Consider the relocation to more appropriate areas of those land uses which need more quiet and cannot be effectively insulated from noise in their present location, as well as those land uses which are noisy and are presently in noise-sensitive areas.

Objective 15: Increase the energy efficiency of transportation and encourage land use patterns and methods of transportation which use less energy.

Policy 15.1: Increase the use of transportation alternatives to the car.

Policy 15.3: Encourage an urban design pattern that will minimize travel requirements among working, shopping, recreation, school and childcare areas.

Policy 15.5: Encourage consideration of energy use issues when making transportation investment decisions.

Policy 15.6: Promote alternative work arrangements which will contribute to more efficient transportation rules.

The *Market Octavia Neighborhood Plan* promotes infill development in an established neighborhood that has benefited from the removal of an elevated regional freeway and has a high level of transit accessibility. By returning regional traffic to a surface level and promoting pedestrian, bicycle, and public transit as a means of traveling within the neighborhood, the Plan is generally consistent with ~~the noise~~ policies of the Environmental Protection Element relating to noise and energy efficient transportation alternatives. The Plan does not have specific policies relating to the location of sensitive land uses away from traffic generated noise, however, the noise levels in the Project Area are comparable to those experienced in other highly urbanized areas. New construction would be required to meet existing standards for noise attenuation. The primary objectives of the Plan are focused on development of a transit-oriented neighborhood that is consistent with the policies of the Environmental Protection Element that advocate land use and transportation investments that promote energy efficiency and the use of transportation alternatives.

Housing Element

In May 2004, the Planning Commission adopted an updated and amended Housing Element of the *General Plan* to replace the existing Residence Element adopted by the Board of Supervisors in 1990. The updated Housing Element was approved by the Board of Supervisors in September 2004, and certified by the State Department of Housing and Community Development in October 2004 for compliance with State law regarding the content and scope of *General Plan* housing elements. The updated 2004 Housing Element contains objectives and policies that would expand land capacity necessary to increase housing production; direct new housing to appropriate locations, especially in areas well served by transit and other urban amenities; and emphasize design and density controls that enhance existing neighborhood character. The following objectives and policies of the

Housing Element are relevant to the Plan and to housing opportunities identified for the former Central Freeway parcels and other available housing sites in the Project Area.

Objective 1: To provide new housing, especially permanently affordable housing, in appropriate locations which meet identified housing needs and take into account the demand for affordable housing created by employment demand.

Policy 1.1: Encourage higher residential density in areas adjacent to downtown, in underutilized commercial and industrial areas proposed for conversion to housing, and in neighborhood commercial districts where higher density will not have harmful effects, especially if the higher density provides a significant number of units that are affordable to low income households. Set allowable densities in established residential areas at levels which will promote compatibility with prevailing neighborhood scale and character where there is neighborhood support.

Policy 1.2: Encourage housing development, particularly affordable housing, in neighborhood commercial areas without displacing existing jobs, particularly blue-collar jobs, or discouraging new employment opportunities.

Policy 1.3: Identify opportunities for housing and mixed-use districts near downtown and former industrial portions of the city.

Policy 1.4: Locate in-fill housing on appropriate sites in established residential neighborhoods.

Policy 1.5: Support development of affordable housing on surplus public lands.

Policy 1.8: Allow new secondary units in areas where their effects can be dealt with and there is neighborhood support, especially if the housing is made permanently affordable to lower-income households.

Objective 2: Retain the existing housing supply.

Policy 2.1: Discourage the demolition of sound existing housing.

Policy 2.2: Control the merger of residential units to retain existing housing.

Policy 2.4: Retain sound existing housing in commercial and industrial areas.

Objective 4: Support affordable housing production by increasing site availability and capacity.

Policy 4.1: Actively identify and pursue opportunity sites for permanently affordable housing.

Policy 4.4: Consider granting density bonuses and parking requirement exemptions for construction of affordable housing and senior housing.

Policy 4.5: Allow greater flexibility in the number and size of units within established building envelopes, potentially increasing the number of affordable units in multi-family structures.

Objective 6: Protect the affordability of existing housing.

Policy 6.2: Ensure that housing developed to be affordable is kept affordable.

Policy 6.4: Achieve permanent affordability through community land trusts and limited equity housing ownership and management.

Objective 11: In increasing the supply of housing, pursue place making and neighborhood building principles and practices to maintain San Francisco's desirable urban fabric and enhance livability in all neighborhoods.

Policy 11.1: Use new housing development as a means to enhance neighborhood vitality and diversity.

Policy 11.2: Ensure housing is provided with adequate public improvements, services, and amenities.

Policy 11.3: Encourage appropriate neighborhood-serving commercial activities in residential areas, without causing affordable housing displacement.

Policy 11.5: Promote the construction of well-designed housing that enhances existing neighborhood character.

Policy 11.6: Employ flexible land use controls in residential areas that can regulate inappropriately sized development in new neighborhoods, in downtown areas and in other area through a Better Neighborhoods type planning process while maximizing the opportunity for housing near transit.

Policy 11.7: Where there is neighborhood support, reduce or remove minimum parking requirements for housing, increasing the amount of lot area available for housing units.

Policy 11.9: Set allowable densities and parking standards in residential areas at levels that promote the city's overall housing objectives while respecting neighborhood scale and character.

The *Market and Octavia Neighborhood Plan* sets forth policies and land use controls that would retain and enhance existing housing, increase and preserve affordable housing, provide opportunities for higher density housing development near transit, and reduce or remove minimum parking requirements which in turn allows for more housing units compared to the existing zoning. Implementation of the Plan would result in approximately 4,440 new housing units by encouraging infill housing and higher density development on former Central Freeway parcels and other available sites throughout the Project Area. At the project level, approximately 800-900 units of housing would be developed on the Central Freeway parcels, of which 50 percent would be affordable. The *General Plan* objectives and policies cited above are reflected in the Plan's goals and objectives for mixed-use housing near transit and development of affordable housing. Mechanisms to ensure permanent housing affordability include preservation of existing housing stock, land trusts, and location efficient mortgage programs. Refer to Section 4.3, Population, Housing and Employment for a discussion of the Plan's provisions for affordable housing. The Plan is consistent with the objectives and policies of the Housing Element of the General Plan as listed above.

Recreation and Open Space Element

The Recreation and Open Space Element of the *General Plan* contains objectives and policies for maintaining, creating, and enhancing recreational and open space resources in the city. The following objectives and policies of the Recreation and Open Space Element are relevant to the Project Area as a whole, and specific open space projects proposed by the Plan. Additional *General Plan* objectives and policies related to open space are included in the discussion of the Downtown Area Plan on page 4-18.

Objective 2: Develop and maintain a diversified and balanced citywide system of high quality public open space.

Policy 2.7: Acquire additional open space for public use.

Objective 4: Provide opportunities for recreation and the enjoyment of open space in every San Francisco neighborhood.

Policy 4.2: Maximize joint use of other properties and facilities.

Policy 4.4: Acquire and develop new public open space in existing residential neighborhoods, giving priority to areas which are most deficient in open space.

Policy 4.6: Assure the provision of adequate public open space to serve new residential development.

Policy 4.7: Provide open space to serve neighborhood commercial districts.

The Project Area is recognized as a neighborhood that lacks adequate public open space. Near-term, project-specific proposals include creation of Octavia Plaza on Market Street near the new Central Freeway touchdown, McCoppin Square in the street right-of-way west of Valencia Street, Brady Park at the center of the block bounded by Market, Twelfth, Otis and Gough Streets, and open space on widened sidewalks on McCoppin Street between Valencia and Otis Streets. The new open spaces would enhance open space opportunities for exiting and new residents in the neighborhood. Proposed open space projects would be consistent with the above objectives and policies of the Recreation and Open Space Element and support the *General Plan* policies listed above.

Transportation Element

The Transportation Element of the *General Plan* is composed of objectives and polices which relate to the nine aspects of the citywide transportation system: General, Regional Transportation, Congestion Management, Vehicle Circulation, Transit, Pedestrian, Bicycles, Citywide Parking and Goods Movements. The Transportation Element contains the following objectives and policies pertinent to the overall Plan, and near-term project level transportation improvements.

Objective 1: Meet the needs of all residents and visitors for safe, convenient and inexpensive travel within San Francisco and between the city and other parts of the region while maintaining the high quality living environment of the Bay Area.

Policy 1.2: Ensure the safety and comfort of pedestrians throughout the city.

Policy 1.3: Give priority to public transit and other alternatives to the private automobile as the means of meeting San Francisco's transportation needs, particularly those of commuters.

Policy 1.6: Ensure choices among modes of travel and accommodate each mode when and where it is most appropriate.

Objective 2: Use the transportation system as a means for guiding development and improving the environment.

Policy 2.1: Use rapid transit and other transportation improvements in the city and region as the catalyst for desirable development, and coordinate new facilities with public and private development.

Policy 2.5: Provide incentives for the use of transit, carpools, vanpools, walking and bicycling and reduce the need for new or expanded automobile and automobile parking facilities.

Objective 11: Maintain public transit as the primary mode of transportation in San Francisco and as a means through which to guide future development and improve regional mobility and air quality.

Policy 11.1: Maintain and improve the Transit Preferential Streets program to make transit more attractive and viable as a primary means of travel.

Policy 11.2: Continue to favor investment in transit infrastructure and services over investment in highway development and other facilities that accommodate the automobile.

Policy 11.3: Encourage development that efficiently coordinates land use with transit service, requiring that developers address transit concerns as well as mitigate traffic problems.

Objective 14: Develop and implement a plan for operational changes and land use policies that will maintain mobility and safety despite a rise in travel demand that could otherwise result in system capacity deficiencies.

Policy 14.1: Reduce road congestion through the implementation of traffic control strategies, such as signal-light synchronization and turn controls that improve vehicular flow.

Policy 14.2: Ensure that traffic signals are timed and phased to emphasize transit, pedestrian, and bicycle traffic as part of a balanced multimodal transportation system.

Policy 14.3: Improve transit operation by implementing strategies that facilitate and prioritize transit vehicle movement and loading.

Policy 14.4: Reduce congestion by encouraging alternatives to the single occupancy auto through the reservation of right-of-way and enhancement of other facilities dedicated to multiple modes of transportation.

Policy 14.7: Encourage the use of transit and other alternative modes of travel to the private automobile through the positioning of building entrances that prioritize access from these modes.

Objective 15: Encourage alternatives to the automobile and reduced traffic levels on residential streets that suffer from excessive traffic through the management of transportation systems and facilities.

Policy 15.1: Discourage excessive automobile traffic on residential streets by incorporating traffic-calming treatments.

Policy 15.2: Consider partial closure of certain residential streets to automobile traffic where the nature and level of automobile traffic impairs livability and safety, provided that there is an abundance of alternative routes such that the closure will not create undue congestion on parallel streets.

Objective 18: Establish a street hierarchy system in which the function and design of each street are consistent with the character and use of adjacent land.

Policy 18.1: Wherever feasible, divert through automobile and commercial traffic from residential neighborhoods onto major and secondary arterials, and limit major arterials to nonresidential streets wherever possible.

Policy 18.2: Design streets for a level of traffic that serves, but will not cause, a detrimental impact on adjacent land uses.

Policy 18.4: Discourage high-speed through traffic on local streets in residential areas through traffic "calming" measures that are designed not to disrupt transit service or bicycle

movement, including: sidewalk bulbs and widenings at intersections and street entrances; lane off-sets and traffic bumps; narrowed traffic lanes with trees, landscaping and seating areas; and colored and/or textured sidewalks and crosswalks.

Objective 20: Give first priority to improving transit service throughout the city, providing a convenient and efficient system as a preferable alternative to automobile use.

Policy 20.1: Give priority to transit vehicles based on a rational classification system of transit preferential streets.

Policy 20.2: Reduce, relocate or prohibit automobile facility features on transit preferential streets, such as driveways and loading docks, to avoid traffic conflicts and automobile congestion.

Policy 20.3: Develop transit preferential treatments according to established guidelines.

Policy 20.6: Provide priority enforcement of parking and traffic regulations on all Transit Preferential Streets.

Objective 23: Improve the city's pedestrian circulation system to provide for efficient, pleasant, and safe movement.

Policy 23.2: Widen sidewalks where intensive commercial, recreational, or institutional activity is present and where residential densities are high.

Policy 23.3: Maintain a strong presumption against reducing sidewalk widths, eliminating crosswalks and forcing indirect crossings to accommodate automobile traffic.

Policy 23.6: Ensure convenient and safe pedestrian crossings by minimizing the distance pedestrian must walk to cross a street.

Objective 24: Improve the ambience of the pedestrian environment.

Policy 24.2: Maintain and expand the planting of street trees.

Policy 24.3: Install pedestrian-serving street furniture where appropriate.

Policy 24.4: Preserve pedestrian-oriented building frontages.

Objective 25: Develop a citywide pedestrian street classification system.

Policy 25.3: Develop design guidelines for pedestrian improvements in Neighborhood Commercial Districts, Residential Districts, and other pedestrian-oriented areas indicated by the pedestrian street classification plan.

Policy 25.6: Provide enforcement of traffic and parking regulations to ensure pedestrian safety, particularly on streets within the citywide Pedestrian and Neighborhood Networks.

Objective 26: Consider the sidewalk area as an important element in the citywide open space system.

Policy 26.1: Retain streets and alleys not required for traffic, or portions thereof for through pedestrian circulation and open space use.

Policy 26.2: Partially or wholly close certain streets not required as traffic carriers for pedestrian use or open space.

Policy 26.3: Encourage pedestrian serving uses on the sidewalk.

Objective 27: Ensure that bicycles can be used safely and conveniently as a primary means of transportation, as well as for recreational purposes.

Policy 27.1: Expand and improve access for bicycle on city streets and develop a well-marked, comprehensive system of bike routes in San Francisco.

Policy 27.3: Eliminate hazards to bicyclists on city streets.

Policy 27.10: Accommodate bicycles in the design and selection of traffic control facilities.

Objective 28: Provide secure bicycle parking in new governmental, commercial, and residential developments.

Policy 28.3: Provide parking facilities which are safe, secure, and convenient.

Policy 28.4: Provide bicycle parking at all transit terminals.

Objective 30: Ensure that the provision of new or enlarged parking facilities does not adversely affect the livability and desirability of the city and its various neighborhoods.

Policy 30.2: Discourage the proliferation of surface parking as an interim land use, particularly where sound residential, commercial or industrial buildings would be demolished pending other development.

Objective 31: Establish parking rates and off-street parking fare structures to reflect the full costs, monetary and environmental, of parking in the city.

Policy 31.1: Set rates to encourage short-term over long-term automobile parking.

Objective 32: Limit parking in downtown to help ensure that the number of auto trips to and from downtown will not be detrimental to the growth or amenity of downtown.

Policy 32.3: Encourage short-term use of existing parking spaces within and adjacent to downtown by converting all-day commuter parking to short-term parking in areas of high demand.

Policy 32.4: Where residential streets that are adjacent to or within the downtown area are used for on-street, long-term commuter parking, implement measures to promote short-term parking and discourage long-term commuter parking.

Objective 34: Relate the amount of parking in residential areas and neighborhood commercial districts to the capacity of the city's street system and land use patterns.

Policy 34.1: Regulate off-street parking in new housing so as to guarantee needed spaces without requiring excesses and to encourage low auto ownership in neighborhoods that are well served by transit and are convenient to neighborhood shopping.

Policy 34.3: Permit minimal or reduced off-street parking for new buildings in residential and commercial areas adjacent to transit centers and along transit preferential streets.

Policy 34.4: Where parking demand is greatest in city neighborhoods, consider wide-scale transit improvements as an alternative to additional parking garages as part of a balanced solution.

Objective 35: Meet short-term parking needs in neighborhood shopping districts consistent with preservation of a desirable environment for pedestrians and residents.

Policy 35.1: Provide convenient on-street parking specifically designed to meet the needs of shoppers dependent upon automobiles.

Policy 35.2: Assure that new neighborhood shopping district parking facilities and other auto-oriented uses meet established guidelines.

Due to its location and neighborhood scale, the Project Area is accessible by alternative travel modes, including walking, bicycle, and transit. Program level goals pertaining to alternative modes of travel, reducing parking demand, enhancing the pedestrian environment and replacing the Central Freeway with construction of Octavia Boulevard are key to the successful implementation of the Plan. As discussed on pages 3-26 to 3-31, the Plan proposes transit, pedestrian, bicycle, and traffic improvements and parking changes to strengthen alternative modes of travel. While both program level and near-term, project-specific transportation improvements are consistent with the *General Plan* objectives and policies listed above, certain refinements or clarifications could be applicable. These refinements would extend transit important street classifications (e.g., for the entire length of Haight Street), designate new pedestrian or vehicular traffic street designations (e.g., Octavia Boulevard), better define livable street treatments on alleys for parking and loading (e.g., Linden, Elm and Hickory Alleys), and establish parking caps as a parking management tool of the *General Plan.*

In addition, there are many ~~long-term~~ transportation ~~projects~~ improvements identified in the *Draft Market and Octavia Neighborhood Plan* that would address policies outlined in the Transportation Element of the *General Plan*~~, which include improving traffic and transit flows through signalization, widening sidewalks, long-term transit investments on Van Ness Avenue, or providing for bicycle parking at major transit terminals, to a greater degree than can be accomplished through the program and project level improvements that are evaluated in this EIR~~. Policies to more effectively manage parking, code revisions to reduce parking requirements, and projects that include: widening sidewalks to provide more pedestrian space and minimize street crossing distances for pedestrians; creating "living streets" on alleys in the Project Area; eliminating bicyclist hazards on streets by providing exclusive lanes for bicyclists; and providing for bicycle parking as part of major developments are analyzed in this DEIR at a program or project level. Long-term transportation improvements, such as improving traffic and transit flows through signalization, restriping, and contra-flow transit lanes; dedicated transit lanes on streets such as Van Ness and South Van Ness Avenues and Market Street; redirecting traffic flows off transit streets; establishing parking impact fees; use of traffic control measures to improve the flow of bicycles on streets; preferential treatment for bicycles on Market and Page Streets; providing for bicycle parking at transit stations; and specific pedestrian improvements are not analyzed in this DEIR. These proposed long-term improvements, identified in Appendix 9-B, Table B-2, page 9.B-15, would further the consistency of the *Market and Octavia Neighborhood Plan* with the *General Plan*, but would be subject to independent environmental

review."

~~There are no policies or improvements proposed in the Plan that would specifically address minimizing the street crossing distance by pedestrians, eliminating bicyclist hazards on streets, or accommodating bicycles in the traffic control facilities as called for in the Transportation Element.~~

Transit-First Policy

In 1973, the Planning Commission adopted a Transit-First Policy for San Francisco. The Transit-First policy is a set of principles which underscore the city's commitment that travel by transit, bicycle and on foot be given priority over the private automobile. These principles are embodied in the policies and objectives of the Transportation Element and they have guided the planning and development in San Francisco for the past two decades. In 1998, the voters amended the City Charter (Section 16.102) to incorporate the Transit-First Policy into the charter. All city boards, commissions and departments are now required by law to implement Transit-First principles in conducting the city's affairs.

SEC. 16.102. TRANSIT-FIRST POLICY.

The following principles shall constitute the City and County's transit-first policy and shall be incorporated into the General Plan of the City and County. All officers, boards, commissions, and departments shall implement these principles in conducting the City and County's affairs:

1. To ensure quality of life and economic health in San Francisco, the primary objective of the transportation system must be the safe and efficient movement of people and goods.

2. Public transit, including taxis and vanpools, is an economically and environmentally sound alternative to transportation by individual automobiles. Within San Francisco, travel by public transit, by bicycle and on foot must be an attractive alternative to travel by private automobile.

3. Decisions regarding the use of limited public street and sidewalk space shall encourage the use of public rights of way by pedestrians, bicyclists, and public transit, and shall strive to reduce traffic and improve public health and safety.

4. Transit priority improvements, such as designated transit lanes and streets and improved signalization, shall be made to expedite the movement of public transit vehicles (including taxis and vanpools) and to improve pedestrian safety.

5. Pedestrian areas shall be enhanced wherever possible to improve the safety and comfort of pedestrians and to encourage travel by foot.

6. Bicycling shall be promoted by encouraging safe streets for riding, convenient access to transit, bicycle lanes, and secure bicycle parking.

7. Parking policies for areas well served by public transit shall be designed to encourage travel by public transit and alternative transportation.

8. New transportation investment should be allocated to meet the demand for public transit generated by new public and private commercial and residential developments.

9. The ability of the City and County to reduce traffic congestion depends on the adequacy of regional public transportation. The City and County shall promote the use of regional mass transit and the continued development of an integrated, reliable, regional public transportation system.

10. The City and County shall encourage innovative solutions to meet public transportation needs wherever possible and where the provision of such service will not adversely affect the service provided by the Municipal Railway. (Added November 1999)."

The provisions of the Plan are consistent with the Transit-First Policy in that they advocate for the creation of a transit-oriented Market and Octavia neighborhood through land use controls, parking regulation, traffic management, and giving preference to pedestrians, transit, and bicycle travel in the Project Area.

Urban Design Element

The Urban Design Element is concerned with the physical character and environment of the city with respect to development and preservation. The Urban Design Element addresses issues related to City Pattern, Conservation, Major New Development and Neighborhood Environment as noted below.

Objective 1: Emphasis of the characteristic pattern which gives to the city and its neighborhoods an image, a sense of purpose, and a means of orientation.

Policy 1.2: Recognize, protect and reinforce the existing street pattern, especially as it is related to topography.

Policy 1.3: Recognize that buildings, when seen together, produce a total effect that characterizes the city and its districts.

Policy 1.4: Protect and promote large-scale landscaping and open space that defines districts and topography.

Policy 1.6: Make centers of activity more prominent through design of street features and by other means.

Policy 1.7: Recognize the natural boundaries of districts, and promote connections between districts.

Policy 1.8: Increase the visibility of major destination areas and other points for orientation.

Policy 1.9: Increase the clarity of routes for travelers.

Objective 2: Conservation of resources which provide a sense of nature, continuity with the past, and freedom from overcrowding.

Policy 2.4: Preserve notable landmarks and areas of historic, architectural or aesthetic value, and promote the preservation of other buildings and features that provide continuity with past development.

Policy 2.6: Respect the character of older development nearby in the design of new buildings.

Policy 2.7: Recognize and protect outstanding and unique areas that contribute in an extraordinary degree to San Francisco' visual form and character.

Policy 2.8: Maintain a strong presumption against the giving up of street areas for private ownership or use, or for construction of public buildings.

Objective 4: Improvement of the neighborhood environment to increase personal safety, comfort, pride and opportunity.

Policy 4.1: Protect residential areas from the noise, pollution and physical danger of excessive traffic.

Policy 4.11: Make use of street space and other un-used public areas for recreation.

Policy 4.12: Install, promote and maintain landscaping in public and private areas.

Policy 4.13: Improve pedestrian areas by providing human scale and interest.

Implementation of the Plan would emphasize and reinforce the distinct neighborhood urban character of the Market and Octavia neighborhood, and its role within the city's larger urban form. Urban design is a fundamental theme that has been integrated throughout all aspects of the Plan at a program level. Urban design guidelines of the *Market and Octavia Neighborhood Plan* are embodied in Element 1 – Land Use and Urban Form (Objective 1.2); Element 3 – Building with a Sense of Place; Element 4 – Streets and Open Spaces; and (Objectives 4.1 and 4.3). These program level elements and objectives of the Plan are described in Section 3.0, Project Description, pages 3-10, 3-22, and 3-23, respectively, and are consistent with the Urban Design Element objectives and policies of the *General Plan* listed above.

Arts Element

The Arts Element of the *General Plan* is intended to strengthen the arts in San Francisco, as an expression of culture, creativity and beauty, and to provide guiding principles for the City in its dealings with the arts community. The arts are recognized as a major economic force in the region and the adoption of formal policies to enhance the arts, legitimizes their economic role and is intended to insure the future health and vitality of the arts in San Francisco. The Arts Element contains the following objectives and policies relevant to the Plan.

Objective I-2: Increase the contribution of the arts to the economy of San Francisco.

Policy I-2.1: Encourage and promote opportunities for the arts and artists to contribute to the economic development of San Francisco.

Policy I-2.2: Continue to support and increase the promotion of the arts and arts activities throughout the City for the benefit of visitors, tourists, and residents.

Objective III-1: Enhance the contribution of artists to the creative life and vitality of San Francisco.

Policy III-1.5: Include the participation of artists in City capital improvements and public works projects which do not fall under current Percent for Art programs.

Objective III-2: Strengthen the contribution of arts organizations to the creative life and vitality of San Francisco.

Policy III-2.2: Assist in the improvement of arts organizations' facilities and access in order to enhance the quality and quantity of arts offerings.

Policy III-2.3: Recognize that arts organizations are representative of the City's diversity, creativity and vitality.

Objective VI-1: Support the continued development and preservation of artists' and arts organizations' spaces.

Policy VI-1.3: Increase the use of City owned neighborhood facilities for the arts.

Policy VI-1.4: Preserve existing performing spaces in San Francisco.

Policy VI-1.8: Include arts spaces in new public construction when appropriate.

Policy VI-1.9: Create opportunities for private developers to include arts spaces in private developments city-wide.

One of the basic frameworks of the Plan is to "enhance the cluster of cultural uses in the Civic Center (see page 15 of the Plan)." The Plan proposes to encourage the neighborhood-oriented businesses that currently thrive in the area around Hayes and Gough Streets and to support these uses through the introduction of new residential uses. Cultural, arts, and institutional issues would be allowed in all of the proposed zoning districts under the Plan. The DTR district would permit such uses up to the fourth floor of a building; the NCT zone would permit such uses on the first two floors and as a conditional use on upper floors; there would be no change of uses in the named NCT districts; and cultural, arts, and institutional uses would be a conditional use in the RTO district.

As part of the Street and Open Space Element, the Plan calls for the inclusion of public art projects and programs in the design of streets and public spaces, consistent with the Arts Element.

Civic Center Plan

The purpose of the Civic Center Plan is to guide development in the Civic Center area, rather than to identify specific locations for specific uses. There are four broad activity categories of public uses that are to be considered in the Civic Center area; three of which are located within the Project Area: administrative, entertainment/cultural, and parking.

Objective 1: Maintain and reinforce the Civic Center as the symbolic and ceremonial focus of community government and culture.

Policy 1.1: Emphasize key public buildings, particularly City Hall, through visually prominent siting.

Policy 1.4: Provide a sense of identity and cohesiveness through unifying street and Plaza design treatments.

Objective 2: Develop the Civic Center as a cohesive area for the administrative functions of city, state and federal government, and as a focal point for cultural, ceremonial, and community activities.

Policy 2.2: Locate civic cultural facilities in the Civic Center.

Policy 2.3: Encourage governmental activities of each level of government to locate within a "sphere of influence" within the Civic Center to avoid inefficient dispersal of these activities throughout the area.

Policy 2.4: Encourage administrative-oriented governmental functions (executive, legislative, and judicial) to locate in new consolidated facilities rather than being dispersed throughout the adjacent area in leased or rented quarters.

Objective 3: Provide convenient access to and circulation within the Civic Center, and support facilities and services.

Policy 3.1: Locate buildings employing large numbers of employees and/or attracting large numbers of visitors in convenient pedestrian proximity to public transit and off-street parking facilities.

Policy 3.2: Locate parking facilities beyond the western periphery of the Civic Center core, with direct vehicular access to major thoroughfares.

Policy 3.3: Provide and price parking for short-term visitor use, and discourage long-term parking. Encourage transit use as the primary means of access to the Civic Center.

Policy 3.4: Encourage privately-operated support and personal service establishments to locate within the Civic Center area.

Objective 4: Protect and enhance the housing resources in the Civic Center Area.

Policy 4.1: Conserve and upgrade existing low and moderate income housing stock.

Policy 4.2: Encourage new infill housing at a compatible density.

As noted above, the Plan calls for "enhancing the cluster of cultural uses in the Civic Center," a policy that is consistent with Objectives 1 and 2 and the guiding policies of the Civic Center Plan. These uses could be expanded in the Civic Center Area on properties within the Project Area that are zoned for public use and up to the fourth floor on parcels with DTR zoning. Both the Civic Center Plan and the *Market and Octavia Neighborhood Plan* also recommend the preservation and enhancement of public street space, open space areas, and housing resources. A combination of public uses and housing could be developed on the parcels that are located within the four blocks where the two plan areas overlap.

The Civic Center Plan, like the *Market and Octavia Neighborhood Plan* calls for an emphasis on access to public transit for employees and provision of short-term parking for visitors to the Civic Center Plan area. The Civic Center Plan further calls for locating parking facilities that serve the Civic Center core beyond its western periphery in the area that has direct vehicular access to major thoroughfares. This western periphery of the Civic Center area is in the *Market and Octavia Neighborhood Plan* Project Area. The Plan calls for more effective management of parking in the Project Area and those adjacent parking facilities that serve the cultural institutions in the Civic Center, through parking rates adjustments and use of other tools, to better utilize existing parking capacity and to increase the sense of security at public garages. The *Draft Market and Octavia Neighborhood Plan* strongly discourages the construction of new parking structures in the Project Area and recommends that access via transit be emphasized instead. However, the expansion of existing or the construction of new parking facilities may be allowed through a Conditional Use Permit if parking demand is not satisfied after trip reduction and transportation demand management strategies have been attempted, alternative modes encouraged, and use of existing parking facilities is being maximized. Parking revenue from the new facility would need to cover its cost in accordance with Proposition E.

Downtown Area Plan

The Downtown Area Plan (the Downtown Plan), of the *General Plan*, guides growth and development in San Francisco's downtown. The Downtown Plan covers an area roughly bounded by The Embarcadero to the east, Van Ness Avenue to the west, Folsom Street to south, and North

Beach, Chinatown and the Northern Waterfront to the north. The Downtown Plan is centered on the Market Street spine, and encompasses the easternmost portion of the Project Area bounded by Grove Street, Van Ness Avenue, Fell Street, Franklin Street, Twelfth Street, Mission Street, and Larkin/Ninth Streets. This area includes the proposed SoMa West neighborhood. The Downtown Plan focuses primarily on the downtown commercial core, and contains objectives and policies that address space for commerce, housing, open space, preservation of historic buildings, urban form, movement and circulation, and seismic safety. Within the Project Area, the Downtown Plan calls for preserving the scale and character of outlying neighborhoods, promoting housing in underused industrial and commercial areas, and protecting existing housing supply from demolition or conversion to non-residential uses, the reduction of long-term commuter parking, and urban form that recognizes and enhances the role of downtown in important areas such as Market Street. The Downtown Plan also recognizes the confluence of major vehicular and transit preferential streets, and the deficiency of public open space in SoMa West.

Objectives and policies of the Downtown Plan that are relevant to the Plan are listed below.

Objective 7: Expand the supply of housing in and adjacent to downtown.

Policy 7.1: Promote the inclusion of housing in downtown commercial developments.

Policy 7.2: Facilitate conversion of underused industrial and commercial areas to residential use.

Objective 8: Protect residential uses in and adjacent to downtown from encroachment by commercial uses.

Policy 8.1: Restrict the demolition and conversion of housing in commercial areas.

Objective 10: Assure that open spaces are accessible and usable.

Policy 10.1: Develop an open space system that gives every person living and working downtown access to sizable sunlit open space within convenient walking distance.

Policy 10.2: Encourage the creation of new open spaces that become a part of an interconnected pedestrian network.

Policy 10.4: Provide open space that is clearly visible and easily reached from the street or pedestrian way.

Objective 13: Create an urban form for downtown that enhances San Francisco's stature as one of the world's most visually attractive cities.

Policy 13.1: Relate the height of buildings to important attributes of the city pattern and to the height and character of existing and proposed development.

Objective 14: Create and maintain a comfortable pedestrian environment.

Policy 14.1: Promote building forms that will maximize the sun access to open spaces and other public areas.

Policy 14.2: Promote building forms that will minimize the creation of surface winds near the base of buildings.

Objective 15: To create a building form that is visually interesting and harmonizes with surrounding buildings.

Policy 15.2: Assure that new buildings contribute to the visual unity of the city.

Objective 16: Create and maintain attractive, interesting urban streetscapes.

Policy 16.2: Provide setbacks above a building base to maintain the continuity of the predominant street walls along the street.

Policy 16.4: Use designs and materials and include activities at the ground floor to create pedestrian interest.

Objective 17: Develop transit as the primary mode of travel to and from downtown.

Policy 17.2: Expand existing non-rail transit service to downtown.

Policy 17.3: Establish exclusive transit lanes on bridges, freeways and city streets where significant transit service exists.

Objective 18: Ensure that the number of auto trips to and from downtown will not be detrimental to the growth or amenity of downtown.

Policy 18.3: Discourage new long-term commuter parking spaces in and around downtown. Limit long-term parking spaces serving downtown to the number that already exists.

Policy 18.5: Discourage proliferation of surface parking as an interim land use, particularly where sound residential, commercial or industrial buildings would be demolished.

Objective 19: Provide for safe and convenient bicycle use as a means of transportation.

Policy 19.1: Include facilities for bicycle users in governmental, commercial, and residential developments.

Objective 20: Provide for the efficient, convenient and comfortable movement of people and goods, transit vehicles and automobiles within the downtown.

Policy 20.4: Improve speed of transit travel and service by giving priority to transit vehicles where conflicts with auto traffic occur, and by establishing a transit preferential streets system.

Policy 20.7: Encourage short-term use of existing parking spaces within and adjacent to the downtown core by converting all-day commuter parking to short-term parking in areas of high demand. Provide needed additional short-term parking structures in peripheral locations around but not within the downtown core, preferably in the short-term parking belt.

Objective 22: Implement a downtown streetscape plan to improve the downtown pedestrian circulation system, especially within the core, to provide for efficient, comfortable, and safe movement.

Policy 22.1: Provide sufficient pedestrian movement space.

Policy 22.4: Create a pedestrian network in the downtown core area that includes streets devoted to or primarily oriented to pedestrian use.

Policy 22.5: Improve the ambience of the pedestrian environment.

The objectives and policies of the Downtown Plan pertain to the eastern portion of the Project Area in the vicinity of Market Street and Van Ness Avenue and to the SoMa West neighborhood. No specific development projects are proposed for these areas. At a program level, the Plan calls for residential towers near the downtown with appropriate setbacks for sun access, and active ground-floor retail to create pedestrian interest, and limited parking to discourage auto use in the downtown. These Plan objectives would be consistent with the Downtown Plan objectives and policies. The

Plan calls for development of public open space (Brady Park) at the center of the block bounded by Market, Twelfth, Otis and Gough Streets as a near-term project level improvement. Brady Park encompasses *General Plan* objectives to create new open spaces and provide a system of pedestrian networks to ensure public open space is visible and accessible to the public.

In addition, there are many long-term transportation projects identified in the *Draft Market and Octavia Neighborhood Plan* that would address policies outlined in the Downtown Plan Element of the *General Plan*, for example widening sidewalks, long-term transit investments on Van Ness Avenue, or establishing transit only lanes on major transit corridors, to a greater degree than can be accomplished through the program and project level improvements that are evaluated in this EIR. These deferred projects, identified in Appendix 9-B, Table B-2, page 9.B-15, would further the consistency of the *Market Octavia Neighborhood Plan* with the *General Plan*, but would be subject to independent environmental review.

Planning Code Articles 10 And 11

As discussed in Section 4.6, Historical Resources, page 4-178 through page 4-180, the Project Area contains a number of rated historical resources and landmarks buildings that are subject to Articles 10 and 11 of the *Planning Code.* The Plan's impact on those resources is discussed in Section 4.6, Historical Resources, page 4-181.

Better Neighborhoods Program

The *Market and Octavia Neighborhood Plan* is one of three Better Neighborhoods Program planning initiatives being implemented by the Planning Department. Other neighborhood plans are being created for the Balboa Park BART Station and the Central Waterfront, south of Mission Bay. Although quite diverse, a common link among these three neighborhoods is their richness in transit resources. The Better Neighborhoods program aims to address the challenges of growth and change in the city, but focuses on strengthening neighborhoods at a local level based on community-based planning, and refining citywide goals to the particular needs of the neighborhood.

The goal of the Better Neighborhoods Program is to create plans that improve the neighborhood where possible, while supporting what is already working well. The Better Neighborhoods Program identifies eight elements which define a great neighborhood, which were applied to each neighborhood, as appropriate, throughout the neighborhood planning process.

1. Walk to Shops. Stores and shops that satisfy everyday needs within an easy walk from home (five to ten minutes).

2. Safe Streets. Safe and friendly streets where residential streets feel public and more like open space than trafficways.

3. Getting Around Easily. Many choices that make it easy to move about on foot, by bicycle, transit and auto; cars are accommodated, but allow people to live easily without one.

4. Housing Choices. A mix of housing, flats and apartments of various sizes to meet different needs and preferences.

5. Gathering Places. Public gathering places include parks, plazas, sidewalks and shops.

6. City Services. Full range of public services for residents, including parks, schools, police and fire stations, libraries and other amenities.

7. Special Character. Neighborhood identity shaped by its physical setting, streets, buildings, open spaces, history, culture and its residents.

8. Part of the Whole. Neighborhoods stand on their own, but are part of the city's wider community.

The *Market and Octavia Neighborhood Plan* is part of the implementation of the *General Plan* through the Better Neighborhoods Program, and is consistent with the policy and planning initiatives proposed by the *General Plan.*

Residential Design Guidelines

In December 2003, the City Planning Commission adopted a new set of the *Residential Design Guidelines* (Guidelines) to promote design that will protect neighborhood character and enhance the attractiveness and quality of life in the city. These Guidelines replace the first *Residential Design Guidelines* that were adopted in November 1989. The Guidelines address basic principles of urban design that will result in residential development that maintains cohesive neighborhood identity, preserves historic resources, and enhances the unique setting and character of the city and its residential neighborhoods. The Guidelines also suggest opportunities for residential design to further San Francisco's goals of environmental sustainability.

The Guidelines are based on the following Design Principles which are used to determine compliance with the Guidelines:

- Ensure that the building's scale is compatible with surrounding buildings.

- Ensure that the building respects the mid-block open space.
- Maintain light to adjacent properties by providing adequate setbacks.
- Provide architectural features that enhance the neighborhood's character.
- Choose building materials that provide visual interest and texture to a building.
- Ensure that the character-defining features of an historic building are maintained.

Under Section 311(c)(1) of the *Planning Code*, the Guidelines shall be used to review plans for all new construction and alterations of existing buildings in the Residential (R) zoning districts. Adoption and implementation of the Plan would supercede the *Residential Design Guidelines* within the Project Area.

Hayes Valley Development Guidelines

The Project Area north of Market between Franklin and Laguna Streets encompasses the Hayes Valley neighborhood as geographically defined in the Hayes Valley Development Guidelines. The Hayes Valley Development Guidelines were adopted in September 1993 to address several unique opportunities in the Hayes Valley neighborhood, including a number of vacant parcels (even prior to demolition of the Central Freeway) which were appropriate for new in-fill development of housing, the vibrancy of the neighborhood commercial district, and the area's link to the Civic Center, home to the city's cultural and governmental center. The Hayes Valley Development Guidelines identified the following Neighborhood Development Goals:

1. Encourage in-fill housing on vacant or parking lots in a manner which would complement the existing scale and architectural character of the neighborhood.
2. Maximize housing of varying sizes and income levels; encourage family size housing and affordable home ownership.
3. Protect existing affordable housing.
4. Strengthen the link with the city's cultural and government center.
5. Create a visually interesting and safe streetscape. Maximize pedestrian-oriented storefronts and minimize curb cuts along major thoroughfares.
6. Provide street trees, pedestrian lighting and, along Hayes Street, benches in sidewalk spaces.

These goals of the Hayes Valley Development Guidelines are embodied in the proposed *Market and Octavia Neighborhood Plan.* Approval of the Plan would supercede the Hayes Valley Development Guidelines.

Redevelopment Plans

Western Addition A-2 Redevelopment Plan

Adopted in 1966, Western Addition A-2 is one of the oldest redevelopment project areas in the city. The *Western Addition A-2 Redevelopment Plan* encompasses an irregular U-shaped area generally bound by Bush Street to the north, Fulton and Grove Streets to the south, Van Ness Avenue to the east, and St. Joseph's Avenue to the west (see Figure 3-1 on page 3-5). The northern stub of the Project Area, bound by Franklin, Turk, Laguna and Fulton Streets, is in the Western Addition A-2 Redevelopment Plan area which encompasses Central Freeway Parcels A-G (see Figure 3-2 on page 3-6). ~~The Redevelopment Plan focuses primarily on housing, and provides for the development of 5,490 new housing units and the rehabilitation of over 3,965 housing units. Approximately 5,270 of the new units have been constructed and the housing rehabilitation program is complete. The Redevelopment Plan also provides for revitalization of the Japantown (Nihonmachi) and Fillmore commercial districts and the provision of new community recreational and cultural facilities which are on-going. The Redevelopment Plan was amended in 1994 to allow construction of higher density senior housing on northernmost Central Freeway parcels (Parcels A and C) in the Project Area, create more consistent height districts after demolition of the Central Freeway, and provide for other changes to the Redevelopment Plan.~~ The emphasis of the original *Western Addition A-2 Redevelopment Plan* was the development of new housing for low- and moderate-income households, and the A-2 Plan set forth as its goal the construction of approximately 5,500 new units and 4,000 rehabilitated units. The goal of the Agency's final *Western Addition A-2 Implementation Plan (2004-2009)*, calls for a total housing production target of 10,267 units. Since the original adoption of the A-2 Plan in 1964, the Redevelopment Agency has amended the *Western Addition A-2 Plan* seven times, with the 7th Amendment's adoption finalized in April 2005. One of the 7th Amendment's purposes was to modify the density and parking controls for Central Freeway parcels A and C, pursuant to the goals of the *Market and Octavia Neighborhood Plan.* The 7th Amendment also regularized the height districts for Parcels A and C, which had formerly been bisected by the Central Freeway.

The *Western Addition A-2 Redevelopment Plan* will expire in 2009 at which time the underlying regulations of the *Planning Code* will be in effect. Since the Plan would revise the *Planning Code*, the Plan's controls would go into effect with the expiration of the *Western Addition A-2 Redevelopment Plan*

in 2009. The Redevelopment Agency has determined that they will ~~not amend the *Western Addition A-2 Redevelopment Plan* to be consistent with the *Market Octavia Neighborhood Plan* in the interim. If there is a proposal for development in the Western Addition A-2 Plan area before 2009, the proposal would be subject to the policies and regulations established by the *Western Addition A-2 Redevelopment Plan* and environmental review would be required as determined necessary under provisions of the Redevelopment Plan.~~ pursue an 8th Amendment to the A-2 Plan to implement the housing density. modified heights, and parking goals of the Plan for the Central Freeway parcels, B, D, E, F, and G, which lie within both the *Western Addition A-2 Redevelopment Plan* area and the Project Area. These are the Central Freeway parcels that were not included in the 7th Amendment for Parcels A and C.

~~The density and parking standards in the *Western Addition A-2 Redevelopment Plan* are more restrictive than those proposed in the *Market Octavia Neighborhood Plan.* Project Area parcels within the Western Addition A-2 Redevelopment Plan area are zoned either RM, Residential Medium Density, or CI, Commercial, General, Intermediate Density. These zones permit residential development of one unit per 200 square feet and 100 square feet of lot area respectively. Parking of one space per residential unit would be required in these zones, with an allowable reduction in parking to one space per two residential units, for units designed for elderly or disabled occupants. In contrast, the Plan would eliminate residential density controls and minimum parking requirements.~~

For Parcels B, D, E, F, and G, the new parking controls proposed in the 8th Amendment would be as follows: parking is not required, but up to 0.5 spaces per unit would be allowed. The parking spaces provided could increase to 0.75 spaces per unit through a variance request. No commercial parking would be required.

The *Western Addition A-2 Neighborhood Plan* uses the term "Agency Rooms" as a unit of measurement.[1] Parcels B, D, E, F, and G are within a CI district, which limits density to one Agency Room per 100 square feet of lot area. For all five parcels, the Agency is proposing to achieve the goals of the *Market and Octavia Neighborhood Plan* by eliminating the CI density restrictions through an 8th Amendment to A-2 Plan.

The 7th Amendment to the A-2 Plan modified the heights for Parcels A and C by applying an existing 96-foot height limit designation to the western portions of those parcels that were

[1] All residential densities in the A-2 Plan are expressed in terms of Agency Rooms, rather than units. The A-2 Plan defines an Agency Room as including a living room, dining room, kitchen, family room, study, den, library, bedroom or similar major room, but not including bathrooms, closets, hallways, or similar rooms. By practice, a studio is considered two Agency Rooms, while a one-bedroom apartment is considered three Agency Rooms.

previously capped at 50 feet, providing a new height limit split of 96/130 feet. For Parcel B, the Redevelopment Agency proposes to modify the height control to 50-X. For Parcel D, the proposed height would be 50-X to 85-E. For Parcel E, the existing 50-X height limit would be extended to the entire site. Parcels F and G would require a new height designation, in keeping with the *Market and Octavia Neighborhood Plan* and acknowledging both their special locations, which frame City Hall, and their ability to support ground floor retail. The proposed heights for these sites would be 65 feet.

Height limits in the *Western Addition A-2 Redevelopment Plan*, however, are more permissive. Heights ranging from 96 to 130 feet are permitted along the Franklin Street corridor in the *Western Addition A-2 Redevelopment Plan.* These heights would be reduced to 85 to 120 feet in the Plan.

This EIR analyzes development on parcels that are located in both the Western Addition A-2 Redevelopment Plan area and the Project Area under the provisions of the proposed Plan. The Plan provisions would not, however, go into effect until 2009.

Proposed Mid-Market Redevelopment Plan

The *Mid-Market Redevelopment Plan* is currently under review and consideration for adoption by the San Francisco Redevelopment Agency. The Mid-Market Redevelopment Survey Area is located in downtown San Francisco, generally from Fifth Street to Division Street along the Market and Mission Streets corridor. The easternmost segment of the Project Area, between Ninth Street to the west, Twelfth Street to the east, Howard Street to the south, and Market between Larkin and Polk Streets to the north, is within the Mid-Market Redevelopment Survey Area. The Redevelopment Agency is currently working with the Project Area Committee to refine elements of *Mid-Market Redevelopment Plan*, and proceed with adoption of the *Mid-Market Redevelopment Plan.*

Portions of the Market and Octavia neighborhood that are located in the Mid-Market Redevelopment Survey Area would not be subject to land use or height changes under the Plan and therefore no changes to the proposed *Mid-Market Redevelopment Plan* would be required as a result of the implementation of the *Market and Octavia Neighborhood Plan.*[2]

The *General Plan*, which provides general policies and objectives to guide land use decisions, contains some policies that relate to physical environmental issues. The compatibility of the 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 proposed Plan and any

[2] Liza King, Project Manager, San Francisco Redevelopment Agency, telephone conversation, January 6, 2005.

potential conflicts identified as part of that process would not alter the physical environmental effects of the proposed Plan.

REFERENCES

City and County of San Francisco, Planning Department, *Hayes Valley Development Guidelines*, September 1993.

City and County of San Francisco, Planning Department, *Market and Octavia Neighborhood Plan*, Draft for Public Review, December 2002.

City and County of San Francisco, Planning Department, *Overview of the Citywide Action Plan*, August 2002.

City and County of San Francisco, Planning Department, *Residential Design Guidelines*, December 2003.

City and County of San Francisco, Planning Department, *San Francisco General Plan*, Commerce and Industry Element.

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City and County of San Francisco, Planning Department, *San Francisco General Plan*, Housing Element, adopted May 2004.

City and County of San Francisco, Planning Department, *San Francisco General Plan*, Recreation and Open Space Element.

City and County of San Francisco, Planning Department, *San Francisco General Plan*, Transportation Element, adopted July 1995.

City and County of San Francisco, Planning Department, *San Francisco General Plan*, Urban Design Element.

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4.2 LAND USE AND ZONING

This section describes existing land use and zoning in the Project Area, including the general pattern of land uses and mix of residential, commercial, and other uses. The impact discussion addresses potential land use and zoning changes that would occur with implementation of the Plan, including land use compatibility and effects on existing land use character. Changes in land use and zoning are discussed at a program level for the Plan as a whole. More detailed, project-specific analyses are discussed for land use and zoning changes that would occur on Central Freeway parcels and proposed near-term public street and open space improvements.

4.2.1 Environmental Setting

Project Location

The Market and Octavia area is located in northeastern San Francisco, and sits at the junction of several different neighborhoods, including the Civic Center, Hayes Valley, Western Addition, South of Market, the Inner Mission, the Castro, Duboce Triangle, and Upper Market. The location of the Project Area is shown on Figure 3-1, page 3-5. Historically, the Market and Octavia area has not been defined as a distinct San Francisco neighborhood, but was designated as a plan area due to its location and common land use and transportation attributes, which became more apparent with demolition of the Central Freeway.

The Project Area sits at the western edge of the downtown financial district. North of Market Street, the Project Area is bordered on the east by the Civic Center, the focal point of the city's major public institutions, City Hall, government buildings, and performing arts centers including the Opera House, the Asian Art Museum, and the Main Library. The Project Area is bordered on the north and west by the Western Addition neighborhood which consists mostly of attached low-rise, single- and multi-family units and on the west by the Duboce Triangle neighborhood which is a predominantly residential enclave. South of Market Street, the Project Area is bordered on the west by the Castro District, an established mixed-use residential neighborhood, and on the south by the Inner Mission District, a mixed commercial, light industrial and residential area, and portions of the South of Market neighborhood, which consist of a mixture of large-scale retail, and public and private office uses interspersed with residential and industrial uses.

Market Street transects the Project Area from Ninth Street at the eastern edge of downtown to Noe Street in the Upper Market area and provides a unifying element to the various neighborhoods located in the Project Area. From Van Ness Avenue to the east project boundary, Market Street is

characterized by a mix of contemporary office buildings of varying heights. The Upper Market District, which extends from Van Ness Avenue west, is characterized by neighborhood commercial restaurants, bars, cafes, fitness studios, and a variety of retail establishments.

North of Market Street, the Project Area encompasses the Hayes Valley neighborhood, which is the area bound by Market Street on the south, Laguna Street on the west, Golden Gate Avenue to Gough and Turk Streets on the north, and Franklin Street on the east. Hayes Valley is a moderately-scaled neighborhood with residential and neighborhood commercial uses, focused on Hayes, Gough, Oak, and Linden Streets. The area is punctuated by a series of east-west alleys which result in small and narrow lots establishing a building size proportionate to the public street network. The 22 vacant Central Freeway parcels cut a swath through the center of the Hayes Valley neighborhood. The parcels have been used for surface parking since the removal of the elevated Central Freeway. The northernmost portion of the Project Area, between Franklin, Turk, Laguna and Fulton Streets is within the Western Addition A-2 Redevelopment Plan Area.

Several blocks of the lower Van Ness Avenue corridor between Grove and Market Streets, and the eastern edges of the Civic Center area are located within the Project Area. Between Van Ness Avenue and Franklin Street, the cultural and civic buildings extend beyond the formal Civic Center and create a uniform wall. Moving towards Market Street, these buildings increase in height and include private office buildings with limited ground-floor retail uses. North of Golden Gate Avenue, the uses in the Van Ness Avenue and Franklin Street corridor become more residential in character.

The Duboce Triangle, in the western Project Area, north of Market Street, is bounded roughly by Waller Street to the north, Castro Street to the west, and Market Street to the south and east. This district is predominantly residential with interspersed neighborhood commercial uses. Two streets in the neighborhood are treated with landscaping and traffic-calming measures.

South of Market Street, the Project Area includes parts of the Inner Mission District, the SoMa West area, and portions of the proposed Mid-Market Redevelopment Plan Area. The Inner Mission District is characterized by one- to three-story residential buildings interspersed with small commercial establishments, motorcycle repair shops and surface parking along Duboce Avenue and Valencia Street.

SoMa West includes the major intersection of Mission Street/Otis Street/South Van Ness Avenue. The area has broad streets and auto-related uses dominate this intersection. Other uses in this

neighborhood include warehouses, office buildings, and discount supply outlets. Residential uses have recently been introduced into the area.

The Mid-Market Redevelopment Plan Area is located in the South of Market Street portion of the Project Area, east of Eleventh Street. The area is characterized by large-scale commercial buildings on Market Street and moderate-scale commercial building on Mission Street. This area, like Hayes Valley, has an intact network of alleys which established a pattern of small-scale housing interspersed with small industrial uses.

The Castro District centered at Market and Castro Streets, is located on the western edge of the Project Area. Upper Market Street, near Castro Street, is characterized by three- to four-story commercial buildings with ground-floor retail uses including restaurants, shops, and fitness centers. West of Castro Street, the commercial uses mix with Victorian buildings along Market Street. There are a limited number of surface parking lots along Market Street; the largest is located at the Safeway shopping complex at Market and Church Streets. Multi-story residential apartments and flats surround the commercial developments on Market, Church, and Castro Streets.

Program Level

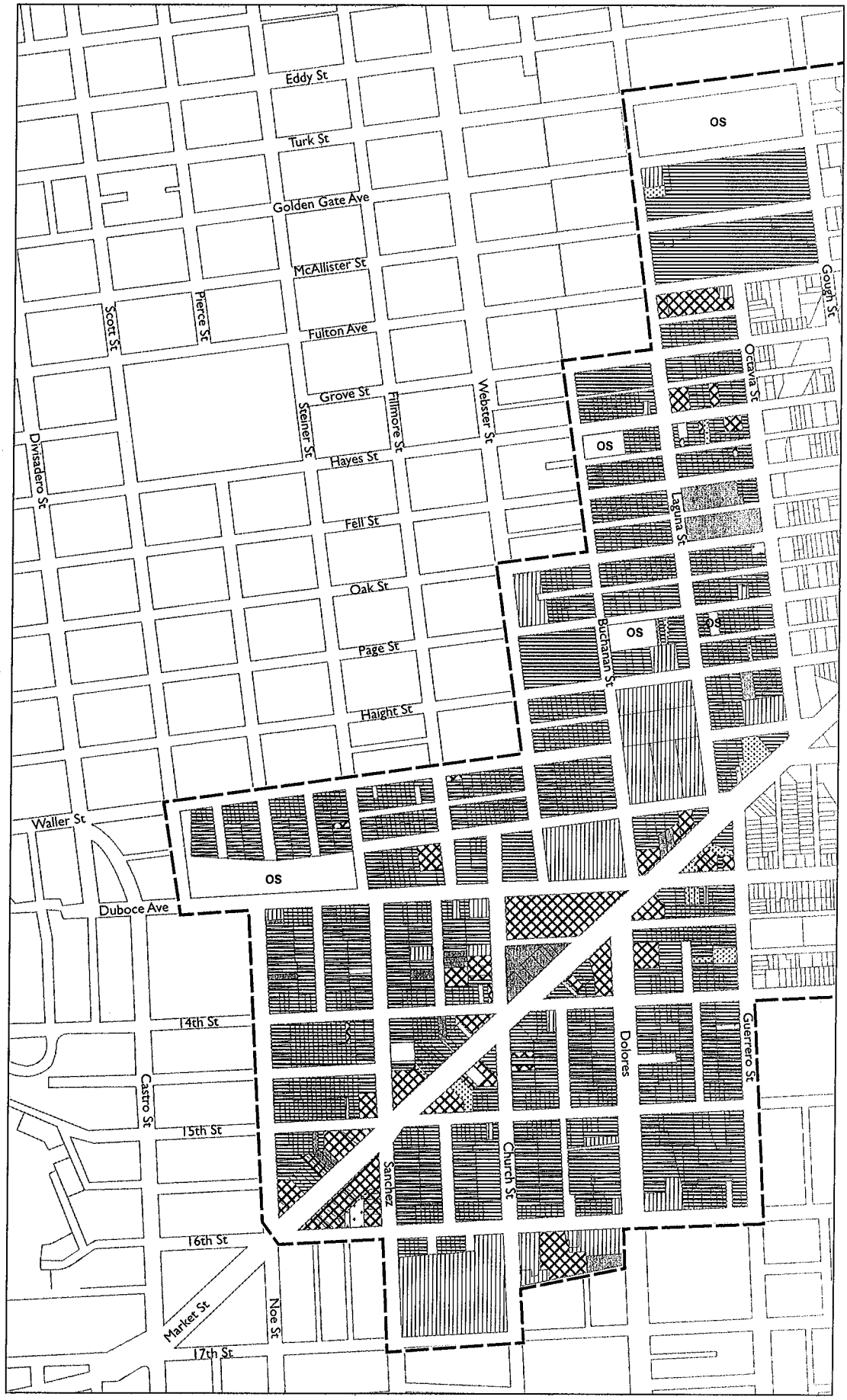
This section provides an overview of existing land use, zoning, and height limits for the Project Area.

Existing Land Uses in Project Area

The existing land uses in the Project Area are depicted in Figure 4-1. The Project Area includes a mix of land uses, including residential, neighborhood retail, institutional and cultural, commercial, industrial, and open space, which are predominantly dense and urban. These land uses are discussed by land use type in this section with an explanation of each use. The Impacts section, below, examines proposed uses and changes by analyzing these land use types by sub area of the Project Area.

Residential

The principal land use throughout the Project Area is residential. Residential uses are mostly two- and three-unit and multi-family structures, ranging from two to three stories, and concentrated in the western portion of the Project Area and scattered throughout the area surrounding the Civic Center. Apartment buildings, located mostly near major intersections, range in height from four to seven stories. There are a few pockets of single-family residential units in the Project Area, mostly


Eddy St
Turk St
Golden Gate Ave
McAllister St
Fulton Ave
Grove St
Hayes St
Fell St
Oak St
Page St
Haight St
Waller St
Duboce Ave
14th St
15th St
16th St
17th St
Market St
Noe St
Castro St
Dolores
Guerrero St
Church St
Sanchez
Scott St
Pierce St
Steiner St
Fillmore St
Webster St
Divisadero St
Gough St
Octavia St
Laguna St
Buchanan St
OS



SOURCE: EnviroTrans Solutions

Figure 4-1
Existing Land Use

South of Market on Dolores, Valencia and Sixteenth Streets. Along major streets such as Gough, Hayes, Church and Market, residential uses are mixed with ground-floor retail and commercial uses. The Fox Plaza Building, located on the eastern edge of the Project Area on Market Street between Larkin and Polk Streets, is a high-rise mixed-use building with ground-floor retail, several floors of offices, and residential above. Residential uses are also located along Market Street above ground-floor retail and commercial uses. The Project Area contains two residential hotels on Market Street: the Civic Center Hotel at Twelfth Street, and the Allen Hotel at Gough Street.

Neighborhood Retail

Neighborhood retail is focused on segments of Gough, Hayes, Octavia, Laguna, Church and Market Streets near housing and convenient to transit. Retail uses are predominantly on the ground floor with residential and commercial uses above. Due to the scale and heights of the buildings, building frontages, and narrow sidewalk widths, retail activities along these streets create a close-knit neighborhood atmosphere. Local-serving retail, such as "mom and pop" corner stores, laundromats and an occasional coffee house, is also interspersed on residential streets throughout the Project Area.

Hayes Street, centered between Franklin and Octavia Streets, is the largest neighborhood-scale retail street in the Project Area with almost continuous storefronts of similar size and scale. Retail uses along Hayes Street include art galleries, bakeries, restaurants, specialty retail, and hair salons. The retail frontage on Hayes Street shows some economic decline due to vacancies or changes in business ownership. Vacant Central Freeway parcels (Parcels J and K) disrupt the continuity of retail uses on Hayes Street between Gough and Octavia Streets. Retail uses are also located on the lower ends of Gough and Franklin Streets near Market Street, and include restaurants, retail shops, and chain drugstores with off-street parking. The pedestrian and retail environment along Gough and Franklin Streets is affected by the volume and speed of local and regional through-traffic along these streets. Restaurants and art galleries along Hayes and Gough Street also cater to a population from outside of the neighborhood and to patrons of the nearby performing arts in the Civic Center area.

Market Street provides a retail identity for the Project Area. West of Van Ness Avenue, retail land uses on Market Street transition east to west from large-scale retail uses such as automobile dealerships, furniture and mattress stores, second-hand and vintage retail shops including antique stores, art supply stores, coffee shops, other local retail such as laundromats, and two gas stations. In addition to local restaurants, there are establishments, such as the Zuni Café, which draw local patrons as well as customers throughout the city and region. Safeway, located at the intersection of

Market and Church Streets, is the only major supermarket in the Project Area. A neighborhood shopping center, which includes chain stores such as Jamba Juice and The Gap, is located next to the Safeway on Market Street. East of Van Ness Avenue along Market Street there are no neighborhood-serving retail stores although some retail is found in the ground floor of buildings on the north side of Market Street including at the mixed-use Fox Plaza building.

Heavy Commercial Industrial

Heavy commercial, warehousing and processing uses are located south of Market Street, mostly in the SoMa West area. Large lots with mid-rise office buildings, including along the south side of Market Street west of Van Ness Avenue, many with ground-floor retail establishments, characterize this area. Large-scale retail uses such as building supply warehouses (Discount Building Supply) and discount retail (Smart and Final) are located near Van Ness Avenue. Along Van Ness Avenue and South Van Ness Avenue are large-floor-plate automobile dealerships.

Institutional and Cultural

Civic Center is the center for cultural activities in San Francisco. Civic and cultural uses in the Project Area and nearby vicinity include the Bill Graham Civic Auditorium on Grove Street, the Davies Symphony Hall on Grove Street at Van Ness Avenue, the San Francisco Opera House at Grove Street and Van Ness Avenue, the Herbst Theater at McAllister Street and Van Ness Avenue, and the San Francisco Performing Arts Library and Museum between Franklin and Gough Streets. The San Francisco Conservatory of Music is on Oak Street between Van Ness Avenue and Franklin Street; this structure is currently being renovated. Visitors to the cultural arts also frequent restaurants and other retail uses along Van Ness Avenue and west of Van Ness Avenue.

The Project Area contains a number of social, educational, institutional and cultural destinations located on major travel corridors, most of which are directly served by transit or within a block or two of a major transit line. The Lesbian, Gay, Bisexual, and Transgender Center (the Center) is located on Market Street between Laguna and Octavia Streets. Land uses along Franklin Street include ~~non-profit and public agencies such as the San Francisco Bar Association,~~ the San Francisco Ballet Association, the State Department of Employment Development, and offices of the San Francisco Unified School District. The New Conservatory Theater has two performance spaces located at 25 Van Ness Avenue. The National Center for International Schools, including the French and Chinese American International Schools, is located at 150 Oak Street between Franklin and Gough Streets and the San Francisco Girls Chorus and School is located at 44 Page Street between Franklin and Gough Streets. The Progress Foundation, which provides treatment for

mentally disabled individuals is located at 368 Fell Street at Octavia Street. The offices of the San Francisco Redevelopment Agency and John Swett Elementary School are located on Golden Gate Avenue between Franklin and Gough Streets.

The UC Berkeley Extension Campus is located on the block bounded by Buchanan, Haight, Laguna, and Hermann Streets. This site is proposed for redevelopment into approximately 500 residential units, some retail space, and community-serving uses. The existing dental clinic on the campus would remain.

Office

The Civic Center contains large-scale office buildings of an institutional nature. Office uses include medium- and high-rise buildings clustered near Market Street and Van Ness Avenue. The Bank of America office center is located at Market Street and Van Ness Avenue. On Van Ness Avenue, north of Market Street, office uses include five- to eight-story buildings, with ground-floor retail. Several of these buildings are occupied by offices of the City and County of San Francisco including the Department of Parking and Traffic at 25 Van Ness Avenue, the Department of Public Works, the Major Environmental Analysis Division of the Planning Department at 30 Van Ness Avenue, and the San Francisco Unified School District at 135 Van Ness Avenue. The 28-story California State Automobile Association building is at 100 Van Ness Avenue at Fell Street, and houses private office uses and the San Francisco County Transportation Authority. The San Francisco Department of Public Health is located at Polk and Grove Streets.

Scattered in the SoMa West neighborhood are small-scale offices. West of Van Ness Avenue, south of Market Street, are medium-scale office buildings occupied by private businesses and public offices, including the Planning Department, the Department of Public Works, and the Building Inspection Department.

Visitor Serving-Uses - Hotels, Inns and Lodges

The Project Area has a number of hotels, inns and lodges, mostly targeted to visitors to the Civic Center cultural and institutional uses in the Project Area and vicinity. These include the Ramada Plaza at 1231 Market Street, the Edwardian at 1668 Market Street, the Travel Lodge on Market Street at Valencia Street, Civic Center Hotel on Market Street between Gough and Franklin Streets, Days Inn Downtown Civic Center at 465 Grove Street, the Inn at the Opera on Fulton Street, and the Hayes Valley Inn on Gough Street.

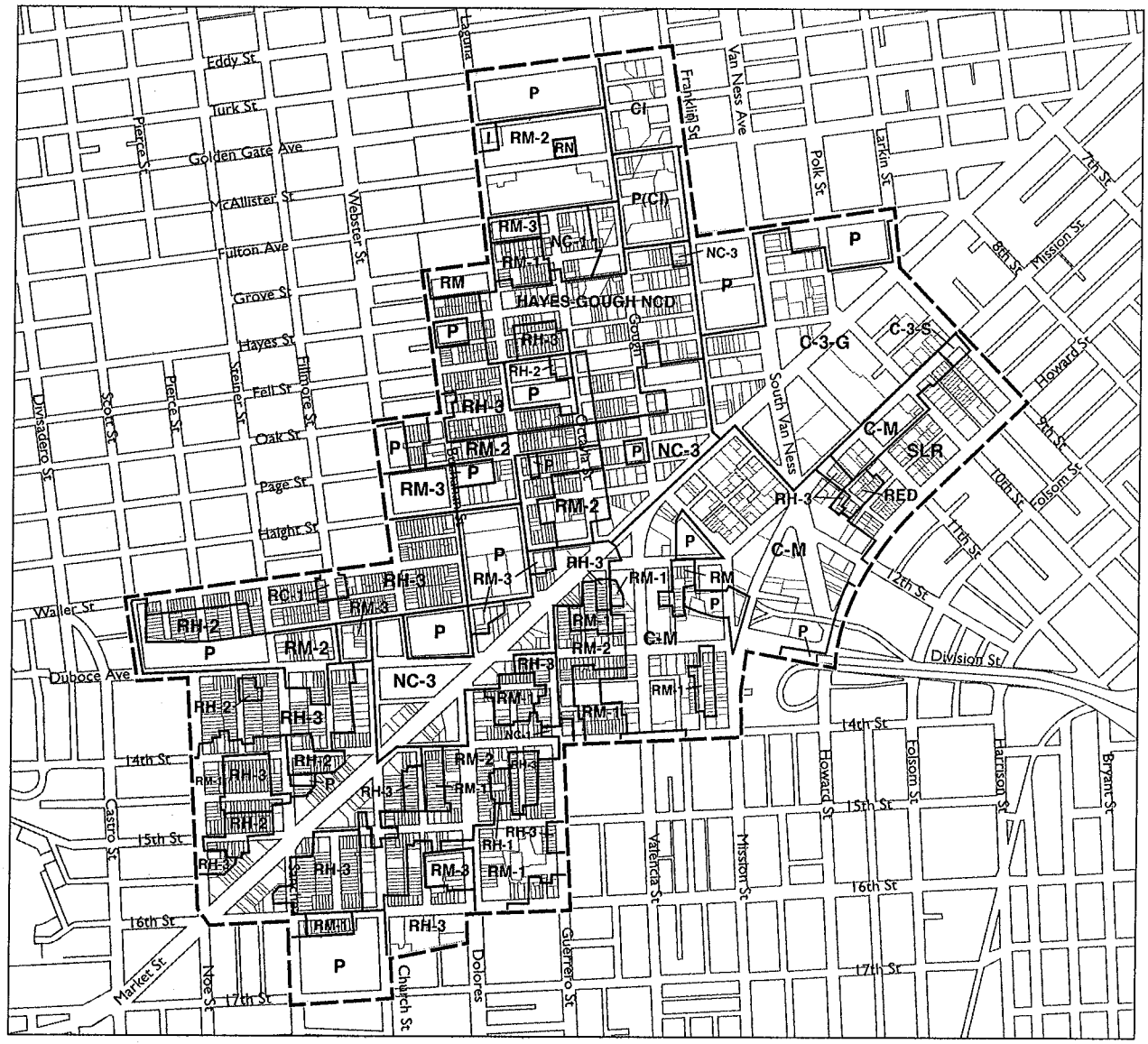
Open Space

Formal open space uses in the Project Area are the Hayward Playground at the northern edge of the Project Area on Turk Street between Laguna and Gough Streets, the Hayes Valley Community Center at the Project Area's western boundary, along Buchanan Street between Hayes Street and Linden Street, Koshland Park at Page and Buchanan Streets, and Duboce Park between Duboce Avenue and Scott and Steiner Streets. Other formal open spaces such as Civic Center Plaza and the United Nations Plaza are located in the vicinity of the Project Area and are also used by people frequenting, residing, or working in the area. Field observations indicate that sidewalk dining and cafes, mini-plazas such as Duboce Triangle, restaurant courtyards, and residential stoops also provide informal neighborhood open space and gathering places.

Existing Zoning

As shown in Figure 4-2, there are a total of 17 zoning districts in the Project Area, reflecting a mix of land use. Residential zoning districts are predominantly multi-family and mixed use. Existing residential zoning districts within the Project Area are Residential House (RH) and Residential, Mixed (RM) Districts located north of Market Street to the west of Gough Street and south of Market Street to the west of Mission Street. Most of the residential zoning in the north of Market Street area is zoned RH-2 (Residential Two-Family), RH-3 (Residential Three-Family) and RM-2 (Residential Moderate Density) with scattered areas zoned RM-3 (Residential Medium Density). Most of the residential zoning in the south of Market Street area is RH-3, RM-1 (Residential Low Density), RM-2, and RM-3. In the SoMa West area residential areas are zoned RH-3, RM-1, and RED (Residential Enclave District). The RH-2 zoning allows one bedroom for each 415 square feet of lot area, RH-3 and RM-1 allow one bedroom for each 275 square feet of lot area, RM-2 allows one bedroom for each 210 square feet of lot area, and RM-3 allows one bedroom for each 140 square feet of lot area. The RED zoning allows one bedroom for each 400 square feet of lot area.

Neighborhood Commercial Districts (NCDs) are located along Market Street and in designated commercial districts, including the Hayes-Gough NCD and portions of Upper Market and Valencia Street NCDs. NC-3 zoning around Market Street and the Valencia NCD allow residential uses as follows: one bedroom per each 210 square feet of lot area, while the Hayes-Gough and Upper Market Street NCDs allow one bedroom for each 140 square feet of lot area. Also pockets of Neighborhood Commercial Districts located north of Grove Street between Franklin and Gough Streets (NC-3), and along Guerrero Street at Fourteenth Street (NC-1) allow one bedroom for each



Project Boundary

Residential Districts

- **RH-1** Residential One-Family
- **RH-2** Residential Two-Family
- **RH-3** Residential Three-Family
- **RM-1** Residential Low Density
- **RM-2** Residential Moderate Density
- **RM-3** Residential Medium Density

Neighborhood Commercial Districts

- **NC-1** Neighborhood Commercial Cluster
- **NC-3** Moderate-Scale Neighborhood Commercial

Designated Neighborhood Commercial Districts (NCD)

- Hayes-Gough NCD
- Upper Market NCD
- Valencia Street NCD

Downtown Commercial Districts

- **C-3-G** Downtown General Commercial
- **C-3-S** Downtown Support
- **C-M** Heavy Commercial

Public

- **P** Public

South of Market Districts

- **RED** Residential Enclave Districts
- **SLR** Service/Light Industrial/Residential Mixed Use District

Western Addition A-2 Plan Districts

- **RM** Residential, Medium Density
- **RN** Residential and Neighborhood Commercial
- **I** Institutional
- **CI** Commercial, General Intermediate Density
- **P** Public

0 1000 FEET

SOURCE: EnviroTrans Solutions, San Francisco Planning Department

Figure 4-2
Revised
Existing Use Districts

275 square feet of lot area). Neighborhood Commercial Districts also allow neighborhood-serving retail uses on the ground floor.

Downtown Commercial (C-3-G and C-3-S) Districts are located near along Market Street from Larkin to Franklin Streets, centered near the intersection of Market Street and Van Ness Avenue. Besides a wide-range of commercial uses with citywide or regional focus, these districts also allow at least one dwelling unit for each 125 square feet of lot area. Heavy Commercial (C-M) Districts are located in the SoMa West area and in portions of the Mid-Market Area. These districts allow most of the same commercial uses, although at a lower scale, as the C-3 zoning districts, but do not allow residential uses except with conditional use authorization.

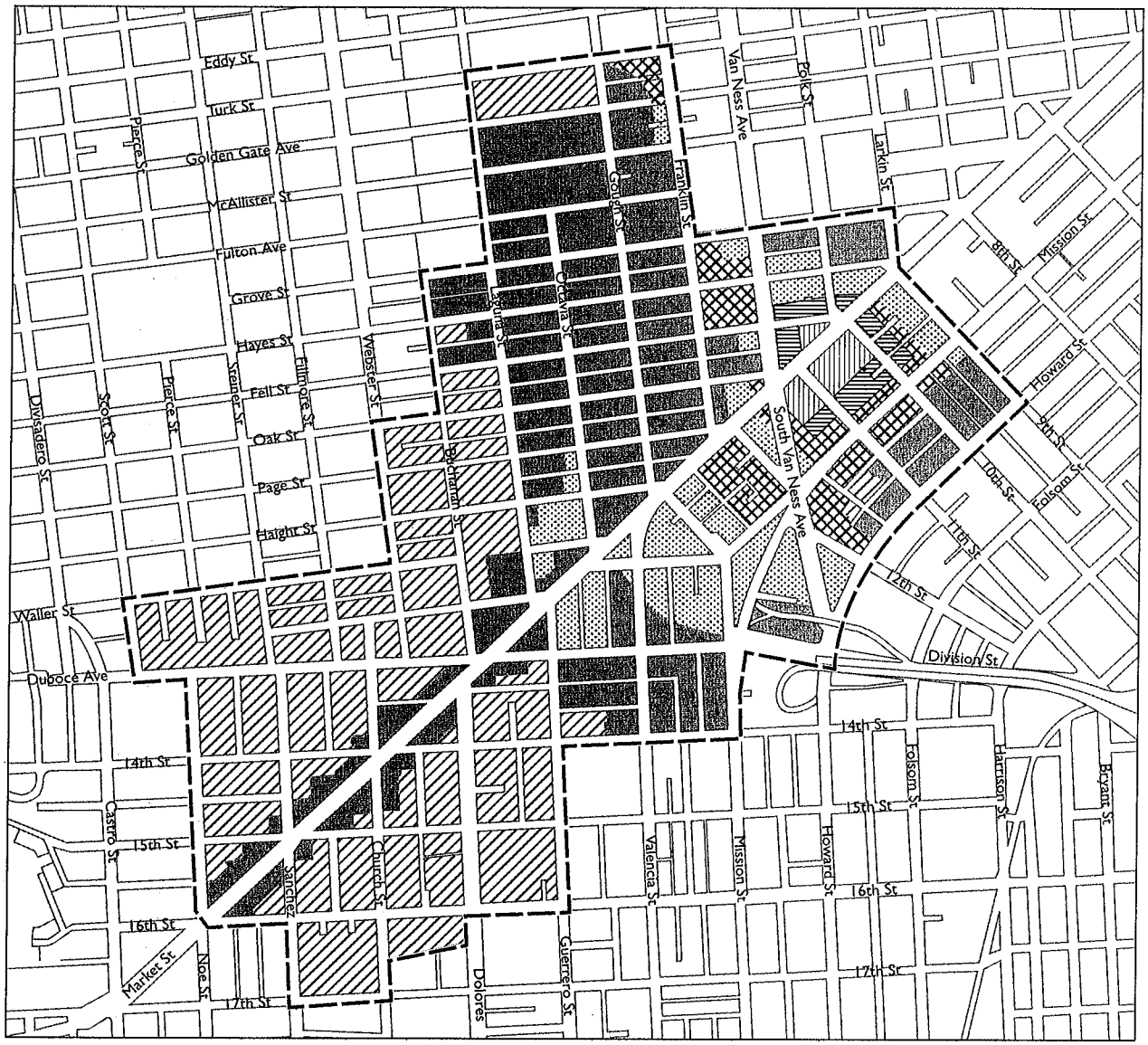
Public Use (P) Districts are located throughout the Project Area, and include open space, parks, the UC Berkeley Extension site, schools and city-owned land.

In addition to the 17 zoning districts described above, the Plan area between Turk and Fulton, Franklin and Laguna overlaps with the *Western Addition A-2 Redevelopment Plan* area. Land use controls within the A-2 Plan area include Residential, Medium Density (RM), Residential and Neighborhood Commercial (RN), Institutional (I), and Commercial, General Intermediate Density (CI). RM districts allow one Agency Room per 200 square feel of lot area. CI districts allow one Agency Room per 100 square feet of lot area. RN districts east of Laguna Street allow one Agency Room per 100 square feet of lot area. Parcels A and C, subsequent to the A-2 Plan 7th Amendment, may be developed with a density of one Agency Room per 50 square feet of lot area.

The portion of the Project Area located in the Mid-Market Redevelopment Plan Area is zoned Residential Enclave District (RED) which allows one dwelling unit per 400 square feet of lot area to accommodate infill housing and the South of Market area Service/Light Industrial/Residential (SLR) District which allows one dwelling unit per 200 square feet of lot area. The SLR district is designed to accommodate small-scale light industrial, commercial, performance art, and housing at a scale and density compatible with the existing neighborhood. The Plan does not propose any zoning changes for this area.

Existing Height and Bulk Districts

The Project Area contains 22 separate height and bulk districts that range in height from 40 feet to 320 feet. These include OS (Open Space), 40-X, 50-X, 65-X, 70-X, 80-A, 80-B, 80-E, 80-J, 80-X, 96-X, 105-E, 105-J, 120-F, 120-X, 130-G, 130-L, 150-S, 160-H, 180-M, 200-S, and 320-S. A summary of generalized existing height limits is presented in Figure 4-3. Most residential uses within



SOURCE: EnviroTrans Solutions, San Francisco Planning Department

Figure 4-3
Revised
Existing Generalized Height Districts

the western portion of the Project Area are within a 40-X height and bulk limit, which allows building up to 40 feet high without bulk constraints. In general, height limits ranging from 50 to 105 feet are generally located in the central portion of the Project Area along the Octavia Boulevard corridor, with height limits of 65 to 160 feet on Franklin Street on the northern border of the Project Area. Neighborhood commercial uses on Market Street along the western boundary of the Project Area range in height from 50 feet near Noe Street to 160 feet near Van Ness Avenue. The tallest height limits range from 120 to 320 feet and are located in the vicinity of the Market Street and Van Ness Avenue intersection, reflecting the mid- and high-rise office buildings located near the downtown commercial area.

Areas along the Van Ness Avenue corridor are designated as 70-X, 80-X, 96-X, 130-E (bulk restrictions above 65 feet), and 130-V (bulk restrictions above 50 feet). Concentrated along the Van Ness Avenue corridor north of Market Street, including the lower Civic Center area are designations of 80-J (bulk restrictions above 40 feet), 105-E (bulk restrictions above 65 feet), 105-J, 120-F (bulk restrictions above 80 feet), 120-X, 130-G (bulk restrictions above 80 feet), 130-L (bulk restrictions above 80 feet), 160-H (bulk restrictions above 100 feet), and 200-S (upper tower restrictions). North of Market Street between Van Ness Avenue and Laguna Street are areas designated 50-X, 80-B (bulk restrictions above 50 feet), and 105-E. South of Market Street along Valencia Street is a 50-X height and bulk corridor, and along Mission Street are areas designated 65-B, 80-B, and 105-E.

In the *Western Addition A-2 Redevelopment Plan* area the height and bulk districts range from 50-X to 130-E. The X bulk district limits plan dimensions at heights of less than 65 feet on lateral slopes and the E bulk district limits plan dimensions above 65 feet.

Project Level

This section provides an overview of existing land use, zoning and height limits for parts of the Plan or parcels that are evaluated at a project level of detail in this EIR.

Central Freeway Parcels

Removal of the Central Freeway north of Market Street in Hayes Valley has resulted in a corridor of 22 vacant parcels on approximately seven acres along the former freeway alignment. The corridor begins at the southwest corner of the Turk Street and Gough Street intersection (Parcel A) at the northernmost end of the Project Area, and terminating at Octavia Boulevard and Market Street (Parcel V) to the South. (Refer to Figure 3-2, page 3-6, for the locations of the Central Freeway parcels.) These parcels are currently used for parking, or are vacant, except for vegetation, concrete

and debris from the demolished freeway structure. Parcels A ~~to~~ through G are subject to the *Western Addition A-2 Redevelopment Plan*, which allows for a range of density between one Agency Room per 50 square feet of lot area (Parcels A and C) to one Agency Room per 100 square feet of lot area (Parcels B, D, E, F, and G). Parcel H is ~~are~~ located within the Neighborhood Commercial District (NC-3), which allows ground-floor retail uses and residential units above the first floor at a density of one bedroom per 210 square feet of lot area.

Parcels I, J, K, L, M, N, R, S and Q are within the Hayes-Gough Neighborhood Commercial District, which allows ground-floor retail uses and residential units above the first floor at a density of one bedroom per 140 square feet of lot area. Parcels O and P are zoned Public, which limits use to public uses only. Parcels T, U, and V are zoned Multi-Family Residential (RM-2), which allows residential with a density of one bedroom per 210 square feet of lot area.

~~Parcels A, B and D are designated with a split 50-X and 130-E height and bulk district (E restricts bulk above 40 feet); Parcel C with a 130-E; Parcels E and G with a 65-A (bulk restrictions above 40 feet); Parcel F split with a 50-X and 65-A;~~ Parcels A and C are designated with a 96-E/130-E height and bulk district (E restricts the bulk over 65 feet); Parcels B and D with a split 50-X and 130-E height and bulk limit (X restricts the bulk under 65 feet on parcels with lateral slopes); Parcels E and F with a split 50-X/96-X height and bulk limit; and Parcel G with a 96-X height limit within the A-2 Plan area. Outside of the A-2 Plan area, Parcels H to N and R to U are designated with a 50-X height and bulk limit; Parcels O, P, and Q with an 80-B height and bulk limit (bulk restrictions above 50 feet); and Parcel V with an 80-A height and bulk limit.

Public Street Improvements

Proposed near-term transportation improvements would create traffic, transit and bicycle operational improvements, including conversion of lane directions, which do not relate directly to existing land use, zoning and height districts. These improvements are identified in the impacts section below.

Open Space Improvements

In the near-term, the Plan proposes creation of three new public open spaces: Octavia Plaza, on Market Street adjacent to the new Central Freeway touchdown; McCoppin Square, a plaza in the McCoppin Street right-of-way, west of Valencia Street that was vacated as part of the Central Freeway Replacement Project; and Brady Park at the center of the block bounded by Market, Twelfth, Otis and Gough Streets. Octavia Plaza is currently vacant and part of the construction

staging area for the freeway. With the construction of the freeway touch down, Octavia Plaza would be located in an area zoned (RH-3 Residential, Three Family). When the Central Freeway construction is completed, a portion of McCoppin Street west of Valencia Street would become dead-end and McCoppin Square would be created. The McCoppin Street right-of-way is currently zoned RM-1 and Public (P). A BART utility building is located near the McCoppin Street right-of-way. The proposed Brady Park is located on Brady Street between Market, Twelfth, Otis and Gough Streets. This block is currently zoned RH-3.

4.2.2 Impact Analysis

Significance Criteria

Section 15382 of the *CEQA Guidelines* defines a significant effect on the environment as ". . . a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project. . ." The proposed Project would have a significant effect on land use if it would:

- Physically disrupt or divide an established community, or
- Have a substantial adverse impact on the existing character of the vicinity.

Program Level

The following impact discussion addresses program level effects, including changes in land use character, disruption to established land use patterns, and proposed re-zoning and height limit reclassifications, followed by a similar discussion for infill development sites and near-term public street and open space improvements.

Implementation of the Plan would, by 2025, result in approximately 4,440 net new housing units (approximately 5,325,600 gross square feet).[3] Housing in the Project Area would increase to a total of about 5,960 units, of which 74.5 percent would be attributable to the proposed Plan.[4] Without the proposed Plan, housing in the Project Area would increase by about 1,520 units.

Because the primary focus of the proposed Plan is to maximize housing development near transit, the Plan would not result in an increase in non-residential development within the Project Area. By 2025, the Project Area could accommodate roughly 1.8 million gross square feet of non-residential

[3] Residential gross square feet is based on an average of 1,200 gross square feet per unit (including circulation space) as noted in Market-Octavia EIR Growth Allocation Data Submission Memorandum, October 20, 2003.

[4] Projected residential growth without the Plan by 2025 includes development of 500 units of housing on the University of California Berkeley Extension site.

development, independent of the Plan. In effect, implementation of the Plan would re-direct and concentrate non-residential development that would already occur in the Project Area into higher density, mixed-use development near transit and neighborhood retail and services as more space in new development would be devoted to residential uses.

A summary of the net increase in land use by category is presented in Table 4-1. As shown in the table, residential uses would total about 7.1 million gross square feet, comprising approximately 80 percent of total gross square footage in the Project Area by 2025 under the proposed Plan. Three quarters of the growth of new residential units in 2025 would be attributable to the Plan. A projected 1.8 million gross square feet of non-residential use would account for almost 20 percent of the total gross square footage in the Project Area in 2025, including about 359,000 gross square feet of retail and entertainment space, 788,000 gross square feet of Management, Information and Professional Services (i.e., office uses), and 457,000 gross square feet of Cultural/Institutional and Educational uses.

It is possible that some of the proposed land use changes would occur without implementation of the Plan, however existing land use controls and urban design guidelines would not be expected to maximize housing development and create a transit-oriented, mixed-use neighborhood.

The Plan is based on existing land use patterns, but would intensify and encourage mixed-use housing development near transit routes and station facilities. The locations of increased density housing mirror existing transit corridors and nodes in the Project Area. Because much of the Project Area is built-out and no displacement is proposed, most new development would occur on infill or soft sites.[5] Changes in land use would be expected to occur gradually and incrementally over the 20-year build-out period.

Land Use Changes

The Plan is intended to change land use character in the Project Area by:

- Encouraging well-designed infill housing and new neighborhood-serving retail and other commercial services;

[5] For purposes of analysis, the Planning Department has defined soft sites as sites where five percent or less of the building potential is being used or, conversely, sites where 95 percent of the building potential is not being used.

TABLE 4-1:
PROJECTED LAND USES BY CATEGORY IN THE PROJECT AREA (2025)

Land Use Category	2025 without Plan	2025 with Plan	Net Change Due to Plan	Percent of 2025 gsf with Plan by Land Use Type
Residential Uses				
Residential Units	1,520 units	5,960 units	4,440 units	--
Residential Floor Area [a]	1,825,200 gsf	7,150,800 gsf	5,325,600 gsf	80.1%
Non-Residential Uses [b]				
Cultural/Institutional/Educational Services (CIE)	457,015 gsf	457,015 gsf	0	5.1%
Medical and Health Services (MED)	50,955 gsf	50,955 gsf	0	0.1%
Management, Information and Professional Services (MIPS)	788,435 gsf	788,435 gsf	0	8.9%
Production/Distribution/Repair (PDR)	103,575 gsf	103,575 gsf	0	1.2%
Retail/Entertainment	358,975 gsf	358,975 gsf	0	4.0%
Visitor Lodging	18,965 gsf	18,965 gsf	0	-- [c]
Total Non-Residential Floor Area	1,777,920 gsf	1,777,920 gsf	0	19.9% [d]
Total Floor Area All Uses	3,603,120 gsf	8,928,720 gsf	5,325,600 gsf	100.0%

Sources: San Francisco Planning Department, 2004, Market-Octavia EIR Growth Allocation Data Submission, Memorandum, October 20, 2003; and Pittman & Associates, November 2004.

Notes:

[a] Residential gross square (gsf) feet is based on an average of 1,200 gross square feet per unit (including circulation space) as noted in the Market-Octavia EIR Growth Allocation Data Submission Memorandum, October 20, 2003.

[b] Non-residential gross square feet is estimated from the Employment Density Model provided by the Planning Department which estimates employment density (i.e., square feet per employee) by employment sector. Employment totals were derived from the percentage of jobs by sector as shown in Section 4.3 Population, Employment and Housing, Table 4-6.

[c] (--) Indicates totals that equal less than 0.01 percent.

[d] Detail and totals may not agree because of independent rounding.

- Improving the area's public streets and open spaces, including traffic calming strategies, street tree planting, creation of new parks, and streetscape improvements; and
- Improving the operation and convenience of all transportation modes, with an emphasis on transit, bicycle, and pedestrian modes.

Implementation of the Plan would result in the following land use changes.

Market Street/Van Ness Avenue

Within the Market Street/Van Ness Avenue corridor, the existing pattern of single-use commercial establishments or ground-floor commercial, with housing above, would change to encourage up to four stories of commercial uses with residential development above. Active ground-floor retail, eating, and entertainment uses would be encouraged. The Plan would no longer allow new auto-oriented uses. The most noticeable change would be the introduction of residential towers near the Market Street/Van Ness Avenue intersection. These changes would extend the general building scale of the downtown area farther west to Van Ness Avenue and south along South Van Ness Avenue (heights would be comparable to downtown buildings, but the bulk restrictions in the proposed Plan would limit development to approximately half the floor plate of downtown towers). The area would be defined by buildings of up to 400 feet around the Market Street/Van Ness Avenue intersection and 250 feet on South Van Ness Avenue to the Mission Street intersection consistent with proposed urban-design and setback standards. Although current height limits allow buildings up to 320 feet near the Market Street/Van Ness Avenue intersection, the existing scale of buildings at this intersection is mostly 8 to 12 stories (up to about 150 feet). The tallest existing buildings in this area are the California State Automobile Association building at Van Ness Avenue and Fell Street, which contains 28 floors (about 400 feet tall) and the Fox Plaza building with 29 floors at Market and Fell Streets.

Octavia Boulevard, Gough Street, and Franklin Street Corridors

The major land use change would be the introduction of transit-oriented, higher density, mixed-use development. The emphasis would be moderate-scale residential uses, with active, ground-floor retail, and limited commercial space designed to be compatible with existing uses. The highest density residential uses would be focused along major transit streets and near transit stations. Heights along the Octavia Boulevard and Gough Street corridors would be slightly higher at 55 feet than existing 50 foot height limits, but would be lower (30-40 feet) at mid-block alleys and other east/west streets. Heights would generally be the same along Franklin Street with pockets of minor changes. Heights would decrease from the existing 130 feet to 120 feet on the west side of the Golden Gate Avenue and Franklin Street intersection.

Market Street Corridor – West of Franklin Street

Market Street, between Van Ness Avenue and Church Street, would be developed into high density, transit-oriented mixed-use development. This segment of Market Street provides a transition from the downtown to the Hayes Valley and Upper Market neighborhoods. It provides a linear transit corridor that could accommodate higher density mixed-use development with ground-floor retail, with commercial and residential uses above. Auto-oriented uses such as gas stations would no longer be permitted. Over time, this section of Market Street would be developed into moderate scale, mixed-use residential buildings ranging up to eight stories high. Heights would generally be 65 and 85 feet along Market Street, west of Franklin Street as compared to existing 50 to 160 foot limits.

Neighborhood Commercial Districts

The Project Area contains three designated neighborhood commercial districts (NCDs): Hayes-Gough and portions of the Upper Market and Valencia Street NCDs. Within the existing commercial districts, neighborhood commercial uses would be similar to existing uses; however, residential development would be intensified. The major land use change would be increased density of residential uses above the ground floor. Over time, land uses in these commercial districts would experience higher density residential development, which would support and increase demand for neighborhood-serving retail space. Along Hayes Street between Franklin and Laguna Streets, neighborhood-serving retail uses with almost continuous retail frontage would replace the existing mixture of retail and residential frontages that are currently broken by the Central Freeway vacant parcels. Height limits would drop from about 50 and 80 feet to between 40 ~~to 50~~ and 55 feet in Hayes Valley. ~~The portion of the Upper Market NCD contained within the Project Area would drop current height limits of between 65 to 80 feet to a 50-foot height limit. The Valencia NCD would continue with a 50-foot height limit along Valencia Street, but would lower height limits to 30 and 40 feet at mid-block alleys.~~ The height limits in the portion of the Upper Market NCD contained within the Project Area would increase from the existing 50- to 80-foot heights to 65- to 85-foot heights. Heights in the NC-3 district along Valencia Street would be increased from 50 to 55 feet (50 feet with a 5-foot retail bonus), but would be reduced to 30 to 40 feet on mid-block alleys.

SoMa West

Land use in SoMa West would change noticeably. With implementation of the proposed Plan and city infrastructure improvements, SoMa West would be transformed into a high-density mixed use neighborhood. Parking lots and existing large-scale blocks with vacant parcels would transition to

ground-floor retail and commercial uses with residential on the upper floors. Some of these parcels would become high-rise residential towers. The centerpiece of SoMa West would be new public open space (Brady Park) at the center of the block bounded by Market, Twelfth, Otis and Gough Streets, which would replace mostly existing surface lots. The adjoining alley streets surrounding the block would be transformed from existing vacant lots and small-scale commercial uses to moderate-scale residential uses. Heights in the SoMa West neighborhood would generally stay the same or drop from existing 105 to 200 feet to proposed 30 to 85 feet except along South Van Ness Avenue where heights would increase to 85 to 250 feet from the existing 80 to 130 foot height limits.

Neighborhoods West of Octavia Boulevard and Valencia Street

Existing established residential neighborhoods west of Octavia Street and Valencia Street would remain mostly unchanged except for parcels where infill development could occur. Most of the buildings in these areas have: 1) small lot widths (25 to 35 feet), 2) range from two to five stories, and 3) are structures with three or more units. Infill development of these small-sized lots would maximize residential potential, as governed by existing zoning requirements for lot coverage, open space, and residential design guidelines. Heights would generally stay the same as they are at 40 feet for most of this area.

Parking

Because of the proposed mix of neighborhood retail, services, and high-density residential uses close to transit, new on- and off-street parking would be discouraged, limited or prohibited throughout the Project Area. Generally, about one-fourth to three-quarters of the number of parking spaces that are currently required for residential uses would be the maximum allowed for new housing in the Project Area, except with conditional use authorization. Under Section 151 of the *Planning Code* minimum-parking requirements for the Project Area would be amended and replaced by caps on the maximum amount of parking that could be permitted in new development (generally 0.75, 0.5 and 0.25 spaces unit for the RTO, NCT, and DTR Districts, respectively). This change in parking requirements would provide flexibility to build less than one-to-one parking for residential developments in areas with easy walking access to transit and services. Minimum parking requirements for the Project Area for commercial uses would also be replaced by maximum parking caps of about one parking space per 2,500 square feet of commercial use in the NCT Districts and about one space per 4,500 square feet of commercial use in the RTO District.

No parking would be required for commercial uses. The Plan proposes that publicly owned off-street garages such as the Civic Center Garage and Performing Arts Garage on Hayes Street be

made safer and provide short-term parking for Project Area residents and visitors. The Plan's objectives for balancing transportation choices also include setback and screening requirements where off-street surface parking is provided to maintain an active street frontage.

Public Street Improvements

Project Area improvements would upgrade the street environment by tree planting, introducing traffic-calming measures on residential streets, "living street" improvements on residential alleys (e.g., seating and play areas for children), sidewalk widening, and new-planted medians.

Open Space Improvements

The Plan would introduce new public space including a plaza on Market Street adjacent to the new Central Freeway touchdown (Octavia Plaza), a plaza in the McCoppin Street right-of-way west of Market Street (McCoppin Square), and a park at the center of the block bounded by Market, Twelfth, Otis, and Gough Streets (Brady Park).

Proposed Land Use and Height Zoning

The Plan proposes three new zoning districts and would amend the Hayes-Gough, Valencia and Upper Market Neighborhood Commercial Districts (NCDs). The proposed use districts would include: Residential, Transit-Oriented (RTO) District, Downtown Residential (DTR) District, and Neighborhood Commercial (NCT) District. Generally, Residential Three-Family (RH-3) and Residential, Mixed (RM) Districts would be replaced by Residential, Transit Oriented (RTO) Districts; NCDs would be revised to corresponding Neighborhood Commercial-Transit (NCT) Districts; and Commercial General (C-3-G), Commercial Support (C-3-S), and Heavy Commercial (C-M) Districts would be replaced by a Downtown Residential (DTR) District. The proposed zoning changes would remove limits on residential densities, refine height and bulk controls and urban design guidelines that preserved mid-block open spaces and sunlight to streets, and establish appropriate urban design relationships between buildings. See Figure 3-3, page 3-12 for the proposed zoning use districts. Three pockets of Residential One-Family (RH-1) and Residential Two-Family (RH-2) Districts located south of Duboce Avenue between Noe and Guerrero Streets would not be reclassified.

These specific zoning controls for each of the proposed districts are described in detail on pages 3-11 to 3-19 of Section 3.0, Project Description. The effects of the proposed zoning districts and parking controls within each district are described below.

Downtown Transit-Oriented Residential District (DTR)

This District would encourage development of a transit-oriented, high-density, mixed-use neighborhood, adjacent to the downtown, around the intersection of Van Ness Avenue and Market Street, and east to beyond Eleventh Street. This area is currently zoned Commercial General (C-3-G), Commercial Support (C-3-S), and Heavy Commercial (C-M) Districts. The DTR District would continue to have the most intensive commercial office uses in the Project Area. However, the proposed DTR District would encourage change in the area surrounding the Van Ness Avenue and Market Street intersection by allowing higher density residential uses, including high-rise residential towers concentrated around the intersections of Market Street and Van Ness Avenue and Mission Street and South Van Ness Avenue. The introduction of residential towers near these intersections would extend the building scale of the downtown area further west to Van Ness Avenue and south along South Van Ness Avenue (heights would be comparable to downtown buildings, but the bulk restrictions in the proposed Plan would limit development to approximately half the floor plate of downtown towers). Sections of this area zoned C-M currently allow manufacturing and processing uses, which would no longer be allowed in the DTR District.

No residential parking would be required; a maximum cap of 0.25 spaces per units would be established in comparison to a minimum requirement of 0.25 spaces per unit under existing C-3 zoning districts; one space per unit is currently required for residential units within the C-M District. Parking for commercial uses would be the same for the existing C-3 districts in which no parking is required, and a maximum of approximately one space per 4,500 square feet is permitted (i.e., 7.5 percent FAR).

Transit-Oriented Neighborhood Commercial District (NCT)

The NCT District would encourage moderate-scale (generally ranging from 40- to 55-feet, but allowing up to eight stories), transit-oriented, mixed-use development near transit services in SoMa West, along Market Street west of Twelfth Street, and north of Market Street from Octavia Boulevard to Franklin Street. The proposed NCT District would reinforce existing neighborhood-serving uses allowed under existing zoning. The new NCT District would increase residential development and density and encourage active neighborhood-serving commercial uses. The major changes from the existing NCD District are that residential density limits would not apply, office uses would not be allowed on the ground floor, and auto-oriented uses would not be permitted. In the Hayes-Gough Neighborhood Commercial District, and portions of the Upper Market and Valencia Street Neighborhood Commercial Districts, existing controls would remain unchanged except that housing density would no longer be limited. No residential parking would be required; a

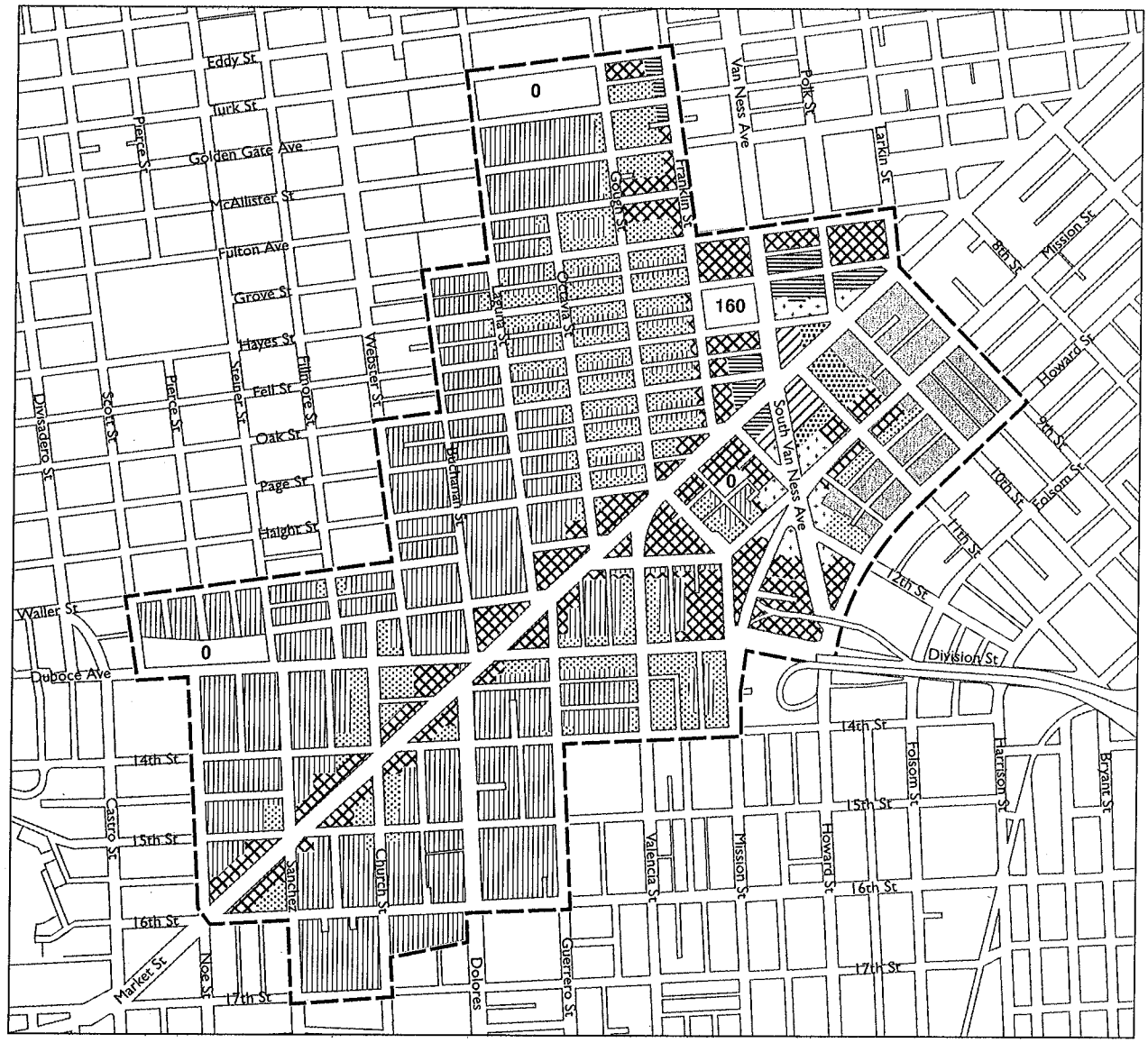
maximum cap of 0.50 spaces per resident unit would be established, which is lower than the existing requirement of one space per unit in the existing Neighborhood Commercial Districts. A maximum of up to 0.75 spaces per unit could be allowed with conditional use authorization. The proposed NCT District would not require off-street parking for commercial uses; a maximum of one space per 2,500 square feet could be allowed with conditional use authorization. Under existing zoning, off-street parking is required in NC Districts, but varies depending on the specific commercial use.

Transit-Oriented Residential District (RTO)

The proposed RTO District would encourage residential infill development at a scale and density similar to existing zoning controls. The portion of the project that would be reclassified to RTO is currently zoned Residential Three-Family (RH-3) and Mixed Residential (RM) Districts. The proposed RTO District would combine these districts, and allow limited commercial uses on corner lots, which are not allowed under existing zoning in the RH-3 and RM Districts. Under the proposed RTO District, no residential parking would be required; a maximum of 0.75 spaces per residential unit would be allowed, and a maximum of one space per unit with conditional use authorization.

Proposed Height Reclassifications

Proposed height reclassifications would generally allow taller buildings at Van Ness Avenue and Market Street and south of the Civic Center Area; up to 400 feet at the highest points in comparison to the existing 320-foot height limit. The proposed reclassifications would also adjust heights along various commercial streets to increase or decrease heights by five to ten feet to heights of 45 to 55 feet to encourage taller ground-floor ceiling heights. Heights would also be reduced along alleys in residential areas, from 40 and 50 feet to 30 and 40 feet, to preserve sunlight access and maintain a small-scale character along these relatively narrow streets. Height and bulk district revisions now require narrow towers at the Van Ness Avenue/Market Street intersection and in the SoMa West area, and establish urban design guidelines to allow varying building widths and massing according to the different scale and character of structures throughout the Project Area. Proposed generalized height reclassifications are shown in Figure 4-4. Specific changes to height limits are discussed by neighborhood under Land Use Changes above.



SOURCE: EnviroTrans Solutions, San Francisco Planning Department

Figure 4-4
Revised
Proposed Generalized Height Districts

Land Use Impacts

Implementation of the Plan would change the existing land use character of the Project Area into a transit oriented, high-density mixed-use neighborhood. The Plan is intended to alter existing land use character by maximizing housing, encouraging more dense residential development and more active, ground-level retail, eliminating uses that are incompatible with residential uses (e.g. auto-related and other types of commercial), and creating new public street and open space improvements. The Plan would also affect land use by increasing opportunities for alternative modes of travel, reducing the amount of auto traffic and demand for parking. As such, changes in land use character would be expected to occur.

Almost all of the Central Freeway parcels would be located in the NCT District or Hayes-Gough NCT, and would be subject to the same zoning effects outlined on page 4-50 for the neighborhood commercial districts. The exceptions are Parcels O and P, which would be zoned Hayes-Gough NCT along Octavia Boulevard, and RTO along Fell, Laguna and Oak Streets. The effects of the new RTO zoning district are discussed on page 4-57.

Throughout most of the Project Area, increases in residential density would result in buildings at a scale and height similar to existing uses. Residential towers in the area surrounding the Market Street and Van Ness Avenue intersection, and in SoMa West would be 90 feet to 280 feet taller, and in the Upper Market Area 5 to 90 feet taller than existing uses. Increased heights in the Market Street/Van Ness Avenue area would be similar to heights in the downtown area to the east. In contrast to the existing controls for office development, new controls would encourage slender, well-spaced towers allowing light and air to permeate. Height limits would be increased to maximize housing opportunities and take advantage of proximity to transit or, in the case of SoMa West, to establish a new residential neighborhood. Overall, the Plan proposes to decrease height limits in certain locations to be more compatible with existing land uses.

The Plan's emphasis on infill development, particularly the Central Freeway parcels, would reunite the Project Area by developing vacant parcels into uses consistent with surrounding land use, and providing continuous street frontages along major streets (see discussion of Central Freeway parcel development, page 4-60).

The Plan would encourage and increase active, ground-floor retail uses to serve the increased residential population, and encourage pedestrian movement.

Areawide open space and streetscape improvements would not directly alter land uses in the Project Area, but could enhance the attractiveness of the Project Area for increased residential development. Proposed "living street" improvements such as seating areas could invite transients and loitering, as well as compromise security and privacy of residents within these alleyways.

Reduction of parking space requirements would decrease the amount of auto traffic in the Project Area, suggesting that, over time, the pedestrian land use environment would be enhanced by fewer curb-cuts and widened sidewalks, retail uses would be improved by more vibrant continuous street frontages, and auto-related noise and air pollution impacts on neighborhood livability would be reduced. Overall, the reduction in land and building space devoted to parking could increase the potential for housing development and reduce housing unit costs. However, in some cases, maximum-parking caps could create a disincentive to developers to construct housing by lowering the sale value of housing units.[7] Effects of reduced parking are discussed in Section 4.7, Transportation, page 4-243.

Changes in land use would be consistent with goals of the *General Plan* and the Better Neighborhoods Program to increase housing in the city, particularly affordable housing, reduce dependence on automobiles, and improve value of streets as civic places. Although changes in land use and zoning would result from the Plan, these changes would not result in a significant adverse impact in land use character for the reasons discussed above. The Plan would not physically divide or disrupt an established community. The Plan would create opportunities for infill development that would reunite those segments of the Project Area that have been divided by the Central Freeway structure. Implementation of the proposed Plan would not have a significant adverse impact on land use and therefore no mitigation measures are required.

Project Level

Central Freeway Parcels

The 22 Central Freeway parcels represent infill opportunity sites for housing and mixed-use retail development. The Plan recommends that the parcels maximize housing and provide active ground-level uses (retail) for those parcels. The Redevelopment Agency and the Mayor's Office estimates that 800 to 900 new housing units could be developed on the Central Freeway parcels, of which 50 percent would be affordable. Development potential on many of the parcels would be constrained by small lot sizes, irregular shapes, and limited access (many front onto alleys). The Plan also

[7] Office of Legislative Analyst Report to the Board of Supervisors, San Francisco Housing Development, June 11, 2003.

proposes urban design guidelines to ensure that infill parcels would be developed to fit within the scale and development pattern of surrounding uses.

The Plan proposes development for each parcel that would maximize housing, and provide limited ground-floor retail within the physical constraints on most of these remnant parcels. Depending on the design of specific projects, there could be land use conflicts with loading activities on alleys that are designated as "livable streets." These are discussed under each affected parcel, below.

Development of the Central Freeway parcels would help reunite a neighborhood that was previously divided and disrupted by the Central Freeway structure and, therefore, would not physically disrupt or divide an established community. The height and scale of housing and ground-floor retail have been considered individually for each parcel to ensure compatibility with existing surrounding uses and that the proposed development would not have a substantial adverse impact on the existing character of the vicinity in terms of use, scale, and heights for these lots.

Based on the level of detail provided in the Plan, infill development of the Central Freeway Parcels would not have a significant adverse land use impact on the environment. Neither would the Redevelopment agency's proposed amendment, which would align the *Western Addition A-2 Redevelopment Plan's* parking, density, and height limits with the Plan, in pursuit of the goals of the Plan, have an adverse impact on the environment.

Pages 135 to 155 of the *Draft for Public Review Market and Octavia Neighborhood Plan* provide a description of specific development guidelines for each of the Central Freeway parcels. Table 3-4 on page 3-20 of this EIR presents proposed zoning controls, height districts and recommended uses for each of the Central Freeway parcels. The following discussion addresses potential land use impacts of the proposed rezoning and development of the Central Freeway parcels. Development on the Central Freeway parcels would introduce housing and mixed use with active ground-floor retail on parcels that were previously the right-of-way for an elevated freeway structure, and are currently vacant or used for parking.

Parcel A is located at the intersection of Turk and Gough Streets, across the street from Jefferson Square and James Lang Playground. ~~Parcel A would be designated as NCT with an 85-foot height limit compared to the existing split 50-foot/130-foot limit. Development of this parcel would be subject to Section 295 of the Planning Code (Proposition K), which limits new shadows cast on open spaces owned by the Recreation and Park Department. The amount of development that can be accommodated on this site would be constrained by building height and shadow effects on adjacent public parks. Development of this parcel would introduce new housing and ground-floor~~

~~retail, and provide a transition from commercial development to the east to the mostly residential uses west of Gough Street. Anticipated development on this parcel would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the project vicinity.~~

~~Parcel B would be developed into housing with ground-floor retail similar to existing surrounding uses. Parcel B would be designated as NCT with a 50-foot height limit compared to the existing split 50-foot/130-foot height limit. Located on Golden Gate Avenue, Parcel B development would incorporate housing with ground-floor active retail and pedestrian-oriented uses. Parking and loading access would be from Elm Street; no curb cuts would be permitted along Golden Gate Avenue. Due to the narrow width of the alley, loading activities could conflict with residential uses; however, anticipated development on this parcel would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity.~~

~~Parcel C is on the southwest corner of the Franklin Street and Golden Gate Avenue intersection, across from the State Building and diagonally across from Opera Plaza mixed-use complex. Parcel C would be designated as NCT with a 120-foot height limit compared to the existing 130-foot height limit. The Plan calls for maximizing housing on this parcel with active ground-floor neighborhood-serving retail. Proposed development would not affect the existing land use character of the surrounding area and would not divide or disrupt established patterns of development as it would be similar in character to existing uses in the vicinity.~~

~~Parcel D is on the north side of McAllister Street west of Franklin Street. It is irregularly shaped, and is surrounded by other irregularly shaped lots, which are currently leased for parking. Parcel D would be designated as NCT and would be developed as housing with the potential for ground-floor retail with a 50-85 foot height limit compared to the existing 130-foot height limit. Optimal development potential for this parcel as proposed by the Plan would require that Parcel D and surrounding lots be subdivided into parcel sizes and shapes more favorable for development. Development of this parcel would need to be compatible with the John Swett Elementary School and playground which abut Parcel D to the west. Development of this parcel would require further land assembly actions to normalize lot sizes and shapes before development could be realistically achieved. Based on development guidelines, anticipated development on this parcel would be compatible with the adjacent school and commercial uses, and would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity.~~

Parcel A was the subject of the 7th Amendment to the A-2 Plan, which designated its height limit at 96-E/130-E, reduced its allowable parking to one space per five housing units, and increased its density to one Agency Room per 50 square feet of lot area. A development program for Parcel A, designed pursuant to the A-2 Plan 7th Amendment, was approved by the Planning Commission as confirming to the requirements of Proposition K (Section 295 of the Planning Code). Total building height for the development will be restricted to 85 feet. This development will introduce new housing and ground-floor retail, providing a transition from commercial development on the east to the mostly residential uses west of Gough Street. The same land use controls applicable to Parcel A, through the 7th Amendment to the A-2 Plan, also apply to Parcel C. For Parcel C, however, there are no potentially adverse shadow impacts as the site is not located in close proximity to any recreational areas. Following the expiration of the A-2 Plan in 2009, Parcels A and C would be designated as NCT; with an 85-foot height limit on Parcel A and a 150-foot height limit on Parcel C. Development on these parcels would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the project vicinity.

The Redevelopment Agency plans to adopt an 8th Amendment to the A-2 Plan that would modify height, density, and parking controls for the remaining Central Freeway parcels (Parcels B, D, E, F, and G) within the *Western Addition A-2 Redevelopment Plan* area in order to implement the goals of the *Market and Octavia Neighborhood Plan.* Parcel B's height designation would become 50-X. Parcel D's height limit would be set at 50X/85-E. Parcel E would be designated with a 50-X height limit. Parcels F and G would have height limits of 65-X. Parking on all of the parcels would be modified so that up to one space per 0.5 units would be allowed; with one space per 0.75 spaces allowed through a variance. No density restrictions would apply. Instead, unit count would be determined by allowable building form.

Parcel B, located on Golden Gate Avenue, would incorporate housing with active ground-floor retail and pedestrian-oriented uses. Development of this parcel would be compatible with the John Swett Elementary School and playground, which are directly across Golden Gate Avenue from Parcel B. Parking and loading access would be from Elm Street; no curb cuts would be permitted along Golden Gate Avenue. Due to the narrow width of the alley, loading activities could conflict with residential uses. Following the expiration of the A-2 Plan in 2009, Parcel B would be designated as NCT with a 50-foot height limit. Anticipated development on this parcel would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity.

Parcel D is on the north side of McAllister Street west of Franklin Street. It has been assembled with the adjacent parcel to the south, and the whole site is leased for parking. Development of this parcel would be compatible with the John Swett Elementary School and playground, which abut Parcel D to the west. Based on development guidelines, anticipated development on this parcel would be compatible with the adjacent school and commercial uses, and would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity. Following the expiration of the A-2 Plan in 2009, Parcel D would be designated as NCT and could be developed as housing with the potential for ground-floor retail with a 50- to 85-foot height limit.

Parcels E and E-st are located midblock on McAllister Street between Gough and Franklin Streets; Parcel E-st is a portion of the Ash Street right-of-way which has been abandoned. ~~Parcel E would be designated as NCT.~~ Surrounding land uses are a mixture of apartment buildings, including Ash Park on McAllister Street, small-scale commercial buildings, and several larger structures fronting Franklin Street including the American Bar Association. Currently the height limit on the site is 50 feet on the west and 96 feet on the east. The 8th Amendment to the A-2 Plan would extend the 50-foot height limit to govern the whole site. Following the expiration of the A-2 Plan in 2009, Parcel E would be designated as NCT. Building height limits would ~~decrease from 65 to~~ remain at 50 feet. The Plan recommends housing with active, neighborhood-serving retail on the ground floor and the re-establishment of public right-of-way to connect Ash Street. Proposed development of Parcels E and E-st would introduce housing and retail to this block, which would provide a transition between the Civic Center and residential uses to the west. Development of these parcels would be consistent with existing land uses in the vicinity and would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity.

Parcels F and G are located at the northeast and southeast corners of the intersection of Fulton and Gough Streets. Surrounding land uses are a mix of small-scaled residential uses and commercial uses, and larger scale buildings such as the Performing Arts garage on Grove Street. Because of their relationship to and dramatic views of City Hall to the west, the Plan recommends that these sites be developed with a coordinated architectural approach. ~~Both of these sites are zoned NCT. Parcel F has an existing split 50-foot/65-foot height limit and Parcel G has an existing 65-foot height limit. The Plan calls for keeping the NCT designation and keeping these sites to a 65-foot height limit, except for a triangular portion at the south edge of the Parcel G with a 50-foot height limit. Development of these parcels would establish residential uses that would provide a transition to residential uses to the west.~~ Like the other Central Freeway parcels within the A-2 Plan area, both of these sites are zoned CI, with a 50/96-foot height limit for Parcel F and a 96-foot height limit for

Parcel G. In recognition of the site's proximity to City Hall, the Redevelopment Agency's pending A-2 Plan 8th Amendment would change the height limits to 65 feet as called for in the *Market and Octavia Neighborhood Plan.* Proposed building heights would be about 15 feet taller (one to two stories) than the existing height limits, which would not affect the existing pattern of building heights and scale in the area. Following the expiration of the A-2 Plan in 2009, Parcel B would be designated as NCT and the 65-foot height limit would remain. Anticipated development would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity.

Parcel H is a triangular-shaped parcel located at the northwest corner of the intersection of Gough and Grove Streets, opposite the Performing Arts Center garage. Parcel H would be designated as NCT with no change proposed to the existing 50-foot height limit. Recommended uses are housing with active ground-floor uses, especially retail, at the corner of Gough and Grove Streets. In order for development to occur on Parcel H, the Plan recommends that the parcel be normalized to create two rectangular parcels. Development of Parcel H into housing and ground-floor retail uses would provide a transition from the higher scale, mixed-use buildings along Gough Street to the small-scale pattern of residential uses west of Gough Street. This development would be consistent with existing surrounding uses, and would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity.

Parcel I is an irregularly shaped parcel that lies on the west side of Gough Street between Grove and Ivy Streets at the northern edge of the Hayes Valley neighborhood. Ivy Street is designated as a "livable street" in the Plan. The parcel is within the proposed Hayes-Gough NCT with a 40 to 50 foot height limit, lowering a portion of the site from the existing 50-foot limit. Under the Plan, Parcel I would be developed with housing and active ground-floor uses, with retail encouraged at the corner of Gough and Grove Streets. The Plan calls for small-scale residential uses consistent with residences to the west and south and larger scale uses, such as the Performing Arts Center Garage and buildings along Grove Street, to the west on Gough Street. Parcel I has frontages that could accommodate large-scale uses. The Plan recommends that, for compatibility, the parcel be developed to reflect the small-lot size and scale of surrounding uses. Parking and loading, if provided, are recommended from Ivy Street. Residential uses on Parcel I would be compatible with existing surrounding land uses. Loading activities may not be compatible with residential uses and "living street" improvements proposed for Ivy Street. Note, however, that these uses would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity.

Parcel J is midblock between Octavia and Gough Streets and fronts the center of the Hayes Street commercial district and Ivy Street. Parcel J would be designated as Hayes-Gough NCT with a height limit ranging from 30 to 45 feet, which is lower than the existing 50-foot limit. Development of Parcel J would have a prominent role in providing continuous active, ground-floor uses on Hayes Street; curb cuts would be prohibited to reinforce the pedestrian orientation of Hayes Street. Development fronting onto Ivy Street would reflect the small individual lot pattern along this alleyway. Proposed residential and commercial uses would be consistent with land uses, building height, form and scale of existing surrounding uses. Parking and loading access, if provided, would be made from Ivy Street. If loading were provided, this activity may not be compatible with residential uses and "living street" improvements on this residential alley. Otherwise, development of this site would be compatible with existing surrounding uses. It would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity..

Parcel K is situated at the southeast corner of new Octavia Boulevard and Hayes Street, and fronts onto Linden Street. The parcel is opposite the new Hayes Green open space on Octavia Boulevard between Hayes and Fell Streets. Parcel K would be designated as Hayes-Gough NCT with a height limit ranging from 40 to 55 feet, exceeding the existing 50-foot limit along Octavia Boulevard. The Plan envisions that new development on Parcel K would anchor Hayes Green, and establish the overall scale and character of the new Octavia Boulevard. Recommended uses are small-scale residential fronting Linden Street with pedestrian-oriented, ground-floor retail on the Hayes Street and Octavia Boulevard frontages. These uses would be compatible with surrounding land use. Parking and loading access, if required, may be from Linden Street. Loading access from the alley could conflict with residential uses and "living street" environment and improvements proposed for Linden Street. Note, however, that anticipated development would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity.

Parcel L is at the northeast corner of Octavia Boulevard and Fell Street intersection. Parcel L will front onto the new Hayes Green. Parcel L would be designated as Hayes-Gough NCT allowing residential with ground-floor retail with up to a 55-foot height limit, which is higher than the existing 50-foot limit. Development on this parcel would be constrained by its shallow depth, and would require design flexibility for rear yard requirements and to provide adequate light and air to adjacent properties. Anticipated development on this parcel would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity.

Development on Parcels M, N, R, and S would serve as a buffer to existing residential uses for the new Octavia Boulevard. Parcels M, N, R and S would be designated as Hayes-Gough NCT with up

to a 50-foot height limit, which is the same as the current height designation. Due to the narrow widths of these parcels, it may be difficult to develop housing or mixed uses on these lots. As a result these parcels may need to provide additions to existing buildings or they may remain as remnant parcels for which feasible alternative uses, providing adequate buffers and continuous development frontages along Octavia Boulevard, may need to be identified. Any development that could occur under the proposed zoning height and use districts would not be anticipated to disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity due to proposed land uses and height limits.

Combined, Parcels O and P comprise almost an entire city block, bound by Fell, Laguna, and Oak Streets and Octavia Boulevard. Parcels O and P would be designated as Hayes-Gough NCT along Octavia Boulevard and RTO elsewhere with a height limit ranging from 30 to 50 feet, which is lower than the current 80-foot height limits. Due to their size (almost two acres), these two parcels offer one of the largest development opportunity sites along the new Octavia Boulevard. While the combined size of these parcels would be suitable for high-density residential uses, they are located in an area with small individual residential buildings with narrow lot widths typically 25 feet. Therefore, the plan recommends more modest scale residential development with ground-floor retail in individual buildings to maintain the scale of the surrounding area. If development occurs in this pattern, no obvious land use impacts or conflicts would occur. Thus anticipated development on these parcels would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity.

Parcel Q is located on the northwest corner of the intersection of Oak Street and Octavia Boulevard. Parcel Q would be designated as Hayes-Gough NCT with up to a 50-foot height limit, which is lower than its current 80-foot height limit. Unlike most of the other Central Freeway parcels, Parcel Q has dimensions that are more typical of other corner lots in the area. Development on this parcel would mirror surrounding relatively small residential buildings on narrow lots. Ground-floor retail is proposed for buildings fronting Octavia Boulevard. Development at the Octavia Boulevard and Oak Street corner would be more prominent in building height and architectural treatment. The Plan recommends buildings with separate residential entries. Proposed development on Parcel Q would be consistent with existing land use, building scale and heights of surrounding uses. Anticipated development on this parcel would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity.

Parcels T, U and V are the three remaining parcels on the east side of Octavia Boulevard between Page Street and Market Street. Parcels T, U, V would be designated NCT with a 50 to 85-foot

height limit. All parcels currently have an 80-foot height limit. Development on these sites is constrained by their shallow depths ranging from 18 to 22 feet. The Plan calls for development of small buildings with neighborhood retail on the ground floor and housing above. Development of these sites would not be able to achieve traditional rear yards, setbacks and open space, and would require design solutions. Similar to Parcels M, N, R and S, these parcels would serve as a buffer to existing residential uses on the east of the Octavia Boulevard alignment. Except for the southern half of Parcel V, the sites are within the existing 80-A height district. The Plan would decrease height limits to 50 feet to provide a scale of development that would be consistent with surrounding residential uses on the eastern side of Octavia Boulevard. The southern end of Parcel B has frontage on Market Street, and would be reclassified to an 85-foot height limit to take advantage of more intense development that could be accommodated along Market Street and to encourage development that would create a signature for this intersection. The proposed land use, scale and height limits proposed for these parcels would be consistent with existing surrounding residential land use patterns and scale. Thus anticipated development on these parcels would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the vicinity.

Public Street Improvements

Public street improvements are described in the Project Description on pages 3-26 to 3-31. These improvements increase opportunities for alternative modes of traffic, make transit a more convenient alternative to auto travel, and reduce through-traffic in the Project Area. To the extent these improvements enhance the pedestrian and retail environment, they improve opportunities to maximize housing in the Project Area. The streetscape improvements (those which only provide design enhancements to the public streets) would not have an adverse impact on the character of the existing neighborhoods or disrupt or divide established communities. Refer to Section 4.7, Transportation, page 4-221, for a detailed discussion of the effects of proposed transportation improvements.

Open Space Improvements

Octavia Plaza on Market Street, west of the new Central Freeway touchdown, would buffer the physical environmental impact of the freeway structure, and provide a transition from the neighborhood scale of residential and ground-floor retail uses that would line the new Octavia Boulevard. Similarly, McCoppin Square, west of Valencia Street, would buffer adjacent uses and provide an open space amenity west of the freeway structure. Brady Park at the center of the block

bounded by Market, Twelfth, Octavia, and Gough Streets and residential uses south of Market would enhance the SoMa West as a new residential community.

These improvements would introduce new open space uses in a dense urban area that currently lacks adequate public open space. New open space would be compatible with existing and proposed residential and neighborhood uses, and would be provided in locations to help unify the community, buffer effects of auto traffic, and create neighborhood identity. These improvements would not have an adverse impact on land use character or would not physically disrupt or divide an established community, and would not be considered a significant environmental impact. Refer also to the discussion of open space effects in Section 4.12, Public Facilities, Services, and Utilities, page 4-334.

Cumulative Impacts

Cumulative impacts occur when significant impacts from a proposed project combine with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area. This would include the demolition of existing structures or new construction in the Project Area or immediately adjacent to its boundaries resulting from past, present, and reasonably foreseeable future projects combining with similar impacts from the Plan.

Projected changes in land use are based on growth allocations for the Project Area developed by the Planning Department.[8] Two major elements are included in the land use allocations: 1) pipeline projects, including recent construction; projects under construction or projects with Planning Department or Building Inspection approvals; and select projects under Planning Department review; and 2) development potential based on soft site analyses.[9] Development of the UC Berkeley Extension site is the only foreseen major development project in the Project Area. For purposes of this EIR analysis, it is assumed that the project would include 500 housing units, some retail space and community serving uses, all of which have been included in the 2025 projected land use allocations. Due to the allocation methodology employed by the Planning Department, cumulative growth of residential and non-residential uses has been already accounted for in 2025 under the future growth scenario with the proposed Plan (see Table 4-1, on page 4-51).

By 2025, the Project Area could accommodate about 5,960 new housing units. Approximately 1,520 of these units would be cumulative development that would occur in the Project Area, without

[8] Planning Department, Market-Octavia EIR Growth Allocation Data Submission Memorandum from Scott Edmonson, Planner, October 20, 2003; and Housing Allocation Summary (undated), prepared by Scott Edmonson.

[9] Soft sites were defined by the Planning Department as sites where existing development is five percent or less than zoned development potential.

implementation of the Plan. The Plan would contribute approximately 4,440 units or 75 percent of the new housing unit development in the Project Area. About 1.8 million square feet of non-residential land use growth is assumed to be accommodated in the Project Area by 2025. Almost all of this new growth would be attributable to cumulative development that would occur in the Project Area without the proposed project.

Cumulatively, Plan implementation could result in three major land use effects: 1) provide almost a three-fold increase in total housing development in the Project Area compared to existing conditions; 2) create sustainable and more efficient land use patterns by concentrating and redirecting land uses into higher density, residential mixed use projects near transit and neighborhood retail and services; and 3) reduce the negative land use effects of automobile traffic and parking in the Project Area, including the creation of more livable and safe street environments for residents, pedestrians and bicyclists. This additional housing development in the Project Area in combination with other housing development in the vicinity would provide a more sustainable transit-oriented development pattern and would not disrupt or divide an established community or have a substantial adverse impact on the existing character of the project vicinity; therefore, the cumulative impacts would not be significant.

4.3 POPULATION, HOUSING AND EMPLOYMENT

This section describes current population, employment and housing characteristics in the Project Area. Project issues related to population, housing and employment are not considered impacts on the environment unless they result in adverse physical environmental effects. Information concerning increased population, housing units and employment is presented in this section to evaluate physical impacts on the environment that are considered in other topics in Section 4.0, Environmental Setting and Impacts, such as cultural resources, transportation, air quality, noise, public services and utilities, and growth inducement.

Information sources for the following discussion include the 2000 United States Census, the Association of Bay Area Governments (ABAG), and data prepared by the San Francisco Planning Department for the Plan.[10]

Project Area population, household, and employment estimates are based on the Planning Department's *Land Use Allocation (LUA) 2002* and covers the 23 Traffic Analysis Zones (TAZs) that comprise the Project Area. [11] Several of the TAZs extend beyond the Project Area; however, this EIR assumes that growth within those TAZs would be located primarily within the Project Area boundaries, for a more conservative analysis.

Estimates of existing housing units and characteristics are based on 2000 Census data. Although this is the best available demographic information for the Project Area, the 2000 Census likely missed some residents because the Project Area has a relatively high percentage of rental occupied units, as discussed below. Thus, due to inherent Census undercounting, and growth that occurred between 2000 and 2004 Base Conditions, the Census may understate the existing conditions

[10] Census data was derived at the block level within the Project Area, and includes the following Tracts: 124, 160, 161, 162, 163, 167, 168, 169, 176.01, 201, 202,and 203. Block level data in a number of census tracts overlapped outside of the Project Area boundaries. When this occurred, case-by-case assumptions were made to estimate data within the Project Area boundaries.

[11] Projections for the study area are taken from the Planning Department's citywide growth allocation – *Land Use Allocation (LUA) 2002*. It is based upon existing and approved policy and plans as well as policies, plans, and programs that the Department considers reasonably foreseeable, such as the Better Neighborhoods Plans, the Eastern Neighborhoods Rezoning, and a range of initiatives that the City is undertaking to increase housing production. It begins with ABAG's Projections 2002 (P2002), but reduces employment growth slightly (10,000 jobs) to account for land supply constraints associated with the Eastern Neighborhoods rezoning initiatives and increases housing growth by about 15,000 households to reflect historical housing production (about 1,200 units per year) plus a small amount of growth to reflect the assumption of better than historical performance (200 more units per year or a total of 1,400 per year). Thus, the LUA 2002 represents the Planning Department's expectation for reasonably foreseeable citywide growth.

in the Project Area. In the context of the EIR analysis, however, this would not change the assessment of the physical impacts of the proposed Plan

4.3.1 Environmental Setting

Population

Total estimated household population in the Project Area is about 26,650. This represents about 3.5 percent of San Francisco's total household population. These individuals accounted for about 13,600 households.

The existing demographics of the Project Area population are described from 2000 Census data reviewed at the census block level. The total household population and households as reported by the 2000 Census is slightly lower than that of the Planning Department's *LUA 2002* projections for the year 2004~~, which would be consistent with growth that is likely to have taken place between 2000 and 2004~~. The *LUA 2002* indicates there would be about a one percent growth in population in the Plan area between 2000 and 2004.

Housing

The 2000 Census reported about 11,185 housing units in the Project Area, which represents approximately three percent of the total 346,525 total housing units in San Francisco. The Project Area's household size is lower, 1.91, than the average person per household size of 2.30 in the city as a whole. This is likely attributable to the percentage (70 percent) of one- and two-person households as reported the 2000 Census combined with the lower percentage of children in the Project Area. The vacancy rate in the Project Area was lower, four percent, than the citywide vacancy rate of five percent. [12]

The percentage of renters in the Project Area is 90 percent, in comparison to 65 percent in the city overall. This reflects the percentage of multi-unit buildings in the Project Area, in comparison to single-family residences.

Employment

The estimated existing employment in the Project Area is about 25,370 jobs. The distribution of employment by sector reflects the Project Area's proximity and relationship to Civic Center institutional, arts and cultural uses and Downtown office areas along the Market Street and Mission

[12] Historically, the city's frictional vacancy rate for housing has is remained between 3 and 5 percent.

Street corridors. The greatest number of Project Area jobs is in the Management and Information Professional Services and Cultural/Institutional/Educational sectors, 44 and 31 percent, respectively, of total jobs. Retail and Entertainment is the third highest employment sector with a total of about 4,060 jobs or 16 percent of total jobs in the Project Area. The percentage of Cultural/Institutional/Educational jobs in the Project Area is double the percentage of such jobs in the city as a whole, reflecting a relatively high concentration of Project Area jobs related to the Civic Center's institutional, arts, and cultural uses. The percentage of jobs in the Management and Information Professional Services and Retail and Entertainment sectors are similar to the percentage of jobs for the city as a whole, whereas the percentage of Production, Distribution and Repair jobs is lower than the citywide percentage of such jobs. Overall, the Project Area accounted for about 3.9 percent of the city's employment base in 2004.

Employed Residents

San Francisco had an estimated 449,345 employed residents, and an estimated 654,465 total jobs in 2004.[13] The difference between employed residents and total jobs suggests that 205,120 or 31 percent or more of jobs in San Francisco were held by in-commuters who reside outside of the city. To a lesser extent, the difference between employed residents and total employment may reflect second jobs held by city residents in 2004. Similar to San Francisco as a whole, the Project Area has more jobs than employed residents. The Project Area has a total of about 25,370 jobs, and an estimated 17,575 employed residents. Approximately 31 percent of total jobs in the Project Area are held by other San Francisco residents, in-commuters or Project Area residents with second jobs. Employed residents in the Project Area represent about 66 percent of total Project Area population, indicating that almost two-thirds of Project Area residents work, either in the Project Area, at other San Francisco employment centers, or are commuting to other employment opportunities in the region.

4.3.2 Impact Analysis

Significance Criteria

A project would normally have a significant effect on the environment if it would:

- induce substantial growth or concentration of population,
- displace a large number of people (residents or workers),

[13] Employed residents live in the identified community or county, but do not necessarily work there. The term employed residents, unlike labor force, does not include the unemployed.

- create substantial demand for additional housing, or
- reduce the housing supply.

In addition, *CEQA Guidelines* state that an economic or social change by itself would not be considered a significant effect on the environment. As such, a project that induces substantial growth or concentration of population generally is not viewed as having a significant impact on the environment, unless this growth results in significant physical impacts on the environment. The effects and significance of this growth and concentration are examined under other environmental topics such as transportation, air quality, noise, public facilities, services and utilities, and growth inducement, and are also considered in the context of local and regional plans and projections dealing with population and employment.[14] Thus the growth and changes in housing, employment, and population that would occur with implementation of the Plan are not adverse physical impacts in themselves, but the physical changes needed to accommodate this growth and change may have physical impacts on the environment. The significance of these other physical changes are considered in other subject areas and sections of this EIR.

Program Level

Population, housing, and employment impacts of the Plan implementation are measured as the differences between 2025 without Plan conditions and 2025 with Plan conditions. Growth is anticipated to occur in the Project Area independent of the Plan implementation and therefore it is reasonable to assess the Plan impacts by comparing the future year conditions in 2025 with and without the Plan (a similar analysis has been conducted to assess transportation, air quality, and noise impacts). The Plan would establish a policy framework that would be used as the basis of new zoning and planning controls that, if fully implemented, increase housing growth and, to a lesser extent, increase employment near major transit corridors and transportation facilities in the Project Area.

Population

With implementation of the proposed Plan, population within the Project Area would increase from about 28,905 to 36,525 in 2025, a net change of about 7,620 residents, or a 26 percent increase. Table 4-2 summarizes future population conditions with implementation of the Plan. The proposed Plan would account for 11.7 percent of the citywide population growth in 2025.

[14] City and County of San Francisco, *Final Mission Bay Subsequent Environment Impact Report*, certified September 17, 1998, p. V.C.23.

Without the proposed Plan, population growth would occur more slowly, increasing by about 2,255 residents or 8.5 percent by 2025. The proposed Plan is intended to implement citywide policies to increase and accelerate housing opportunities at higher densities in a neighborhood where there are sufficient transit facilities, neighborhood-oriented uses and in-fill development sites. As such, the proposed Plan is expected to result in an increase in residential population along with housing growth. The increase in residential population would not be considered an adverse physical environmental impact. Potential environmental effects associated with population growth are increased traffic congestion and related air quality and noise impacts, and increased demand for public services that would result in the construction of new facilities. These topics are discussed in Section 4.7, Transportation and Section 4.12, Public Services and Utilities, respectively. The increase in population that would result from Plan implementation would not be a significant adverse physical environmental impact.

With the proposed Plan, population per household within the Project Area would decline slightly from 1.91 to 1.87 in 2025, which would continue to be lower than the citywide population per household of 2.28 in 2025. Projection assumptions indicate that population per household will continue to edge downward throughout the city over the next 20 years. In the context of these projections, the proposed Plan would not cause substantial growth or concentration of population that would result in a significant physical change to the environment, and would not be a significant impact.

Housing

The proposed Plan would create potential for construction of approximately 4,440 new housing units by 2025, increasing the housing supply in the Project Area by 29 percent. Implementation of the Plan could result in almost three times as many housing units developed in the Project Area by 2025 than would occur under 2025 without Plan conditions (see Table 4-2, page 4-76). The Plan would increase the housing supply, accounting for about 14.5 percent of household development in the city from 2004 to 2025. While generating household growth in the Project Area, the Plan would not cause an adverse physical impact as it would focus new housing development in San Francisco in an established urban area that has a high level of transportation and other public services that can accommodate the proposed residential increase. It would not result in a net increase in city growth.

TABLE 4-2:
EXISTING AND FUTURE CONDITIONS (2025): POPULATION, HOUSING AND EMPLOYMENT

	Existing Project Area 2004	Project Area Future Conditions (2025)						San Francisco (2025)		
		2025 without Plan	Net Change 2004-2025 without Plan	2025 with Plan	Net Change 2004-2025 with Plan	Net Change 2025 with and without Plan	2025 Percent Increase with Plan	City Total (2025)	Net Change 2004-2025	Project as Percent of City Growth
Population [a]	26,650	28,905	2,255	36,525	9,875	7,620	26.4%	834,450	65,100	11.7%
Households [b]	13,595	15,115	1,520	19,555	5,960	4,440	29.4%	366,200	30,650	14.5%
Population Per Household [c]	1.96	1.91	--	1.87	--	--	--	2.28	--	--
Employment (Jobs)	25,370	29,600	4,230	29,660	4,290	60	0.2%	760,950	106,250	0.1%
Employed Residents	17,575	19,685	2,110	25,450	7,878	5,770	29.3%	497,300	44,050	13.1%
Employed Residents as Percent of Population	65.9%	68.1%	--	69.7%	--	--		59.6%	--	--

Note: Totals and details may not add due to independent rounding.
[a] Household population is total population minus the population in group quarters.
[b] Households are an estimate of projected housing units when vacancy rates are low.
[c] The increased density and the smaller residential units resulting from the proposed Plan are expected to result in a decrease in average household size and a lower average household size than would occur citywide.
Sources: San Francisco Planning Department, *Land Use Allocation (LUA) 2002* and Pittman & Associates, October 2004.

The Plan would not induce substantial growth or concentration of population or reduce the housing supply and therefore would not result in a significant environmental impact. Impacts of the potential growth that are related to other environmental topics are addressed in Transportation, Section 4.7, page 4-217, Air Quality, Section 4.8, page 4-268, Noise, Section 4.9, page 4-284, and Public Facilities, Services, and Utilities, Section 4.12, page 4-341.

Housing Affordability

One of the principal objectives of the Plan is to provide increased housing opportunities affordable to a mix of households at varying incomes. As a policy document, the proposed Plan cannot require that affordable housing be developed under the Plan beyond existing city requirements.[15] The Plan does, however, contain affordability requirements for housing that would be developed on the 22 Central Freeway parcels. An estimated 800 to 900 units of infill housing would be built on these parcels. The San Francisco Redevelopment Agency (~~SFRA~~ Redevelopment Agency) would develop approximately half (50 percent) or 400 to 450 of the total units~~,~~ as affordable housing~~, including 200 units of senior housing, on Parcels A to G located in the Western Addition A-2 Redevelopment Plan Area, and Parcel K at the southeast corner of Hayes and Gough Streets~~ on the seven Central Freeway parcels, A, C, G, K, O, Q, and U, that it owns. These sites are interspersed in the alignment of the former freeway, so that the affordable housing developments would be integrated with the market-rate developments. The remaining 50 percent of the units would be developed under individual ownership under the Plan with 15 percent affordability requirement.[16]

While the Plan cannot ensure that affordable housing would be built in the Project Area, the affordability requirements imposed on the Central Freeway parcels, and the City's Inclusionary Housing Program could provide up to about 870 affordable units, or up to 20 percent of the total 4,440 units projected for the Project Area. Development of these units, however, is almost exclusively dependent on market interventions and public subsidies given the difficulties of providing affordable housing under market-rate conditions.

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15 ~~Housing projects that require Condition Use authorization are required to meet a 12 percent affordability requirement.~~ In March 2002, the Board of Supervisors approved legislation to create the Residential Inclusionary Affordable Housing Program which requires 10 percent of units in all projects with 10 units or more to be made affordable, and 12 percent of the units if Conditional Use Authorization is required. Three pieces of legislation were introduced by members of the Board of Supervisors to increase the requirements of the Inclusionary Affordable Housing Program, Planning Code Sections 315 et seq. In summer 2006, the Board of Supervisors adopted legislation expanding the program to require 15 percent inclusionary units for residential projects of five units or more when units are provided on-site and to 20 percent when units are constructed off-site and require that units be made available to households earning less than currently required.

16 Scott Edmondson, Planner, San Francisco Planning Department, written communication, December 21, 2004.

~~The Plan also contains policies that would indirectly make housing more affordable by reducing housing and household costs associated with driving. These measures include, eliminating off-street minimum residential parking requirements; establishing residential parking caps; and separating the cost of parking from the cost of housing. The Plan policies aimed at increasing the affordable housing supply, also address the need to maintain existing affordable housing.~~ The Plan policies aimed at increasing the affordable housing supply, also address the need to maintain existing affordable housing. The Plan also contains policies that would indirectly make housing more affordable by reducing housing and household costs associated with driving. These measures include eliminating off-street minimum residential parking requirements; established residential parking caps; and separating the cost of parking from the cost of housing. Elimination of minimum off-street parking requirement would reduce the unit cost of housing by allowing a developer to build more housing on site. According to the San Francisco Legislative Analyst, approximately 20 percent more San Francisco households would qualify for mortgages for units without parking than for units with parking (Office of Legislative Analyst, San Francisco Housing Development, June 11, 2003). Establishing residential parking caps would have the same effect, by not creating an incentive to "over-park" new residential development and, thus, increase housing costs per unit. Separating the cost of parking from the cost of housing also makes housing more affordable because it enables potential buyers to choose if they want to include parking in their housing costs instead of parking being a built- in price factor. With materials, construction and land costs somewhat fixed during development, parking is one of the few direct costs to a developer that could be reduced by these policy changes. The Plan policies aimed at increasing the affordable housing supply, also address the need to maintain existing affordable housing.

Employment

As shown in Table 4-3, with implementation of the Plan, there would be a modest increase in employment in the Project Area from about 29,600 to 29,660 jobs, a net increase of about 60 jobs by 2025, or less than one percent. Almost all of the job growth in the Project Area by 2025 would occur without the proposed Plan (29,600 jobs), an addition of about 4,230 jobs or a 14 percent increase over current conditions. Without the proposed Plan, the job production in the Project Area would exceed the housing unit production and housing units would be provided in other parts of the city to accommodate the new jobs in the Project Area (see Table 4-2, page 4-76).

TABLE 4-3:
EXISTING AND FUTURE CONDITIONS (2025)
PROJECT AREA EMPLOYMENT GROWTH BY SECTOR

Employment Sector	2004 Jobs	Future Conditions (2025)					
		2025 without Plan				2025 with Plan	
		Percent of Total Jobs	Total Jobs without Plan	Net Change [a] (2004-2025)	Percent Increase	Total Jobs with Plan	Net Change (2004-2025)[a]
Cultural/Institutional/Educational	7,865	27%	7,990	125	1.6%	8,010	20
Medical and Health Services	760	3%	890	125	14.3%	890	0
Management and Information Professional Services	11,165	45%	13,320	2,155	16.2%	13,345	25
Production, Distribution, Repair	1,270	5%	1,480	210	14.3%	1,485	5
Retail and Entertainment	4,060	19%	5,625	1,565	27.8%	5,635	10
Visitor Lodging	255	1%	295	40	14.5%	295	1
Total [b]	25,370	100%	29,600	4,230	14.3%	29,660	60

Note: Details and totals may not agree due to independent rounding.
[a] Net change equals Total Jobs in 2025 less Total Jobs in 2004.
Sources: San Francisco Planning Department and Pittman & Associates, October 2004.

Without the Plan, the highest increase in jobs would occur in the Management and Information Professional Services sector, an increase of about 2,155 jobs between 2004 and 2025, or a 16 percent increase. Retail and Entertainment jobs would increase by about 1,565 jobs, representing almost a 28 percent increase in jobs for this sector.

The approximately 60 new jobs attributable to the proposed Plan would generate demand for 20 new housing units, which could be more than accommodated by the approximate 4,440 new housing units that would be anticipated under the Plan.[17] Without the proposed Plan, the growth of about 4,230 new jobs would generate demand for about 1,495 new housing units that would represent 98 percent of new housing development (about 1,520 units) that would be built without the proposed Plan. The proposed Plan would increase housing supply that could accommodate projected job growth in the Project Area and provide surplus housing to serve the rest of the city.

[17] Methodology used to calculate housing demand is derived from Keyser Marston Associates, Inc. and Gabriel Roche, Inc., *Draft Jobs Housing Nexus Analysis*, City of San Francisco, July 1997.

Increased employment attributable to the proposed Plan would not create a demand for additional housing, and would not result in a significant physical environmental impact. The Plan would provide adequate housing to accommodate employment growth and housing demand in the Project Area by 2025 under conditions with the Plan, and therefore would provide a beneficial effect for the Project Area and city overall. Implementation of the Plan would not create a substantial demand forincreased housing through major employment growth, and therefore would not result in a significant environmental impact. No mitigation measures would be required.

Employed Residents

By 2025 with Plan conditions, the number of jobs in the Project Area is expected to increase to about 29,660 and the number of employed residents to about 25,450 (see Table 4-2, page 4-67). It is not possible to predict if new jobs in the Project Area would be held by area residents, however, the following conclusion can be drawn regarding employed residents with respect to total population and jobs in the Project Area:

> Roughly 70 percent of Project Area residents would be employed, despite the fact that residential population growth would outstrip job growth under the 2025 with Plan conditions (refer to Table 4-2, page 4-67). With implementation of the Plan, the residential population would increase 26.4 percent in the Project Area, while the change in employment would be less than one percent compared to the 2025 without Plan condition. Employment growth would occur in the Project Area whether or not the Plan was implemented. Due to the percentage of employed residents in the Project Area, the proposed Plan could provide a relatively high proportion of workforce housing that would encourage increased employment in the city by San Francisco residents.

Implementation of the Plan would not create a substantial demand for increased housing through major employment increase and therefore would not result in a significant environmental impact. No mitigation measures would be required.

Displacement

No demolitions, removal, nor wholesale clearing of property are proposed with implementation of the proposed Plan. However, some displacement of existing businesses or residences could occur as specific sites are developed due to market pressures for higher density residential development with proposed new zoning or to accommodate planned transportation and public open space improvements. Existing "soft" sites (i.e., existing sites with uses developed to substantially less than their full potential) were considered as sites for potential new housing and mixed-use development which could result in displacement.

Appendix 5 of the *Draft Market and Octavia Neighborhood Plan* describes the methodology for the soft site capacity analysis. Most new development would be expected to occur on vacant in-fill sites that would not require displacement of residential or commercial uses. Proposed land use controls and zoning districts would require residential replacement for every unit lost, which would be a disincentive for housing displacement. For example, a replacement ratio of 4:1 is required in the Downtown Residential District, 3:1 in the Neighborhood Commercial District, and 2:1 in the Residential Transit-Oriented District.

Residential displacement would not be considered a significant environmental impact, as implementation of the proposed Plan would not be expected to displace a substantial number of residential units or businesses. Further, the Plan includes mechanism to replace units that would be displaced, and any major displacement, both commercial and residential, would be subject to further environmental review. No mitigation measures would be required.

Project Level

Central Freeway Parcels

The Plan proposes development of 800 to 900 units of housing on the Central Freeway parcels, which would increase population by approximately 1,495 to 1,680 residents in the Project Area. This increase in housing units in an existing neighborhood well-served by transit and other public services would not result in an adverse impact on the neighborhood. The increased production of new housing units would serve the increasing number of jobs projected for the city in an efficient manner by providing them in an established urban neighborhood near the major downtown and Civic Center employment centers. Only a minimal number of new jobs (less than 60) are expected to be generated under the Plan and only a fraction of these would develop on the Central Freeway parcels.

The development of the Central Freeway parcels would not have significant physical environmental impacts due to population, housing and employment growth. Development on these in-fill parcels would fall within the range of the effects, as discussed under the program level analysis, and would not have a significant physical environmental impact.

Development of infill housing on the Central Freeway parcels would result in approximately 400-450 new affordable housing units in the Project Area as approximately 50 percent of Central Freeway housing has been earmarked for affordable housing. Half of the affordable housing, including 200 units of senior housing would be provided by the Redevelopment Agency on Parcels

~~A to G located in the Western Addition A-2 Redevelopment Plan Area, and Parcel K at the southeast corner of Hayes and Gough Streets~~, C, G, K, O, Q, and U. The interspersing of these affordable housing sites along the former Central Freeway corridor would result in an integration of affordable with market-rate housing. The remaining 50 percent of the units would be developed under individual ownership under the Plan with a 15 percent affordability requirement.[18] New affordable housing development on these parcels would be a beneficial effect of the Plan.

Impacts related to other environmental topics are addressed in Transportation, Section 4.7, page 4-217, Air Quality, Section 4.8, page 4-268, Noise, Section 4.9, page 4-284, and Public Facilities, Services, and Utilities, Section 4.12, page 4-341.

Public Street Improvements

Near-term transportation improvements would improve transit access and mobility in the Project Area that would indirectly encourage housing development and population growth. These improvements would not result in significant housing, population, or employment impacts. The impacts of near-term transportation improvements are described in Transportation, Section 4.7, page 4-233.

Open Space Improvements

Public open space improvements would not directly result in population, housing and employment effects. To the extent that these improvements would enhance the neighborhood environment (e.g., improved pedestrian access and street life vitality), they would contribute to the Project Area being a neighborhood that is attractive for new housing development. These improvements would not result in significant housing, population, or employment impacts. These improvements would not result in significant environmental impacts as discussed in Public Facilities, Services, and Utilities, Section 4.12, page 4-341.

Cumulative Impacts

The increase in household population attributable to the Plan would represent less than one percent of the 834,450 total household population in San Francisco by 2025. Planning Department projections of citywide housing growth estimate an addition of about 30,650 housing units from 2004 to 2025, or an average of 1,460 units per year. Based on these projections, the proposed Plan

[18] Scott Edmondson, Planner, San Francisco Planning Department, written communication, December 21, 2004.

with its approximate 4,440 new housing units could contribute about 14.5 percent of the citywide housing growth by 2025.

By 2025, the number of jobs in the Project Area is expected to increase to about 29,660 and the number of employed residents to about 25,450. City projections indicate that by 2025, San Francisco will have about 497,300 employed residents, and 760,950 jobs. In 2004, an estimated 30 percent of San Francisco jobs were held by in-commuters and this share is projected to grow to almost 40 percent by 2025.[19] Due to the increased housing that could be constructed in the Project Area, the Plan would contribute to the expected slowing of this trend in the city.

Development proposed in the Plan would not result in significant cumulative environmental impacts related to housing, population, or employment growth. Impacts related to other environmental topics are addressed in Transportation, Section 4.7, page 4-217, Air Quality, Section 4.8, page 4-268, Noise, Section 4.9, page 4-284, and Public Facilities, Services, and Utilities, Section 4.12, page 4-341.

[19] Despite this increase, the overall trend and rate of increase are expected to slow, and new jobs created in San Francisco will be taken by more San Francisco residents than has occurred in the past. Data and Needs Analysis, Housing Element, *San Francisco Master Plan,* San Francisco Planning Department, May, 2004, pp. 20-22.

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4.4 URBAN DESIGN AND VISUAL QUALITY

This section discusses existing visual conditions in the Project Area and analyzes the potential for the *Market and Octavia Neighborhood Plan* to affect those conditions, focusing on the visual character of the Project Area, views from surrounding public areas, and light and glare effects. The information in this section is general in nature and is intended to provide a basis for assessing the potential environmental impacts of implementing the Plan. This analysis presents program level impacts first, followed by Project Level impacts that could occur from infill development on Central Freeway parcels, as well other potential direct and indirect aesthetic effects resulting from the Plan's proposed public street and open space improvements.

Computer-generated visual massing studies illustrate existing and potential conditions within select view corridors from representative public vantage points, and are presented as part of the analysis. The locations of the massing studies were selected in consultation with city staff. Digitized photographs and computer modeling techniques were utilized to prepare the massing diagrams. The images show "wire frame" illustrations, which are based on height and bulk districts proposed by the Plan. The images do not show architectural detail, as specific architectural plans are not yet available.

Photos are included in this section to supplement the descriptions of publicly accessible views, and are indicated on Figure 4-5: Viewpoint Location Map.

4.4.1 Environmental Setting

Visual Character

The visual setting of the Project Area is varied, reflecting the unique visual characteristics of the Project Area's topography, street grids, public open spaces, and surrounding neighborhoods adjacent to its boundaries, including Civic Center and Mid-Market to the east, the Inner Mission District and South of Market Area (SoMa) to the south, the Western Addition to the north and west, and the Duboce Triangle to the west.



SOURCE: Enviromental Science Associates

Figure 4-5
Viewpoint Location Map

The topography of the Project Area generally slopes downward from west to east, with elevations ranging from approximately 200 feet above sea level at Page and Webster Streets to 25 feet above mean sea level at Mission and Fourteenth Streets.[20] The slope north of Duboce Avenue and west of Octavia Street is steep, exceeding 15 percent. The gradient in the remainder of the Project Area is less severe. Slopes range from 5 to 15 percent in the southwest portion of the Project Area and less than 5 percent in the north and central portions of the Project Area.

Market Street is San Francisco's grand civic boulevard flanked along its lower and midsections by about 30-foot wide, brick sidewalks and adorned with broad canary palms in the median in the west of the Project Area. Bus and streetcar islands occupy the middle of the street, with two underground subway stations in the Project Area, including a tri-level BART/Muni station. Within the Project Area, angled streets north of Market Street meet perpendicular SoMa streets at a variety of odd angles, and mid- and high-rise buildings form a street wall that encloses an outdoor room (see Figure 4-6: Viewpoint 1). Above Van Ness Avenue, vistas and intersections open up, providing surrounding neighborhoods a means of orientation as well as establishing an image of the city as a whole (see Figure 4-6: Viewpoint 2).[21] At 120 and 125 feet in width, Market Street and Van Ness Avenue, respectively, extend needed public open space.

In the eastern portion of the Project Area, the visual environment is characterized by historic districts in the Civic Center, as well as mid- and high-rise buildings clustered around the intersection of Market Street and Van Ness Avenue.

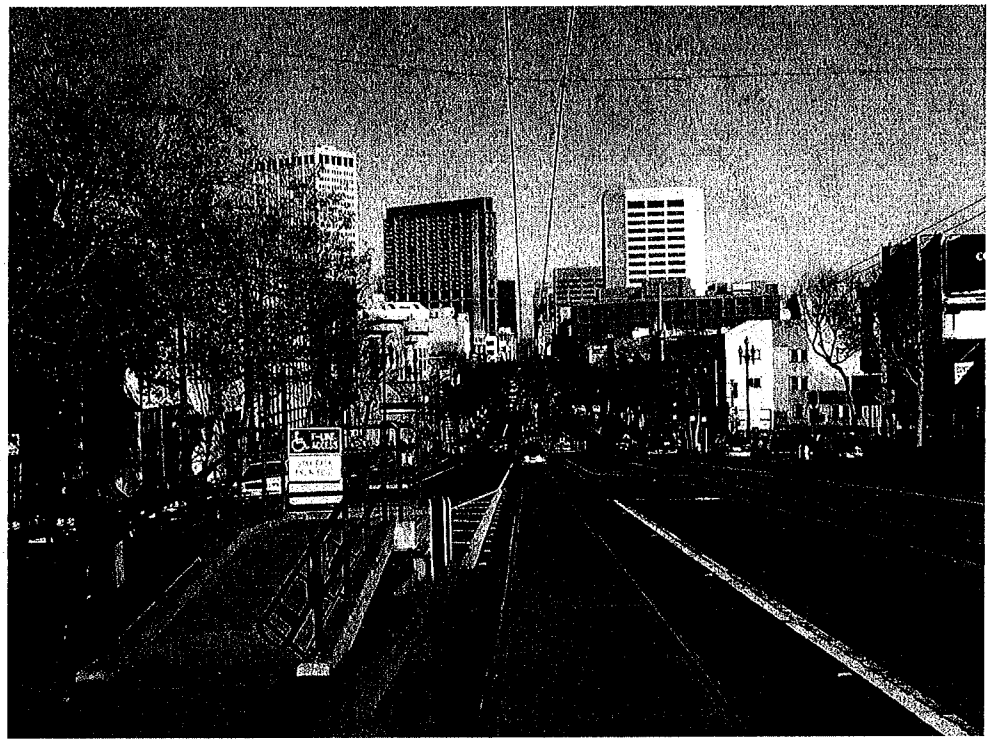
The Project Area comprises a portion of the Civic Center, the site of city government since construction began on Old City Hall in 1872. The Old City Hall, located on a triangular site bounded by McAllister and Larkin Streets and a line parallel to and just north of Market Street, was destroyed in the 1906 Earthquake and Fire. The 1912 Civic Center plan, approved by the Board of Supervisors, resulted in today's Civic Center, a group of primarily public buildings that makes up what is considered by many scholars as the nation's finest and most complete collection of buildings in the Beaux Arts inspired City Beautiful movement.[22]

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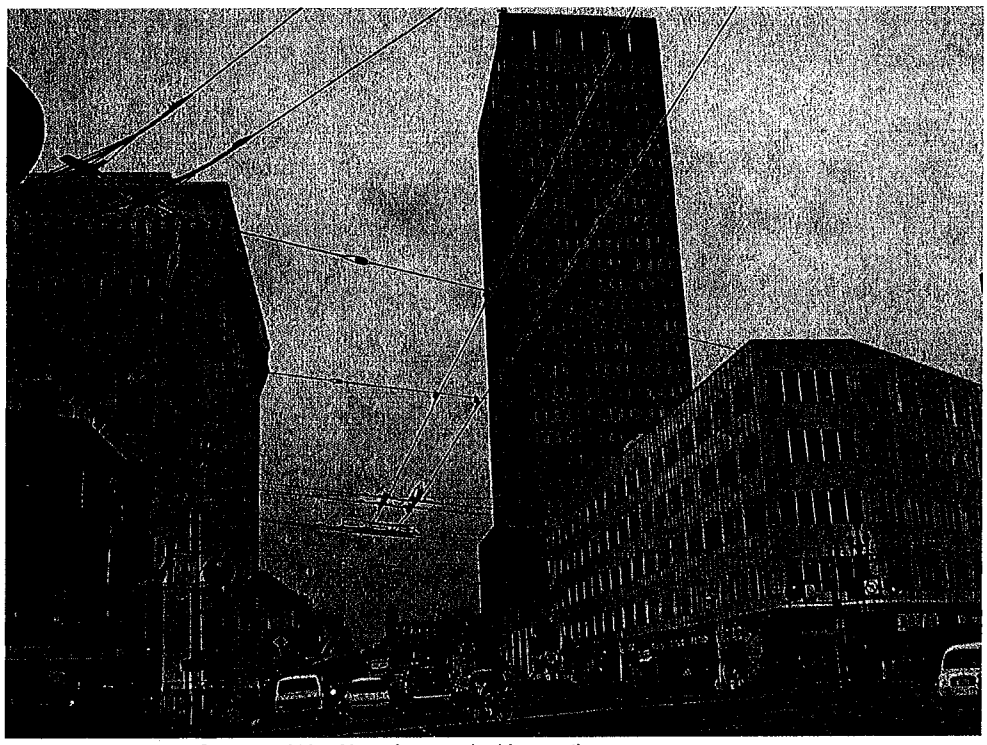
[20] Elevations referenced to the National Geodetic Vertical Datum of 1929 (NGVD-29). For more information, refer to Section 4.11 Geology and Seismicity.

[21] No fewer than eight neighborhoods straddle Market Street: the Financial District, Union Square, SoMa, the Tenderloin, Hayes Valley, the Mission, the Castro and Duboce Triangle.

[22] Corbett, Michael, Nomination form for National Register of Historic Places, December 2, 1974, as cited from the Asian Art Museum Final Environmental Impact Report (Case No. 97.750E), City and County of San Francisco, December 10, 1998.



Viewpoint 1 - Market Street, west of Laguna Street, looking northeast



Viewpoint 2 - Market Street and Van Ness Avenue, looking north

SOURCE: Environmental Science Associates

Figure 4-6
Existing Viewpoints 1 and 2

The Civic Center is designated both a National Historic Landmark District and a Historic District on the National Register of Historic Places, in recognition of the national importance of this Beaux Arts Civic Center group of buildings.[23] This district is anchored by five large parcels with prominent, visually cohesive public buildings fronting Civic Center Plaza, including: City Hall, the Bill Graham Civic Auditorium, the Asian Art Museum, the State of California building, and the New Main Library. Nearby buildings, including the Department of Public Health building, the Old Federal Building on UN Plaza, and the Orpheum Theater also contribute to the visual cohesiveness of the area. Of these buildings, only the Bill Graham Civic Auditorium and the San Francisco Department of Public Health are within the Project Area.

Although outside of the Project Area, City Hall, at a total of 300 feet in height to the top of its dome, above 80-foot-tall wings, stands out as a visual landmark. For harmony of design and in deference to City Hall, most of the major Beaux Arts buildings in the Civic Center are approximately 80 feet tall at the parapet line (three or four stories of varying height); the Department of Public Health building is approximately 70 feet tall.

South of the Civic Center, the visual character of the area changes, and is characterized by a varied mix of contemporary office buildings along Market Street's northern and southern frontages, from Van Ness Avenue to Larkin and Twelfth Streets near the Project Area's eastern boundary. Fox Plaza, which fronts on Polk Street, houses offices in its lower levels and over 400 apartments above. At 320 feet, its height, concrete slab form, and Market Street's diagonal orientation make it visually prominent on the Mid-Market skyline. A block over, a five-story office building occupies the northeastern corner of Market Street and Van Ness Avenue; the 400-foot California State Automobile Association (CSAA) building rises behind it (see Figure 4-7: Viewpoint 3). Across the street, the Bank of America data center complex is housed in two buildings: one, a five-story podium with a 21-story octagonal tower which is windowless on four sides. The other, on the southeast corner of Market Street and Van Ness Avenue is an eight-story building with a dark gray curtain wall and horizontal aluminum banding.

[23] The Civic Center is also a local Historic District included in Article J, Appendix 10 of the San Francisco Planning Code. Additionally, the San Francisco Master Plan includes an element entitled the *Civic Center Plan,* which articulates goals and policies that would apply to future development within the Civic Center area.



Viewpoint 3 - Market Street and Van Ness Avenue, looking northeast



Viewpoint 4 - Minna Street, east of Lafayette Street, looking northeast

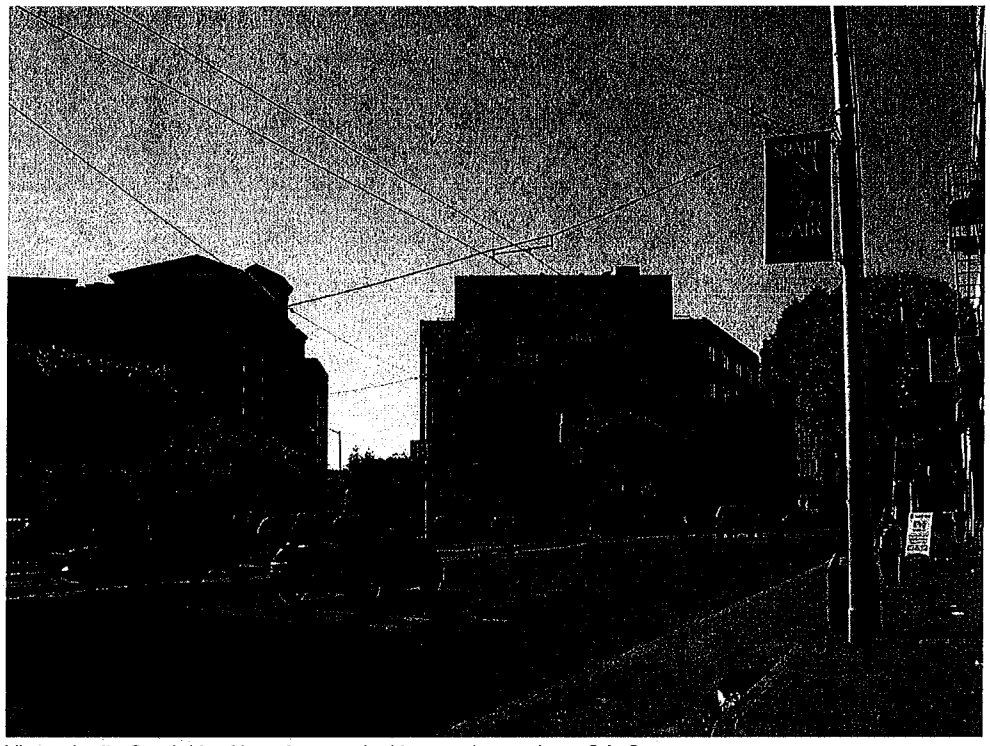
SOURCE: Environmental Science Associates

Figure 4-7
Existing Viewpoints 3 and 4

A portion of the proposed Mid-Market Redevelopment Plan Area, generally bounded by midway between Tenth and Eleventh Streets on the west, Market Street on the north, Ninth Street on the east, and midway between Mission and Howard Street on the south, is also included within the Project Area. Underutilized commercial buildings on large lots characterize the visual setting of this subarea, with commercial buildings along Mission Street generally smaller than those fronting Market Street. Some buildings contain surface parking and some show signs of deferred maintenance. A residential enclave clusters around Lafayette, Minna, and Natoma Streets. Two and three-story Victorian buildings are interspersed with light industrial buildings, and in recent years, small-scale housing (most of it reflecting the area's prevailing light industrial aesthetic) has been developed on infill lots (see Figure 4-7: Viewpoint 4, page 4-90). The area's historical street pattern with narrow alleys (e.g., Stevenson Street and Jessie Street) crossing through large blocks is largely intact. Its shorter buildings and narrow alleyways provide a contrast to the scale of surrounding development by reducing the perceived size of large SoMa block faces.

In SoMa West, the confluence of the North of Market Street, South of Market Street and Mission Street grids create irregular patterns of intersections and blocks. Where South Van Ness Avenue, Mission Street, Twelfth Street, and Otis Street converge, the automobile dominates the area's setting (see Figure 4-8: Viewpoint 5). Wide areas of asphalt, traffic, gas stations, and automobile dealerships (e.g., the Honda showroom on Market Street and the BMW showroom on Mission Street) are its dominant visual attributes. A mix of older, masonry buildings (e.g., the Pacific Telephone and Telegraph Exchange Building, now SBC, 1 McCoppin Street; the Knights and Daughters of Pythias, 95 McCoppin Street), multi-level warehouses (e.g., Shurgard Storage), contemporary office buildings (e.g., Van Ness Plaza), and one- and two-story commercial buildings, including a discount building supply outlet, are visible in the area. Building heights range from one to eleven stories. The recently constructed, 11-story 140 South Van Ness Avenue condominium building stands out on the southern skyline. Aside from street trees along Otis Street, the area provides minimal landscaping and lacks pedestrian amenities.

The Central Freeway creates a visual edge along Division and Thirteenth Streets. It shades streets underneath it and obstructs views of the Inner Mission District to the south and west (see Figure 4-8: Viewpoint 6). Within the Inner Mission, one- to three-story apartments line 40-foot residential streets along Pearl, Elgin, Stevenson, Woodward, Clinton Park, and Brosnan Streets. Along Duboce Avenue and Valencia Street the visual character is more varied; small commercial



Viewpoint 5 - South Van Ness Avenue, looking southwest down Otis Street



Viewpoint 6 - Division/Thirteenth Streets at Otis Street, looking west along Doboce Avenue

SOURCE: Environmental Science Associates

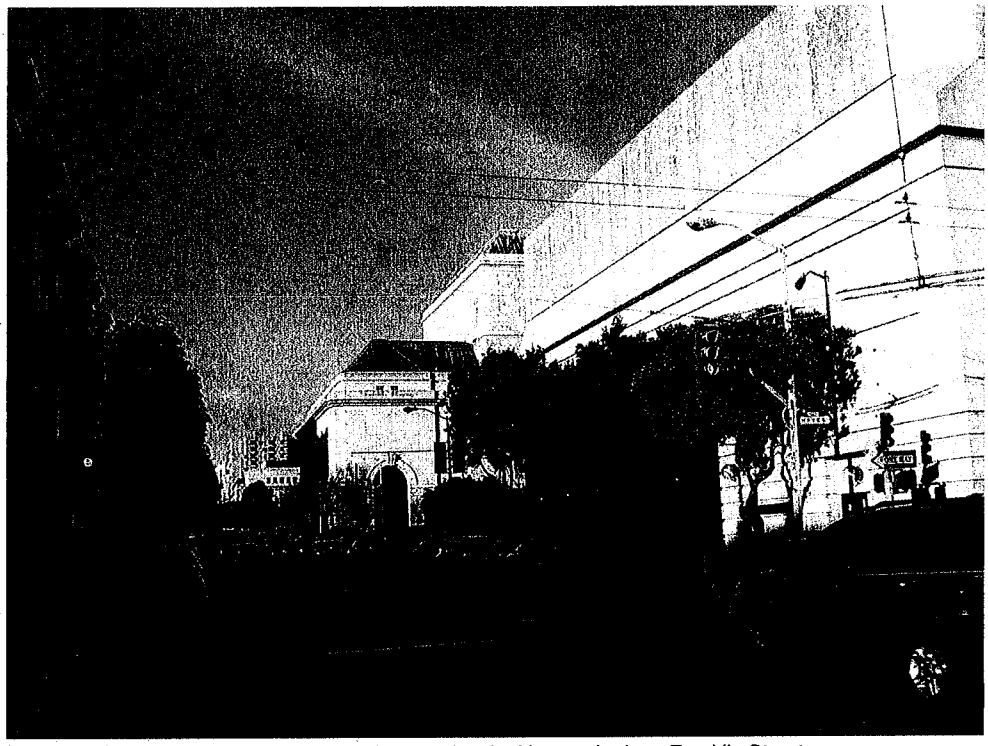
Figure 4-8
Existing Viewpoints 5 and 6

establishments, motorcycle repair shops, surface parking, a fast food restaurant and a bar are interspersed with older apartment buildings along 82.5-foot-wide thoroughfares.

West of Van Ness Avenue, large-scale public and cultural buildings extend beyond their formal grouping around Civic Center Plaza, and include: the ornate, Spanish Revival ~~central administrative offices of the San Francisco Unified School District (135 Van Ness Avenue)~~ building at 135 Van Ness Avenue (former central administrative offices of the San Francisco Unified School District); Davies Symphony Hall/Zellerbach Hall (201 Van Ness Avenue); the classical War Memorial Opera Building and Veterans' Hall (301 Van Ness Avenue), separated by a manicured garden on visual axis with City Hall; and, the California State Office Building (505 Van Ness Avenue). These buildings are between about 90 and 130 feet tall and create a uniform street wall along the east side of Franklin Street, north of Fell Street. Their primary facades are oriented to Van Ness Avenue, and their largely unadorned backs face Franklin Street (see Figure 4-9: Viewpoint 7). On Franklin Street's western side, other public buildings are visible, and include the San Francisco Ballet, the State of California Employment Development Department, among others. North of Golden Gate Avenue, the visual environment becomes more residential in character, and multi-level apartments (e.g., Opera Plaza) are visible.

To the west is Hayes Valley, a moderately-scaled, mixed-use urban neighborhood. Its small, narrow parcels (approximately 25 feet wide) establish a building size in proportion to the scale of streets and blocks. A network of east-west running alleys moderates block size. This pattern produces a varied, fine-grained streetscape with visual interest that reinforces its neighborhood character. Building size and style vary within this pattern; though few are taller than five stories. Hayes Valley also contains a number of historic architectural resources that contribute to the area's visual quality. The Hayes Valley Historic District comprises about 13 square blocks centered on Buchanan and Oak Streets, and is eligible for listing in the National Register of Historic Places (see Section 4.6, Cultural and Historic Architectural Resources, page 4-174). Contemporary residential buildings with ground-floor retail are also prevalent throughout the neighborhood.

The Hayes Valley commercial district is concentrated on Hayes, Gough, Oak and Linden Streets. Visual characteristics are defined by rows of small ground-level retail frontages with colorful window displays; restaurants, some with outdoor seating; markets; and small, neighborhood-serving and specialty retail businesses, some with housing above (see Figure 4-9: Viewpoint 8). There are also some older Redevelopment Agency projects in this area. The tempo of pedestrian traffic is a visual counterpoint to the neighborhood's vehicular thoroughfares.



Viewpoint 7 - Franklin and Hayes Street intersection, looking north along Franklin Street



Viewpoint 8 - Gough and Hayes Street intersection, looking west along Hayes Street

SOURCE: Environmental Science Associates

Figure 4-9
Existing Viewpoints 7 and 8

A total of 22 undeveloped lots (the Central Freeway parcels), remnants of the razed Central Freeway, are predominant visual features in the Project Area. The swathe of vacant parcels, some enclosed by cyclone fencing, creates visual gaps throughout the neighborhood. At over two acres, the largest of these lots, Parcels O and P, comprise almost an entire city block bounded by Fell, Laguna, and Oak Streets and by Octavia Boulevard, with the exception of three parcels at the southwest corner of the intersection of Fell Street and Octavia Boulevard. Parcels O and P were fenced off at the time of site survey. Utility trucks were parked behind cyclone fencing on the former Fell Street off-ramp, with trees along its former alignment (see Figure 4-10: Viewpoint 9).

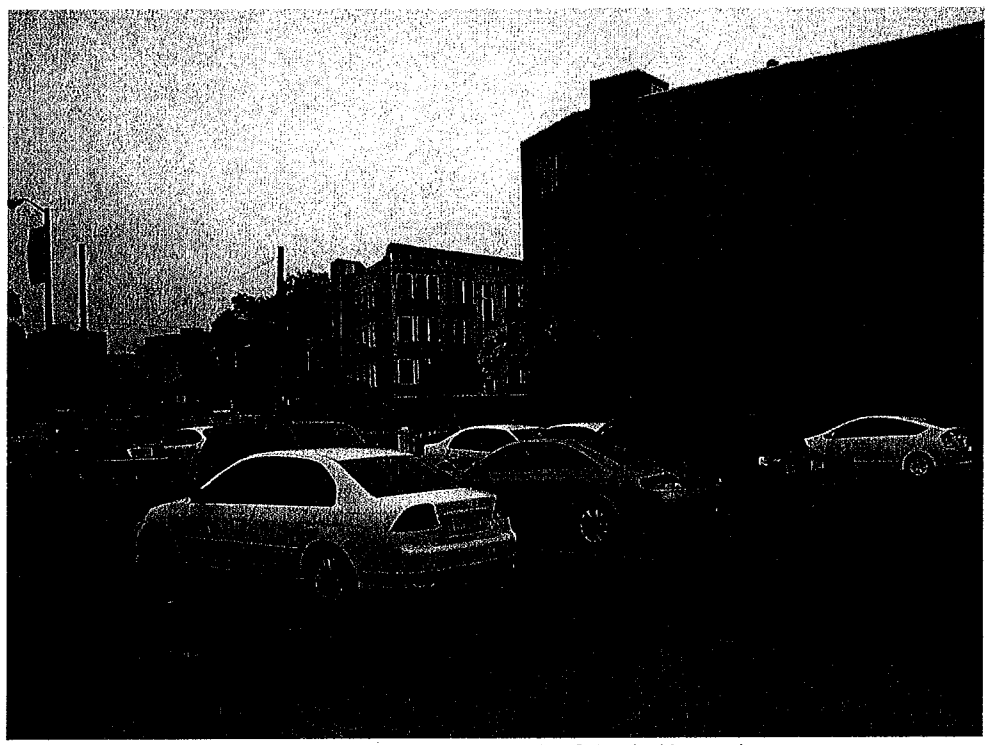
Some Central Freeway parcels are located midblock, such as Parcel J on Hayes Street between Octavia and Gough Streets. Vacant Central Freeway parcels also occupy the eastern frontage of Octavia Street and both the eastern and western frontages of Gough Street, at the Project Area's northern boundaries near the Western Addition. Views of parked cars, blank building walls, and breaks in continuous rows of housing interrupt Hayes Valley's residential and retail street fronts and create voids in surrounding, intact streetscapes (see Figure 4-10: Viewpoint 10).

The intersection of Market and Octavia Streets is in an area in transition, due to ongoing transportation improvements. As part of the Central Freeway Replacement Project, Caltrans demolished the former elevated single-deck viaduct that crossed Market Street and ran parallel to Duboce Avenue and Thirteenth Street between Interstate 80 and Mission Street. As of early 2005, the Octavia Street corridor is characterized by project construction: ungraded roadway segments, construction equipment, earthen mounds, and rows of decorative street lighting can be seen behind cyclone fencing on Octavia Street (see Figure 4-11: Viewpoint 11, page 4-97). Across Market Street to the south, segments of the metal skeleton of the future touchdown ramp were visible at the time of survey.

Near the intersection of Market Street and Octavia Street, the historic Carmel Fallon Building connects to a modern addition forming the Lesbian, Gay, Bisexual, and Transgender Center (the Center). The Center's expressive, sloping window wall, its red Waller Street façade, and the deep blue-green Carmel Fallon building contrast with the white Greek revival First Baptist Church behind it (see Figure 4-11: Viewpoint 12, page 4-97). To the north and west at Waller and Laguna Streets, the UC Berkeley Extension site occupies a 5.8-acre lot. The site's inward facing, Spanish Revival buildings partially line its perimeter behind a ten-foot, beige wall along Laguna Street. Two blocks west, at Market and Dolores Streets, Douglas Tilden's bronze equestrian statute, the



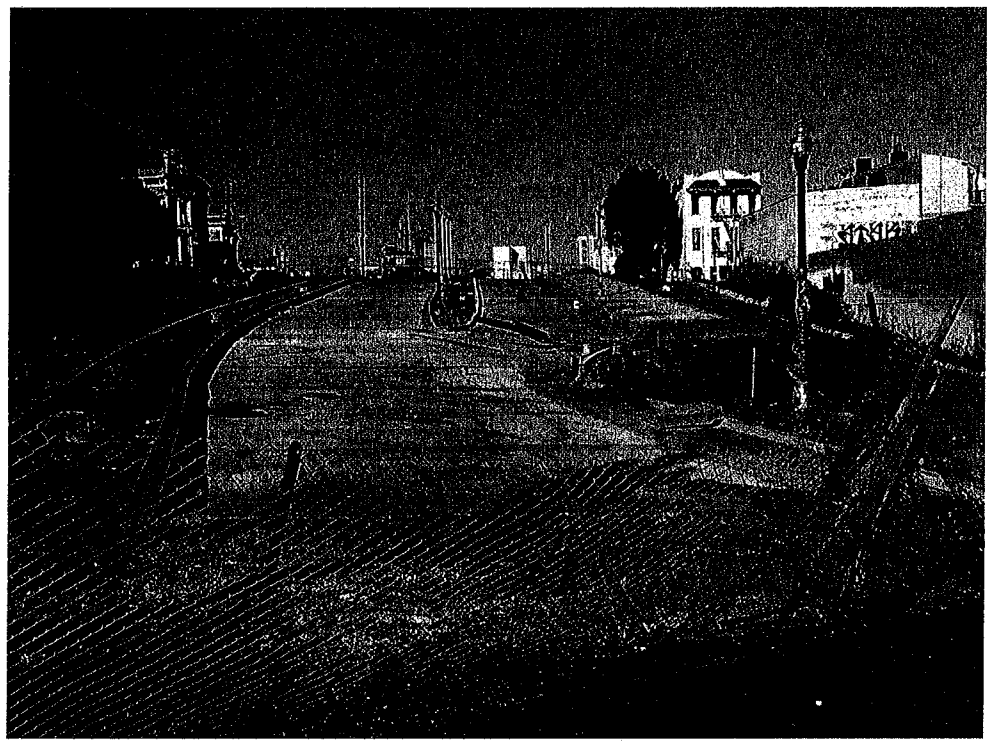
Viewpoint 9 - Linden Street at Laguna Street looking southeast to the former Fell Street off-ramp site



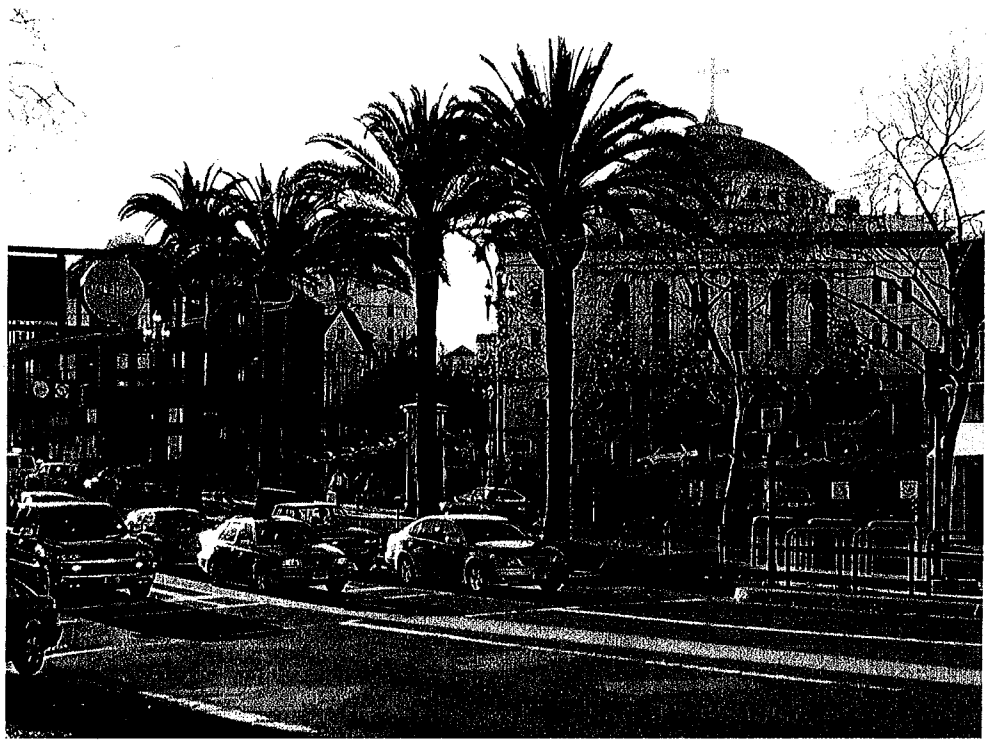
Viewpoint 10 - Former Central Freeway right-of-way at Linden Street looking north

SOURCE: Environmental Science Associates

Figure 4-10
Existing Viewpoints 9 and 10



Viewpoint 11 - Octavia Street at Waller Street, looking north



Viewpoint 12 - Valencia Street at Market Street, looking west to Waller Street and the Octavia Street right-of-way

SOURCE: Environmental Science Associates

Figure 4-11
Existing Viewpoints 11 and 12

California Veteran's Memorial, sits at the head of Dolores Street's stately row of palms, commemorating the volunteers of the Spanish-American War. This important visual marker is set against non-descript commercial buildings along its intersection with Market Street.

The Duboce Triangle Neighborhood is in the west of the Project Area, roughly between Waller Street to the north, Castro Street to the west, and Market Street to the south and east. Duboce Triangle's visual character is primarily residential, though commercial establishments including restaurants, cafes, and boutiques are interspersed throughout the neighborhood. North of Duboce Avenue and west of Sanchez Street, Duboce Park provides over 190,000-square feet of open space containing a mildly sloping grassy field and a recently renovated playground with a basketball court at its upper end. The park abuts residential uses to its north and west, and contributes to the area's tranquil visual setting.

Duboce Triangle's landscaped, traffic-calmed north-south streets (e.g., Noe and Sanchez Streets) contain intimately-scaled public gathering spaces or mini-plazas along sidewalk edges. Mature street trees, some over 30-feet tall, create a street cover, define the street's scale, and provide greenery between private residences and the public realm. To the south, Market Street establishes Duboce Triangle's southern edge, visually distinguishing it from the Inner Mission and Castro Districts to the west.

The intersection of Church and Market Streets is a visual gateway to the Castro District. Land uses along Upper Market Street are generally mixed in three- to four-story commercial buildings. The massive United States Mint on Mint Hill sits atop a serpentine base at Buchanan and Hermann Streets. Below the Mint is a triangular parcel that contains a Safeway grocery store, a streetcar museum, and a recycling center, surrounded by small-scaled retail shops along Church Street and Market Street and nearby residential buildings. Safeway sits at the rear of the site, with a surface parking lot facing Market Street; several small retail storefronts line its eastern side. Along Market Street, Safeway's illuminated grocery sign competes with the nearby Mint for visual prominence. At street-level, Safeway's rear siting on the lot behind surface parking creates an 800-foot void in the street wall along Market Street. This typically suburban, auto-centric land use pattern is visually discordant with the urban character of the surrounding neighborhood.

Toward the Project Area's western edge, the visual setting is consistent with the area's Upper Market Street Neighborhood Commercial (NCD) District, and restaurants, bars and cafes; fitness studios, gyms, and nutrition centers; and a variety of small-scale retail uses enliven Market Street's northern and southern street frontages. Storefront windows create a visual relationship at street level by

focusing pedestrian attention on eye-catching window displays. Further up Market Street, commercial strip architecture intermixes with Victorian buildings, occasionally interrupted by gas stations (at the Market/Sanchez Streets intersection) and surface parking lots (e.g., Beck's Motor Lodge). Multi-level Victorian and Edwardian flats, and contemporary apartment buildings line surrounding streets, set against a backdrop of Twin Peaks and Corona Heights in the distance.

Open Spaces

Public open spaces give a neighborhood its identity, a visual focus, a center for activity and provide a counterpoint to often dense mixed-use residential and commercial neighborhoods by providing visual relief from the built environment. Open spaces in the Project Area include playgrounds, civic spaces, and neighborhood parks.

In the northern portion of the Project Area is Hayward Playground in the Western Addition. Hayward Playground contains two softball fields, basketball and tennis courts, and a children's playground. The City's 911 emergency operations center occupies a portion of the park block, on Turk Street east of Laguna Street. The Western Addition Community Technology Center is located between the 911 center and the softball fields. North of Hayward Playground, and just outside of the Project Area is Jefferson Square, a park that slopes downward from Eddy Street to Turk Street. Jefferson Square is composed of sloping lawn, with scattered trees and a series of generally east-west trending paved paths and north-south paths at either end. In its center, benches provide seating, and circular paved areas just inside the center of the park's northern edge serve as an outlook that offers views of the entire park, Hayward Playground below, and City Hall and other buildings in the Civic Center through trees to the southeast.

In the eastern portion of the Project Area, in the Duboce Triangle Neighborhood, Duboce Park, bounded by Duboce Avenue and Herman, Steiner and Scott Streets is well trafficked by pedestrians and dog-walkers from the surrounding neighborhoods. Koshland Park, on Page Street between Laguna and Buchanan Streets, includes over 37,000-square feet of recreational, educational and communal garden space in Hayes Valley.

There are no existing parks or open spaces in the South of Market portion of the Project Area. The *General Plan* identifies South of Market as an area with the highest priority for acquisition of new parks and open space areas.

Just outside of the Project Area's eastern boundary is the Civic Center Plaza. The plaza is a formally landscaped, 255,000-square-foot public open space lined with pathways, stands of olive and pollard

sycamore trees, flagpoles, grass panels, and children's play areas. The plaza is aligned on axis with the adjacent Fulton Street Mall that connects to the United Nations Plaza (outside of the Project Area), terminating at Market Street. The War Memorial Open Space between the War Memorial Opera Building and Veteran's Hall provides another formal plaza.

Along Dolores Street, south of the Project Area, Dolores Park provides about 14 acres of picturesque open space for surrounding neighborhoods and the city as a whole.

Visual Resources

Buildings in the Project Area exhibit a range of principal architectural periods, including the *Victorian* (1860 – 1900), *Edwardian* (1901 – 1910), *Late Nineteenth* and *Early Twentieth Century Revivals* (1890 – 1940), and *Modernistic* (1920 – 1940). Within these four architectural periods fall a number of architectural styles, including the *Italianate* and *Queen Anne* styles within the Victorian Period, *Classical Revival and Mission/Spanish Revival* within the Late Nineteenth and Early Twentieth Century Revival Period, as well as *Art Deco/Art Moderne*, within the Modernistic Period.

San Francisco historic landmarks in the Project Area offer a range of architectural styles as well as building types, which are simultaneously unique visual and historic architectural resources. These city landmarks include:

1. One church – Saint Francis Lutheran Church (152 Church Street);

2. Five private residences – Nightingale House (201 Buchanan Street), Dietle Residence (294 Page Street), Tanforan Cottages (#214 and 220 Dolores), and McMorry Logan House (188-198 Haight Street); and

3. Three civic/cultural facilities – Mission Dolores (320 Dolores Street), High School of Commerce (135 Van Ness Avenue), and Sheet Metal Workers Union Hall (224 Guerrero Street).

Other visually prominent as well as architecturally important buildings in the Project Area include the massive, Art Moderne style United States Mint at 155 Hermann Street, and the Beaux Arts style Civic Auditorium at 99 Grove Street (1912), both of which are listed in the National Register of Historic Places.

Views

View Corridors

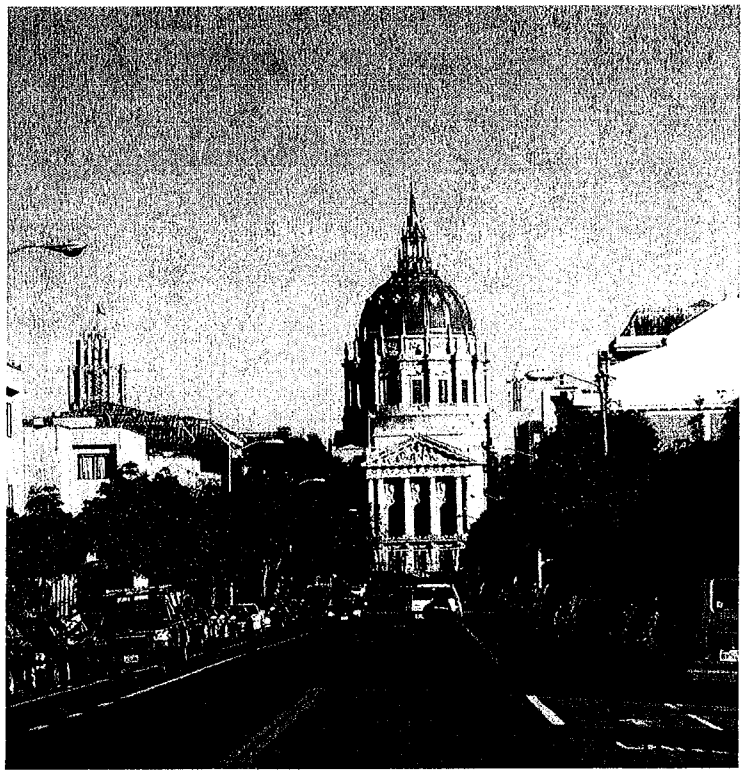
View corridors are described by physical elements such as buildings that guide lines of sight and control view directions available to pedestrians and motorists. View corridors include the total field of vision visible from a specific vantage point. Public view corridors are areas in which views are available from publicly accessible viewpoints, such as from city streets and other public spaces (e.g., parks, plazas, etc.).

East-West Streets

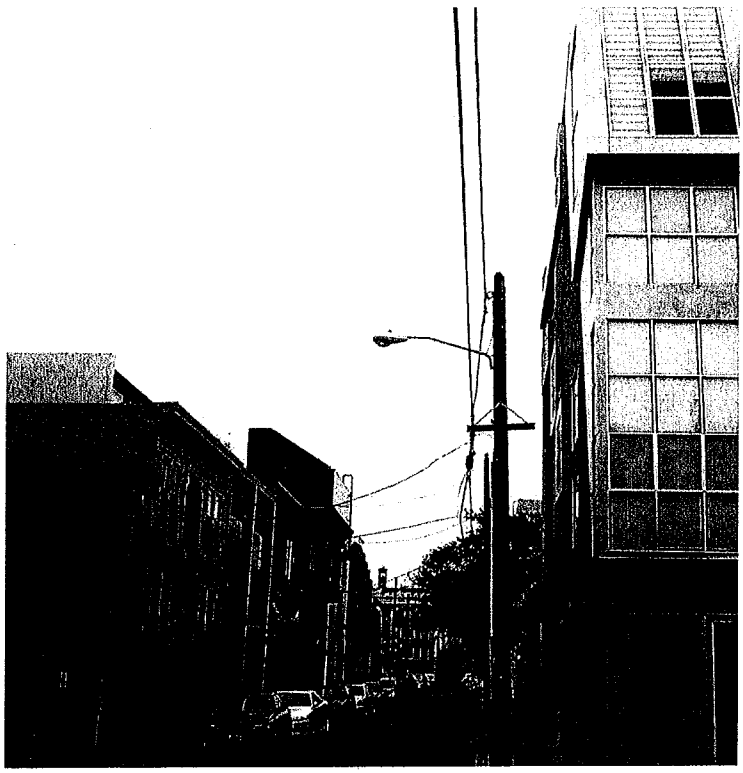
The following streets comprise the primary east-west streets in the Project Area: Turk Street, Golden Gate Avenue, McAllister Street, Fulton Street, and Grove Street in the Western Addition; Hayes, Fell, Oak, Page, and Haight Streets in Hayes Valley; Duboce Avenue, and Waller and Market Streets in Duboce Triangle; and Mission, Howard, Fourteenth, Fifteenth, Sixteenth, and Seventeenth Streets in the Inner Mission and SoMa areas.

Market Street's diagonal orientation creates a visual terminus for long-range easterly views down public streets within the Project Area. Views are framed by the cluster of high rises near Van Ness Avenue, with views terminating at the Ferry Building at Market Street's easternmost point. West of Gough Street, Market Street's topography rises gently, and mid-rise apartments line both its frontages. In the distance, views terminate at Sutro Tower atop Twin Peaks.

Easterly views through the Project Area are urban in character, with high-rise buildings visible in the Civic Center and along mid-Market Street, including the 20-story Philip Burton Federal Building on Turk Street; the mid-rise street wall of residential buildings along Golden Gate Avenue; the 23-story Hastings College of the Law McAllister Tower at McAllister and Leavenworth Streets, and the new federal building under construction between Seventh and Eighth Streets on Mission Street. At Laguna and Fulton Streets, mid-range views to the east are on axis with City Hall (see Figure 4-12: Viewpoint 13). Further south in the Project Area, view corridors are shortened, as Market Street's diagonal westward orientation brings the backdrop of taller buildings closer to the Project Area. Tall buildings such as the Bank of America data center terminate views at Oak Street, and the 11-story art deco San Francisco Furniture Mart on Market Street between Ninth and Tenth Streets terminates views down Page Street. In the central portion of the Project Area from Market Street, eastward views drop down along Duboce Avenue, providing vistas of the Central Waterfront. Easterly views



Viewpoint 13 - Fulton Street, west of Laguna Street, looking east to City Hall



Viewpoint 14 - Linden Street, looking west from Gough Street

SOURCE: Environmental Science Associates

Figure 4-12
Existing Viewpoints 13 and 14

along Fourteenth, Fifteenth, and Sixteenth Streets permeate the Inner Mission District. Along Sixteenth Street, the basilica of Mission Dolores is visible in the distance.

Within the Project Area, views to the west are generally shortened by rising topography. Along Turk Street and Golden Gate Avenue, Lone Mountain is visible in the distance. From Hayes Street to Page Street, toward the south of the Project Area, views are predominantly of neighborhood residential streets gently rising westward toward Alamo Square.

A number of alleyways run east-west through Hayes Valley and Duboce Triangle, including Ivy, Linden, Hickory, Lily, Rose, Laussat and Germania Streets. These narrow alleyways provide intimately-scaled views, mainly of residential spaces; corner buildings visually bookend alleyways and are typically taller than buildings in mid-sections of these blocks (see Figure 4-12: Viewpoint 14, page 4-102). In general, only short-range views are available down alleyways; view corridors often terminate into mid-block buildings on surrounding streets. This pattern is repeated in residential enclaves in the Inner Mission District. In SoMa, the image is similar, though alleyways tend to be more utilitarian in character, with typical views of unarticulated building walls and service areas.

In SoMa, representative east-west views include a mix of housing, light industrial use, and warehouses along Mission and Howard Streets. To the east, highrises in the Downtown and SoMa are focal points. To the west, the slight southward curvature of Mission and Howard Streets guide the line of site toward the elevated Central Freeway. Natural topographic features such as Twin Peaks are visible above the freeway in the distance.

North-South Streets

The following streets comprise the primary north-south streets in the proposed Project Area: Larkin and Polk Streets and Van Ness Avenue in the Civic Center; Ninth, Tenth, Eleventh, and Twelfth Streets in SoMa; South Van Ness and Otis Streets in SoMa West; Franklin, Gough, Octavia, and Laguna Streets in Hayes Valley; Buchanan and Webster Streets, along the border of the Western Addition; Church, Sanchez, Noe, Fillmore, Steiner, Pierce, and Scott Streets through Duboce Triangle; and Dolores Street as well as the southern continuation of Church and Sanchez Streets in the Inner Mission.

Within the Project Area, north-south views are generally urban in character with view corridors terminating at buildings, transportation infrastructure, or in some cases topographic features. A mix of old and new low- and mid-rise buildings frame foreground views to the south down Ninth, Tenth and Eleventh Streets and South Van Ness Avenue. The elevated Interstate 80 and Central Freeways

dominate mid-ground views and Potrero Hill is visible in the background within these viewsheds. Southerly views along Valencia Street are more commercial in character; at the intersection of Market and Valencia Streets, a 1960s motor lodge set back behind parking defines foreground views. In the mid ground, the arching metal frame of the future freeway touchdown ramp is visible. In the distance, views dissipate in the Mission District along Valencia Street's commercial corridor.

From Haight Street, at the crest of the future Octavia Boulevard, expansive southerly views are available of the Inner Mission and SoMa West areas. Views are characterized by the mix of residential and commercial buildings along Market Street in the foreground, construction of the off-ramp in the midground, and large buildings such as the 140 South Van Ness condominiums in SoMa West, and the armory with its distinctive barrel-vaulted roof in the Inner Mission District in the background (see Figure 4-13: Viewpoint 15). Southerly views along Guerrero, Dolores, Sanchez and Noe Streets are predominately residential in character – light-colored, one- to four-story buildings define its pattern and establish its scale. A row of palms in the center of Dolores Street relates to the civic importance of the street, which leads to Mission Dolores, San Francisco's oldest historic resource. At around Nineteenth Street along Dolores Park, long-range views terminate at the crest of the Dolores Heights Neighborhood.

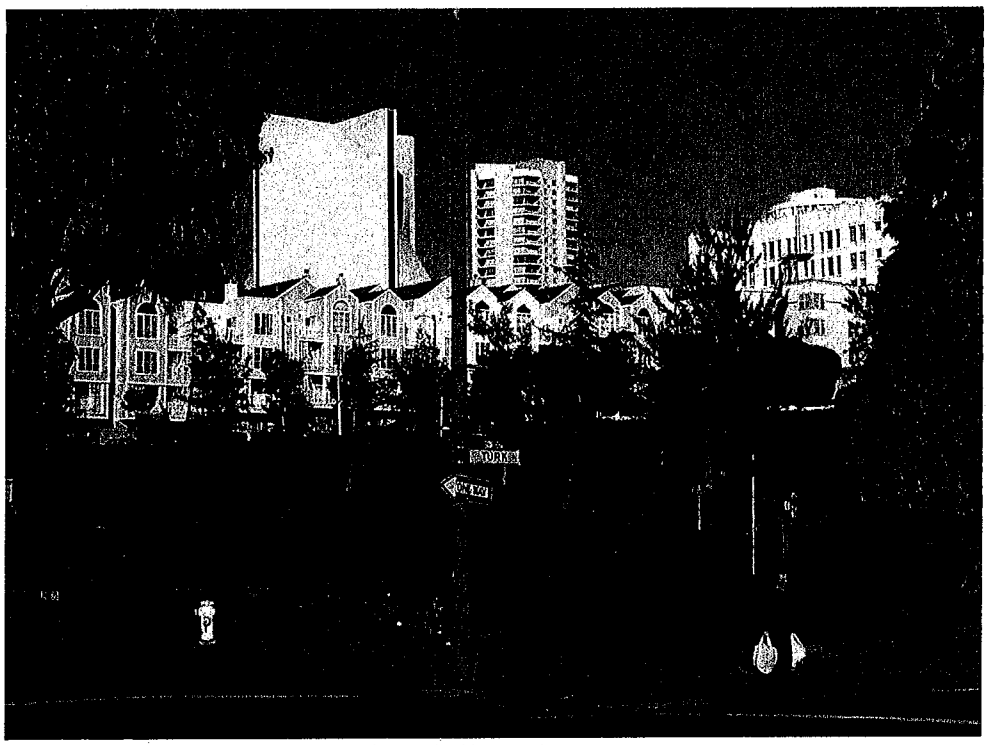
From the southern portion of the Project Area, northerly views up Ninth, Tenth, and Eleventh Streets are foreshortened and typically terminate at buildings along Market Street's northern frontage, such as the office building at 30 Van Ness Avenue within the Eleventh Street viewshed. In the Project Area, South Van Ness Avenue's curvature guides sight lines north up to Van Ness Avenue where it crosses Market Street and a few high-rise buildings (e.g., 25 Van Ness Avenue, the CSAA building) punctuate the Van Ness Avenue skyline.

Northerly views along Franklin, Gough, and Laguna Streets are predominately residential in character. In the distance, rising topography north of Grove Street sets Hayes Valley against views of midrises along Jefferson Square and highrises in Cathedral Hill in the background (see Figure 4-13: Viewpoint 16). From Jefferson Square, expansive southerly views of the city, including the Civic Center, the Mission and the Castro neighborhoods exist. Along Buchanan Street, views to the north are characterized by the US Mint building.

Along the future Octavia Boulevard, long-range northerly views are characterized by distinctive early modern high rises (e.g., St. Mary's Cathedral) along Geary and Post Streets in Cathedral Hill and Japan Town. Three- and four-story Victorian buildings line Octavia Boulevard, and past the crest of



Viewpoint 15 - Haight and Octavia Streets intersection looking southeast towards Market Street



Viewpoint 16 - Laguna Street near Turk Street, looking northeast

SOURCE: Environmental Science Associates

Figure 4-13
Existing Viewpoints 15 and 16

Haight Street, the Hayes Valley Neighborhood is visible in short-range views below. In the distance, the dome of City Hall and the Philip Burton Federal Building are visible in oblique views to the northeast.

Views along Church, Sanchez, Noe, Fillmore, Steiner, Pierce, and Scott Streets through Duboce Triangle are primarily residential in character. On some of these streets, the view corridors are foreshortened, with buildings on some blocks north of Duboce Avenue terminating views. Similarly, existing street trees along the Sanchez and Noe Streets frontages obscure or enhance some views from Market Street north into Duboce Triangle; in some cases trees are located in planters in the center of these streets.

Light and Glare

Sources of light and glare around Project Area neighborhoods are generally limited to the interior and exterior lights of buildings and lighting visible through windows, lights in parking lots, and city street lights. In addition, cars and trucks traveling to, from and within the Project Area represent a source of glare.

4.4.2 Impact Analysis

Significance Criteria

For the purposes of this EIR, the project would be deemed to have a significant effect if it would:

- substantially degrade the existing visual character or quality of the area, or result in a substantial, demonstrable negative aesthetic effect; or
- substantially degrade or obstruct publicly accessible scenic views;
- generate obtrusive light or glare that would adversely affect views or substantially affect other properties.

The significance determination is based on consideration of the extent of change related to project visibility from key public vantage points, as well as the degree of visual contrast and compatibility in scale and character between proposed project elements and the existing surroundings, and the sensitivity of the affected view.

The analysis of the Plan's effect on areawide visual character or quality focuses on how the existing aesthetic quality in the Project Area could change based on design elements proposed in the Plan. The analysis considers the Plan's proposed neighborhood design guidelines, which would regulate

building massing, articulation, height, and ground-floor treatment. The analysis also considers the Plan's proposed improvements to the public realm, including open space improvements and implementation of a streetscaping program.

The analysis of the Plan's effects on views considers the proposed requirements concerning height, and bulk, as well as the number of towers proposed for the SoMa West Neighborhood. Where environmental impacts are common to the Plan, these impacts are presented under the program level impacts. Where visual and aesthetic changes would result in potential impacts specifically related to the visual changes on the Central Freeway parcels or as a result of public street and open space improvements, a discussion of these impacts is included under the project level impacts.

Program Level

Visual Character

The proposed Plan could result in the removal of visual elements with neutral or low aesthetic value, including surface parking lots and, in some cases, underutilized and deteriorated buildings, as well as, landscape and other streetscape improvements to public streets and open spaces, thereby potentially enhancing the visual quality of the Project Area. The overall character of the Project Area could experience incremental change from a mid-rise area with a mix of residential and commercial uses - and, particularly in eastern southern portions of the Project Area - industrial building types and parking lots, to a vibrant, full-service urban neighborhood of mid- to high-rise residential and mixed-use buildings (in distinct locations). Designated areas of open space, landscaped public rights-of-way, and enclaves of older housing and commercial buildings would intersperse this area.

The greatest amount of aesthetic change under the Plan is expected to occur in the SoMa West Neighborhood and on the Central Freeway parcels along the Octavia Boulevard corridor. In some areas, the existing scale of the Project Area could change, as the Plan's proposed height limits could encourage the concentration of structures taller than what currently exists or is allowed by the existing height limits. In portions of the Project Area, particularly in residential areas of Hayes Valley and the Inner Mission, along Octavia Boulevard, around the Central Freeway touchdown at Market Street, on the block surrounding the proposed Brady Park, and around the Eleventh Street and Market Street intersections, the height limits would either be reduced or remain unchanged to protect and enhance neighborhood character. Building heights within Hayes Valley, Duboce Triangle and the Inner Mission areas would range from 30 to ~~50~~55 feet (compared to existing height limits of 40 to 105 feet); heights on the frontages of Franklin and Market Streets would be slightly taller. Along Market Street, the Plan's proposed building heights of 85 feet (compared to the

existing 60, 80, and 105 height limits) could create a uniform ~~85-foot~~ street wall that would extend from Franklin Street to Church Street. Beyond Church Street, building heights would step down to 65 feet (compared to the existing height limit of 50 feet). On Franklin Street, heights would be ~~65~~ 85 feet (compared to the existing height limit of 80 feet) between Market Street and ~~north to~~ Fell Street. ~~and generally 50 to 65 feet f~~From Fell Street to McAllister Street, the western edge of Franklin Street would have 50 to 65-foot height limits (same as the existing height ranges) and the eastern edge of Franklin Street would have 80 and 160-foot height limits (compared to existing 130 and 160-foot height limits). North of McAllister Street, heights would increase to ~~85~~ 65 to 120 feet on the western frontage of Franklin Street (compared to the existing 65-foot height limit).

The Plan avoids alternating height districts along street centerlines, so that future buildings would be similar in scale to those on opposite sides of the street. The exception is along the Project Area's network of alleyways, where building heights would be reduced to generally 40 feet on the alley's north side and 30 feet on the south side, to ensure adequate sunlight access at street level.

Within the Project Area, the Plan would gradually transition in height and density toward the Market Street/Van Ness Avenue intersection. At this intersection, height limits would allow slender towers of up to 400 feet. Around Market Street and Van Ness Avenue, the Plan's proposed height districts would increase the maximum 320-foot height district to 400 feet, with heights stepping down to accommodate towers of 250 feet at the intersection of Mission Street/Otis Street/ South Van Ness Avenue. The height limit for the parcel directly south of Market Street over the BART tunnel would remain at 120 feet. Toward SoMa West's southern boundaries, building heights would step down to 85 feet. Height limits in the existing residential enclave clustered around Lafayette, Minna, and Natoma Streets would not change.

Where towers are proposed, the Plan's proposed height limits would allow building bases, or podia, to range from 85 to 120 feet. The Plan calls for horizontal articulation, such as cornice lines, to mark the street wall height and delineate the portion of the building facade that establishes the pedestrian zone or outdoor room, similar to along Market Street and Van Ness Avenue. The Plan also requires a change in the building's vertical plane, which would visually distinguish towers from adjacent building bases. Over time, these requirements could promote the development of uniform street walls, relating heights to the existing street widths throughout SoMa, which are generally 82.5 feet. Balconies and bay windows could create a regular rhythm of projections and recesses, increasing the visual interest of the street wall. Roof-top decks could provide onsite open space above.

Although future buildings in the heart of SoMa West would generally be considerably larger than some of the existing buildings in the surrounding areas, increases in building height would not, in themselves, result in an adverse change in regard to visual quality. As discussed in the Environmental Setting, several high-rise buildings in the area range in height from approximately 200 to 400 feet. The Plan's proposed bulk controls regulating floor plate size and requiring an 82.5-foot separation of towers would result in the development of tall, slender, widely-spaced buildings in SoMa West, which would be markedly different from the existing office high-rises. These buildings could provide orientation points and increase the area's physical distinction by introducing variety and contrast to the eastern Project Area. Clustering of towers around the Market Street and Van Ness Avenue intersection would also build upon and reinforce this gateway by concentrating height and bulk where core transit services converge.

Just south of Market Street at Twelfth Street, the Plan would visually relate new uses in accord with the scale of the existing surroundings. The Plan proposes development of a residential enclave around the block bounded by Market, Twelfth, Otis, and Gough Streets. The Plan envisions construction of moderately-scaled infill housing and the creation of new public open space at the center of the block that would replace surface parking. This pattern would build upon existing land use patterns in the area, similar to the residential enclave along Lafayette Street, and would also be enhanced by landscaping and other proposed streetscaping improvements, described in more detail below. On this block the Plan proposes reduced height limits to create the moderately-scaled residential enclave and therefore would result in positive changes to the neighborhood character.

Aside from design considerations and physical impacts related to building height (e.g., potential view obstruction and shading), the manner in which future buildings meet the street throughout the Project Area would define the aesthetic character of the pedestrian realm. The Plan's guidelines for massing and articulation call for future buildings in the area to be built to the property lines and to face the public right-of-way. The Plan also seeks to maximize neighborhood-serving retail activities on the ground floor of new development, along at least 75 percent of the ground-floor frontage.

While the proposed Plan would result in visual changes within the Project Area, these aesthetic changes are intended to improve the overall visual quality. Future uses and building designs would be developed pursuant to the city's *General Plan* and urban design controls and guidelines imposed by the Civic Center Plan (applicable to the Civic Center area only), and by the proposed *Market and Octavia Neighborhood Plan* as discussed in this document in Chapter 3, Project Description, and Chapter 4.2, Land Use and Zoning. These measures would minimize the adverse visual impacts in the Project Area.

Development throughout the Project Area, though particularly in SoMa West and along the Central Freeway parcels, could result in noticeable changes in visual quality associated with the construction of new buildings, the continued adaptive reuse of historically significant buildings, and an overall intensification of urban uses. At the same time, the development of unsightly vacant parcels and surface parking lots, such as proposed changes at the Safeway site at Church and Market Streets, could fill voids in the urban fabric, while visually relating new development to the character of the surrounding area through moderation of building height and consistency of futures uses. Moreover, the anticipated provision of community-serving open space(s) of varied sizes, and area-wide streetscaping improvements could enhance the visual quality of the area. Future buildings in the area could define, unify and contribute positively to the Project Area's visual context.

Although visual quality is subjective, it can reasonably be concluded that the proposed buildings themselves would not result in a substantial, demonstrable negative aesthetic effect on the existing visual character or quality of the area and its surroundings. The visual impacts would be less than significant. No mitigation measures would be required.

Views

Implementation of the Plan could alter existing views from public viewpoints since new residential, mixed-use commercial buildings, streetscaping, landscaping, and planned transportation infrastructure improvements may be developed over time within the Project Area. Despite the possible new uses that could be constructed, the proposed Plan would not have a demonstrable negative effect on scenic views or vistas, nor would the Plan damage scenic resources within a state scenic highway. Under project conditions, the majority of long-range views along the Project Area's primary east-west and north-south primary view corridors would not substantially change from existing conditions. The greatest changes to views would occur in the oblique (diagonal) views to the south and southeast across Market Street, toward the SoMa West neighborhood where the Plan encourages future high-rise buildings where none currently exist.

A summary of the possible changes to existing public views resulting from implementation of the Specific Plan is provided below.

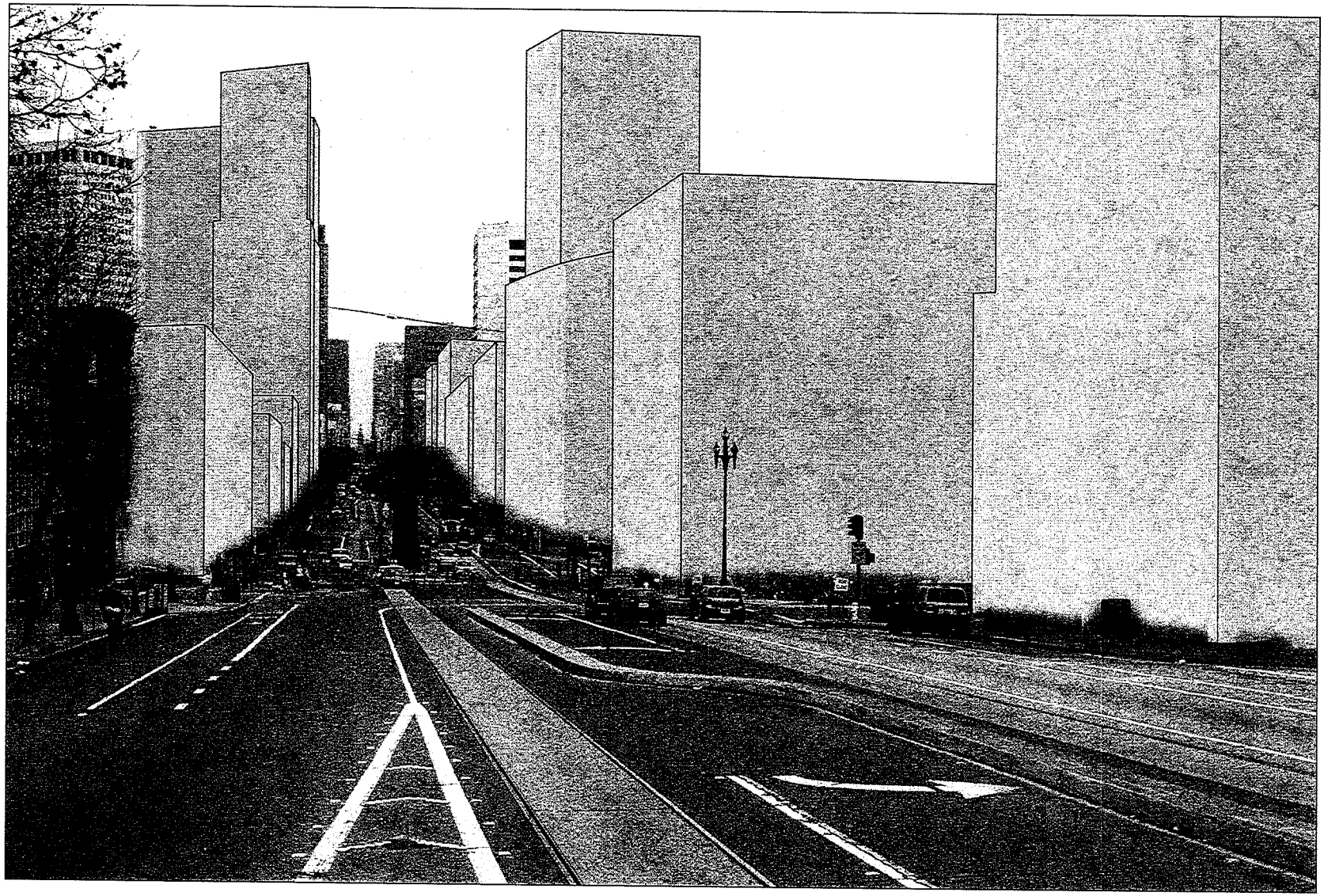
East-West Streets

The Plan would alter views along east-west streets in the Project Area. The greatest visual changes would occur along Market Street, where the Plan envisions a number of new highrises that could be developed around the intersection of Market Street and Van Ness Avenue. These towers would intensify views at this intersection and would emphasize a visual edge to the Mid-Market area. Figure 4-14: Viewpoint S1, presents a wireframe study of the potential height and bulk of these future buildings. These four towers would be developed up to a height of 400 feet above 120-foot building bases, and upper levels sculpted according to the Plan's requirements for upper level volume reductions. Towers would be spaced at least 82.5 feet apart.

In short-range views, these towers would be about as tall as existing high rises in the area, such as Fox Plaza or the CSAA building, but noticeably more slender. New towers would obstruct views of these buildings and others along Market Street in views to the east. At street level, the bases of future buildings would be consistent with the existing street wall height along Market Street. Mid-range easterly views would continue to include tall buildings fronting on both the north and south sides of Market Street. Future towers at this location would also be visible at the terminus of eastward views down Fell, Oak, Page and Haight Streets. Long-range views to the east along Market Street would continue to their terminus at the Ferry Building.

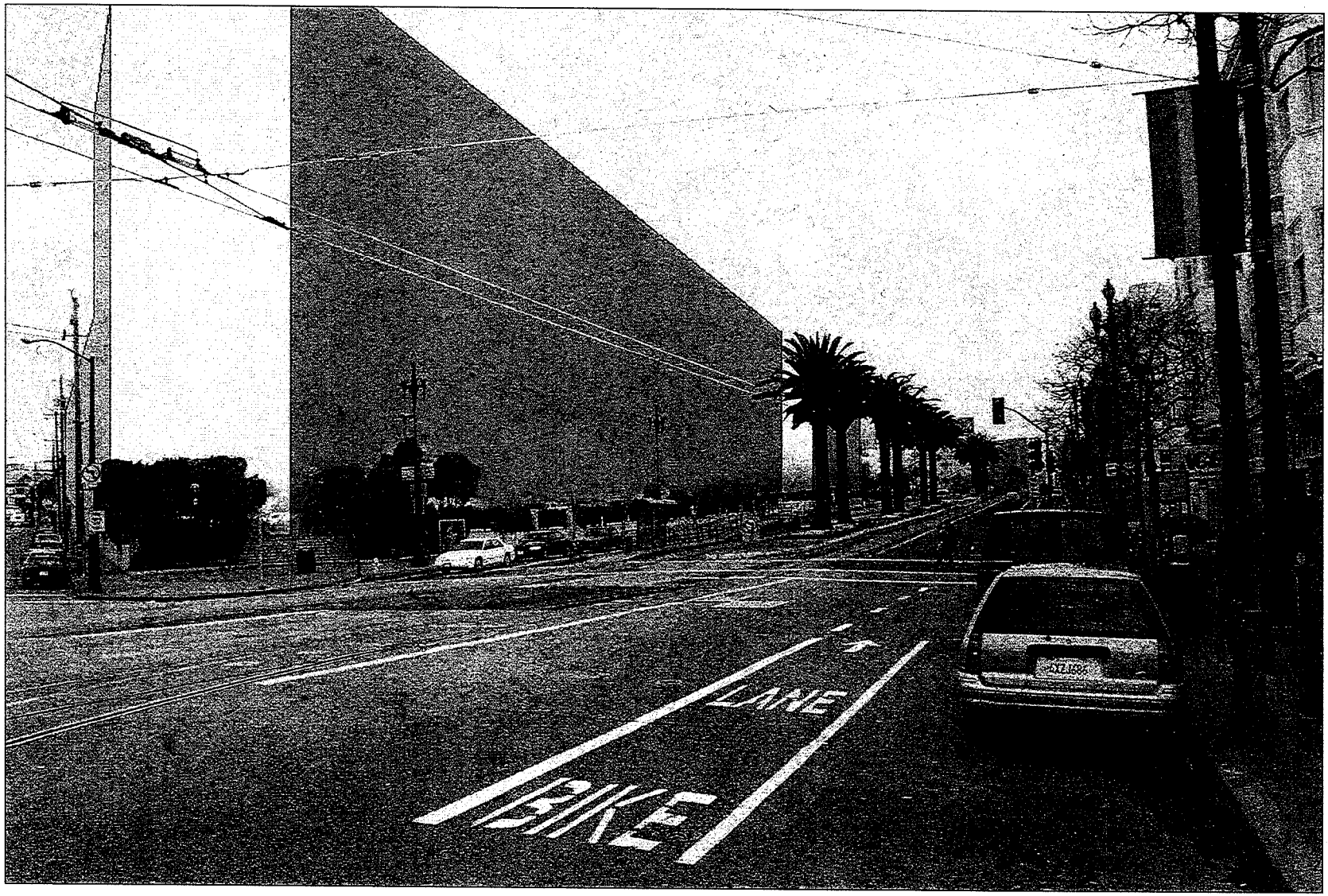
The greatest change in views would be in oblique views to the southeast, especially in views from Market Street, west of Van Ness Avenue. Along these view corridors, 85-foot buildings fronting on Market Street would increase the street wall height and buildings up to 250-feet-tall in the SoMa West would change the distant view. Views to the west on Market Street, generally west of Franklin Street, would be altered by gradual increases in street wall heights (5 to 15 feet taller than are currently permitted), which would moderately increase the street wall on both sides of Market Street. Figure 4-15: Viewpoint S2 presents a view of Market and Church Streets looking southeast and represents building heights should the Plan's proposed development guidelines at the Safeway site be implemented. As indicated by the wireframe study, future housing on this site would cover existing surface parking uses and would bring the street wall closer to the Market Street frontage. This would block existing views of the mint in the distance from locations on Market Street between Church and Buchanan Streets. Long-range views to the west would continue to terminate at Twin Peaks in the distance.

In other portions of the Project Area, changes in views along east-west streets would be minimal. For the most part, heights limits would remain the same as under existing conditions, or would be



SOURCE: Environmental Science Associates

Figure 4-14
Revised
Viewpoint S1: Market Street, Looking East



SOURCE: Environmental Science Associates

Figure 4-15
Revised
Viewpoint S2: Market Street, Looking Southeast

reduced, except for along corner lots, where heights would generally increase about five feet. This could result in slightly taller buildings on corners that could frame street views with building elements or rooflines on opposing corners. Westerly views North of Market would continue to be residential in character. Easterly views from the western portion of the Project Area would continue to be urban, and view corridors would continue to terminate at tall buildings in the Civic Center (e.g., Hastings College of the Law and City Hall) and Mid-Market areas under project conditions.

Over time, westerly mid-range views in SoMa West along Mission and Howard Streets would be of new mid- and high-rise residential buildings with ground-floor commercial uses around the intersection of Market Street and Van Ness Avenue. At up to 250-feet tall, these buildings would appear taller than existing buildings and the upper building masses would be framed against Twin Peaks in the background.

North-South Streets

Similar to the changes to views along east-west streets, the Plan would also alter views along north-south streets in the Project Area. The greatest visual changes to north-south views would occur along South Van Ness Avenue, between Howard Street and Fell Street. Taller buildings would be visible in mid-range views along this stretch of South Van Ness Avenue, where towers would gradually step up from 85 feet to 250 at the intersection of Mission Street/South Van Ness Avenue to up to 400 feet at Market Street and then gradually step down north of Fell Street. These tall buildings that could be developed under the Plan would be visible in north-south views from Project Area streets, such as from Tenth and Eleventh Streets and Valencia, Franklin, and Gough Streets. In other north-south streets in the Project Area, views would remain essentially unchanged, especially west of Octavia Boulevard.

In light of the above, while development pursuant to the Plan would result in an intensification of both height and density in portions of the Project Area and some new development would obstruct portions of certain longer-range views of and through the Project Area, the Plan would not be considered to result in a significant adverse impact with regard to views. Obstruction of long-range views would occur over a limited visual field in any given view and short-range and mid-range views from within the Project Area and nearby locations would be preserved along streets in the Project Area. View corridors along existing streets within the Project Area would remain largely unobstructed, especially in terms of longer-range views of the Bay or hills that now exist along these streets.

Light and Glare

New construction in the Project Area would generate additional night lighting, but not in amounts unusual for a developed urban area. Design of exterior lighting could ensure that off-site glaze or lighting spillover would be minimized. New buildings and vehicles would also produce additional glare. As with light, this would not be expected to result in a substantial change as use of reflective glass is restricted by Planning Commission Resolution 9212.

In conclusion, implementation of the proposed Plan and individual projects would result in changes to existing views from within and around the Project Area boundaries. These changes would occur as a result of changes to land use (different types of buildings would be visible in the Project Area); changes in building heights (taller buildings would be permitted in portions of the Project Area compared to existing conditions); and the construction of new buildings on parcels currently vacant. As discussed, implementation of the proposed Plan would not result in a demonstrable negative visual impact on views, would not obstruct publicly accessible scenic views, and would not generate light or glare that would adversely affect views or other properties. Thus, impacts related to views would be considered less than significant.

Project Level

Visual Character

Central Freeway Parcels

Development on the 22 Central Freeway parcels along the proposed Octavia Boulevard, which is currently under construction, could alter the existing character of these sites and their surroundings, both individually and collectively. However, the Plan's proposed policies would guide future growth in a manner that would enhance the area's character, consistent with the urban design guidelines proposed under the Plan and with planned transportation improvements, rather than detract from it.

Because one of the overarching goals in the Plan is to create housing, aesthetic changes on and around the vacant Central Freeway parcels would be characterized by the development of new mixed-use housing. The vacant parking lots occupying the Central Freeway parcels would be developed in the future with moderately-scaled residential uses. Most of the sites would have active, pedestrian-oriented ground-floor uses, including neighborhood-oriented retail or community services. Future housing on the Central Freeway parcels would be designed in concert with the prevailing development pattern in the area, which is characterized by individual buildings on narrow lots. For example, the Plan responds to Hayes Valley's prevailing land use pattern by proposing

construction of smaller-scale housing in the mid-block portion of Parcels O and P, the largest of the Central Freeway parcels. The Plan proposes housing on these sites, with larger multi-family apartments over active ground-floor uses on the corners. Future development on Parcels O and P would add visual interest to the streetscape by constructing a variety of housing types, consistent with the character of the surroundings. The redevelopment of the vacant Central Freeway parcels in a manner consistent with the character of the surrounding neighborhood, that reconnects the parts of the neighborhood that were previously divided by the elevated Central Freeway would be a positive impact for the Hayes Valley Neighborhood.

The Plan acknowledges the unique setting of many of these parcels, and calls for future development to strategically include special building elements and architectural treatments such as turrets, towers, and projections at intersections near important public spaces. Such provisions would help to visually relate new development with existing, adjacent uses and enhance the visual quality at gateway sites, specifically near the intersection of Market Street and Octavia Boulevard, or on sites surrounding open spaces, such as on Parcels K and L near the proposed Hayes Green.

The Plan's policies call for future development to avoid blank, unarticulated planes, to locate parking at the rear of the site, and to limit the amount of residential frontage devoted to garages (30 percent). The Plan also proposes that 70 percent of the width of ground floor facing streets be devoted to windows, entries, store frontages, or landscaping features. Additionally, the Plan proposes that multi-family residential buildings be accessible via individual entries. In sum, these policies would visually reinforce the residential use of future buildings strengthening the edge along Octavia Boulevard and creating an active rhythm at the building's edge that could also accommodate individual landscaped areas, which could add green space along frontages. This pattern of entryways would aid in establishing visual transitions from public space (on the sidewalk) to private space (in the home).

Where the Central Freeway parcels front on neighborhood commercial streets within Hayes Valley, (e.g., Parcels J, K, and L), the Plan would regulate the future design of buildings on these sites to ensure visual harmony with existing business along Hayes Street and Octavia Boulevard. Specifically, the Plan would require at least 75 percent transparency along storefronts, with 60 percent occupied by windows. The Plan's requirement for storefront heights of 12 to 15 feet would visually differentiate the commercial character of the ground-floor from housing above and would allow for increased light into ground-floor spaces. The 45-foot height/four story limit proposed along Hayes Street would facilitate the higher ground-floor ceiling heights. Additionally, parking uses, where permitted, would not detract from the pedestrian-oriented commercial streetscapes,

because the Plan would require parking in the rear of the building, accessible via side streets or alleys, if possible.

Future development on Central Freeway parcels would result in filling visible voids and breaks throughout the neighborhood, while also strengthening the street edge. Future housing along Octavia Boulevard, for example, would be set against a landscaped pedestrian promenade with street furniture and decorative lighting, ending with the Hayes Green at its northern edge. For reasons noted under the discussion of program level impacts, development of the Central Freeway parcels with residential, commercial and community-oriented uses proposed by the Plan would not result in a substantial, demonstrable negative aesthetic effect on the existing visual character or quality of the area and its surroundings, would not obstruct publicly accessible scenic views, and would not generate light or glare that would adversely affect views or other properties. Thus, impacts related to visual character would be less than significant.

Public Street Improvements

Building on the Plan's principle that streets with multiple uses are more conducive to the public life of an urban neighborhood than those dedicated solely to the automobile, a number of public streetscape improvements are included in the Plan that would result in direct beneficial aesthetic effects to the pedestrian realm. The Plan proposes a systematic and incremental approach to implementing its "living streets" program, prioritizing streetscape improvements and tree plantings at some intersections (e.g., Market Street/Van Ness Avenue, South Van Ness Avenue/Mission Street, and Market Street/Octavia Boulevard) over others. Physical changes to streetscapes could include: landscaped corner plazas to accommodate extra space for pedestrians; shortening, restriping, and extending alleyways to provide mid-block pedestrian passages; new seating areas, landscaped spaces, community gardens, children's play areas, and public art along widened sidewalk segments; and planting new street trees throughout the Project Area.

Open Space Improvements

The Plan also proposes the creation of new public open spaces, including Octavia Plaza, McCoppin Square, and Brady Park. The Hayes Green will be implemented as part of the Octavia Boulevard Project. These public open spaces would provide opportunity for passive recreation, would add value to sometimes drab streetscapes, and provide visual relief to densely developed areas. Street trees would create a sense of scale in the pedestrian realm, soften street edges, and provide needed greenery. Ultimately, the Plan's proposed transportation improvements would expand open space and contribute to the visual quality of streets as pleasant public places.

Views

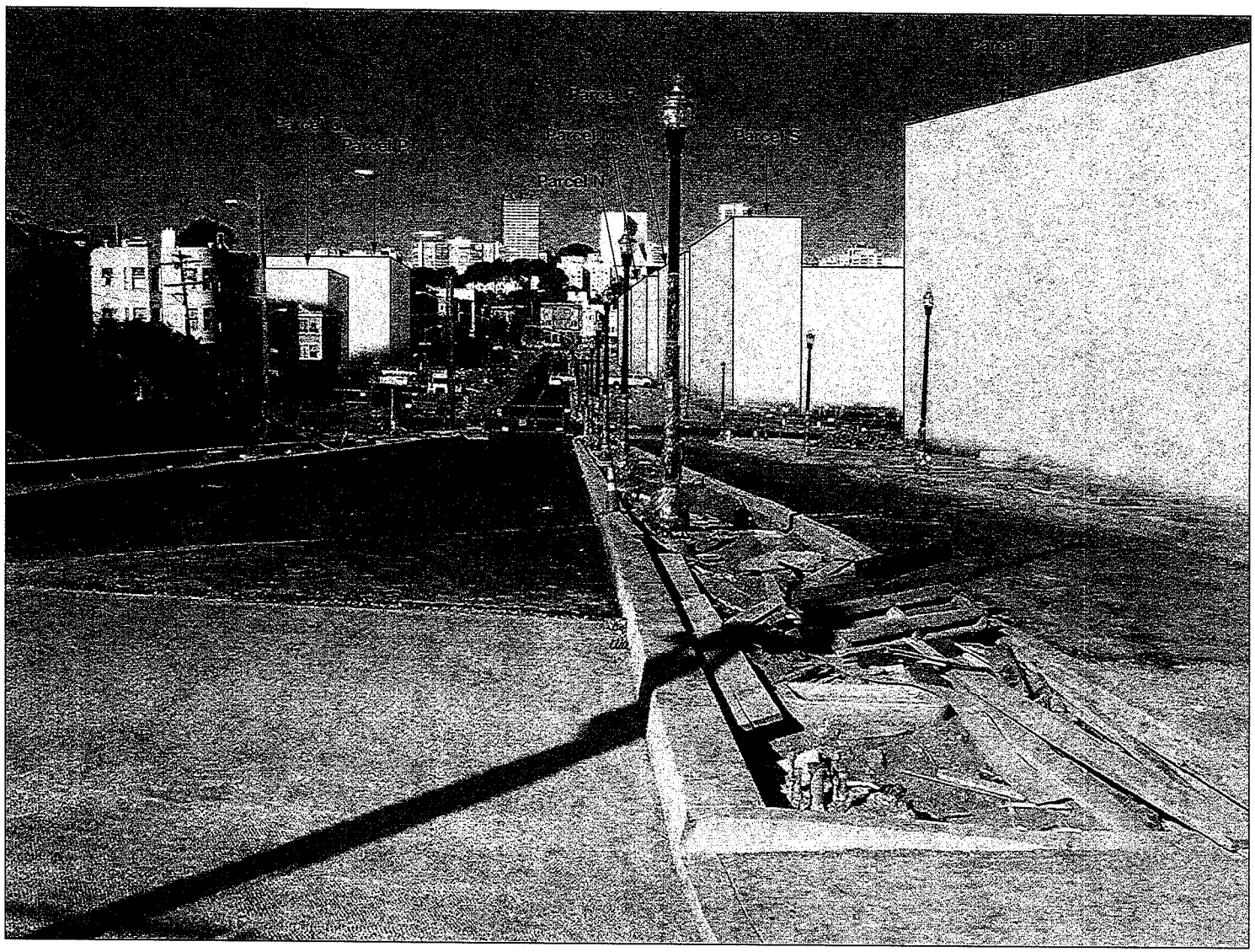
Central Freeway Parcels

Project level changes to views would be related to construction of future buildings along the 22 Central Freeway parcels. The greatest change in north-south views would occur along the future Octavia Boulevard. The Central Freeway parcels would be constructed with housing that would range between 50 and 55 feet in height. These buildings would create a visual edge along the 133-foot boulevard and would be setback from the street by a pedestrian promenade that would contain decorative light fixtures and street furniture. These future buildings are shown in Figure 4-16: Viewpoint S3, which illustrates the general height and massing of possible future buildings on Parcels T, R, S, M, N, P, and Q.

While the future residential uses along the Central Freeway parcels would be slightly taller than existing adjacent buildings along mid-block street segments, future buildings would not vary in their scale and bulk so as to obstruct mid-range views toward Cathedral Hill to the north or SoMa West to the south (south of Haight Street). Over time, these buildings would frame views of the boulevard and Hayes Green on its northern end and create a defined "outdoor room" along the boulevard's alignment. While some oblique views (e.g., the dome of City Hall to the northeast) may be obstructed at mid-block viewpoints due to additional buildings that would be visible along the boulevard alignment, these features would continue to be visible from view corridors along east-west streets in the Project Area.

Public Street Improvements

Aside from the possible towers at the intersection of Market Street and Van Ness Avenue and gradual building height increases (to 85 feet) that could occur in the Project Area, views along Market Street would generally be altered by the Plan's proposed public street and open space improvements. Specifically, the Plan designates Market Street, Van Ness Avenue, and Octavia Boulevard as streets for first priority plantings; new trees and landscaping would be visible along the sides and in the medians of these streets within the Project Area. Continuous plantings and tree infill would frame long-range views, establish a visual boundary between pedestrians and vehicular traffic, and contribute to neighborhood identity. The Plan also identifies a number of residential alleys that would be suitable for "living street" improvements, which would result in views of multi-



SOURCE: Environmental Science Associates

Figure 4-16
Revised
Viewpoint S3: Octavia Boulevard, Looking North

story housing set against landscaped alleyways with public amenities (e.g., seating, etc.) along Ivy, Linden, Hickory, Lily, Rose, Minna and Natoma Streets.

Open Space Improvements

Additionally, new public viewing locations, including Octavia Plaza and McCoppin Square (just off Market Street at the freeway touchdown ramp) would be created or enhanced as part of the Plan. Other upgraded spaces could include the intersections of Market Street with major streets, ~~for example at Delores Street,~~ where the opportunity for creation of small landscaped plazas would exist. At the intersection of Church and Market Streets, the Plan envisions reconfigured transit platforms, new tree plantings and corner bulbouts, which could enhance foreground views.

In conclusion, implementation of the proposed Plan and individual projects would result in changes to existing views from within and around the Project Area boundaries. These changes would occur as a result of changes to land use (different types of buildings would be visible in the Project Area); changes in building heights (taller buildings would be permitted in portions of the Project Area compared to existing conditions); and the construction of new buildings on parcels currently vacant. As discussed, implementation of the proposed Plan would not result in a demonstrable negative visual impact on views of the area from public vantage points. Thus, impacts related to views would be considered less than significant.

Implementation of the proposed Plan would not result in a demonstrable negative visual impact on views, would not obstruct publicly accessible scenic views, and would not generate light or glare that would adversely affect views or other properties. Thus, impacts related to views would be considered less than significant.

Light and Glare

New project construction in the Project Area would generate additional night lighting, but not in amounts unusual for a developed urban area. Design of exterior lighting could ensure that off-site glaze or lighting spillover would be minimized. New buildings and vehicles would also produce additional glare. As with light, this would not be expected to result in a substantial change as use of reflective glass is restricted by Planning Commission Resolution 9212.

Implementation of the proposed Plan would not result in a demonstrable negative visual impact on views, would not obstruct publicly accessible scenic views, and would not generate light or glare that would adversely affect views or other properties. Thus, impacts related to views would be considered less than significant.

Cumulative Impacts

Along the Project Area's eastern boundary, the proposed Mid-Market Redevelopment Plan Area would seek to revitalize the area along Market Street from Fifth Street in the east to around Eleventh Street in the west with over 3,200 new housing units; about 925,000 square feet of office space; 200,000 square feet of retail space; 325,000 square feet hotel and theater uses. New moderately-scaled development (up to heights of about 120 feet) and existing rehabilitated structures would accommodate future uses.

The eastern edge of the Project Area would overlap the western edge of the proposed Mid-Market Redevelopment Plan Area along a portion of Market Street where high-rise buildings (e.g. Fox Plaza and office uses on the south side of Market Street) define the area's character. As the *Market and Octavia Neighborhood Plan* does not propose changes to height districts east of Tenth Street and south of Minna Street, the scale of future development would continue generally as it does today, though newer buildings may be visible and certain lots may become occupied by infill development, intensifying the views in the area. Because the Project Area would moderate the scale of future buildings along its eastern edge, with a gradual stepping up in building heights toward Market Street, and as no significant impacts to the Project Area's visual quality or views have been identified, no cumulative impacts resulting from the Plan would occur.

Development associated with the proposed Plan in association with development that would occur independent of the Plan would not result in significant cumulative environmental impacts related to a demonstrable negative aesthetic effect on the existing visual character or quality of the area and its surroundings; obstruction of publicly accessible scenic views; and generation of light or glare that would adversely affect other properties. Cumulative urban design and visual quality impacts would be less than significant.

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4.5 SHADOW AND WIND

4.5.1 Shadow

Environmental Setting

Open Spaces

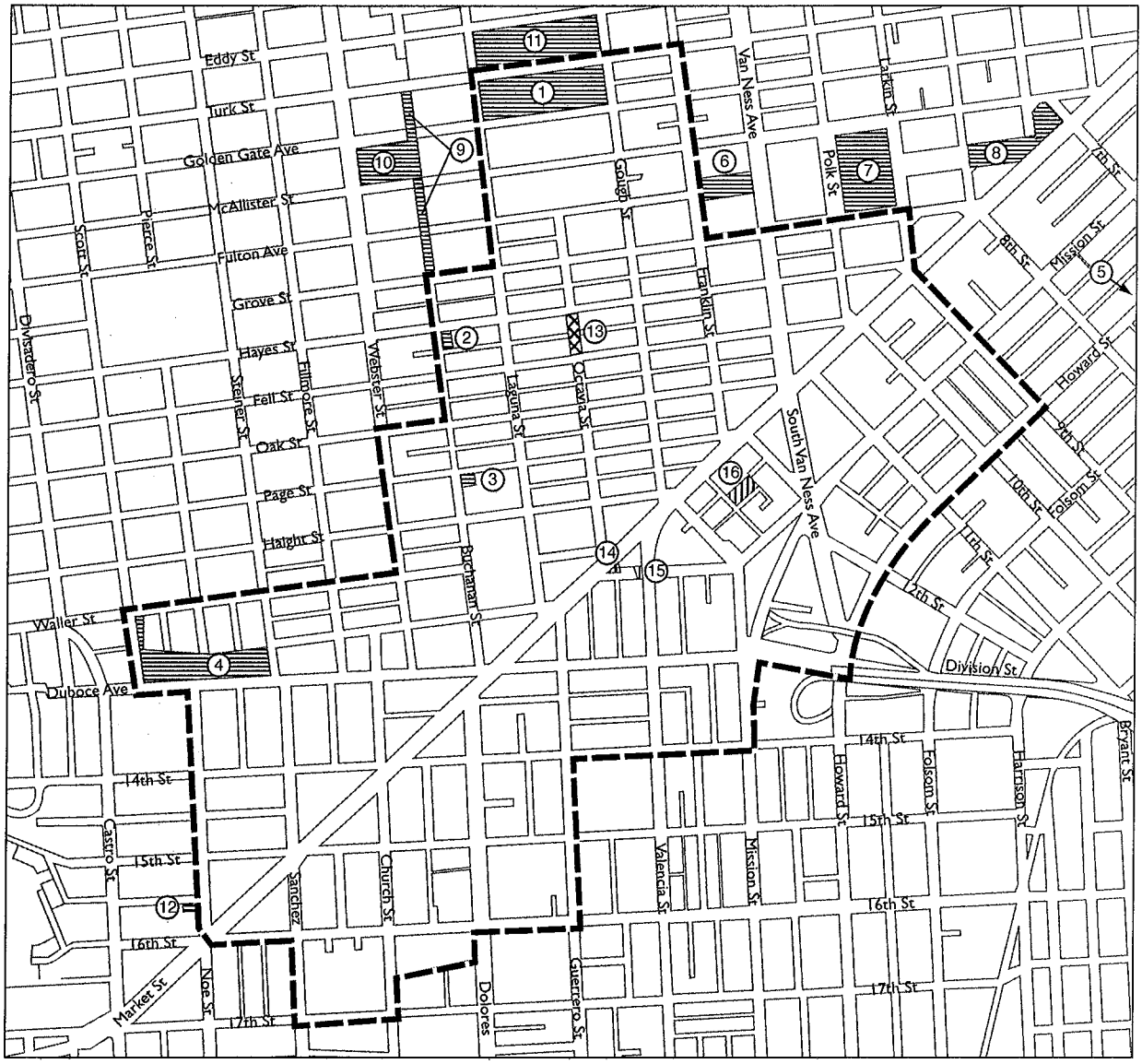
The largely built-out Project Area contains four neighborhood-oriented parks and open spaces under jurisdiction of the San Francisco Recreation and Park Department within its boundaries including (see Figure 4-17):

- Hayward Playground
- Hayes Valley Community Center
- Koshland Park
- Duboce Park

Hayward Playground, the largest public park within the Project Area, is located between Golden Gate Avenue, Gough Street, Turk Street, and Laguna Street. Hayward Playground contains two softball fields, basketball and tennis courts, and a children's playground. The City's 911 emergency operations center occupies a portion of the park block, on Turk Street east of Laguna Street. The Western Addition Community Technology Center is located between the 911 center and the softball fields.

The Hayes Valley Community Center is located at the Project Area's western boundary, along Buchanan Street between Hayes Street on its south and Linden Street on its north. The one-story community center is accessible from Hayes Street, with an outdoor playground area that fronts Linden Street a few feet below grade. Just east of the community center building are a tennis court and basketball court.

Koshland Park is a local park that occupies a quarter of the block on the corner of Buchanan and Page Streets in Hayes Valley in the northwestern portion of the Project Area. The over 37,000-square-foot park includes a playground, communal garden space and seating areas.



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SOURCE: EnviroTrans Solutions

EXISTING PARKS
1 Hayward Playground
2 Hayes Valley Community Center
3 Koshland Park
4 Duboce Park
5 Howard-Langton Mini-Park (located on the south side of Howard Street between 7th & 8th Streets)
6 War Memorial Open Space
7 Civic Center Plaza
8 UN Plaza
9 Buchanan Mall
10 Ella Hill Hutch Recreation Center
11 Jefferson Square
12 Noe-Beaver Mini-Park

PROPOSED PARKS
13 Hayes Green
14 Octavia Plaza
15 McCoppin Square
16 Brady Park

Market/Octavia Border
Existing Parks
Proposed Parks-Market/Octavia Plan
Other Proposed Parks

Figure 4-17
Existing and Proposed Parks and Open Space

In the eastern portion of the Project Area, in the Duboce Triangle neighborhood, the approximately 183,000-square foot Duboce Park is bounded by Duboce Avenue, Hermann Street, Steiner Street, and Scott Street and consists of a mildly sloping grassy field with a playground at its western end. Duboce Park is well trafficked by pedestrians and dog-walkers from surrounding neighborhoods. While not formal parks, smaller mini-plazas along Noe and Sanchez Streets enhance the street edge and provide benches and intimately scaled, landscaped public gathering areas in the Duboce Triangle neighborhood.

Parks and public open spaces adjacent to, and outside of the Project Area boundaries include (see Figure 4-17, page 4-124:

- War Memorial Open Space
- Civic Center Plaza
- United Nations Plaza
- Buchanan Mall
- Ella Hill Hutch Recreation Center
- Jefferson Square
- Noe-Beaver Mini-Park
- Howard-Langton Mini-Park
- Dolores Park

All of the listed spaces are under Recreation and Park Department jurisdiction, with the exception of the War Memorial Open Space and the United Nations Plaza.

East of Franklin Street, just outside of the Project Area boundaries are the War Memorial Opera House and the Veteran's War Memorial Building. Between these two buildings is a relatively small, manicured open space. The park-like open space contains a paved roadway for service vehicles around the interior perimeter between the buildings. A double row of trees separates the roadway from an open turf area in its center; no formal seating areas are provided. Ornamental fencing lines the space's Franklin Street and Van Ness Avenue frontages, each with gated entries.

To the east of the Project Area, is the Civic Center Plaza. The over 255,000-square-foot plaza is a formally landscaped public open space in front of City Hall between McAllister Street, Larkin Street,

Grove Street, and Dr. Carlton B. Goodlett Place. The primarily hardscaped plaza includes a pathway down its center that leads to City Hall; groves of trees and flagpoles flank the pathway's edges. The plaza contains two large turf areas and two children's play areas along its Larkin Street frontage.

The United Nations (UN) Plaza connects the Civic Center Plaza via the Fulton Street Mall to Market Street. UN Plaza is a paved, 2.6-acre pedestrian mall lined with benches, lights, historical markers, and lawn areas planted with sycamores, holly oaks, and Lombardy poplars. At the foot of the Plaza near Market and Seventh Streets is a concrete fountain, near the entrance to the Civic Center BART station.

To the north of the Project Area in the Western Addition, the Buchanan Mall is a linear greenway that extends from Willow and Buchanan Streets to Grove Street in the south. The pedestrian portion of Buchanan Street is as wide as neighboring streets in the area (e.g., 68.9-feet) and runs between two- and three-story apartment buildings on blocks fronting Webster Street to the west and Laguna Street to the east. The mall is lined with pathways on both its edges, and small berms, trees, and play structures are contained within its center. Two- and three-story apartments line the greenway and relatively large apartment buildings (e.g., the 10-story Rosa Parks Senior apartments at 1251 Turk Street) are within the vicinity of this open space.

The Ella Hill Hutch Recreation Center is located east of the Buchanan Mall, between Golden Gate Avenue to the north and McAllister Street to the south. The recreation center consists of outdoor tennis and basketball courts along its Golden Gate frontage. Along McAllister Street, the recreation center consists of indoor, multi-use space in a two-story building.

On Turk Street between Laguna and Gough Streets, is Jefferson Square, a passive park that slopes downward from Eddy Street to Turk Street. Jefferson Square is composed of a sloping lawn, with scattered trees and a series of generally east-west trending paved paths and north-south paths at either end.

In the southwest of the Project Area is the Noe-Beaver Mini-Park. The mini-park is a half-acre community garden at the northwest corner of Noe Street at Beaver Street, one block north of Market Street. The mini-park consists of seating areas and a variety of plants and shrubs lining its perimeter.

The Howard/Langton Mini-Park is a roughly quarter-acre green space on a single lot on the block bounded by Howard Street to the north, Seventh Street to the east, Folsom Street to the south and

Eighth Street to the west. The park contains landscaped areas and a small community flower garden.

Other notable parks and open spaces in the vicinity of the Project Area include Dolores Park, a city-oriented park at Dolores Street, between Eighteenth, Twentieth, and Church Streets. Dolores Park is a 14-acre, sloping grassy park with tennis courts and a soccer field on its northern end. A series of internal pathways lead to picnic tables and a play area. In the park's upper reaches, terraced areas on the sloping lawn provide space for sunbathing and enjoying expansive views of the Downtown and SoMa skylines.

Regulatory Setting

San Francisco Planning Code

The *San Francisco Planning Code* contains a number of provisions to ensure sunlight in parks and on sidewalks in the greater Downtown area, including in the Project Area.

Section 295

Section 295 of the *Planning Code,* the *Sunlight Ordinance,* was adopted through voter approval of *Proposition K* in November 1994 to protect certain public open spaces from shadowing by new structures. Section 295 prohibits the issuance of building permits for structures or additions to structures greater than 40 feet in height that would shade property under the jurisdiction of, or designated to be acquired by, the Recreation and Park Commission, during the period from one hour after sunrise to one hour before sunset on any day of the year. An exception is permitted if both the Planning and Recreation and Park Commissions determine that the shadow would have an insignificant impact on the use of such property.

All of the open spaces within the Project Area that are under Recreation and Park Department control are now protected by the *Sunlight Ordinance* (Section 295). The Civic Center Plaza, the open space closest to the Project Area located just north of Grove Street between Polk and Larkin Streets, and the South of Market Park, located on Sixth Street between Howard and Folsom Streets, are the closest open spaces outside of the Project Area subject to Section 295. Private open spaces, that are required under the *Planning Code* as part of an individual development proposal, are not subject to Section 295.

Section 146(a)

Planning Code Section 146(a) includes sunlight access criteria to allow direct sunlight to reach sidewalk areas of designated streets during critical hours of the day. In the case of sidewalks, the critical hours are considered to be the hours around noon. The Code designates two streets within the Project Area as subject to Section 146(a): (1) Market Street, from Tenth to Second Street, and (2) Market Street, from South Van Ness to Twelfth Street.

All newly proposed development or additions to existing structures that abut the south side of Market Street must avoid penetration into the sun access plane defined by a 50-degree angle sloping away from the street above 119 feet at the property line abutting the street. Individual new development projects within the Project Area must comply with Section 146(a) requirements, or obtain an allowable exception under Section 309 of the *Planning Code.*

Section 146(c)

Planning Code Section 146(c) includes sunlight access criteria to reduce substantial shadow impacts on public sidewalks in the C-3 Districts other than those protected by Section 146(a). New buildings and additions to existing structures must minimize any substantial shadow impacts in the C-3 (Downtown) Districts not protected under Subsection (a), as long as this can be accomplished without the creation of unattractive building design and the undue restriction of development potential. This provision would apply only to those parcels South of Market at the eastern end of the Project Area, where no changes to the existing C-3 zone designations are proposed.

Section 147

Planning Code Section 147 states an intent to reduce shadows on certain public or publicly accessible open spaces, other than those protected by Section 295 *(Proposition K),* in C-3, RSD, SLR, SLI, or SSO Zoning Districts. The Project Area contains a SLR Zoning District in its the eastern portion, near the residential enclave surrounding Minna and Natoma Streets in SoMa. Under this *Planning Code* section, all new development and additions to existing structures in C-3 Districts, where the height exceeds 50 feet, must be shaped to minimize shadow, in accordance with the guidelines of good design and without unduly restricting the development potential of the property.

Impact Analysis

Significance Criteria

Planning Code Section 295 generally prohibits new buildings that would cause significant new shadow on open space under the jurisdiction of the San Francisco Recreation and Park Commission between one hour after sunrise and one hour before sunset, at any time of the year. A project would have a significant effect if it would result in substantial new shadow on public open space under the jurisdiction of the Recreation and Park Commission during these hours.

Shadow effects attributable to the project were analyzed for representative times of day (9:00 AM, Noon, and 3:00 PM) during the seasons of the year: in December on the winter solstice, when the sun is at its lowest and shadows are at their longest, and in June on the summer solstice, when the sun is at its highest and shadows are at their shortest. Shadow effects were also analyzed at the spring equinox, when shadows are midway through a period of shortening, and at the fall equinox, when shadows are midway through a period of lengthening. Shadows on any other day of the year would be within the range of shadows presented during the seasons and times of day described above. The analysis is based on three-dimensional modeling of the proposed Project Area.

Individual developments in the Project Area would be subject to requirements of *Planning Code* Section 295 in order to determine whether shadow from future development could reach one or more Recreation and Park Department open spaces, and, if so, whether the development would cause new shadow on the protected space. Compliance with Section 295 would ensure that subsequent projects would not adversely affect existing or proposed open spaces under the jurisdiction of the Recreation and Park Department.

Program Level

Shadow Impacts on Existing Project Area Parks and Open Spaces

Hayward Playground. On the east side of Hayward Playground, the Plan could accommodate construction of up to 85 feet on the northern portion of the block and 50 feet on the southern portion of the block across Gough Street. The Plan proposes to reduce heights along Franklin Street from 130 to 120 feet at Turk Street and Golden Gate Avenue and to 85 feet at McAllister Street.

In the winter mornings, the buildings south, east and southeast of the Hayward Playground and particularly the 120-foot buildings along the Franklin Street frontage within the Project Area would cast shadows to the northwest on the playground. By about 9:30 AM, however, the playground

would be exposed to sunlight and remain so until about 3:00 PM, when shadows from the 40-foot "exempt" buildings to the south would cast shadows on the playground toward the northeast. The playground would be completely shaded by about 4:45 PM.

In the spring and fall, the 120-foot-tall buildings along Franklin Street (including Parcel C) and the 85-foot tall building at the northeast corner of Gough and Turk Streets (Parcel A) within the Project Area would contribute most of the shadows, which would fall westward across the playground. Shading would occur in the early mornings and continue through approximately 10:00 AM. The playground would remain sunny from mid-morning through mid-afternoon in the spring and fall. Afternoon shadows would come from existing buildings from areas outside of the proposed Project Area.

During the summer, the greatest amount of sunlight access would occur on the Hayward Playground. In early mornings and during the first *Proposition K* minute (6:48 AM), the shadow from future 120-foot buildings along Franklin Street would cover the southeastern half of the playground. By approximately 9:00 AM, however, these shadows would recede, allowing for sunlight on the playground until late afternoon.

Under Section 295 of the *Planning Code*, the determination as to a project's significant shadow impact is made by the Planning Commission, following receipt of comment from the general manager of the Recreation and Park Department in consultation with the Recreation and Park Commission. All future development under the Plan that is greater than 40 feet in height would be subject to the Section 295 review process and the potential shadow impacts would be evaluated based on the guidelines of that code section. As the Commission could not approve a project determined to have significant shadow impacts on parks under the jurisdiction of the Recreation and Park Department per Section 295, implementation of the Plan would not be expected to result in significant shadow impacts on Hayward Playground.

Hayes Valley Community Center. The Plan would not increase heights around the Hayes Valley Community Center; therefore the proposed Plan would not result in additional significant shading impacts on the Hayes Valley Community Center.

Koshland Park. Building heights surrounding Koshland Park would not increase under Plan conditions, and in some cases, heights along nearby alleyways (e.g., Lily Street) would be reduced to 30 feet to ensure solar access at street level. However, Koshland Park fronts on Page Street, and to the east, Page Street terminates at Market Street where the Plan would accommodate a 400-foot tower on the south side of Market Street, west of Van Ness Avenue.

Future development in the immediate vicinity of Koshland Park would not trigger *Proposition K* requirements because building heights would not exceed 40 feet; however, the 400-foot tower along the southern side of Market Street could potentially reach Koshland Park at the first *Proposition K* minute in April and in August (e.g., 6:25 and 7:30 AM, respectively). While this park would, most likely, be shaded by existing buildings at that time of the morning, additional shadows would potentially be cast from the 400-foot-tall building.

All future development would be subject to the Section 295 review process and the potential shadow impacts would be evaluated based on the guidelines of that code section. As the Commission could not approve a project determined to have significant shadow impacts on properties under the jurisdiction of the Recreation and Park Department per Section 295, implementation of the Plan would not be expected to result in significant shadow impacts on Koshland Park.

Duboce Park. Similar to the case of Hayes Valley Community Center, building heights in the vicinity of Duboce Park would not increase under the Plan. On alleyways northeast of the park, such as along Germania Street, heights would be reduced to 30 feet. As such, the Plan would not potentially result in additional shading impacts on Duboce Park.

The Plan proposes a consistent street wall height of 85 feet along Market Street, between Twelfth and Church Streets, and a street wall height of 65 feet, west of Church Street. However, given the distance from Duboce Park and intervening development, future buildings along this portion of Market Street would not shade Duboce Park. Therefore, the proposed Plan would not result in additional shading impacts on Duboce Park.

Shadow Impacts on Existing Parks and Open Spaces Outside of the Project Area

War Memorial Open Space, Civic Center Plaza and United Nations Plaza. The Plan would retain the existing 65-foot height along the western Franklin Street frontage across the street from the War Memorial Open Space. While the Plan would not raise heights on the Franklin Street blocks between McAllister and Grove Streets, across from the War Memorial Open Space; new development on these parcels would potentially cast shadows on the open space year-round, in the mid-late afternoon hours. In winter, shading would extend northeast in the afternoon and would reach the open space by about 2:30 PM. In summer, plan-related shading of the open space would begin later in the afternoon, at around 4:30 PM and would continue through the last *Proposition K* minute at 7:35 PM. Though the Plan would not increase height limits in the vicinity of the War Memorial Open Space, new development could cast new shadows that result in potentially

significant impacts. The implementation of Mitigation Measure 5.5.A2, page 5-2, would reduce this impact, but may not eliminate significant shadow impacts; therefore the Plan could have potentially significant shadow impacts on the War Memorial Open Space.

The Civic Center and United Nations Plaza would continue to be shaded throughout the year by the existing buildings that surround them, particularly in early morning and late afternoon hours. Increased heights under the proposed Plan would not cast additional shadow on the Civic Center Plaza, thus the Plan would not have a shadow impact on this open space.

During late afternoon hours in winter, United Nations Plaza would be shaded by existing adjacent buildings (e.g., Bill Graham Civic Auditorium, Fox Plaza, the Orpheum Theater and the Main Library) at times when shadow from potential new towers in the Project Area could reach the United Nations Plaza. Incremental shading on United Nations Plaza could occur during the late winter afternoon hours from towers at Market Street and Van Ness Avenue that would be allowed by the Plan. The proposed Plan would potentially result in minimal new shadow on United Nations Plaza. The implementation of Mitigation Measure 5.5.A2, page 5-2, would reduce the impact, but may not eliminate significant shadow impacts; therefore the Plan could have potentially significant shadow impacts on United Nations Plaza.

Buchanan Mall and the Ella Hill Hutch Recreation Center. In the northwestern portion of the Project Area, near the Western Addition, height limits proposed along Buchanan and Laguna Streets would range from 30 to 40 feet. North of Grove Street, to the east of Laguna Street, the Plan proposes similar height limits of 40 feet except for a 50-foot zone along the western Gough Street frontage. Under the proposed Plan, additional shadow could be cast on Buchanan Mall or the Ella Hill Hutch Recreation Center; however, the Plan's proposed heights of 40 feet or less would exempt the development from provisions of Section 295. Therefore, the Plan would not cause significant shading impacts at Buchanan Mall or the Ella Hill Hutch Recreation Center.

Jefferson Square. The Plan proposes to reduce heights along Franklin Street from 130 to 120 feet at Turk Street and Golden Gate Avenue and to 85 feet at McAllister Street. Shadow studies conducted by the Redevelopment Agency for development in the blocks bounded by Turk, Franklin, McAllister, and Gough Streets identified the potential for new shadows to be cast on Jefferson Square (refer to project level impacts discussion, page 4-138, for a more detailed discussion).[24]

[24] San Francisco Redevelopment Agency, shadow studies for Case No 2002.0211E.

Under Section 295 of the *Planning Code*, the determination as to a project's significant shadow impact is made by the Planning Commission, following receipt of comment from the general manager of the Recreation and Park Department in consultation with the Recreation and Park Commission. All future development under the Market/Octavia Plan that is greater than 40-feet in height would be subject to the Section 295 review process and the potential shadow impacts would be evaluated based on the guidelines of that code section. As the Commission could not approve a project determined to have significant shadow impacts per Section 295, implementation of the Plan would not be expected to result in significant shadow impact on Jefferson Square.

Noe-Beaver Mini-Park. In the western portion of the Project Area, the Plan proposes increasing height limits to 65 feet along the frontages of Market Street. Interior block portions along Market Street would remain at 40 feet. The proposed 65-foot height district along Market Street that wraps around the lower third of the block on the eastern side of Noe Street could result in taller buildings that could shade the Noe-Beaver Mini-Park.

Shadows from potential future 65-foot-tall buildings across the street from the Noe-Beaver Mini-Park would reach the park throughout the year in the early morning hours, with Plan-related shading subsiding by around 9:30 AM. In winter, the proposed Plan's 65-foot height district would shade the park from the first *Proposition K* minute (8:22 AM) where shadows would fall to the north-northwest and cover the entire park. Throughout the morning, shadows would move in a south-southeast direction and by 9:30 AM, there would be no further Plan-related shading on the park. In spring, the park would be shaded beginning at the first *Proposition K* minute (7:11 AM) when shadows would fall from Plan-related buildings northwest over the park. Shadows would almost completely cover the park until about 8:40 AM when shading from Plan-related buildings would subsist.

In the summer, potential 65-foot-tall buildings along Noe and Market Streets could shade the mini-park beginning at the first *Proposition K* minute (6:48 AM), where shadows would fall to the west and cover about half of the park. By 7:30 AM, project-related shading would subsist. In the fall, project-related buildings could shade the mini-park from the first *Proposition K* minute (7:57 AM) until about 8:30 AM.

The proposed Plan would potentially cast additional shadow on the Noe-Beaver Mini-Park. All future development would be subject to the Section 295 review process and the potential shadow impacts would be evaluated based on the guidelines of that code section. As the Commission could not approve a project determined to have significant shadow impacts under the jurisdiction of the

Recreation and Park Department per Section 295, implementation of the Plan would not be expected to result in significant shadow impacts on Noe-Beaver Mini-Park.

Howard-Langton Mini-Park. Due to the distance from the Howard-Langton Mini-Park and intervening development, future buildings at heights proposed by the Plan would not shade the Howard-Langton Mini-Park at any time during the year. Therefore, the proposed Plan would not result in shading impacts on Howard-Langton Mini-Park.

Dolores Park. Given its generally low-scale surroundings and distance from tall buildings to the north on Market Street, there would be no shadow impact from the Plan on the park. Therefore, the Plan's shadow impact on Dolores Park would not be significant.

Shadow Impacts on New and Proposed Parks and Open Spaces

New and proposed parks and open spaces within the Project Area include:

- Hayes Green
- Octavia Plaza
- McCoppin Square
- Brady Park

As these parks have not yet been constructed, potential shadow impacts on these parks are not identified as significant. The following findings summarize the potential for shading on these open spaces or parks. Since these shadows would not be considered significant at this time, no mitigation measures would be required. However, once these properties become public parks, they would be subject to either Section 295 of the *Planning Code* if under the jurisdiction of the Recreation and Park Department or, if they are not under the jurisdiction of the Recreation and Park Department, Mitigation Measure 5.5.A2, page 5-2, or other applicable controls under the *Planning Code.*

Hayes Green. Hayes Green is a new public park to be created at the northern end of Octavia Boulevard, using street right-of-way provided as the boulevard transitions to local traffic. This open space will be created as part of the approved Octavia Boulevard Project that is currently under construction and scheduled for completion in summer of 2005.

Hayes Green will be located between Hayes Street to the north and Fell Street to the south within the center of the Octavia Boulevard right-of-way. Hayes Green would be bordered on the east and west street frontages by buildings with a potential height of 55 feet. Along the south side of Hayes

Street, heights would be 45 feet. Heights would be lower, 40 to 30 feet on the north-south frontages respectively, on Linden Street. Under Plan conditions, future development on the adjacent parcels, particularly the increased building heights along the Octavia Boulevard frontages, would shade Hayes Green throughout all seasons and at various times of the day.

In the winter mornings, buildings along Octavia Boulevard's eastern frontage would cast shadows across Hayes Green to the northwest. Winter mid-morning to mid-day hours would be sunny, and beginning at around 1:30 PM, future buildings along Octavia Boulevard's western frontage (north of Hickory Street) would cast shadow across the park to the northeast. By around 3:00 PM, Hayes Green would be completely shaded.

In the spring and fall, future buildings along Octavia Boulevard's eastern frontage would cast shadows across Hayes Green to the northwest. At the first *Proposition K* minute (7:11 AM), the park would be completed shaded. However, shadows would be shorter, and by about 10:00 AM, Hayes Green would be in sunlight through the mid-day hours. At approximately 2:00 PM, buildings along Octavia Boulevard's western frontage would begin casting easterly shadows across the park; by 4:00 PM, shadows from surrounding buildings would reach completely across the park.

Summer would allow for the greatest amount of sunlight access to Hayes Green, because the sun's position would be the highest overhead. The shadows from adjacent buildings on the park's east and west frontages would be shorter and would leave pockets that would receive continuous sunlight throughout the day. Buildings along Octavia Boulevard's eastern frontage would nonetheless cast early morning shadows from the first *Proposition K* minute (6:48 AM) until about 10:00 AM. Beginning at about 3:00 PM, buildings along Octavia Boulevard's western frontage would cast southeasterly shadows across the park; by about 5:30 PM, shadows from surrounding buildings would reach completely across the park.

Future development on parcels adjacent to Hayes Green could cast shadow at various times during the day throughout the year. Requiring architectural treatments or setbacks could reduce the shadow impacts. The shadow impacts on Hayes Green are not significant at this time as the park has not been created. Once the park is constructed the park would be subject to Section 295 of the *Planning Code* or Mitigation Measure 5.5.A2, page 5-2. If the Hayes Green was under the jurisdiction of the Recreation and Park Department and subject to Section 295, then the impacts of development around the park would be less than significant. If Hayes Green is not under Recreation and Park Department jurisdiction and subject only to Mitigation Measure 5.5.A2, the

shading impacts would be reduced, but potentially significant and unavoidable shadow impacts may still exist.

Octavia Plaza and McCoppin Square. Octavia Plaza and McCoppin Square are two new public open spaces that are proposed for development under the Plan. Octavia Plaza would be a hardscaped triangular plaza located on Market Street, north of Elgin Park and to the west of the Central Freeway touchdown. As currently envisioned, the plaza would be lined with street trees along its Market Street and Elgin Park frontages. McCoppin Square would be developed at the stub of McCoppin Street, bordering the Central Freeway touchdown on its west and Valencia Street on its east. The Plan envisions McCoppin Square as a combination hardscaped plaza with turf area. McCoppin Square could be landscaped with trees and shrubs along its perimeter. The proposed Octavia Plaza and McCoppin Square would be shaded throughout most of the day in winter. Future buildings on the block south of McCoppin Street would have a street-wall height of 30 feet along McCoppin Street and reach up to 85 feet setback above the street wall. These buildings would cast shadow along McCoppin Street and both of the proposed open spaces beginning at the first *Proposition K* minute (8:22 AM) in the winter. Shadows would fall to the northwest in the morning. Between 10:30 AM and noon, the eastern portions of the plaza and square would receive a small amount of sunlight, and by noon, shadows would fall to the north, and a limited amount of sunlight would penetrate McCoppin Street down north-south streets down including Valencia Street. By about 2:30 PM as shadows move in their eastward motion, shadows fall to the northeast and the square and plaza would be shaded for the remainder of the day.

In the spring and fall, sunlight would reach the northern portion of Octavia Plaza and McCoppin Square throughout the mid-morning hours. At Octavia Plaza, the proposed 85-foot height district along the south side of Market Street (between Guerrero Street and Elgin Park) could cast shadow on that space beginning at about 10:30 AM, shading the plaza until around 3:30 PM. At that time, shadows would move in a northeasterly direction and would begin to cover the northern half of McCoppin Square. By about 5:30 PM, both spaces would be shaded.

In the summer, most of the square and plaza would be exposed to sunlight throughout the day. Shadow cast from possible future, relatively tall buildings north of Market would fall to the east and shade the northern frontage of McCoppin Street beginning in the summer late afternoon hours, after 5:00 PM.

Future development on parcels adjacent to Octavia Plaza and McCoppin Square could cast shadow at various times during the day throughout the year. Requiring architectural treatments or setbacks could reduce the shadow impacts. The shadow impacts on Octavia Plaza and McCoppin Square are

not significant at this time as the parks have not been created. Once the parks are constructed the park would be subject to Section 295 of the *Planning Code* or Mitigation Measure 5.5.A2, page 5-2. If Octavia Plaza and McCoppin Square were under the jurisdiction of the Recreation and Park Department and subject to Section 295, then the impacts of development around the parks would be less than significant. If Octavia Plaza and McCoppin Square are not under Recreation and Park Department jurisdiction and subject only to Mitigation Measure 5.5.A2, page 5-2, the shading impacts would be reduced, but potentially significant and unavoidable shadow impacts may still exist.

Brady Park. A public square is included as part of future development in the SoMa West neighborhood along Brady Street, on land associated with a BART utility building and adjacent surface parking. Brady Park is located in the middle of the block bound by Market, Twelfth, Otis, and Gough Streets. It would be surrounded by moderately-scaled housing and would contain trees and other landscaping features.

The proposed Brady Park would be a small open space bounded on its south and west sides by 40-foot buildings. Along Gough and Otis Streets, building heights would be 50 feet; along Market Street, the street-wall height would be 85 feet; and along Twelfth and Mission Streets, the Plan would allow for a tower of up to 250 feet. The surrounding buildings would cast shadows on the Brady Park at various times of the day throughout the year.

During morning and late afternoon hours in winter, the square would be shaded. Beginning at around the first *Proposition K* minute (8:22 AM), the 250-foot-tall towers along Mission and Twelfth Streets would cast shadows to the northwest, over Brady Park. Around 11:30 AM, these towers' shadows would be angled more toward South Van Ness Avenue, and the inner 40-foot-tall building along the square's southern edge would contribute a small amount of shading. The square would be in sunlight during the noon hour, with shading from 85- and 50-foot-tall buildings fronting on Gough Street casting shadows northeast across the square. By about 3:30 PM, the square would be completely shaded.

In the spring and particularly in the fall, the space would receive more sunlight during the mid-morning to mid-afternoon hours. The shadow patterns would be similar to those in the winter, in that future 250-foot-tall towers south of the block bounded by Market, Twelfth, Octavia, and Gough Streets (site of Brady Park) would shade the square in the morning. In the afternoon at around 2:30 PM, smaller 40-foot-tall buildings and larger, 85-foot-tall buildings surrounding the block would cast most shadows falling east across the square. By about 5:30 PM, the square would be completely shaded.

In the summer, future 250- and ~~320~~400-foot-tall towers east of the block bounded by Market, Twelfth, Otis and Gough Streets would cast shadow on the square beginning at the first Proposition K minute (6:48 AM), although from about 10:00 AM to about 3:00 PM the square would not be shaded. After 3:00 PM, future 85-foot-tall buildings along Market Street would cast shadows over the square to the southeast. By 5:30 PM surrounding buildings would completely shade the square.

Future development on parcels adjacent to Brady Park could cast shadow at various times during the day throughout the year. Requiring architectural treatments or setbacks could reduce the shadow impacts. The shadow impacts on Brady Park are not significant at this time as the park has not been created. Once the park is constructed the park would be subject to Section 295 of the *Planning Code* or Mitigation Measure 5.5.A, page 5-2. If the Brady Park was under the jurisdiction of the Recreation and Park Department and subject to Section 295, then the impacts of development around the park would be less than significant. If Brady Park is not under Recreation and Park Department jurisdiction and subject only to Mitigation Measure 5.5.A2, page 5-2, the shading impacts would be reduced, but potentially significant and unavoidable shadow impacts may still exist.

Project Level

Central Freeway Parcels

Development of the Central Freeway parcels A and C would ~~potentially~~ not result in ~~increased~~ significant shadow impacts on Hayward Playground and Jefferson Square. ~~Development of Central Freeway parcels L, K, M, and O would result in shadows on the proposed Hayes Green.~~ The general shadow impacts of development on Parcels A and C on Hayward Playground are summarized under program level impacts, Hayward Playground, page 4-129, while the results of development specific shadow studies are summarized below.[25] Development of Central Freeway parcels L, K, M, and O would result in shadows on the proposed Hayes Green.

~~A shadow study was conducted as part of a project-specific environmental review for Parcels A and C to evaluate the year-round *Proposition K* impact on Hayward Playground as well as Jefferson Square, located just north of the Project Area. This analysis was prepared for the San Francisco Redevelopment Agency for the *Western Addition A-2 Redevelopment Plan* Amendments Project, Case No. 2002.0211E. That project proposed to increase heights on Parcel A to 96 feet and analyzed building heights on Parcel C at 130 feet, which is slightly taller than the height limits proposed by~~

[25] The shadow study for the 7th Amendment to the *Western Addition A-2 Redevelopment Plan* is on file and available for public review at the Planning Department, 1660 Mission Street, Case File No. 2002.0211E, and at the San Francisco Redevelopment Agency, 770 Golden Gate Avenue, 3rd Floor.

~~the Market Octavia Plan. As such, the impacts for that project are slightly greater than would result under the Plan. This analysis found that potential future development under Plan conditions on Parcels A and C would increase shading on the two parks by about 0.6 percent, for a total shadow coverage of 3.4 percent. That is, the project impact would leave the two parks in sunlight for more than 96 percent of the year-round *Proposition K* hours.~~ -Shadow studies for Parcels A and C were completed for the 7th Amendment to the *Western Addition A-2 Redevelopment Plan.*[26] The 7th Amendment brought the development standards for Parcels A and C into consistency with the *Market and Octavia Neighborhood Plan*, modifying the heights on these parcels from 50/130 feet to 96/130 feet. The shadow studies concluded that the proposed developments on Parcels A and C would have no significant or adverse shadow impact on Hayward Playground and Washington Square.

Under Section 295 of the *Planning Code*, the determination as to the project's significant shadow impact is made by the Planning Commission, following receipt of comment from the general manager of the Recreation and Park Department in consultation with the Recreation and Park Commission. All future project level development greater than 40-feet in height would be subject to the Section 295 review process and the potential shadow impacts would be evaluated based on the guidelines of that code section. As the Commission could not approve a project determined to have significant shadow impacts per Section 295, implementation of the Plan would not be expected to result in significant shadow impacts.

Development of Central Freeway parcels L, K. M, and O to a height of 55 feet in the vicinity of Hayes Green would result in shadows on Hayes Green in all seasons of the year. Development of Central Freeway parcels L and K would cause morning shadows during winter (8:00 to 10:20 AM), spring (7:30 to 10:45 AM), summer (7:45 to 10:00 AM), and fall (7:30 to 10:45 AM). Parcel M would shade the southeast corner of the park in early morning winter hours (8:00 to 9:30 AM) and parcel O would cast a shadow on the southern portion of the park in the afternoon (2:00 to 4:00 PM) in the winter. Requiring architectural treatments and setbacks could reduce shadow impacts.

If the Hayes Green was under the jurisdiction of the Recreation and Park Department and subject to Section 295, then the impacts of development around the park would be less than significant. If Hayes Green is not under Recreation and Park Department jurisdiction and subject only to Mitigation Measure 5.5.A2, page 5-2, the shading impacts would be reduced, but potentially significant and unavoidable shadow impacts may still exist.

[26] Ibid.

Public Street Improvements

The near-term transportation improvements would not result in new structures and therefore would not create new shadows. New pedestrian open spaces created within public rights-of-way in the Project Area would be subject to additional shadows as a result of future development. This would not be considered a significant impact.

Open Space Improvements

The creation of new open spaces: Octavia Plaza, McCoppin Square, and Brady Park would not result in shadow impacts, but the open space areas would be subjected to shading as a result of new development in the vicinity of Market, Gough, Mission, and Twelfth Streets where shadow is most likely to originate (see program level discussion above on pages 4-134 to 4-138 for further detail). Requiring architectural treatments and setbacks could reduce the shadow impacts.

Cumulative Impacts

Within most of the Project Area, shadow impacts from development resulting from Plan implementation is not likely to create cumulative impacts in conjunction with other potential development outside of the Project Area. However, the Project Area is adjacent to the Mid-Market Redevelopment Plan Area. Implementing the Plan could, in combination with implementing the Mid-Market Plan, result in cumulative impacts on some nearby open spaces such as the United Nations Plaza. In addition, the *Mid-Market Redevelopment Plan* could result in increased development that could potentially shade open spaces within the Project Area. As individual development projects are proposed, shadow impacts would be analyzed and the degree of significance determined for the proposed project and cumulatively with other projects. New structures subject to requirements of *Planning Code* Section 295 at a project level of analysis would not create any significant shadow impacts on parks under the jurisdiction of the Recreation and Park Department. Significant shadow impacts on all of the other open spaces in the Project Area and vicinity may still occur as a result of new development. The implementation of Mitigation Measure 5.5.A2, page 5-2, would reduce the potentially significant impacts, but the cumulative shadow impacts may still be potentially significant and unavoidable.

4.5.2 Wind

Environmental Setting

Long-term wind data in San Francisco is available from historical wind records from the US Weather Bureau weather station located above the old Federal Building at 50 United Nations Plaza.

Table 4-4 shows that average wind speeds are greatest in the summer and least in the fall. Winds also exhibit a diurnal variation with the strongest winds occurring in the afternoon, and lightest winds occurring in the early morning.

Winds in San Francisco occur most frequently from the west to northwest directions, reflecting the persistence of sea breezes. Wind direction is most variable in the winter. The approach of winter storms often results in southerly winds. Although not as frequent as westerly winds, these southerly winds are often strong. The strongest winds in San Francisco are typically from the south during the approach of a winter storm.

Winds vary at pedestrian levels within a city. In San Francisco wind strength is generally greater, on average, along streets that run east-west as buildings tend to channel winds along these streets. Streets running north-south tend to have lighter winds, on average, due to the shelter offered by buildings on the west side of the street.

Within the Project Area the streets system is mainly on a north/south and east/west grid. However, south of Market Street and east of Gough Street the street pattern is northwest/southeast and southwest/northeast, which results in a less predictable patter of wind variation at pedestrian level.

The project contains a historically windy area surrounding the Fox Plaza Building at Market and Polk Streets. The Fox Plaza Building is a slab-shaped structure exposed to prevailing winds and oriented with its wide face across the prevailing wind direction. This situation brings strong winds down from the tops of buildings down to street level. Historical wind tunnel tests and more recent wind tunnel tests conducted for proposed new structures on the south side of Market Street have shown that hazardous winds (winds exceeding 36 miles per hour more than 1 hour per year) occur at various locations along Polk Street north of Market Street, the north side of Market Street east and west of Polk, and both sides of the Market/Tenth Streets intersection on the south side of Market Street. The east side of Van Ness Avenue north of Market Street also experiences strong winds, as well as Oak Street between Van Ness Avenue and Polk Street.

Regulatory Framework

The City of San Francisco has established specific comfort criteria for the evaluation of wind impacts on proposed new buildings in the C-3 district and other specific districts within the city, including the Van Ness Special Use District, which is located just north of the Project Area along Van Ness Avenue. The criteria are intended to address the potential for large buildings to redirect

TABLE 4-4 :
SEASONAL WIND DIRECTION FREQUENCY IN PERCENT AND AVERAGE SPEED IN KNOTS

Prevailing Wind Direction	January		April		July		October		Annual	
	Freq	Speed	Freq	Speed	Freq	Speed	Freq	Speed	Freq	Speed
North	12.5	7.9	2.2	11.0	0.3	6.0	3.3	6.6	5.0	7.2
North-northeast	1.3	5.6	0.7	6.1	0.3	6.8	0.7	6.6	0.8	6.0
Northeast	4.5	5.3	1.3	4.7	1.1	7.4	2.2	5.8	1.9	5.6
East-northeast	1.4	6.3	0.6	4.8	0.2	5.1	0.8	5.1	0.8	5.6
East	11.9	4.8	2.6	4.5	0.1	3.9	4.8	4.5	4.8	5.0
East-southeast	2.1	6.4	0.3	5.2	0.1	2.5	0.6	5.8	0.8	5.8
Southeast	9.1	6.4	2.4	7.8	0.2	5.0	3.7	6.6	4.2	6.8
South-southeast	2.8	5.6	0.3	3.8	0.1	3.0	1.3	9.0	1.2	6.4
South	6.7	5.0	4.2	7.1	1.1	4.9	4.5	7.5	4.1	6.4
South-southwest	1.0	4.8	0.4	4.1	0.1	3.0	1.7	12.8	0.9	8.6
Southwest	4.5	8.0	7.7	9.2	15.6	10.1	7.8	9.1	9.3	9.3
West-southwest	1.0	5.9	1.7	7.7	1.2	8.1	2.8	8.8	2.4	8.6
West	13.2	7.2	43.0	10.9	53.0	13.1	34.6	9.1	35.7	10.9
West-northwest	7.5	11.1	20.7	14.1	14.9	14.5	15.2	10.9	13.8	12.7
Northwest	11.5	7.7	9.3	10.7	10.7	11.4	10.8	8.5	10.0	9.7
North-northwest	1.2	5.7	0.6	10.8	0.6	8.5	0.5	7.5	0.7	8.3
Calm[1]	7.7	—	2.1	—	0.3	—	4.6	—	3.7	—
TOTAL	100.0		100.0		100.0	100.0	100.0	100.0	100.0	100.0

Source: U.S. Weather Bureau data collected at the U.S. Weather Bureau station above the old Federal Building in United Nations Plaza; Donald Ballanti, 2004.

[1] This category represents the percent of time during the month when wind conditions are calm and no prevailing wind direction is discernable.

wind flows around and down to the street level and to assist in providing a comfortable wind environment for people in San Francisco.

Planning Code Section 148 establishes two comfort criteria and one hazard criterion for assessing wind impacts of proposed projects in San Francisco. The comfort criteria are based on pedestrian-level wind speeds that include the effects of turbulence and are known as "equivalent wind speeds."

Section 148 of the *Planning Code* establishes an equivalent wind speed of 7 miles per hour (mph) for seating areas and 11 mph for areas of substantial pedestrian use in the Downtown commercial district and Section 249 (c)(9) establishes similar criteria for the Van Ness Special District. In these areas, new buildings and additions to buildings may not cause ground-level winds to exceed these levels more than 10 percent of the time year round between 7:00 AM and 6:00 PM. If existing wind speeds exceed the comfort level, new buildings and additions in these areas must be designed to reduce ambient wind speeds to meet the requirements. Section 148 (and Section 249 (c)(9) also establishes a hazard criterion, which is an equivalent wind speed of 26 mph for a single full hour, not to be exceeded more than once during the year. New buildings in governed areas can not exceed this standard.

Impact Analysis

Significance Criteria

A project is considered to have a potentially significant wind impact if individual buildings constructed in accordance with the Plan would have exposure, orientation or massing that would cause:

- New exceedances (violations) of the hazard criterion of 26 mph for a single hour of the year as established in the *Planning Code* Section 148.

A project that would cause exceedances of the comfort criteria, but not the wind hazard criterion, would not be considered to have a significant impact.

Program Level

Ground-level wind accelerations near buildings are controlled by exposure, massing and orientation. Exposure is a measure of the extent that the building extends above surrounding structures into the wind stream. A building that is surrounded by taller structures is not likely to cause adverse wind accelerations at ground level, while even a comparatively small building 100 feet tall could cause wind effects if it was freestanding and exposed.

Massing is important in determining wind impact because it controls how much wind is intercepted by the structure and whether building-generated wind accelerations occur above-ground or at ground level. In general, slab-shaped buildings have the greatest potential for wind acceleration effects. Buildings that have an unusual shape, rounded faces or utilize setbacks have a lesser wind

effect. A general rule is that the more complex the building is geometrically, the lesser the probable wind impact at ground level.

Building orientation determines how much wind is intercepted by the structure, a factor that directly determines wind acceleration. In general, buildings that are oriented with the wide axis across the prevailing wind direction will have a greater impact on ground-level winds than a building oriented with the long axis along the prevailing wind direction.

Implementation of the proposed Plan would not have direct effects on wind, climate or comfort, but could affect these factors indirectly as the Project Area is built out. The Plan would result in an increase in residential, office and retail development potential within the Project Area and would increase pedestrian space through creation of plazas, widening of sidewalks and other pedestrian-oriented infrastructure. By increasing the amount of allowable development and creating new pedestrian space, the project would indirectly increase the potential for adverse wind/comfort conditions. However, wind impacts from new construction are site- and design-specific, *i.e.*, ground level impacts of construction of a building of a certain size is more dependent on design factors such as exposure, massing and orientation than square footage. Development at any given site could have a range of wind impacts, depending on the specific design.

Under the proposed Plan, allowable building heights would be revised and new provisions for setbacks on towers would be imposed. Assuming that increasing maximum allowable building height would result in taller buildings and decreasing maximum allowable building height would result in shorter buildings, the project would change the potential for wind impacts through much of the Project Area. Since taller buildings are more exposed to the prevailing wind, increases in allowable height would increase the potential for wind impacts, though the potential for increases in wind impacts would be offset by requirements for stepping back of tall towers and by the proposed Plan comfort standards that redirected wind flows from the new towers should not exceed 7 mph on Market Street and 11 mph on other streets (excluding alleys). In areas where decreases in allowable height are proposed, the potential for significant wind impacts would be decreased.

West of Guerrero Street, no major changes to the height limit are proposed with the exception of the north and south sides of Market Street west of the Dolores/Market Streets intersection. However, the maximum height at this location would be 85 feet and is reduced to 65 feet west of the Church Street intersection, lower than would normally be considered to cause adverse wind effects.

The remainder of the Project Area would have unchanged or decreased allowable heights with the exception of the areas around the Eleventh and Market Streets intersection, the Van Ness Avenue/ Market Street intersection, the Mission Street/South Van Ness Avenue and South Van Ness Avenue/12th Street intersection. At these locations allowable building heights would increase from between 90 to 280 feet. Maximum allowable heights where these increases would occur would range from 250 to 400 feet. New structures to be built in this area would have the potential for adverse wind impacts, and the Plan, by increasing allowable heights, would add to these potentially significant impacts. The extent and magnitude of the wind effects caused by new buildings in this area would depend on each specific structure in relation to adjacent buildings, streets, and open space areas. While the proposed Plan recommends that buildings comply with the comfort standard for redirected wind flows not to exceed 7 mph on Market Street and 11 mph on others streets (excluding alleys), an exceedance of the wind hazard standard could still occur. A determination of wind impacts would be made at a project level, based on an analysis of ground-level wind currents, as specific development proposals are made.

The wind impacts resulting from individual development allowed in the Plan in the areas where height increases are proposed, would be potentially significant. Implementation of standards, similar to those imposed in the C-3 District and the Van Ness Special Use District, governing the reduction of ground-level wind currents so they do not exceed 26 mph for a single hour of the year in the Plan Area, as outlined in Mitigation Measure 5.5.B1 and 5.5.B2, page 5-3 would reduce the impact to a less than significant level. With these standards in place no project would be approved unless it resulted in no significant impact.

Project Level

Central Freeway Parcels

Wind impacts are site- and design-specific, therefore the potential wind impacts associated with development of the Central Freeway parcels cannot be determined at this time. Most of the Central Freeway parcels, except for the most northerly and southerly fall within height limits ranging from 30 to 65 feet. Buildings of this height have a limited potential for the creation of significant wind impacts in San Francisco. ~~Parcel A, at the southeast corner of Turk and Gough Streets intersection has a proposed height limit of 85 feet (an increase of 20 feet); Parcel C, at the northwest corner of the Golden Gate and Franklin Streets intersection has a proposed height limit of 120 feet (an increase of 60 feet), and Parcel V near the northeast corner of the Market Street and Octavia Boulevard intersection has a proposed height limit of 85 feet (a reduction of 20 feet). Development on these parcels may require further analysis under CEQA before a determination of wind impacts~~

~~on these parcels may require further analysis under CEQA before a determination of wind impacts could be made.~~ The wind-related effects of Parcels A and C were considered in wind studies conducted for the 7th Amendment to the A-2 Plan. The environmental review for the amendment found that the combination of the maximum heights for Parcels A and C; the variation in height and street wall planes; and the variation in height of the facades would result in no adverse changes in ground-level winds.[27] Parcel V, near the northeast corner of the Market Street and Octavia Boulevard intersection, has a proposed height of 85 feet (a reduction of 20 feet) and may be subject to further wind analysis under CEQA. Focused wind studies may be required for specific development proposals if the site conditions and the proposed height of the building indicate they are warranted. All buildings would be subject to Mitigation Measure 5.5.B2, page 5-3, and buildings taller than 85 feet would also be subject to Mitigation Measure 5.5.B1, page 5-3, therefore the impacts would be reduced to a less than significant level.

Public Street Improvements

As the transportation improvements would not create substantial new structures, no new significant wind impacts would be projected to occur in association with these public improvements.

Open Space Improvements

The creation of new pedestrian open spaces within the Project Area would result in new areas that would be subject to potential wind impacts as development occurred. The new development surrounding these open space improvements would be subject to wind assessment as deemed appropriate to determine site specific impacts.

Cumulative Impacts

The winds near the Market Street and Van Ness Avenue intersection expose residents and visitors to potential wind hazards. If implemented, the *Market and Octavia Neighborhood Plan* would increase the residential density, resulting in increased numbers of people exposed to wind hazards. Other potential development near the Project Area, including within the adjacent Mid-Market Redevelopment Plan Area, may lead to wind hazards. The Plan, in conjunction with the *Mid-Market Redevelopment Plan*, may lead to cumulative wind effects near Tenth and Market Streets.

[27] The wind study for the 7th Amendment to the *Western Addition A-2 Redevelopment Plan* is on file and available for public review by appointment at the Planning Department, 1660 Mission Street, Case File No. 2002.0211E, and at the San Francisco Redevelopment Agency, 770 Golden Gate Avenue, 3rd Floor.

New development in the Project Area would be subject to Mitigation Measures 5.5.B1 and 5.5B2, page 5-3. Wind analysis conducted for new development would consider wind impacts cumulatively. Therefore, under the proposed Mitigation Measures, cumulative wind impacts would be less than significant.

REFERENCES

Shadow

San Francisco Redevelopment Agency, *Western Addition A-2 Redevelopment Plan Amendments,* Mitigated Negative Declaration, Case No. 2002.0211E, April 27, 2004.

Wind

San Francisco Redevelopment Agency, *Western Addition A-2 Redevelopment Plan Amendments,* Mitigated Negative Declaration, Case No. 2002.0211E, April 27, 2004.

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4.6 HISTORICAL RESOURCES

This section includes information about the cultural resources present in the Project Area, including archaeological and architectural resources. This section provides information about the historical context, architecture, and significance of historical resources in the Project Area. The section also provides an assessment of the potential environmental impacts on historical resources associated with the implementation of the Market and Octavia Neighborhood Plan.

4.6.1 Historical Context

Archaeological records document the presence of prehistoric populations within San Francisco at least 6,000 years ago. The earliest people were small, nomadic bands of hunter-gathers, as evidenced by the presence of large projectile points and milling stones (manos and metates), that may have spoken a Hokan language.[23] By at least 500 B.C., these populations were displaced by or amalgamated with a bayshore- and marsh-adapted Utian language (Miwok-Costanoan language family) speaking people from the Central Valley, who lived in sedentary or quasi-sedentary settlements, subsisted primarily on acorns, shellfish, and small game, and were culturally distinct from earlier populations.

The Costanoan tribelet, known as Yelamu, occupied the northern end of the San Francisco peninsula in the late 18th century. The Yelamu were divided into three semi-sedentary village groups; one of which, the Chutchui, may have been located within the Project Area near the Laguna de los Dolores. These prehistoric Costanoan and/or pre-Costanoan peoples may also have had specialized activity sites (shell fish processing, hunting blind, ritual burial sites) within the Project Area.

Native Americans were also present within the Project Area and were at their greatest density and number during the early 1800's. The adobe village or rancheria for neophytes (Christian practicing Native Americans) was located at Mission Dolores within the Project Area. Over the course of its occupancy, the Mission Dolores rancheria would have housed Costanoans, Coastal Miwok, Southern Patwin, and Pomo Native Americans, all with distinct linguistic and cultural practices. Native American populations were present within the Project Area at least into the 1850's.

[23] Dean, Randall, Archaeologist and Environmental Planner, MEA, San Francisco Planning Department, Memorandum, An evaluation of potential presence and significance of archaeological resources within the Market and Octavia Neighborhood Plan Area, to File No. 2003.0347E, July 12, 2004.

The first European settlement within the Project Area began in 1776 when Juan Bautista de Anza and his Spanish soldiers established the Mission San Francisco de Assisi (Mission Dolores) building churches, living quarters, corrals, and planting fields and gardens. The first mission was a temporary structure built of brush near Mission Creek. The second mission, constructed of wood and mud, was built around 1776. The complex included a priest's house and cemetery. Sometime after 1776, the name "Dolores" was taken from the Spanish name, *Nuestra Senora de los Dolores*, given to a nearby lagoon in honor of the Virgin Mary. Construction of the present Mission Dolores, the oldest building in San Francisco, began in 1782.[24] At the peak of its expansion and activity, from 1814 to 1817, the Mission Dolores complex included at least 43 buildings and covered an area that extended from Guerrero Street to Church Street and from Fifteenth Street to Dolores Creek, south of Eighteenth Street. At its period of greatest occupancy, the Mission Dolores complex housed over 1,200 neophyte Native Americans, as well as soldiers, servants, and Spanish, Mexican, English, and American craftsmen/artisans.

Following the secularization of the Mission Dolores in 1835, the mission's properties and building came into small private ownerships. During the 1840s and 1850s a small settlement emerged around the former Mission complex composed of neophyte Native Americans, poorer Hispanics, and mestizo families, young English and American men married into Hispanic families. After 1846, a group of dissident Mormon families also settled in the area. During this period dozens of adobe and woodframe buildings were constructed. The Mission settlement developed a distinct sense of identity in opposition to the economically booming town of San Francisco and unsuccessfully sought to be independently incorporated.

The first street to be constructed in the area was called the "Mission Plank Road," so-named for its wooden plank on piling construction over the sand hills and wetlands south of Market Street, leading from the town out to Mission Dolores along present-day Mission Street. This 2.5-mile toll road was created in 1851 to spur development at its terminus. The Mission Plank Road construction also resulted in the evolution of a functioning resort community between Eighth and Fourteenth Streets in the 1850's and facilitated the transport of farm goods from Mission district farmlands occupied by squatter farmers. One result of the construction of the plank road along Mission Street was a distinct cluster of buildings north of Mission Creek, situated between the Mission Dolores community and San Francisco. By the mid-1850s, this new area of development extended between Eighth and Fourteenth Streets along or near the Mission Plank Road. Unlike the

[24] California Register of Historic Resources, California Historical Landmarks. Other sources date the laying of the cornerstone of the Mission to 1782 *(The Catholic Encyclopedia,* Volume V., 1909). In any regard, Mission Dolores remains the oldest building in San Francisco.

Mission Dolores area, this was not a farming nor ethnic community. The development functioned primarily as a resort community. Among its establishments were a number of roadhouses and brothels.

The first known settlement of the Project Area north of Market Street was the 160-acre farmstead of Colonel Thomas Hayes. Hayes, who was San Francisco County Clerk from 1853 to 1856, had staked a claim to a 160-acre tract north of Market Street in 1849 or 1850. Much of the land was occupied by Italian tenant farmers. Hayes proceeded to subdivide his holdings and filed a series of surveys with the city laying out blocks and lots.

A major institutional development in the Hayes Tract during this period was the Protestant Orphan Asylum, built on the block bound by Waller, Haight, Laguna and Buchanan Streets, on land granted by the city in 1853 and now the site of the University of California Berkeley Extension Center.[25] The facility was built of stone quarried from the U.S. Mint site.

The 1857 coast survey map shows a number of buildings on the Hayes Tract that were likely a part of the Hayes compound or buildings associated with tenant farming. Construction on the first suburban homes in the Hayes Tract began about 1865. Initially, construction concentrated around the Hayes development and transit lines. In 1860, Hayes built the San Francisco and Mission Railroad down Market Street to Valencia Street and on Valencia Street out to Seventeenth Street with a branch line west on Hayes Street.[26] Hayes Park, located at Hayes, Grove, Buchanan, and Laguna Streets, developed as a major civic and social gathering spot in the 1860s on the Hayes Street rail spur. By the latter 1860's housing for railway employees had been constructed around the rail terminus south of Market Street.

The physical character of Hayes Valley, however, was defined in the 1870s when the growth of the city encouraged row house construction in the area and surrounding lands, referred to as the Western Addition. Increasing land values in the 1880s favored development of multi-family dwellings over single-family construction.[27]

The 1880s census indicated a predominantly middle-class or evolving middle-class population in Hayes Valley. The vast majority of the population were foreign-born or of foreign-born parents, most from northern Europe. By 1900, clerical workers and professionals had joined the mix. While

[25] California Department of Transportation Office of Environmental Planning, *Historic Property Survey Report for the Central Freeway Replacement Project in the City of San Francisco,* EA # 291000, March, 1997, p. 5.
[26] *Ibid,* p. 5.
[27] *Ibid,* p. 5.

mostly residential in 1900, the area included some small-scale industrial buildings and buildings with residential above ground-floor commercial/retail uses along transit lanes. A few apartments and lodging houses had joined the mix of single-family and two- and three-story row houses.[28]

Market Street became the commercial border between Hayes Valley to the north and the Mission District to the south. One- and two-story mixed used buildings characterized Market Street. There were a number of single-family houses, as well as lumber and coal yards, blacksmiths, wagon shops, a few small factories and a stockyard.

The area south of Market Street housed a predominantly working-class population in the Project Area residing in one and two-family dwellings. One of the highlights of this district was Woodward's Garden (1866 – 1893), a popular amusement park that occupied the block bound by Mission Street, Duboce Avenue, Valencia Street, and Fourteenth Street in the southeastern portion of the Project Area. The park offered music and dancing, an art gallery, and exotic animals and gardens. The appearance of Woodward's Garden at this time was an important development as it was linked to the emergence of a middle class in San Francisco.

The San Francisco and San Jose Railroad line connected to the Market Street Railway at Valencia Street in 1864. The two were brought under common ownership and a shop and passenger/freight terminal facilities were constructed on the block bounded by Valencia, Market, Otis, and Brady Streets. By the latter 1860s, cottages and row houses had been constructed around the terminal facilities for railway employees. In 1883 a large cable car wood frame powerhouse with a towering masonry stack was constructed on the block.

During the 1880s and 1890s the blocks south of Market Street became more intensively developed, with entire short streets, such as Stevenson Street, built in a single development with multiple party-wall narrow flats; lodging above factories and tenements at the rear of residential lots also became more common.[29]

San Francisco was largely leveled by the April 1906 Earthquake and Fire. The eastern half of the Project Area, generally east of Octavia Street in the north of Market Street area and east of Dolores Street down to Twenty-First Street in the south of Market Street area, was destroyed. While most of Hayes Valley was spared from the disaster, many of San Francisco's residents lived for some period

[28] San Francisco Architectural Heritage, History of the Neighborhood in *The End of the Road, A New Beginning – Mending the Neighborhood at Market and Octavia, A Guide for Walking Tours*, 2001, p. 1.

[29] California Department of Transportation Office of Environmental Planning, *Historic Property Survey Report for the Central Freeway Replacement Project in the City of San Francisco*, EA # 291000," March, 1997, p. 7.

in refugee camps, including Refugee Camp No. 13 at the southwest corner of Hermann and Market Streets. Of the approximate 5,000 temporary "Earthquake Shacks" built throughout the city to house the quake's refugees, only about 20 are thought to exist, including one which remains today at 81 Pearl Street in the Project Area.[30] After the disaster, new apartment houses and flats were quickly built in the burned area, and some older homes were relocated to this area from elsewhere. With much of the population concentrated in these areas, new stores and homes were erected and homes were often subdivided into flats.

Because such a swath of the Inner Mission neighborhood south of Market Street had been destroyed in the earthquake and fire, the city encouraged the development of higher density housing and the conversion of single-family homes to multi-family housing. The rebuilt district was also home to fraternal lodges, a theater, churches and restaurants. Although some streets were reconstructed with flats (e.g. Elgin Park, Clinton Park and Stevenson Street) after the earthquake, the district became more intensely industrial than before 1906, as many businesses relocated in the post-fire years from cramped downtown sites to the less expensive real estate in the Inner Mission south of Market Street. The only building to survive the 1906 Earthquake and Fire in this area was the Bekins Warehouse, a pioneer reinforced concrete structure not yet completed at the time of the earthquake. This building set the industrial tone for the district, as other warehouses, manufacturers, printing companies and government institutions were constructed.[31]

For the next three decades after the fire, the pace of reconstruction efforts accelerated. Two major institutional developments in the center of the Project Area took place in the 1920s and 30s. In 1927, the Spanish Revival style San Francisco State Teacher's College was constructed on two blocks bounded by Haight, Hermann, Buchanan and Laguna Streets. The campus was expanded in 1935, and became the forerunner to San Francisco State University. Also in 1935, the fortress-like Art Deco style United States Mint was constructed at 155 Hermann Street on a hill above Market Street.

The earliest indication that Hayes Valley and the adjoining South of Market area were important to moving automobile traffic between the south and eastern portions of the city was the extension of Van Ness Avenue to the south across Market Street. This project was first proposed in the 1920s, but not completed until 1931. Because the new street was constructed in 1931, adjoining land taken for the project was redeveloped during the era of Art Deco architecture and the era of the

[30] Website: www.outsidelands.org/shack-list.html. Also, SF Historic Resource Inventory Database query, accessed 4/29/04.

[31] San Francisco Architectural Heritage, History of the Neighborhood in *The End of the Road, A New Beginning – Mending the Neighborhood at Market and Octavia, A Guide for Walking Tours*, 2001, p. 2.

automobile. Therefore the first two blocks of South Van Ness have a great many auto-related buildings; many with Art Deco ornamentation.

Similarly Gough Street was cut south through to McCoppin and Otis Streets in the late 1930s or 1940s. The older buildings, now on its northeast side, belonged to an earlier street, Crocker Street that ran from Otis to Stevenson Streets.[32] In addition, some alley streets south of Market Street were closed to permit construction of larger-scale buildings. In 1954, Reservoir Street, within the triangular block formed by Market Street, Church Street, and Duboce Avenue, was closed for construction of the Safeway store, Shopping Center, and associated parking lots. Characterized by an arched concrete roof, the Shopping Center was substantially remodeled in 1997.[33]

Construction of the Bayshore Freeway in 1954 gave impetus to the elevated Central Freeway, which was constructed above Division Street and implemented in stages; first to Mission Street in 1955, across Market Street in a double-decker concrete viaduct in 1958, and touching down at Turk Street in 1959. This portion of the freeway contained visible stub-ends for later extension to a Western Freeway, planned for the blocks between Oak and Fell Streets and extending out to the Panhandle of Golden Gate Park with connections to the Golden Gate Bridge. Public opposition to urban freeways grew in the following years to become the "Freeway Revolt." This revolt halted the freeway's advance, but not before the elevated viaduct had cut a swath through the landscape, resulting in the demolition of 86 buildings from Market Street to the Fell and Oak Streets off-ramps at Laguna Street.[34] The Loma Prieta Earthquake in 1989 damaged a portion of the Central Freeway, from Turk Street to the Fell and Oak Streets off-ramps, which was later removed. Removal of the remainder of the Central Freeway, from Fell and Oak Streets to Mission Street occurred in 2003/04, opening up the vacant freeway parcels in the Project Area for redevelopment.

4.6.2 Archaeological Resources

Archaeological Context

The Project Area has been comparatively less studied archaeologically than many other parts of San Francisco. Within the Project Area almost all of the archaeological studies that have been prepared to date have been pre-project assessments of the presence/significance of archaeological resources that could be impacted by specific building or transportation projects, particularly related to the Central Freeway Project. These studies were generally prepared in regulatory compliance with

[32] Carey & Co. Inc., "Mid-Market Redevelopment Plan EIR Cultural Resources Report," San Francisco, 2001.
[33] City and County of San Francisco Planning Department, *Church Street Apartments Final Environmental Impact Report,* File No. 99.097E, certified October 28, 1999, p. 31.
[34] *The End of the Road, A New Beginning – Mending the Neighborhood at Market and Octavia, A Guide for Walking Tours*, p. 2.

CEQA or Section 106 of the *National Historic Preservation Act.* There have been few archaeological field project reports within the Project Area to confirm the archaeological assessment studies, however, recent archaeological excavations will document findings in the Project Area.

The fifteen archaeological studies known to include the Project Area are summarized below:

- Six archaeological research design/treatment plans, three of which were prepared for the Central Freeway Replacement Project (Archeo-Tec. 2004, Pastron and Ambro. 2004, Pastron and Gottsfield, Van Bueren et al. 2003, Walker and Ziesing 2002, Ziesing et al. 1998);
- Four archaeological resource assessment reports (Ambro. 1991; Archeo-Tec. 1985; Pastron. 1991; William Self Associates. 2002);
- One archaeological data recovery program results report (Pastron and Robichaud. 2004);
- One archaeological testing findings report (Archeo-Tec. 1986);
- One archaeological monitoring results report (Busby. 1994);
- One emergency archaeological evaluation report (Pastron. 1991); and
- One archaeological surface field survey (Pilling. 1952).

In addition to these reports, there is one site record on file at the Northwest Information Center, describing preliminary results of a Caltrans archaeological testing/data recovery project for a prehistoric deposit (CA-SFR-148) encountered within the Central Freeway Replacement Project area (Ramos. 2003).

The archaeological context of the Project Area is also influenced by a number of archaeological site reports outside, but near the Project Area (Ambro. 1998, 2003a, 2003b; Pastron and Beevers 2002, 2003). Three of these archaeological reports concern archaeological resources associated with the Mission Dolores complex. Ambro's final report (Ambro 2003a) on the archaeological testing/data recovery program conducted at the former Notre Dame School site represents the first archaeological field excavations conducted within the Mission Dolores complex. Five properties encountered in the Notre Dame project were determined eligible to the National Register of Historic Places: remains of the foundation of the Mission Orchard wall (c. 1783), stone foundation of José and Eustaquio Valencia brothers' house (c. 1845), trash deposit associated with the Valencia brothers (c. 1845-c.1858), trash deposit associated with Gold Rush period public house and bull

ring (1850s), and an unanticipated Native American Contact Period shell midden (c. 1776-1820). The Mission Period shell midden site is highly unusual and has rare research potential. Hendry and Bowman's study (Hendry and Bowman. 1940) of adobe and other building-types constructed in the San Francisco Bay Area before 1850 also establishes the importance of this area in archaeological literature of San Francisco.

Research Value of Expected Archaeological Resources in Project Area

The archaeological literature related to the Project Area indicates that expected archaeological resources could have research value and would, therefore, be significant under CEQA. Examples of proposed research themes to which archaeological resources could contribute data include: variability and changes over time in the material expressions of middle-class and working-class cultures, impact of middle-class values on working-class households, availability of classes of consumer goods, culture/dietary practices as identity symbols of various groups, acculturation of households of different ethnic backgrounds, and the adaptations and economic strategies reflected in women-headed households.

Within the Project Area, the archaeological literature has tended to give special significance to archaeological resources associated with prehistoric populations and with the Mission Dolores complex. Archaeological deposits with these associations may be significant whether or not they possess, in their own right, any research value because these deposits have characteristics that make them, otherwise, significant, such as their scarcity (San Francisco prehistoric and Native American archaeological sites) or their eligibility for listing in the State or National Register on the basis of their association with a significant historical event (archaeological resources associated with the history of the three Franciscan Mission complexes in San Francisco).

Program Level Expected Archaeological Resources

Archaeological resources potentially present within the Project Area comprise several types as indicated by previous archaeological documentation. The archaeological property types and resource categories into which the previously identified potential archaeological resources may be grouped are shown in Table 4-5.

TABLE 4-5:
EXPECTED ARCHAEOLOGICAL RESOURCES: PROJECT AREA

Deposit Type	Locations and Expected Resources
Domestic Deposits	Resorts and brothels in the vicinity of Mission Plank Road (1850s-?) Working class houses (row housing, tenements) south of Market St. (1870s-1906) Single family houses, small farmhouses, row houses in Hayes Tract (1860s –1906)
Commercial Deposits	Roadhouses in the vicinity of Mission Plank Road (1850s-?) Saloons in the vicinity of Market Street Railway Terminal (Valencia, Market & McCoppin Streets) and along Mission Street (1860s-1906).
Institutional Deposits	Protestant Orphan Asylum (1854-1920s?)
Industrial Deposits	Jackson Brewery (1870s/1880s?-1906?)
Transportation Infrastructure Deposits	Mission Plank Road (1851-1860s?)
Recreational Deposits	Woodward's Gardens (1866-1894) Hayes Park / Hayes Pavilion (1860-1870s?)
Prehistoric Deposits	Throughout the Project Area

Source: Randall Dean, MEA, San Francisco Planning Department, 2004.

Other archaeological resources have been identified in transportation corridors in the Project Area where soils disturbance may occur as a result of Plan implementation, e.g. transit platform enhancements proposed on Church Street (program level analysis) may encounter prehistoric deposits.[35]

Results of Archaeological Field Projects in the Project Area

There have been few archaeological field investigations within the Project Area. Of the six known archaeological field investigations, the results of two field projects are still under analysis.[36] Thus, the predictive value of the archaeological literature for the Project Area remains largely untested.

The results of an archaeological surface survey in the vicinity of Mission Dolores suggest a relative lack of soils disturbance in the area and a potential that archaeological deposits have good integrity.[37] A rare Native American shell midden deposit (CA-SFR-148) with a possible protohistoric or historical period component was encountered recently within the Project Area south of Market

[35] Dean, Randall, Archaeologist and Environmental Planner, MEA, San Francisco Planning Department, Memorandum, An evaluation of potential presence and significance of archaeological resources within the Market and Octavia Neighborhood Plan Area, to File No. 2003.0347E, July 12, 2004.

[36] *Ibid.*

[37] Pilling, Arnold, Unpublished Field Notes on a Surface Reconnaissance of the Mission Dolores, San Francisco, On file at the Northwest Information Center, Sonoma State University, Rohnert Park, 1952.

Street. CA-SFR-148 is also significant because it is the most inland (3.5 km from the Bay) and upland Native American archaeological site discovered in San Francisco to date. When this find is coupled with CA-SFr-136/H, a prehistoric site found on Eighth Street in 2000 and with CA-SFR-28 (the 5,000 year old Civic Center BART human female skeletal remains), it indicates that prehistoric sites lie further inland than formerly expected.

Recent archaeological testing and testing for transportation improvements in the Project Area have identified other important sites. The Octavia Boulevard project resulted in the exposure of three domestic privies associated with German and Irish households, which were determined to be eligible for listing in the National Register of Historic Places.[38] Archaeological monitoring of a Van Ness Avenue improvement project in the Project Area encountered late nineteenth century features associated with the Ferries and Cliff House Railway and Sutter Street Railway that were determined to be eligible to the National Register of Historic Places under Criteria A and C.[39, 40]

Mission Dolores Archaeological District Context

The Mission Dolores area has a unique and special historical importance in the period extending from 1776 until the 1850s reflecting a number of important historical events/periods, persons, and diverse ethnic and religious groups, including Native Americans, *Californios*, Franciscan missionaries, and Mormons. Based on historical documentary research and recent archaeological investigations, archaeologists have concluded that the entire Mission Dolores complex must be viewed as an archaeological district due to its historical significance, interpretive value, and archaeological sensitivity.

Archaeological resources associated with the Mission Dolores District have a high level of historical/scientific significance because of the unique position that Mission Dolores holds in the history of the San Francisco peninsula. In general, archaeological remains associated with the Mission Dolores complex (1776-1850s) are potentially eligible for listing in the California Register of Historic Resources on the basis of their association with Spanish/Mexican Period, the Franciscan missionization of California Native Americans (Criterion A), with important historical personages such as Juan Bernal, Francisco Guerrero, and Francisco De Haro (Criterion B), with architectural

[38] Ambro, Richard, Archaeologist, Archeo-Tec, telephone conversation with Randall Dean, Archaeologist and Environmental Planner, MEA, San Francisco Planning Department, June 2004.

[39] Pastron, Allen and Rhonda Robichaud, Archeo-Tec, Van Ness Avenue Pedestrian Safety Improvement Project: Phase II, Archaeological Monitoring / Data Recovery Program, 2004.

[40] Recently discovered in the Project Area near Van Ness Avenue and Market Street were two prehistoric burn layers with paleobotanical remains approximately 15 feet and 20 feet below the surface. The deposits potentially provide significant information regarding prehistoric quasi-agricultural methods.

and technological history (Criterion C) and with a range of important current historical and scientific research topics (Criterion D). Archaeological artifacts associated with the Mission Dolores complex would also have a high degree of interpretive value for these same periods.

Archaeological resources within the Mission Dolores complex are atypically sensitive to disturbance from human activities because of their proximity to the existing land surface and the relative lack of soils disturbing activities that have occurred in the area during the course of the 19th and 20th centuries that otherwise, could have impaired the integrity of archaeological deposits.[41, 42]

Within the Project Area, the Mission Dolores Archaeological District corresponds to the approximate six-city block area bounded by Fourteenth, Guerrero, Sixteenth, Church, Seventeenth, and Sanchez Streets and Chula Lane (see Figure 4-18). There are 28 identified archaeological resources potentially eligible for listing in the California Register of Historical Resources in the Project Area of the District. In addition there are documented buildings, including the Mission bathhouse, prison, second tannery, second mill, forge, shoe shop, and nineteen adobe houses, associated with the three Mission Dolores complexes or the post-secularization Mission Dolores complex whose locations have not been identified. There is a reasonable potential that archaeological remains associated with some of these buildings/structures and of their former occupants are located within the Project Area.

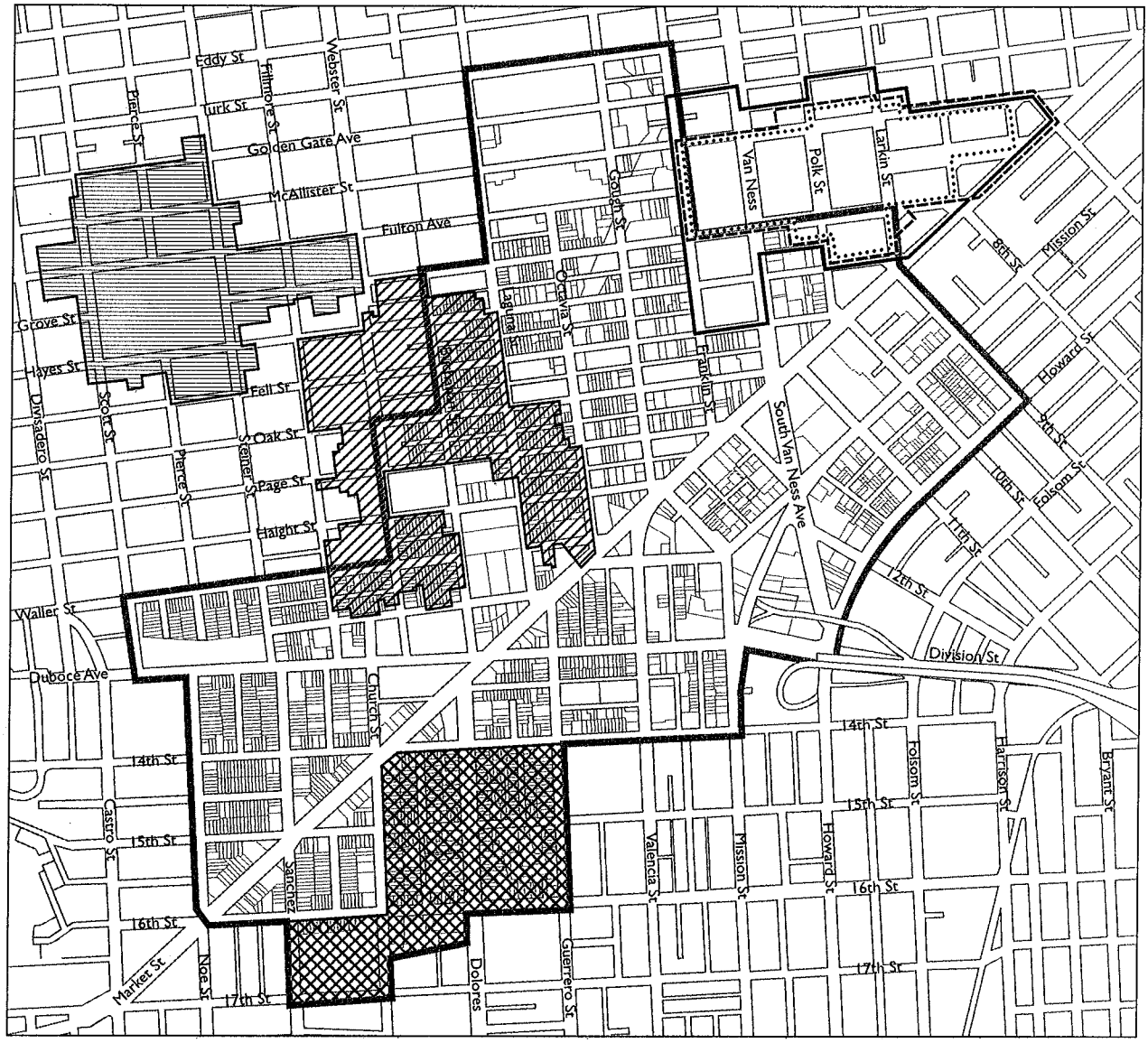
Project Level Expected Archaeological Resources

Central Freeway Parcels

The Central Freeway parcels are located within a valley that sheltered by sand ridges to the west and south until the 1850s. No prehistoric sites have been discovered within these properties, but a prehistoric midden deposit (CA-SFR-148) and two potential prehistoric burn layers are located close by. The study area lies within the 160-acre Hayes Valley Tract homesteaded by Colonel Thomas Hayes in the 1850s. The tract was subdivided in the early 1860s. By the late 1880s, the study area was largely developed with singe-family and row-houses. Small ground-story commercial establishments along Hayes and Octavia Streets included restaurants, saloons, crockery, glassware,

41 Ambro, Richard, et al, Holman & Associates, They Danced in the Plaza: The Historical Archaeology of Notre Dame Plaza, Mission San Francisco De Asís (Dolores), 347 Dolores Street, 2003(a); and Ambro, Richard, et al, Holman & Associates, Results of Archaeological Monitoring of Demolition of Two Small Structures at the Children's Day School, 333 Dolores Street, April 23, 2003(b).

42 Pilling, Arnold, Unpublished Field Notes on a Surface Reconnaissance of the Mission Dolores, San Francisco, On file at the Northwest Information Center, Sonoma State University, Rohnert Park, 1952.



SOURCE: EnviroTrans Solutions

Figure 4-18
Archaeological and Historic Districts

dry goods, and a German bakery. Between 1880 and 1900 the demographic composition of the Central Freeway parcels shifted from being mostly middle class (60 percent) with the number of immigrant households being in a slight majority (55 percent) to being overwhelmingly working-class (90 percent) and immigrants (86 percent). German and Irish households represented 41 percent of the residents in 1880 and 60 percent in 1900.[43] Table 4-6 summarizes the expected archaeological resources located in the Central Freeway corridor. To date there are no completed archaeology studies for domestic filled-feature deposits in San Francisco.

TABLE 4-6:
EXPECTED ARCHAEOLOGICAL RESOURCES: CENTRAL FREEWAY CORRIDOR

Deposit Type	Expected Resources
Domestic Deposits	Multi-family dwellings (1870?-1906); Single family dwellings (1850s-1906)
Commercial Deposits	Shops and other commercial establishments along Hayes Streets (restaurant, crockery & glassware, dry goods, German bakery, etc.)
Mixed Commercial & Residential	Corner shops with residential on upper floor(s)

Source: Randall Dean, MEA, San Francisco Planning Department, 2004.

Public Street Improvements

Transportation improvement projects proposed in the Plan that may involve soils disturbance are identified in Table 4-7, along with the types of existing subsurface cultural resources that are anticipated to be present.

Except where prior soils disturbance is known, at Otis Street where BART improvements were previously made (see Location 1b, Table 4-7) prehistoric resources may be present, at least at greater depths. In the case of Gough Street, Location 3, a recorded prehistoric site (CA-SFR-148) is within a distance of concern. The locations of other proposed transportation improvement projects are within rights-of-way that were surveyed and improved before any structures were constructed. Therefore, for these projects there is no potential for historical archaeological deposits.

[43] Van Bueren, Thad et al., Caltrans-District 4, Revised Historical Archaeology Research Design for the Central Freeway Replacement Project, 2003.

TABLE 4-7:
EXPECTED ARCHAEOLOGICAL RESOURCES: PUBLIC STREET IMPROVEMENTS

Location	Project Characteristics	Expected Resources
1a. Otis St. (between S. Van Ness Ave. and McCoppin St.)	Construct planted median with tree planting.	1850s' structures (residential?) Prehistoric deposits
1b. Otis St. (between McCoppin and Division Sts.)	Construct planted median with tree planting.	No expected archaeological resources (soils previously disturbed for BART tunnel)
2. Gough St. (between Otis and Market Sts.)	Redesign with relocation of tree-lined median	1850s' structures (residential?) 1860s – 1906 domestic deposits Prehistoric deposits
3. McCoppin St. (between Valencia and Otis Sts.)	Redesign as a linear green street	Prehistoric deposits (CA-SFR-148)
4. Brady Street and the east end of Plum Street	Extend alley network	Prehistoric deposits

Source: Randall Dean, MEA, San Francisco Planning Department, 2004.

Proposed transportation improvements along Brady Street (Location 4) and Gough Street (Location 2), are located on streets that were constructed at later dates and involved cutting through blocks, that had previously been improved with houses, commercial uses, and institutional uses. Potentially significant historical archaeological deposits may be present at these locations.

Open Space Improvements

Historical archaeological resources may also potentially be located on sites planned for open space improvements. Table 4-8 indicates the types of existing subsurface cultural resources that are expected to be located in these sites.

Octavia Plaza

Because of the relative stability of the landform, protected natural setting and the seasonal availability of fresh water, prehistoric deposits may be present within the proposed plaza site.

TABLE 4-8:
EXPECTED ARCHAEOLOGICAL RESOURCES: OPEN SPACE IMPROVEMENTS

Location	Expected Resources
Octavia Plaza	Prehistoric resources
McCoppin Square	Prehistoric resources (CA-SFR-148)
Brady Park	Prehistoric resources; Domestic deposits (mid-1880s to early 1900s)

Source: Randall Dean, MEA, San Francisco Planning Department, 2004.

The plaza would be within the former right-of-way of McCoppin Street and no structures are known to have been located within this public right-of-way.[44,45]

McCoppin Square

There is no indication of any structures or buildings having been constructed on the site until about 1913. Prehistoric resources may be present within the proposed park site at shallow depths since a prehistoric (or possibly historical period) midden site (CA-SFR-148) was encountered in proximity to the proposed project site at depths of five to eight feet below surface.[46, 47, 48]

Brady Park

There is no archaeological documentation for the site of the proposed Brady Park. Prehistoric deposits may be present within the proposed park site, given the relative proximity of other recorded prehistoric sites and the probability of older prehistoric deposits occurring at certain depths. By the late 1880s, the block bounded by Market, Twelfth, Otis and Gough Streets (site of the proposed Brady Park) had five one- and two-story dwellings along Colton Street and a large one-story dwelling on Brady Street between Colton and Stevenson Streets. The majority of these residences remained in place until the block burned in the 1906 Earthquake and Fire. In the absence of demographic information about the former occupants of the site, no preliminary assessment can be made of the potential research value and degree of disturbance of domestic archaeological deposits that may be present.

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44 Walker and Ziesing, 2002.
45 Ziesing, 1998.
46 Van Bueren, Thad et al., Caltrans-District 4, Revised Historical Archaeology Research Design for the Central Freeway Replacement Project, 2003.
47 Walker and Ziesing, 2002.
48 Ziesing, 1998.

Impact Analysis

Significance Criteria

CEQA requires that the effects of a project on an archaeological resource shall be taken into consideration and that if a project may affect an archaeological resource then it shall first be determined if the archaeological resource meets the criteria for listing in the California Register of Historical Resources. To be eligible for listing to the California Register of Historical Resources under Criteria A, B, or C, an archaeological site must contain artifact assemblages, features, or stratigraphic relationships associated with important events, or important persons, or exemplary of a type, period, or method of construction.[49] To be eligible under Criterion D, an archaeological site need only show the potential to yield important information.[50] An archaeological resource that qualifies as a "historical resource" under CEQA, generally, qualifies for listing under Criterion "D." An archaeological resource may qualify for listing under Criterion "D" when it can be demonstrated that the resource has the potential to significantly contribute to questions of scientific/historical importance. The research value of an archaeological resource can only be evaluated within the context of the historical background of the site of the resource and within the context of prior archaeological research related to the property type represented by the archaeological resource.

A project is normally found to have a significant effect on the environment if it would substantially disrupt or substantially adversely affect a property of historic significance. *California Environmental Quality Act (*CEQA*)* Section 21084.1 states that "a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." These changes include physical demolition, destruction, relocation or alteration of the resource or its immediate surroundings. For the purposes of Section 15064.5, the term "historic resources" shall include the following:

- A resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources.
- A resource included in a local register of historic resources (such as Articles 10 and 11 of the San Francisco Planning Code), as defined in section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

[49] *CEQA Guidelines,* §15064.5(a), (1) and (3) and (c), (1) and (2).
[50] US Department of Interior, National Park Service, "1986 Historic Archaeological Properties: Guidelines for their Evaluation," *National Register Bulletin,* No. 36.

- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, may be considered to be a historic resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Public Resources Code §5024.1, Title 14 California Code of Regulations, Section 4800.3) as follows:

  1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

  2. Is associated with the lives of persons important in our past;

  3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

  4. Has yielded, or may be likely to yield, information important in prehistory or history.

Program Level

The implementation of the Plan in the Project Area would create a new regulatory context for private and public land improvement. The increase in heights and density proposed by the Plan would have a greater potential to result in the disturbance of soils. The public street and open space improvements requiring excavation would also have the potential for soils disturbance. Since significant archaeological resources are expected to be present within existing subsurface soils of the Project Area, the proposed Plan could have a potentially significant impact on these archaeological resources. The following discussion addresses the impacts associated with the general types of regulatory changes or improvements that are proposed in the Plan.

Parking

Under the Plan, in the proposed DTR (Downtown Residential) zoning district, all parking is required to be provided below street grade. The current zoning districts do not require parking to be located below existing grade. The requirement for subsurface parking has the potential to result in greater disturbance of soils than exists under the requirements of current zoning. Since there is the potential for significant archaeological resources to be present within the proposed DTR zoning district, the requirement for subsurface parking, could result in potentially significant impacts on archaeological resources. Implementation of Mitigation Measures 5.6.A1, page 5-4, or 5.6.A2, page 5-6, as appropriate, would reduce the impacts to a less than significant level.

Land Use

The Plan proposes changes to density and maximum building height that would increase the number of potential households at full build out by about 29 percent or about 4,440 additional housing units. Most of the increase in potential residential development would occur within the Market Street/Van Ness Avenue/South Van Ness/Civic Center area in the DTR zoning district. The remaining portion of SoMa West and the Market Street corridor from Franklin to Church Streets is proposed to be rezoned to the NCT (Transit-Oriented Neighborhood Commercial) District. Neither the DTR nor the NCT Districts have residential density limits and therefore would allow more intense development than under current zoning.

The current zoning in the Project Area does not generally permit high-density residential development, except for the C-3-G areas around the Civic Center and Market Street/Van Ness Avenue. The Plan would allow a general residential densification throughout the Project Area with large-scale residential towers in the Civic Center and Market Street/Van Ness Avenue area. Increased residential development capacity and higher building heights would likely result in increased disturbance of soils from residential project activities such as foundation support, excavation for subsurface levels, and, in some cases, utilities installation.

Since a range of archaeological properties potentially eligible for the California Register of Historical Resources, such as 1850s-1906 domestic and commercial deposits, 1854-1920 institutional deposits, 1870s-1905? industrial deposits, remains of the Mission Plank Road (1851-1860s?), and 1860-1891 recreational deposits may be present within the Project Area, implementation of the Plan would result in an increased level of soil disturbance that could have potentially significant impacts on archaeological resources. Implementation of Mitigation Measures 5.6.A1, page 5-4, or 5.6.A2, page 5-6, as appropriate, would reduce the impacts to a less than significant level.

Long-Term Transportation Improvements

The transportation improvements proposed on Church, Otis, Gough, and McCoppin Streets and on the block bounded by Market, Twelfth, Otis and Gough Streets may require soil excavation that could affect prehistoric deposits, 1850s structures, and 1860s – 1906 domestic deposits. Disturbance of these deposits would result in potentially significant impacts on archaeological resources. Implementation of Mitigation Measure 5.6.A3, page 5-7 would reduce these impacts to a less than significant level.

Mission Dolores Archaeological District

The Plan proposes zoning, land use and height limit redesignations within the Mission Dolores Archaeological District (MDAD) that would generally increase the potential number of residential units that could be constructed. The proposed RTO and Upper Market NCT zoning districts would have no maximum limit for permitted residential density. These districts would also include dwelling unit replacement requirements (number of units to be provided per unit eliminated) of 2:1 for the RTO District and 3:1 for the Upper Market NCT. In general, under the height limitation changes proposed by the Plan, no significant differences would occur in the maximally permitted heights.

The increase in allowable residential densities proposed in the Plan would allow increased residential development within the MDAD, an archaeologically sensitive area All archaeological deposits associated with the Mission Dolores complex are potentially eligible for listing in the California Register of Historical Resources and may be located near the land surface. Archaeological deposits are known and expected within the existing street right-of-ways, since they are associated with activities and structures existing prior to the construction of the current streets. Thus, soils-disturbing activities resulting from subsurface basement/garage excavation, foundation support, and utilities installation associated with the increase in residential and commercial development allowed under the Plan could result in potentially significant impacts on archaeological resources within the Mission Dolores Archaeological District. The implementation of Mitigation Measure 5.6.A4 on page 5-10 would reduce these potentially significant impacts to a less than significant level.

Project Level

Central Freeway Parcels

All of the vacated Central Freeway parcels were assessed for expected archaeological resources. Archaeological resource data for Parcels A and C is available as part of the environmental record for the 7th Amendment to the A-2 Plan.[51] Mitigation measures were identified for all of the potentially significant impacts associated with the proposed development program for these sites. No archaeological documentation is available for the following Central Freeway parcels: B, D, E, E-st, F, G, I and J (see Figure 3.2, page 3-6). Additional archaeological impact assessment would be required for these parcels at the time that specific development proposals are submitted to the city. If the potential for significant impacts on archaeological resources existed, an Archaeological

[51] The historical resources study for the 7th Amendment to the *Western Addition A-2 Redevelopment Plan* is on file and available for public review at the Planning Department, 1660 Mission Street, Case File No. 2002.0211E, and at the San Francisco Redevelopment Agency, 770 Golden Gate Avenue, 3rd Floor.

Research Design/Treatment Plan would be developed in consultation with the Environmental Review Officer. Implementation of Mitigation Measure 5.6.A2, page 5-6, which outlines this process would reduce the impact to a less than significant level.

The potential impacts on the remaining ~~15~~13 parcels: ~~A, C,~~ H, K, L, M, N, O, P, Q, R, S, T, U, and V are discussed below.

In the absence of specific project proposals, the analysis makes certain assumptions as to the depth of soils disturbance that may result from development on the Central Freeway parcels. Development on these parcels was assumed to: have at most one subsurface level requiring an excavation of up to ten feet in depth; require foundation support that would result in disturbance up to four feet for spread footings at its greatest; and, in some cases, require soils remediation that, in the absence of underground tanks, would not disturb soils at a depth greater than ten feet.

The Plan proposes the rezoning of these parcels to the NCT and Hayes-Gough NCT districts. Height limits would remain the same or be reduced on all the 15 parcels except four. Allowable heights would increase by 15 feet on the southwest corner of Parcel A and five feet on all or portions of Parcels K, L, and V. Even with the height reductions on most of the parcels, the higher residential densities allowed would likely result in greater soils-disturbing activities associated with excavation for subsurface levels and foundation support on all of the fifteen Central Freeway parcels and, thus, have the potential to disturb 1850s-1906 domestic and commercial, and prehistoric archaeological deposits. For example, under the Plan, all parking for Parcel H is required to be subsurface. Parcels O and P are proposed for a single development of over two acres on a site that would require the installation of underground utilities. Thus, for Parcels ~~A, C,~~ H, K, L, M, N, O, P, Q, R, S, T, U, and V, land use regulations proposed in the Plan could potentially result in potentially significant impacts to archaeological resources.

Implementation of Mitigation Measure 5.6.A1, page 5-4, would reduce the impacts to a less than significant level.

Public Street Improvements

The transportation improvements proposed for near-term implementation in the Plan would or may involve soils disturbance. Thus, if significant archaeological resources are present there may be a potential that they would be disturbed by the proposed transportation improvements.

In the absence of the availability of plan drawings, maximum potential soils disturbance is assumed. For example, it is assumed that median, transit platform, sidewalk-widening, and "green" street improvement projects may require the installation or the relocation of light standards that may result in excavations greater than five feet in depth.

Implementing transportation improvements on Otis, Gough, and McCoppin Streets and in the vicinity of the block located at the northeast corner of the Brady and Colton Streets intersection could affect 1850s' residential structures and prehistoric deposits resulting in potentially significant impacts. The implementation of Mitigation Measure 5.6.A3, page 5-7, would reduce these potentially significant impacts to archaeological resources to a less than significant level.

Open Space Improvements

The Plan proposes the creation of parks and plazas within the Project Area, but detailed plans have not been developed. In the absence of detailed project information, certain assumptions were made concerning the maximal potential effect of the proposed parks as to depth of project soils disturbance. For example, it was assumed that projects may require excavation for lighting standards and tree landscaping that could result in soils disturbance greater than five feet in depth.

Octavia Plaza

The proposed creation of a public plaza near the Central Freeway touchdown would be constructed in the public right-of-way to the west of the freeway ramp. Excavation required for the lighting and landscaping could affect prehistoric archaeological deposits that may be present.

McCoppin Square

The proposed public square is located in proximity to an identified midden site. Excavation for lighting and landscaping of this public square could affect the prehistoric archaeological deposits that may be present.

Brady Park

Excavation on the block bounded by Market, Twelfth, Otis and Gough Streets for park improvements such as lighting, landscaping, or other public amenities could affect mid-1880s to early 1900s domestic and prehistoric archaeological deposits that may be present.

The soils disturbance associated with the proposed open space improvements could potentially result in significant impacts to archaeological resources. The implementation of Mitigation Measure 5.6.A3, page 5-7, would reduce these potential impacts to archaeological resources to a less than significant level.

Cumulative Impacts

Plan implementation in combination with other future development in the vicinity of the Project Area and throughout the city, could lead to cumulative impacts on archaeological resources as a result of soil disturbance associated with development.[52] With implementation of Mitigation Measures 5.6.A1 through 5.6.A4, pages 5-4 to 5-14 in Chapter 5, these cumulative impacts would be less than significant.

4.6.3 Architectural Resources

Architectural Context

Architectural Surveys in the Market and Octavia Neighborhood

Eight architectural surveys have been conducted between 1968 and 2004 within the Project Area. These surveys have collectively recorded approximately one-third of the Project Area. The findings of most of these surveys are available in the San Francisco Planning Department's Historic Resource Inventory Database, much of which was accessed to prepare this section.[53] Information from the Department's Parcel Information Database was also utilized to some extent to augment the historic data. The surveys and their findings are described below.

[52] The potential for cumulative archaeological effects is greatest for those archaeological property types, such as domestic deposits, whose scientific significance is clearly linked to a large number of comparative data-sets (like filled-in wells, privies, etc.).

[53] Of the 2,323 parcels in the Project Area, 751 were included in the Historic Resource Inventory Database. Year built information for the remaining parcels was obtained from assessor's parcel information in the Parcel Information Database. These two sets of data collectively formed the basis for the findings presented herein.

Junior League of San Francisco Architectural Survey, 1968

The Junior League of San Francisco conducted a citywide inventory of architecturally significant buildings in 1968. The findings of this survey were published in the book *Here Today*, which was adopted by the San Francisco Board of Supervisors in 1970 as the city's first local register of historic resources. Buildings identified by page number are considered historically significant architectural resources. Approximately 73 architectural resources in the Project Area are mentioned by page number in *Here Today.*[54]

San Francisco Department of City Planning Architectural Survey, 1976

The San Francisco Department of City Planning (DCP) conducted a citywide inventory of architecturally significant buildings in 1976. Approximately ten percent of the city's entire

stock of buildings were awarded a rating for architectural merit ranging from "5" (highest overall significance) to "0" (contextually significant). The DCP 1976 Survey identified approximately 517 architectural resources in the Project Area, of which approximately 64 were rated "3," "4" or "5."[55]

San Francisco Architectural Heritage Survey, 1979

Another major architectural survey in the Project Area was conducted by the Foundation for San Francisco's Architectural Heritage (Heritage). Heritage used letter codes ranging from "A" (highest significance) to "D" (minor or no significance). The results of this survey were published in the 1979 document *Splendid Survivors.* The buildings not rated by Heritage are those that have been built or undergone insensitive exterior remodeling since 1945. The Heritage Survey identified approximately 59 architectural resources in the Project Area, of which 50 were rated "A," "B" or "C."[56]

Unreinforced Masonry Building Survey, 1990

In 1990, the Landmarks Preservation Advisory Board (LPAB) completed an architectural and historical survey of Unreinforced Masonry Buildings (UMBs) in San Francisco. This report reviewed prior surveys, including the 1976 Citywide Survey, the Heritage Survey, the San Francisco *General Plan* and *Planning Code,* and state and federal listings. The San Francisco Department of Building Inspection has compiled a list of approximately 2,080 unreinforced masonry buildings in the city. Of these, about 1,675 are subject to the *Unreinforced Masonry Building Ordinance,* which was

[54] San Francisco Planning Department Historic Resource Inventory Database. Accessed April 29, 2004. Database query includes all blocks/lots in the Project Area with a *Here Today* page number.
[55] *Ibid.* Database query includes all blocks/lots in Project Area with a DCP rating >/= "3."
[56] *Ibid.* Database query includes all blocks/lots in Project Area with a Heritage rating >/= "C."

passed in 1992, and which requires that these buildings be seismically strengthened by a deadline (from 1997 to 2006) based on the "risk level" assigned to each building. Approximately 83 unreinforced masonry buildings have been identified in the Project Area.[57]

Hayes Valley Survey, 1995-96

The Hayes Valley Survey was prepared in 1995-96 for the United States Housing and Urban Development Agency (HUD) to identify historic resources, including historic districts, in the vicinity of the Hayes Valley Housing Project area. The area surveyed was within the north-central portion of the Project Area, and is generally bound by Market Street and Duboce Avenue on the south, Hayes and Grove Streets on the north, Octavia and Laguna Streets on the east, and Fillmore Street on the west. The survey identified the Hayes Valley Historic District, which was formally determined eligible for listing in the National Register by the State Historic Preservation Office in 1996. Approximately 200 resources in the Project Area are contributors to the Hayes Valley Historic District.[58]

Central Freeway Survey, 1997

The Historic Property Survey for the Central Freeway Replacement Project (Central Freeway Survey) was prepared by the Federal Highway Administration (FHWA) and Caltrans in 1997 to identify historical resources in the vicinity of the Central Freeway, prior to its demolition. The area surveyed was almost entirely within the Project Area, generally bordered by Fourteenth Street on the south, Linden Street on the north, Folsom Street on the east and Laguna Street on the west. Roughly half of the Central Freeway parcels were evaluated as part of this survey. The Central Freeway Survey identified ten historical resources in the Project Area that appear to be individually eligible for listing in the National Register.[59]

Inner Mission North Cultural Resource Survey, 2002 (Draft)

The Inner Mission North Cultural Resource Survey was prepared by the San Francisco Planning Department in 2001-2002 as the first phase in a two-phase effort to document the Inner Mission neighborhood of San Francisco.[60] This reconnaissance-level survey recorded approximately 660

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[57] *Ibid.* Database query includes all blocks/lots in Project Area with an unreinforced masonry building (UMB) rating of "Yes."

[58] *Ibid.* Database query includes all blocks/lots in the Project Area with a survey name "HV" and NR status code rating between 1-5, or 7.

[59] California Department of Transportation Office of Environmental Planning, "Historic Property Survey Report for the Central Freeway Replacement Project in the City of San Francisco, EA # 291000," March, 1997.

[60] San Francisco Planning Department, *Phase One: Inner Mission North Cultural Resource Survey Draft Context Statement and DPR523A Survey Forms*, September 2002.

buildings, of which approximately 420 properties are 45-years or older, in an area bound by Dolores Street to the west, Mission, Natoma and Capp Streets to the east, Duboce Avenue to the north and Sixteenth Street to the south. About one-third of the survey area overlaps with the south-central portion of the Project Area. The survey identified residential, commercial, and institutional buildings in various architectural styles, including various vernacular building types relatively unique to the Inner Mission, such as the "Perfect Six / Perfect Four" apartment building, and its relative, the "Romeo Flat." Many of these architectural styles are found within the Project Area.

Mid-Market Redevelopment Plan EIR Historic Survey, 2002

A historic resources evaluation was conducted for the Mid-Market Redevelopment Plan EIR.[61] The evaluation of historic resources included a review of four other previously conducted surveys, existing historic districts, such as the San Francisco Civic Center, as well as new field work and research. The Mid-Market Redevelopment Plan EIR identified one historic resource that is located within the boundaries of the *Market and Octavia Neighborhood Plan*: the Western Merchandise Mart at Tenth and Market Streets. The Western Merchandise Mart is a Category 1 property in Article 11 of the *Planning Code.*

Freeway Parcel Reconnaissance Survey, 2004

Finally, an eighth survey was prepared for the San Francisco Planning Department by Carey & Co. in 2004 which recorded Central Freeway parcels that were not evaluated as part of the Central Freeway Survey of 1997. This reconnaissance-level survey documented existing architectural conditions one parcel deep beyond the vacant Central Freeway parcels from Hayes to Turk Streets. The survey identified a total of 20 buildings, 13 of which are at least 45-years old or older. Given their age, these buildings may qualify as historical resources if other criteria apply and upon further research. These properties were recorded on California Department of Parks and Recreation (DPR) Primary Record Forms,

Historic Districts In or Near the Project Area

There are two historic districts, Civic Center and Hayes Valley, located in the Project Area. A third historic district, Alamo Square, immediately borders the Project Area. See Figure 4-18, page 4-160 for the location of the historic districts within the Project Area.

[61] Planning Department File No. 2002.0805E

San Francisco Civic Center Historic District

The San Francisco Civic Center, a group of primarily public buildings that makes up what is considered one of the nations largest and finest collection of buildings in the Beaux Arts style, is a monument to the City Beautiful movement. This area was built between 1912 and 1932, and contains three separate historic districts that have slightly different boundaries: the San Francisco Civic Center National Historic Landmark District, the San Francisco Civic Center National Register Historic District, and a locally-designated Civic Center Historic District (see Figure 4-18, page 4-160, for district boundaries).

The San Francisco Civic Center National Historic Landmark District is generally bounded by McAllister Street to the north; by Franklin Street to the west; by Grove and Hayes Streets to the south; and by Leavenworth, Hyde, and Larkin Streets on the east, The Civic Center National Register Historic District is generally bounded by McAllister Street on the north; Franklin Street on the west; Grove, Hayes, and Market Streets on the south; and Seventh Street on the east. The San Francisco Civic Center Historic District is generally bounded by Golden Gate Avenue to the north, Franklin Street to the west, Jones Street to the east and Market Street to the south. The southernmost blocks of all three districts, including the (Bill Graham) Civic Auditorium, are located within the northeastern portion of the Project Area. This includes blocks 810, 811 (northern half only), 812 and 815.

Hayes Valley Historic District

The Hayes Valley Historic District is a collection of primarily Victorian-period residential structures built from the 1870s to the 1910s generally bound by Octavia Street on the east, Fillmore Street on the west, Hermann Street on the south and Grove Street on the north, comprising some 13 contiguous blocks (see Figure 4-18, page 4-160 for project boundaries). This historic district was identified in the Hayes Valley Survey prepared for HUD in 1995-96 as part of the Hayes Valley Housing replacement project. The District was determined eligible for listing in the National Register of Historic Places by the State Historic Preservation Officer in 1996, and is listed in the California Register of Historic Resources. The easternmost portion of the Hayes Valley Historic District, generally areas west of Octavia Street and south of Oak Street, falls within the north-central portion of the Project Area.

Alamo Square Historic District

The Alamo Square Historic District is important as a continuum of distinguished residential architecture by distinguished architects spanning the period from the 1870s to the 1920s. The historic district contains Alamo Square at its center, as well as the renowned "Postcard Row" of Victorians with the background of the downtown skyline. Although not located within the Project Area, the easternmost boundary of the Alamo Square Historic District is located on Webster Street, half a block west from the Project Area's northwestern boundary (see Figure 4-18, page 4-160 for project boundaries).

Program Level Architectural Resources

San Francisco Planning Code Resources within the Project Area

Article 11 of the *San Francisco Planning Code* classifies buildings in the C-3 Downtown Commercial districts in five Categories reflecting their architectural, historical, and aesthetic value, as established in the Downtown Plan. Category I and II buildings are identified as Significant Buildings and, in general, may not be demolished unless it can be demonstrated that they have no substantial market value or reasonable use, after taking into account costs of rehabilitation and any development rights transferred to another site. Category III and IV buildings are identified as Contributory Buildings, and their retention is encouraged, but not required. Category V buildings are Unrated. Approximately 23 individual resources in the Project Area are included in Article 11; eight of these resources are Category I, II or III, none are Category IV, and the remainder are Category V.[62]

Article 10 of the *Planning Code* provides for review of proposed alterations to listed historical resources by the Landmarks Preservation Advisory Board and the San Francisco Planning Commission. It permits the city to delay alteration or demolition of listed resources, but does not generally prohibit demolition. Article 10 identifies ten city landmarks in the Project Area, as shown in Table 4-9. [63]

[62] San Francisco Planning Department Historic Inventory Database. Accessed April 29, 2004. Database query includes all resources in the Project Area with a downtown rating, and those </= "IV."

[63] *Ibid.* Database query includes all resources in the Project Area with an SF landmark number.

TABLE 4-9:
SAN FRANCISCO LANDMARKS IN THE PROJECT AREA

Landmark #	Address	Historic Name	Year Built
1	320 Dolores St.	Mission Dolores	1782-91
39	152 Church St.	Saint Francis Lutheran Church	1905
47	201 Buchanan St.	Nightingale House	1882
48	294 Page St.	Dietle Residence	1878;1885
67	214 Dolores St.	Tanforan Cottage #214	1853
68	220 Dolores St.	Tanforan Cottage #220	1859
140	135 Van Ness Ave.	High School of Commerce	1910[64]
150	224 Guerrero St.	Sheet Metal Workers Union Hall	1906
164	188 – 198 Haight St.	McMorry-Lagan House	1889, Barn: 1883
223	1800 Market St.	Carmel Fallon Building	1894

Source: San Francisco Planning Department, 2004.

Two additional San Francisco City Landmarks immediately adjacent to the Project Area are the San Francisco War Memorial Opera House and Veterans Building and City Hall (Landmark Nos. 84 and 21, respectively). These Beaux-Art style structures, within and contributory to the Civic Center Historic District, are located immediately northeast from the Project Area, opposite Franklin and Grove Streets. Also located immediately north from the project area opposite Grove Street is the Civic Center Plaza, a contributory landscape to the Civic Center Historic District.

Section 1011 of the *Planning Code* also identifies San Francisco Structures of Merit which are properties recognized for their historical, architectural or aesthetic merit. Structures of Merit have not been designated as landmarks and are not situated within historic districts. Alterations to these properties must have Planning Commission approval. Structures of Merit (SOM) located in the Project Area are listed in Table 4-10.[65]

[64] ~~Conflicting construction dates, addresses and architects are given for this building. Article 10 identifies the construction date as 1926 and designed by architect John Reid, Jr., neither of which appears accurate. The SF Historic Resource Inventory identifies the year built as 1910, designed by architect Newton J. Tharp, and located at 170 Fell Street. Since the building was moved in 1913 for the construction of the Civic Auditorium, the year built date of 1910 seems more likely~~ The building at 135 Van Ness Avenue was designed by John Reid, Jr. and constructed on the site in 1926. It originally served as Commerce High School which was relocated from its former site at 170 Fell Street.

[65] San Francisco Planning Department Historic Inventory Database. Accessed April 29, 2004. Database query includes all resources in the Project Area with a rating "SOM" or Structure of Merit.

TABLE 4-10: STRUCTURES OF MERIT IN THE PROJECT AREA			
SOM #	**Address**	**Historic Name**	**Year Built**
5	250 Valencia Street	Levi Strauss Factory Building	1907
39	101 Valencia Street	Knights & Daughters Of Pythias Building	1909
Source: San Francisco Planning Department, 2004.			

Federal and State Resources within the Project Area

Historical resources within the Project Area are also listed on federal and state historic registers, including the National Register of Historic Places, the California Register of Historical Resources, and California Register Landmarks. The National Register of Historic Places is the official federal list of historical resources that have architectural, historic or cultural significance at the national, state or local level. The National Register of Historic Places is administered by the National Park Service, an Agency of the Department of the Interior. Listing of a property on the National Register of Historic Places does not prohibit demolition or alteration of that property, but does denote that the property is a resource worthy of recognition and protection. Within the Project Area there are four buildings individually listed in the National Register and one National Register Historic District, as shown in Table 4-11.

TABLE 4-11: NATIONAL REGISTER-LISTED BUILDINGS AND DISTRICTS IN THE PROJECT AREA		
Address	**Historic Name**	**Year Built**
320 Dolores Street	Mission Dolores	1782-91
465 Oak Street	Warren Russell House	1876
155 Hermann Street	US Mint	1935
99 Grove Street	Civic Auditorium	1912
Civic Center Area	Civic Center Historic District	1912 - 1932
Source: National Register of Historic Places		

The State Office of Historic Preservation administers and maintains the California Register of Historic Resources. The California Register includes resources listed in, or formally determined

eligible for, the National Register of Historic Places and California Historical Landmarks.[66] The California Register of Historic Resources can also include properties designated under local ordinances or identified through local historic resource surveys. Three California Historical Landmarks are located within the Project Area as indicated in Table 4-12.

TABLE 4-12:
CALIFORNIA HISTORICAL LANDMARKS IN THE PROJECT AREA

Landmark #	Address	Historic Name	Year Built
327	320 Dolores	Mission Dolores	1782-91
454	Corner Mission/Duboce	Site of the Woodward's Gardens	1866
784	San Diego to San Francisco	El Camino Real	N/A

Source: California Environmental Resources Evaluation System (CERES), San Francisco County State Historical Landmarks.

Approximately 250 buildings in the Project Area are listed in the California Register of Historic Resources with ratings from 1 to 5, or 7.[67] Most of these buildings (200) are listed as contributors to the Hayes Valley Historic District.

Project Level Architectural Resources

Central Freeway Parcels

The Central Freeway parcels are those properties generally stretching from Market Street to Turk Street once occupied by the Central Freeway elevated viaduct. These sites are currently vacant and anticipated for redevelopment under the Plan. As discussed previously, about half of the Central Freeway parcels (from Market Street to Linden Streets) were systematically surveyed during the Central Freeway Survey effort in 1997. The remaining Central Freeway parcels (from Hayes to Turk Streets), were recorded in 2004 in the Freeway Parcel Reconnaissance Survey.

The Central Freeway Survey identified no historic architectural resources on the parcels immediately adjacent (within one lot) from the Central Freeway parcels, between Market and Linden Streets.[68] All of these parcels were found ineligible for listing in the National Register, California Register, or

[66] The California Register includes California Historic Landmarks from Landmark No. 770 forward.

[67] San Francisco Planning Department Historic Inventory Database. Accessed April 29, 2004. Database query includes all resources in the Project Area with a NR status code rating between "1-5," or "7." 1= listed on the National Register, 5= appears locally significant, 7= not evaluated.

[68] California Department of Transportation Office of Environmental Planning, *Historic Property Survey Report for the Central Freeway Replacement Project in the City of San Francisco*, EA # 291000, March, 1997.

local listing (rated "6Z"). The Freeway Parcel Reconnaissance Survey recorded no previously identified historical resources immediately adjacent to the Central Freeway parcels between Hayes and Turk Streets, with the exception of one building classified by the city as an unreinforced masonry building (UMB), an auto repair garage at 539 Gough Street that was built in 1917. The survey did, however, record 13 resources that are 45-years or older which may qualify as historical resources if upon further research other criteria are applicable.

Historical resources in the vicinity of the freeway parcels (within one block) include approximately 13 contributors to the Hayes Valley Historic District. Four resources are located across Octavia Street and about 70 feet west from the freeway parcels, between Market and Page Streets. These properties are located at 41, 47-59, 129-131, and 157 Octavia Street. Seven contributory resources are located across Oak and Laguna Streets and about 70 feet south and west from the freeway parcel bound by Oak, Fell, Laguna, and Octavia Streets (Block 831). These properties are located at 351-400 Oak Street, 501 Fell Street and 405 Laguna Street.

In addition, there are six historic properties which are rated "3S" in the California Register of Historical resources (appear eligible for the National Register at the local level), within one block of the freeway parcels. From south to north, these properties are:

1. 1800 Market Street (Block 871, Lot 014). The Carmel Fallon Building, built in 1894, is also a San Francisco Landmark (#223) and is rated in the DCP 1976 Survey. This property is across Octavia Street and about 85 feet away from one of the freeway parcels on Octavia Street between Haight Street and Rose Alley.

2. 21 Octavia Street / 54 Waller Street (Block 856, Lot 003). The First Baptist Church and School, was built in 1909. This property is across Octavia Street and about 70 feet away from one of the freeway parcels on Octavia Street between Haight and Market Streets.

3. 100-108 Haight Street (Block 852, Lot 003/003A). The two-story Italianate-style apartment building, built in 1883, was also rated by the DCP 1976 Survey. This property is across Octavia Street and about 70 feet away from one of the freeway parcels on Octavia Street between Haight Street and Rose Alley.

4. 129-131 Octavia Street (Block 852, Lot 003D). The two-story Italianate-style house, built in 1883, is also rated "5" by the DCP 1976 Survey. This property is across Octavia Street and about 70 feet away from one of the freeway parcels on Octavia Street between Haight Street and Rose Alley.

5. 361 Oak Street (Block 839, Lot 023). The two-story Fassett-Reis-Meager House, built in 1866, is also rated "5" by the DCP 1976 Survey, and mentioned on page 283 in *Here Today.* This property is across Oak Street and about 70 feet away from one of the freeway parcels on Oak Street between Laguna and Octavia Streets.

6. 500-528 Laguna Street (Block 818, Lot 016). The three-story Seipel Apartment Building, built in 1912, is also rated "4" by the DCP 1976 Survey. This property is about 85 feet away from one of the freeway parcels on the corner of Fell and Laguna Streets.

Public Street Improvements

The Plan proposed many improvements on public streets within the Project Area. With one exception, there are no historical resources within the public streets. The 1904 California Volunteers Memorial is located in the planted median of Dolores Street at the intersection of Market Street.

Open Space Improvements

Proposed open space improvements are Octavia Plaza and McCoppin Square at McCoppin Street, and Brady Park, in the SoMa West area. There are two historical resources in the vicinity of the proposed McCoppin Street open space improvements: the 1 McCoppin Street Building (Pacific Telephone and Telegraph Exchange Building, 1937) and 101-129 Valencia Street/95 McCoppin Street (Knights and Daughters of Pythias Building, 1909).

Impact Analysis

Significance Criteria

A project is normally found to have a significant effect on the environment if it would substantially disrupt or substantially adversely affect a property of historic significance. *California Environmental Quality Act (*CEQA*)* Section 21084.1 states that "a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment." These changes include physical demolition, destruction, relocation or alteration of the resource or its immediate surroundings. For the purposes of Section 15064.5, the term "historic resources" shall include the following:

- A resource listed in, or determined to be eligible for listing in, the California Register of Historical Resources.
- A resource included in a local register of historic resources (such as Articles 10 and 11 of the San Francisco Planning Code), as defined in section 5020.1(k) of the Public Resources Code

or identified as significant in an historical resource survey meeting the requirements of section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.

- Any object, building, structure, site, area, place, record, or manuscript which a lead agency determined to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California, may be considered to be a historic resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Public Resources Code §5024.1, Title 14 California Code of Regulations, Section 4800.3) as follows:

  1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;

  2. Is associated with the lives of persons important in our past;

  3. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or

  4. Has yielded, or may be likely to yield, information important in prehistory or history.

In addition to meeting one of the above criteria, the generally accepted age requirement for historic resources in California is 45-years or older. That would include any buildings in the Project Area constructed before 1959. Finally, historic resources must also have integrity of location, design, setting, materials, workmanship, feeling and association.

Per CEQA Section 15064.5: "Generally, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings or the Secretary of the Interior's Standards for Rehabilitation and Guidelines for Rehabilitating Historic Buildings shall be considered as mitigated to a level of less than a significant impact on the historical resource."

Program Level

Infill development throughout the Project Area could differ in scale, design, or materials than nearby historical resources, potentially altering their historic context. This would be particularly true on Market Street, west of Buchanan Street, and at around the Market Street/South Van Ness Avenue intersection where height limits are being increased. While no specific projects have been identified on the sites that have historical resources, the greater densities allowable under the Plan could create

greater development pressures on known historical resources than under current land use controls, potentially replacing them with newer and larger buildings that are more economically viable for their location. Additional development pressures in the areas where higher densities would be allowed under the Plan, could also create greater emphasis on the re-use and remodeling of existing buildings, including known or potential historical resources.

The Plan goals and policies emphasize the preservation of landmarks and other buildings of historic value as an invaluable asset to the neighborhood. The urban design guidelines included in the Plan would ensure that new development enhances the area's physical fabric, especially where it is anchored by buildings of particular historic significance. In keeping with existing *General Plan* policy and *Planning Code* requirements, historic buildings would be preserved as an integral part of the Project Area's living history. Individual projects proposed within the Project Area would be subject to existing city land use controls including design review during the permitting stage to promote ~~ensure~~ compatibility with adjacent historical resources, to ~~avoid~~ discourage demolition of historical resources and to encourage ~~ensure that~~ re-use proposals that are consistent with the *Standards.* Finally, a project which proposes substantial alteration or demolition of an historic resource in the Project Area would be subject to further review under the Planning Department Guidelines and the Landmarks Preservation Advisory Board which advises the Planning Commission on such actions prior to the issuance of building or alteration permits. Although more development would be allowed under the proposed Plan, the implementation of urban design guidelines and other rules currently being practiced the overall impact of general development in the Project Area on historical resources would be less than significant impact. No mitigation measures would be required. ~~Site specific impacts would need to be evaluated for individual projects before they are approved.~~ When individual projects are proposed for development each will be evaluated for its impact on historic resources per the requirements of CEQA and the procedures for evaluation of historic architectural resources, including: 1) whether the project itself would have a direct impact on historic resources and 2) whether the project would impact the historic context of a particular resource and/or would have an incidental impact on nearby resources.

Project Level

Central Freeway Parcels

Development activities under the Plan are expected to occur on the vacant freeway parcels formerly occupied by the Central Freeway, from Market Street to Turk Street. As these parcels are currently vacant, no direct impacts to historical resources from demolition or substantial alteration are

anticipated. However, historical resources in the immediate vicinity could be indirectly affected by new infill construction, potentially altering their historic setting.

The Central Freeway Survey identified no historical resources immediately adjacent to the freeway parcels from Market Street to Linden Streets. As these buildings were determined ineligible for listing on the national, state, or local levels (rated "6Z"), no indirect impacts to historical resources due to adjacent construction in these areas are anticipated.

Buildings recorded in the 2004 Freeway Parcel Reconnaissance Survey from Hayes to Turk Streets identified a total of 13 buildings within one block of the Central Freeway parcels that are 45-years or older, including one unreinforced masonry building (UMB). Such buildings may qualify as historical resources if other criteria are found to apply upon further research. New development constructed adjacent or near to these buildings could alter their historic setting if determined eligible for listing in the California Register of Historic Resources.

New development on the Central Freeway parcels would also be constructed across the street from buildings, located along Octavia Boulevard, Oak Street, and Laguna Street, and surrounding freeway parcel Block 831, all of which contribute to the Hayes Valley Historic District. In the general vicinity of the freeway parcels are a number of buildings determined individually eligible for listing in the National Register at the local level, including the Carmel Fallon Building at 1800 Market Street built in 1894 (also a San Francisco Historical Landmark), the First Baptist Church at 21 Octavia Street/54 Waller Street built in 1909, two Italianate style residences at 129-131 Octavia Street and 100-108 Haight Street both built in 1883, and the Fassett-Reis-Meagher House at 361 Oak Street built in 1869.

Infill development on the freeway parcels might differ in scale, design, or materials than nearby historical resources, potentially altering their historic context. Such development, if designed in an incompatible manner, could alter the surroundings of the Hayes Valley Historic District, the individually-eligible historical resources within it or buildings 45-years or older which may be eligible for the California Register of Historic Resources.

Plan goals and policies specifically emphasize well-designed infill development on the freeway parcels that would enhance the Project Area's established land use pattern and character, as well as the preservation of landmarks and other buildings of historic value as an invaluable asset to the neighborhood. The urban design guidelines included in the Plan would ensure that new development enhances the area's physical fabric, especially where it is anchored by buildings of particular historic significance. In keeping with existing *General Plan* policy and *Planning Code*

requirements, historic buildings would be preserved as an integral part of the Project Area's living history. Individual projects on the freeway parcels would be subject to existing city land use controls including design review during the permitting stage to ensure compatibility with adjacent historical resources. A project which proposes substantial alteration or demolition of an historic resource in the Project Area would also be subject to further review from the Landmarks Preservation Advisory Board which advises the Planning Commission on such actions prior to the issuance of building or alteration permits. Finally, the distance between the historical resources and the freeway parcels, ranging from 70 to 85 feet away, could provide a sufficient buffer between them and new development. While the context would be altered to some degree, it would not be altered to the extent that the nearby Hayes Valley Historic District or individually-eligible buildings would no longer qualify as historical resources. As a result, development of the freeway parcels would create a less than significant impact to historical resources. No mitigation would be required.

Public Street Improvements

The Plan proposes a number of improvements to the public streets in the Project Area, including traffic calming strategies and streetscape improvements. Most of these improvements would occur within the right-of-way of existing streets and alleys in the Project Area and therefore no direct impacts to historical resources are anticipated.

The pattern of blocks and lots including many of the alley streets in the Project Area contribute to the context of most historical resources in the Project Area, and are indicative of the area's historical development. Streetscape improvements and traffic calming measures are not anticipated to have any direct impacts to historical resources, but could alter their immediate context. The improvements could be considered a beneficial effect to the historical resources in the Project Area, as it would emphasize a return to the historical patterns of pedestrian, bicycle and transit-oriented modes of transportation. The physical improvements, such as wider sidewalks, street trees and lighting could also be appropriate within the historic context, depending on their design.

No significant impacts on architectural resources would occur within the Project Area, therefore no mitigation measure would be required.

Open Space Improvements

The Plan proposes a number of open space improvements in the Project Area, including street tree planting, new park creation, and streetscape improvements. Open space improvements, such as Octavia Plaza and McCoppin Square, would somewhat alter the context of potential historical resources in the immediate area, such as 1 McCoppin Street (Pacific Telephone and Telegraph

Exchange Building, 1937) and 101-129 Valencia Street/ 95 McCoppin Street (Knights and Daughters of Pythias Building, 1909) but not to the extent that they would no longer remain historical resources.

As the Plan includes urban design guidelines which specifically call for streetscape and open space improvements that would be compatible with the historic scale and texture of the neighborhood, no significant impacts to architectural historical resources from these improvements are anticipated. No mitigation measures would be required.

Cumulative Impacts

Cumulative impacts occur when significant impacts from a proposed project combine with similar impacts from other past, present, or reasonably foreseeable projects in a similar geographic area. Plan implementation would result in historical resource impacts that could combine with other development in the vicinity of the Project Area, such as in the Mid-Market Redevelopment Plan Area. All future development, however, would be subject to existing state and local historic resource controls. Cumulative impacts would also include the demolition, substantial alteration, or incompatible new construction in the Project Area resulting from past and present projects combining with future impacts with or without Plan implementation.

Numerous alterations to the neighborhood have occurred in the past and many historic buildings have been lost, especially surrounding the intersection of Market Street and Van Ness Avenue. The Fox Theater at the corner of Market, Polk and Hayes Streets, was demolished in 1964 for the construction of the 29-story Fox Plaza residential tower. Construction of the windowless Bank of America Data Center in the late 1970s at Market Street and South Van Ness Avenue, as well as BART and MUNI-related construction for the Van Ness Station in the 1960s and 1970s, removed numerous smaller scale commercial buildings in this area, many of which were built in the first half of the twentieth century. As mentioned previously, approximately 86 structures were lost due to the construction of the Central Freeway in the late 1950s, many of which were likely historical architectural resources. In addition, numerous changes to the historic setting of the Civic Center Historic District have occurred in the recent past, as architecturally incompatible high-rise construction occurred primarily from the 1950s to the 1970s to the south and west of this district. This includes the 29-story office tower at 100 Van Ness Avenue built in 1976 at the corner of Van Ness Avenue and Fell Street, the 9-story AAA building at 150 Hayes Street built in 1959, and Fox Plaza discussed above.

While new development in this area resulting from the proposed Plan could combine with the previous incompatible development, alterations to the setting of the Civic Center Historic District would be relatively minor compared to the previous alterations discussed above. In addition, height limit increases would be incremental under the Plan, especially near the intersection of Market Street and Van Ness Avenue, where the current maximum height limit of 320 feet[69] could be raised to maximum of 400 feet, for a potential increase of 80 feet. Finally, more recent *General Plan* policy and land use controls intended to protect historical resources would be applied to any new development in these areas allowable under the Plan. As a result, new development adjacent to the Civic Center Historic District resulting from the Plan would not be considered a cumulatively significant impact to historical resources. No mitigation would be required.

The location of many of the proposed transportation improvements are within rights-of-way that were surveyed and improved before any structures were constructed. Therefore, for these projects there is no potential for historical archaeological deposits to be present. Areas of known disturbance include the excess Duboce Avenue right-of-way west of Market Street where construction of the Muni Metro tunnel would have disturbed deeply buried prehistoric deposits if present.

As no significant impacts to historical resources from the proposed plan have been identified that could combine with past, present or future impacts, the cumulative impacts resulting from the Plan would be less than significant.

[69] City and County of San Francisco, *Zoning Map of the City and County of San Francisco, Height and Bulk Districts, Sheet 7H*, December 1997.

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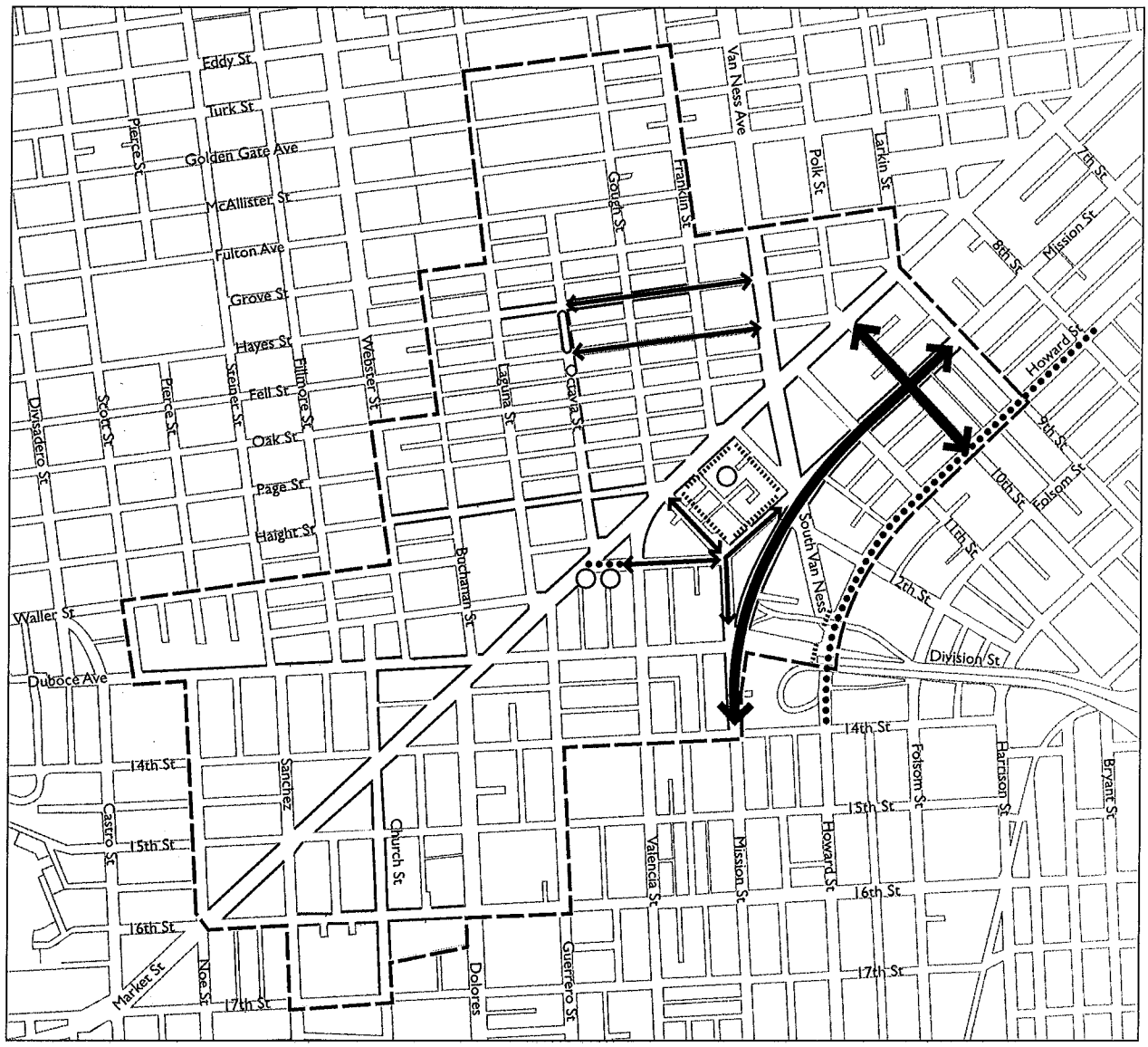
4.7 TRANSPORTATION

This section presents the existing transportation network and assesses the transportation impacts associated with the implementation of the Market and Octavia Neighborhood Plan. Numerous transportation improvements and changes have been proposed in the Plan. An analysis of all of these improvements was beyond the scope of this EIR, therefore the transportation improvements have been divided into three categories: 1) long-term transportation improvements that have been analyzed at a program level in the EIR, 2) near-term transportation improvements that are analyzed at a project level in the EIR, and 3) long-term transportation improvements that were identified in the *Draft Market and Octavia Neighborhood* Plan, but are not currently proposed for approval or for implementation would be subject to additional environmental review when specific plans have been developed for each improvement. A complete list of the transportation measures and which category they fall into is provided in Appendix 9-B, Table B-2, page 9.B-15.

Transportation Improvements analyzed at a program level are summarized in the Project Description, Chapter 3.0, pages 3-26 to 3-36. Specific public street, transit, pedestrian, and bicycle improvements that are proposed for implementation in the near-term and have been analyzed at a project level are summarized below. The roadway, transit, pedestrian, and bicycle changes that are analyzed at a project level are also shown in Figure 4-19. These proposed changes are intended to improve local vehicular circulation, enhance transit operations, and provide bicycle and pedestrian amenities within the Project Area.

Roadway Changes

- Convert Fell Street from one-way to two-way operations, with two lanes eastbound and one lane westbound between Franklin Street and Van Ness Avenue, and restripe to provide two westbound lanes and one lane eastbound between Franklin and Octavia Streets.
- Convert Hayes Street from one-way to two-way operations with one lane eastbound and three lanes westbound between Van Ness Avenue and Franklin Street and two lanes westbound and one lane eastbound between Franklin and Octavia Streets.
- Convert Gough Street, between Market and Otis Streets, from a two-way street with two lanes in each direction to a two-way street with three lanes southbound and one lane northbound.
- Separate regional traffic on Otis Street, between South Van Ness Avenue and Mission Street, through use of a planted median.



SOURCE: Wilbur Smith Associates

Figure 4-19
Proposed Transportation Changes

Transit Changes

- Prohibit new curb cuts on transit preferential streets.

Open Space/Pedestrian Changes

- Create new pedestrian plaza (Octavia Plaza) adjacent to the new Central Freeway touchdown at Market and McCoppin Streets.
- Create open space improvements (McCoppin Square) on McCoppin Street, which would dead end between Valencia Street and US 101.
- Create a public park (Brady Park) on the block which is bordered by Market, Gough, Twelfth, and Otis Streets.

Bicycle Changes

- Create a bike path at the Central Freeway touchdown to connect the Valencia Street bike lanes with the improved bike routes along Octavia Boulevard.
- Install bike lanes on both sides of Howard Street between Division Street, South Van Ness Avenue, and Fourteenth Street. Bicycles traveling southbound at the intersection of Howard and Division Streets would be routed to a stripped box at the front of the crosswalk for storage during the red-signal phase.

All proposed transportation changes are discussed in greater detail in Chapter 3.0, Project Description.

4.7.1 Environmental Setting

This section provides a description of the existing transportation conditions in the vicinity of the Project Area. Included in this section are descriptions of the existing roadway network, intersection operating conditions, transit network, parking supply and occupancy, pedestrian conditions and bicycle conditions.

Roadway Network

US Highway 101 (US 101) and Interstate 280 (I-280) provide the primary regional access to the Project Area. US 101 serves San Francisco and the Peninsula/South Bay, and extends north via the Golden Gate Bridge to the North Bay (via Van Ness Avenue and Lombard Street). In addition, US 101 provides a link to Interstate 80 (I-80), which connects San Francisco to the East Bay and points

east via the San Francisco-Oakland Bay Bridge. I-280 serves San Francisco, the Peninsula, and the South Bay. In addition, I-280 merges with US 101 to the southeast of the Project Area.

Nearby access to US 101 is provided via on ramps at Van Ness Avenue and Duboce Avenue, and Tenth Street at Harrison Street. Off-ramps are located at the intersection of Duboce Avenue and Mission Street and at Ninth Street at Harrison Street. Access to I-280 is provided via on- and off-ramps at Sixth Street, to the east of the Project Area.

Within the Project Area, Market Street, Oak Street, Fell Street, Gough Street, Franklin Street, Van Ness Avenue, South Van Ness Avenue, Ninth Street, Tenth Street, and Howard Street are all designated as Major Arterials in the Transportation Element of the *General Plan.*[68] Major Arterials are defined as "cross-town thoroughfares whose primary function is to link districts within the city and to distribute traffic from and to the freeways." Guerrero Street, Valencia Street, and Sixteenth Street are designated as Secondary Arterials.[69] All of the Major Arterials and Valencia Street are part of the Metropolitan Transportation System (MTS). Market Street between Franklin and Steuart Streets and Mission Street are classified as Transit Conflict Streets.[70,71]

Market Street, Mission Street, Oak Street, Fell Street, Gough Street, Franklin Street, Van Ness Avenue, Ninth Street, Tenth Street, and Howard Streets are all part of the Congestion Management Program (CMP) network.[72] Several streets in the Project Area are designated as Transit Preferential Streets in the *General Plan*: Market Street between Castro and Steuart Streets; Church Street; Mission

[68] Major arterials are defined as cross-town thoroughfares whose primary function is to link districts within the city and to distribute traffic from and to the freeways. These are routes generally of citywide significance.

[69] Secondary Arterials are primarily intra-district routes of varying capacity which serve as collectors for the major thoroughfares, and can be supplemental to the major arterial system.

[70] The Metropolitan Transportation System (MTS) is a regional network for San Francisco of freeways, major and secondary arterials, transit conflict and recreational streets meeting nine criteria developed by the Metropolitan Transportation Commission as part of the Regional Transportation Plan. The criteria identify facilities that provide relief to congested corridors, improve connectivity, accommodate travel demand and serve a regional transportation function.

[71] Transit Conflict Streets are streets with a primary transit function which are not classified as major arterials but experience significant conflicts with automobile traffic.

[72] The Congestion Management (CMP) Network is the network of freeways, state highways and major arterials established in accordance with state Congestion Management legislation.

Street; Van Ness Avenue; South Van Ness Avenue; Sixteenth Street; and Haight Street.[73] Streets in the Project Area designated in the *General Plan* as part of the Citywide Pedestrian Network include: Market Street, Dolores Street; Mission Street; Van Ness Avenue, and South Van Ness Avenue.[74] Market Street, Church Street, Valencia Street, Mission Street, Van Ness Avenue, South Van Ness Avenue, and Sixteenth Street are designated as Neighborhood Pedestrian Streets. Citywide Bicycle Routes, including: Route #25 on Eleventh, Polk, Tenth, and Larkin Streets; Route #30 on Fourteenth Street, Clinton Park, Duboce Avenue, Howard Street, and Hayes Street; Route #32 on Page Street; Route #36 on Fourteenth Street; Route #45 on Octavia, McCoppin, and Valencia Streets; Route #47 on Fourteenth and Sanchez Streets; Route #49 on Sanchez Street; Route #50 on Market Street; and Route #350 on Clinton Park and Duboce Avenue traverse the Project Area.

Market Street is a northeast-southwest street that runs between Portola Drive and Steuart Street and also serves as a major transit and ceremonial street in the city. The city's grid patterns converge at Market Street. In the Project Area, Market Street has two to three travel lanes in each direction. North of Market Street, Van Ness Avenue, Franklin Street, and Gough Street are all major north-south streets. Van Ness Avenue is a north-south street that runs from North Point Street in Fisherman's Wharf and crosses Market Street to become South Van Ness Avenue, which continues south to Cesar Chavez Street. In the vicinity of the Project Area, Van Ness Avenue has three to four travel lanes in each direction. Franklin and Gough Streets form a one-way couplet north of Market Street with three to four lanes in each direction. Fell and Oak Streets are major east-west streets in Hayes Valley with one to four travel lanes. In some sections of the Project Area, they

[73] The Transit Preferential Street network classification system takes into consideration all transportation functions, and identifies the major transit routes where general traffic should be routed away from. There are two classifications of transit preferential streets: Primary Transit Streets, which are either transit-oriented or transit-important; and Secondary Transit Streets. Primary Transit Streets (Transit-Oriented) are not major arterials, with either high transit ridership, a high frequency of service, or surface rail. Along these streets, the emphasis should be on moving transit vehicles, and impacts on automobile traffic should be of secondary concern. Primary Transit Streets (Transit-Important) are Major arterials, with either high transit ridership, high frequency of service, or surface rail. Along these streets, the goal is to improve the balance between modes of transportation, and the emphasis should be on moving people and goods, rather than on moving vehicles. Secondary Transit Streets are medium transit ridership and low-to-medium frequency of service, or medium frequency of service and low-to-medium transit ridership, or connect two or more major destinations.

[74] The Citywide Pedestrian Network is a classification of streets throughout the City used to identify street devoted to or primarily oriented to pedestrian use. The main classifications are: Citywide Pedestrian Network Streets, which are inter-neighborhood connection with "citywide significance," includes both exclusive pedestrian and pedestrian-oriented vehicular streets; and Neighborhood Network Streets, which are neighborhood commercial, residential or transit streets that serve pedestrians from the general vicinity. As part of the Neighborhood Network Street network, streets are classified as Neighborhood Commercial Streets, which are streets that are predominately commercial use with parking and loading conflicts, or Neighborhood Network Connection Streets, which are intra-neighborhood connection streets that connect neighborhood destinations.

operate as a one-way couplet providing connections from the Civic Center to the western neighborhoods.

In the South of Market area, the major north-south streets include Ninth and Tenth Streets, which operate as a one-way couplet with four travel lanes in each direction. They provide connections to US 101. Mission and Howard Streets are the major east-west streets in SoMa West. Mission Street provides two lanes in each direction and transit only lanes on some segments of the street, while Howard Street has four to seven lanes of traffic and operates one-way westbound in the Project Area. In the Inner Mission District the major north-south streets are Dolores, Guerrero, and Valencia Streets. In the Project Area, Dolores and Guerrero Streets have two travel lanes in each direction and Valencia Street has one travel lane in each direction. Sixteenth Street is the major east-west street in the Inner Mission District with two travel lanes each direction in the Project Area.

Intersection Operating Conditions

Intersection operating conditions were evaluated at 32 intersections for the peak hour (generally between 5:00 and 6:00 PM) of the weekday PM peak period (4:00 to 6:00 PM). Level of Service (LOS) describes the operating characteristics of intersections. LOS is a qualitative description of the performance of an intersection based on the average delay per vehicle. Intersection levels of service range from LOS A, which indicates free flow or excellent conditions with short delays, to LOS F, which indicates congested or overloaded conditions with extremely long delays. See Appendix C, Table C-1, for LOS descriptions for signalized and unsignalized intersections.

Both signalized and unsignalized intersections were evaluated using the *2000 Highway Capacity Manual* methodology.[75] For signalized intersections, this methodology determines the capacity of each lane group approaching the intersection. The LOS is then based on average delay (in seconds per vehicle) for the various movements within the intersection. A combined weighted average delay and LOS are presented for the intersection. For unsignalized intersections, the average delay and LOS operating conditions are calculated by approach and movement (e.g., northbound left-turn), for those movements that are subject to delay.

In San Francisco, LOS A through D are considered satisfactory service levels, and LOS E and F conditions are considered unsatisfactory service levels. Unsignalized intersections are considered to

[75] As part of the *Highway Capacity Manual* methodology, adjustments are typically made to the capacity of each intersection to account for various factors that reduce the ability of the streets to accommodate vehicles (such as the downtown nature of the area, number of pedestrians, vehicle types, lane widths, grades, on-street parking and queues). These adjustments are performed to ensure that the LOS analysis results reflect the operating conditions that are observed in the field.

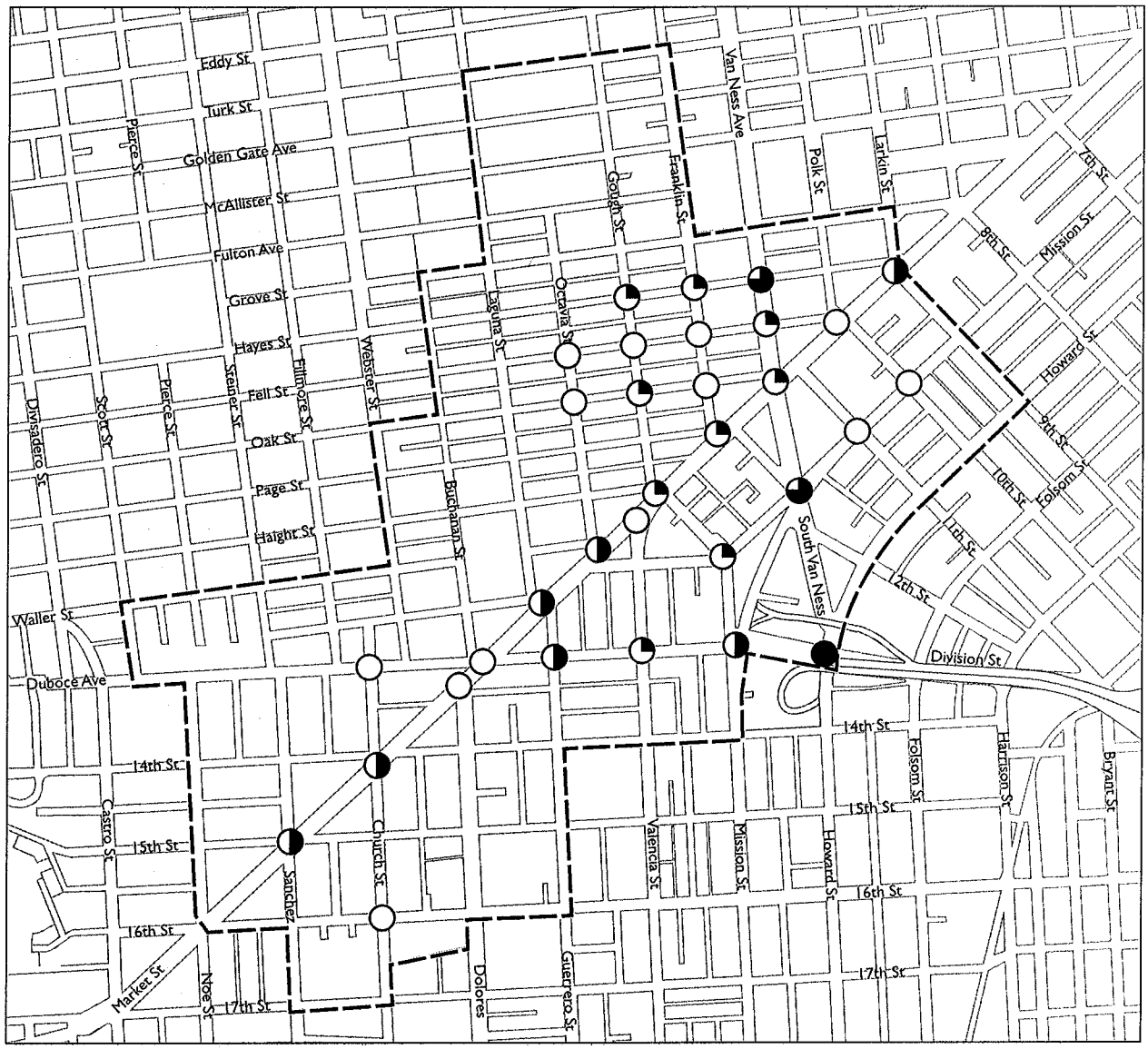
operate at unsatisfactory conditions if one approach operates at LOS E or F and Caltrans signal warrants are met.

The existing weekday PM peak hour operating conditions were collected from the *Market/Octavia Plan Existing Conditions Report* and from supplemental counts conducted in March of 2004.[76] Adjustments to the study intersections were made to account for the re-routing of vehicles due to the 2003 closure of the Fell Street off-ramp from northbound US 101 and based on a comparison of new counts to previous counts. With the Fell Street off-ramp adjustment, the traffic volumes at the study intersections were consistent between the old and the new counts; therefore the counts presented for the existing conditions are representative of 2004 conditions. Figure 4-20 presents the Existing Year levels of service for the weekday PM peak hour (see Appendix C, Table C-2, for a listing of each intersection). All the intersections, except three, currently operate at LOS D or better. The Hayes Street/Van Ness Avenue and Mission Street/Otis Street/Van Ness Avenue intersections operate at LOS E and the Duboce Avenue/US 101/South Van Ness Avenue intersection operates at LOS F.

Transit Network

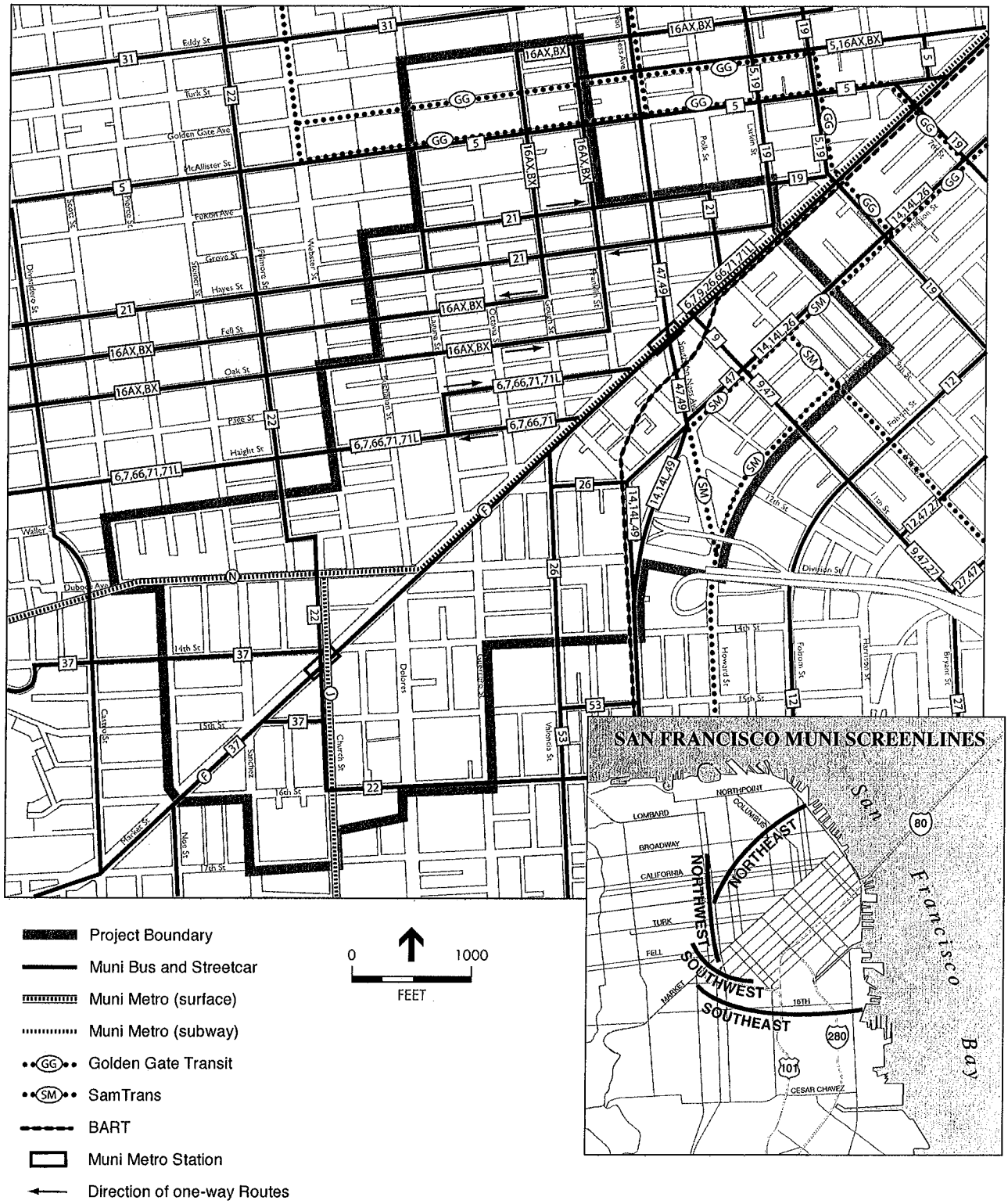
The Project Area is well-served by public transit, with both local and regional service provided in the vicinity (see Figure 4-21, page 4-199). The San Francisco Municipal Railway (Muni) bus and light rail lines provide local service. In the Project Area, direct regional transit connections are provided at the Civic Center BART station at Ninth Street, and by SamTrans and Golden Gate Transit bus routes that serve the Civic Center area. The Bay Area Rapid Transit District (BART) travels through the subway beneath the neighborhood with stations at Sixteenth Street and Civic Center. Through Muni and BART connections, travelers can also directly access additional regional transit resources such as Caltrain, the Transbay Terminal (AC Transit and Greyhound), and ferries.

[76] San Francisco Planning Department, *Better Neighborhoods 2002 Market/Octavia Study Area Existing Conditions Report*, August 2001 and counts conducted by Wilbur Smith Associates, March, 2004.



SOURCE: Wilbur Smith Associates

Figure 4-20
Existing Year Level of Service-
Weekday PM Peak Hour



SOURCE: Wilbur Smith Associates

Figure 4-21
Existing Year Transit Service

Local Transit

Muni currently operates 81 lines in regular weekday service including 54 motor coach, 17 trolley coach, 7 light rail, and 3 cable car lines. Most lines operate seven days a week, between 6:00 AM and midnight. Limited late night (owl) service is available between 1:00 AM and 5:00 AM on sections of 13 Muni routes. On weekdays, frequencies generally range from 4 to 12 minutes during peak periods, 5 to 20 minutes during midday, and 10 to 30 minutes during evenings. On weekends, base frequencies range from 5 to 60 minutes.

Muni currently operates six lines through the Metro light rail system: J-Church, K-Ingleside, L-Taraval, M-Ocean, N-Judah, and S-Castro Shuttle. The system operates in mixed traffic except for the subway sections along Market Street and through Twin Peaks, and small sections of exclusive at-grade right-of-way. All the light rail lines serve downtown San Francisco through the subway system. The F-Market line consists of historic streetcars, running in a transit priority lane on some segments, along the surface of Market Street. Service is provided between Fisherman's Wharf and the Castro District.

All of the Muni light rail lines traverse the Project Area and connect with BART at the Civic Center, Powell, Montgomery and Embarcadero stations. In addition, the J-Church, K-Ingleside, and M-Ocean View lines connect with BART at the Balboa Park Station. The J-Church also connects with BART at the Glen Park Station. Muni's Metro service connects with Caltrain via the N-Judah light rail line that continues from the Embarcadero Station along a surface extension to the Fourth and Townsend Caltrain station.

Muni operates 16 bus lines that directly serve the Project Area or its immediate vicinity: the 5-Fulton, 6-Parnassus, 7-Haight, 9-San Bruno, 14-Mission, 14L-Mission Limited, 16AX-Noriega A Express, 16 BX-Noriega B Express, 21-Hayes, 22-Fillmore, 26-Valencia, 37-Corbett, 47-Van Ness, 49-Van Ness/Mission, 66-Quintara, and 71-Haight/Noriega (see Appendix C, Table C-3 for detailed characteristics of lines serving the Project Area). In addition, Muni provides late night (owl) service within the Plan Area, including the 5-Fulton, 14-Mission, 22-Filmore, 90-Owl, L-Taraval, and N-Judah.

While most transit service through the Project Area is radial in nature, connecting downtown with neighborhoods to the west of the Project Area, there are also cross-town corridors which provide connections across the Project Area to the north and south, and provide links between transit lines. On the west side of the Project Area, the 22-Fillmore provides service linking the Marina in the north to the Mission and Potrero Hill neighborhoods. Along Van Ness Avenue on the Project

Area's east side, the 47-Van Ness and 49-Van Ness/Mission provide links between Fisherman's Wharf and the Marina in the north, and the Mission and SoMa to the south. The 49-Van Ness/Mission, 14-Mission and 14L-Mission Limited bus lines also provide access along the Mission Corridor, linking to BART and neighborhoods in San Francisco's southeastern sector.

Regional Transit

Regional transit access is provided at the BART Civic Center Station at Eighth and Market Streets just outside the Plan area and via SamTrans and Golden Gate Transit, which both provide direct service to the Plan area at the Civic Center on a limited number of their San Francisco bus lines. Direct connections to the Project Area are available to the other regional transit operators and those SamTrans and Golden Gate Transit lines serving the Transbay Terminal by transit, taxi, and bicycle or on foot (see Appendix C, Table C-4, for a summary of the regional transit operators).

BART

The Bay Area Rapid Transit District (BART) operates regional rail transit service between the East Bay (from Concord, Richmond, Dublin/Pleasanton, and Fremont) and San Francisco, and between San Mateo County (Millbrae) and San Francisco. BART carries approximately 307,000 passengers per day system-wide.[77] In 2003, BART opened a connection terminating in Millbrae in San Mateo County. This extension carries approximately 25,000 passengers per day, and provides direct access to San Francisco International Airport. BART's service hours are approximately 4:00 AM to midnight; Monday through Friday; 6:00 AM to midnight on Saturday; and 8:00 AM to midnight on Sunday.

As previously noted, BART shares four stations in downtown San Francisco with the Muni Metro allowing a direct connection between BART and Muni light rail. During the PM peak period, BART headways are five minutes on the peak direction commute on the Concord line and 15 minutes on other lines. In downtown San Francisco, there are approximately 23,000 peak hour entrances between 5:00 and 6:00 PM and 4,000 exits.[78] Sixty percent of PM peak period trips from downtown stations are transbay, with the remainder traveling south.

Civic Center and Sixteenth Street are the closest BART stations to the Project Area. The Civic Center station provides access just outside of the northeastern edge of the Project Area. Both the Civic Center and Sixteenth Street stations can be accessed via direct connection on Muni or on foot

[77] BART 2nd quarter 2004 ridership data.
[78] BART passenger data, June 2004.

from more distant parts of the Project Area. Civic Center Station is the least heavily used of the four downtown San Francisco Stations, but serves as a major commuter station for private and government office buildings in the vicinity, and has nearly four times as many entries as exits during the PM peak period. As a neighborhood station with a mix of residential and commercial uses, Sixteenth Street Mission Station has less than half the total usage compared to the Civic Center Station, but has a more balanced evening pattern, with slightly more exits than entrances.

Caltrain

The Caltrain Peninsula Commute Service (Caltrain) provides rail passenger service on the Peninsula between Gilroy and San Francisco. The 77-mile long rail line serves 34 stations. The Peninsula Corridor Joint Powers Board, a joint powers agency consisting of San Francisco, San Mateo, and Santa Clara Counties, operates the service. The San Francisco terminal is at Fourth and Townsend Streets. Caltrain can be accessed from the Project Area via the Muni Metro N-Judah line, or via the Muni 47-Van Ness bus line.

Caltrain currently operates 43 trains each weekday in each direction (86 total one-way trips), with a combination of express, limited and local service. Weekday Caltrain ridership is approximately 26,000 per day.[79] Service is provided between 5:00 AM and midnight. Headways from Fourth and Townsend Streets during the peak commute average 15 minutes, and half-hour service is provided throughout the day. Caltrain offers weekend service between San Francisco and San Jose's Tamien Station with hourly headways. Caltrain recently has completed a system upgrade allowing it to operate express trains ("the baby bullet") between San Jose and San Francisco. ~~In June of 2004, the service was inaugurated with five express routes per day in each direction.~~ As of December 2005, the service offers 11 express weekday routes per day in each direction (a total of 22 trains per day).

AC Transit

The Alameda-Contra Costa Transit District (AC Transit) provides service from the East Bay to the Transbay terminal in downtown San Francisco, about eight blocks east of the Project Area and accessible via Muni Metro and surface bus lines on Mission Street. Twenty-five lines serve the Transbay terminal. There are three all day routes, twenty peak-commute-period routes, one owl route, and one reverse commute route. Most Transbay service is peak hour and peak direction, with headways of 15 to 30 minutes per route. AC Transit has an average daily transbay ridership of approximately 12,000 passengers.

[79] Average Caltrain ridership year-to-date through May 2004.

SamTrans

The San Mateo County Transit District (SamTrans) provides bus service between San Mateo County and San Francisco. This service was reconfigured and reduced with the extension of BART to Millbrae. SamTrans currently operates 10 bus lines serving the city. Seven of these routes operate as peak-only express routes, two provide peak hour local service, and one provides limited night service to Palo Alto when Caltrain is not running between midnight and 5:00 AM. Only one route, 292, provides service throughout the day. Total SamTrans ridership throughout the system is approximately 48,000 passengers per day.[80] Of that, fewer than 1,500 riders ride peak evening service from San Francisco to the Peninsula. Most SamTrans routes terminate at the Transbay Terminal. The 391 operates on South Van Ness Avenue in the Project Area and the 292 and several of the express buses enter and leave San Francisco via Ninth and Tenth Streets and turn towards downtown on Mission Streets, bringing patrons close to the Project Area. All buses provide transfer points with Muni along Mission Street and at the Transbay Terminal.

Golden Gate Transit

Golden Gate Transit, operated by the Golden Gate Bridge, Highway, and Transportation District, provides bus service between the North Bay (Marin and Sonoma Counties) and San Francisco. Golden Gate Transit operates 15 bus routes into the city. Most routes serve either the Civic Center (via Van Ness Avenue, Golden Gate Avenue and McAllister Street, and Mission Street) or the Financial District (via Battery and Sansome Streets). Peak hour patronage is approximately 4,400. Bus routes operate with headways between 15 and 90 minutes. In San Francisco, Golden Gate Transit passengers can alight, but not board, inbound buses and can board, but not alight, outbound buses, except at two locations: the Golden Gate Bridge plaza and at the Lombard/Fillmore Streets intersections.

The Golden Gate Bridge, Highway and Transportation District also provides ferry service between the North Bay and San Francisco. During the AM and PM peak periods, ferries operate between Larkspur and San Francisco and between Sausalito and San Francisco. The San Francisco terminal is located at the Ferry Building, on The Embarcadero at Market Street. Approximately 1,400 passengers ride the ferry to Larkspur and approximately 340 passengers ride the ferry to Sausalito during the PM peak hour. Access to the ferry from the Project Area is via Muni from the underground station at Van Ness Avenue or on surface Market Street routes.

[80] SamTrans average system ridership, April 2004.

East Bay Ferries

Other ferries with service to the San Francisco Ferry Building from the East Bay include the Alameda Harbor Bay Island Ferry (peak period service only), the Alameda Oakland Ferry (hourly service) and the Vallejo Baylink Ferry (hourly service). Combined, these ferries carry approximately 650 passengers during the peak hour to and from San Francisco. Access to the ferry from the Project Area is via Muni from the underground station at Van Ness Avenue or on surface Market Street routes.

Transit Service Analysis

Muni Screenline Analysis

Muni service capacity was analyzed at a screenline level, as described in the San Francisco Planning Department's Guidelines (*SF Guidelines*).[81] Muni screenlines aggregate individual Muni lines by corridor to describe the peak hour travel demand as compared to the peak hour transit capacity from greater downtown to other parts of San Francisco. The screenline location is proximate to the maximum load points of individual lines, generally on the outskirts of the downtown area. Muni has established four screenline corridors (Northeast, Northwest, Southwest, and Southeast), and further disaggregates these into sub corridors (see Figure 4-20, page 4-186 for screenline locations). All major radial transit lines are one of these corridors. To simplify analysis, Muni does not include lower-patronage "policy" lines (such as the 26-Valencia in the Project Area) in screenline analysis, but only those lines that provide frequent commute-hour service.

The screenline analysis measures total capacity of the corridor and reflects a degree of choice by Muni patrons as to which transit routes to use. This is particularly true for transit users in the Project Area, due to the density of radial lines within a few blocks distance of any location in the Project Area. A resident in the Project Area traveling to downtown locations frequently has a choice of transit alternatives.

As shown in Table 4-13, the four Muni screenlines currently operate below their overall capacity during the weekday PM peak hour, although individual corridors within screenlines operate at close to capacity at the peak hour.

[81] San Francisco Planning Department, *Transportation Impact Analysis Guidelines for Environmental Review*, October 2002.

Table 4-13:
Muni Screenlines
Existing Year Conditions - Weekday PM Peak Hour

Screenline	Transit Corridor	Transit Lines[a]	Hourly Ridership Demand	Hourly Capacity	Capacity Utilization
Northeast	Kearny/Stockton	15, 30, 30X, 45	2,215	2,610	85%
	All Other	41, 10, 82X, F	945	1,705	55%
		Subtotal	**3,165**	**4,315**	**73%**
Northwest	Geary	38, 38L, 38AX, 38BX	2,510	2,940	85%
	All other lines	1, 1AX, 1BX, 2, 3, 4, **5**, **21**, 30, **31**, 31AX, 31BX, 45	5,955	6,990	85%
		Subtotal	**8,465**	**9,930**	**85%**
Southeast	Third Street	15	425	595	71%
	Mission Street	**14**, 14X	1,170	1,325	88%
	All other lines	**9**, 9AX, 9BX, J	1,980	2,170	91%
		Subtotal	**3,575**	**4,090**	**87%**
Southwest	Subway lines	**K, L, M, N**	5,260	5,890	89%
	All other lines	**6, 7, 71, F**	1,410	1,830	77%
		Subtotal	**6,670**	**7,720**	**86%**
		Total All Lines	**21,870**	**26,060**	**84%**

Source: *SF Guidelines,* Wilbur Smith Associates, Nelson\Nygaard – September 2004.

Notes:

[a] Bolded transit lines serve the Project Area.

Muni Corridor Analysis

Although the screenline analysis is an important tool for understanding transit in the Project Area, many transit trips never cross the screenline, or do so in the off-peak direction. To fully understand transit performance in the neighborhood, supplemental east/west and north/south corridor analysis was performed. Five corridors were identified, three north/south and two east/west.

North/South Corridors

- Fillmore: The 22-Fillmore along the western edge of Project Area provides cross-town service. The service links the Project Area to the Marina neighborhoods in the north and the Mission and Potrero Hill neighborhoods on the south, and crosses more than 40 other transit lines along its length.

- Van Ness: The 47-Van Ness and 49-Van Ness/Mission provide connections up and down Van Ness Avenue, north of Market Street to the Marina and North Beach neighborhoods. South of Market Street, they diverge, with the 47-Van Ness connecting to SoMa and the Caltrain Station, and the 49-Van Ness/Mission serving the Mission Street Corridor.

- Mission Street: The 49-Van Ness and the 14/14X Mission buses all serve the Mission Corridor within the Project Area. Before reaching Market Street, the Mission lines diverge to downtown, while the 49-Van Ness continues up Van Ness Avenue.

East/West Corridors

- Market Street: Market Street service through the Project Area includes all of the Muni metro lines (J-Church, K-Ingleside, L-Taraval, M-Ocean View, N-Judah, and S-Castro Shuttle) as well as the F-Market. These lines connect the Project Area directly with downtown and the Upper Market; in the western part of the Project Area they diverge to serve the Sunset, West of Twin Peaks, Noe Valley and Glen Park neighborhoods.

- Western Addition: Five bus routes connecting downtown to the Western Addition, Haight, and Richmond neighborhoods cross the Project Area. These include the 5-Fulton, 21-Hayes, 6-Parnassus, 7-Haight and 71-Haight/Noriega. The 6-Parnassus, 7-Haight and 71-Haight/Noriega travel along Market Street for much of the trip through the Project Area.

Table 4-14 presents existing ridership statistics for the north/south corridors and Table 4-15, page 4-196, presents the existing ridership statistics for the east/west corridors. The Fillmore and Van Ness corridors are important for this analysis, because their trips are not directly captured in screenline analysis (the lines are not included in any of the four screenlines), and as cross-town routes, they perform a role to provide connections between neighborhoods, and do not have strong peak directional travel patterns. Bus lines along these cross-town corridors routinely carry some of the heaviest loads as any lines in the system, and the 22-Fillmore and 49-Van Ness/Mission lines approach capacity in both directions.

Regional Screenline Analysis

A regional screenline analysis was also performed for the regional transit providers, to determine the current service volumes and capacity from the city. Regional transit operations are assessed where transit lines exit the city to the North Bay, East Bay or South Bay/Peninsula. The regional transit screenline analysis also used load factor as the basis for estimating capacity utilization. Depending on the transit operator this is based on a ratio of passengers to seats (a passenger to seat ratio of one

Table 4-14:
Muni Corridor Analysis – North/South Corridors
Existing Year Conditions - Weekday PM Peak Hour

Corridor/Line	Maximum Load Point	# of vehs.	Ridership		Capacity		Capacity Utilization
			Avg. Load	Passen-gers	Per vehicle	Passen-gers	
Fillmore Corridor							
Northbound							
22-Fillmore	Fillmore/Haight	9.5	51.1	485	63	600	81%
Total				**485**		**600**	**81%**
Southbound							
22-Fillmore	Fillmore/California	13.0	45.8	595	63	820	73%
Total				**595**		**820**	**73%**
Van Ness Corridor							
Northbound							
47-Van Ness	Van Ness/McAllister	8.9	62.9	555	94	560	100%
49-Van Ness/Mission	Van Ness/Post	8.7	52.7	460	63	550	84%
Total				1,015		1,105	92%
Southbound							
47-Van Ness	Van Ness/McAllister	7.8	36.6	285	94	490	58%
49-Van Ness/Mission	Van Ness/O'Farrell	9.3	59.5	550	63	585	94%
Total				835		1,075	78%
Mission Street Corridor							
Inbound							
14-Mission	Mission/16th Street	11.3	42.2	475	94	1,060	45%
49-Van Ness/Mission	Van Ness/McAllister	8.9	62.9	555	63	555	100%
Total				1,030		1,615	64%
Outbound							
14-Mission	Mission/16th Street	9.9	65.9	650	94	925	70%
49-Van Ness/Mission	Van Ness/O'Farrell	9.3	59.4	550	63	585	94%
Total				1,200		1,510	79%

Source: Muni, Nelson\Nygaard, Wilbur Smith Associates – September 2004

Notes: Based on Muni Monitoring Data for FY 2002-2003; Ridership for peak hour of PM peak period.

vehs. = vehicles, avg. = average

Table 4-15:
Muni Corridor Analysis – East/West Corridors
Existing Year Conditions - Weekday PM Peak Hour

Corridor/Line	Maximum Load Point	# of vehs.	Ridership		Capacity		Capacity Utilization
			Avg. Load	Passen-gers	Per vehicle	Passen-gers	
Market Street Corridor							
Inbound							
F-Market	Market/4th Street	7.3	46.1	335	70	510	66%
J-Church	Van Ness Station	7.5	40.4	305	119	890	34%
K-Ingleside[1]	Van Ness Station	16.0	23.0	370	119	1,905	19%
L-Taraval	Embarcadero Station	17.0	31.9	545	119	2,025	27%
M-Ocean View	Embarcadero Station	14.0	47.7	665	119	1,665	40%
N-Judah	Van Ness Station	18.3	51.8	945	119	2,170	44%
Total				**3,165**		**9,165**	**35%**
Outbound							
F-Market	Market/7th Street	8.4	33.7	280	70	585	48%
J-Church	Van Ness Station	7.4	92.5	680	119	875	78%
K-Ingleside[1]	Van Ness Station	16.0	57.4	920	119	1,905	48%
L-Taraval	Embarcadero Station	14.7	109.5	1,605	119	1,745	92%
M-Ocean View	Embarcadero Station	14.8	95.7	1,410	119	1,755	80%
N-Judah	Van Ness Station	18.5	102.3	1,890	119	2,200	86%
Total				**6,785**		**9,065**	**75%**
Western Addition Corridor							
Inbound							
6-Parnassus	Market/5th Street	6.3	19.1	120	63	395	30%
7-Haight	Market/Van Ness	6.8	15.9	105	63	425	25%
21-Hayes	Van Ness/Grove	7.5	21.1	160	63	475	33%
71-Haight/Noriega	Haight/Masonic	6.2	34.8	215	63	385	55%
5-Fulton	Van Ness/McAllister	14.0	22.2	310	63	880	35%
Total				**910**		**2,560**	**36%**
Outbound							
6-Parnassus	Market/Van Ness	7.3	43.3	315	63	455	69%
7-Haight	Market/Van Ness	5.4	47.3	255	63	335	75%
21-Hayes	Hayes/Van Ness	10.0	43.2	430	63	630	69%
71L-Haight/Noriega Ltd.	Market/Van Ness	6.6	49.2	320	63	415	78%
5-Fulton	Van Ness/McAllister	15.3	50.0	765	63	960	79%
Total				**2,085**		**2,795**	**74%**

Source: Muni, Nelson\Nygaard, Wilbur Smith Associates – September 2004.

Notes Based on Muni Monitoring Data for FY 2002-2003

Ridership for peak hour of PM peak period.

vehs. = vehicles, avg. = average

indicates the vehicle is full) or to the passenger capacity (which includes both seating and allowable standing capacity). The type of vehicle (e.g., motor coach, light rail vehicle) and type of service (local, long distance, high speed) affect the choice of an acceptable load factor.

For the purpose of this analysis, the ridership measured at the three regional screenlines represents the peak direction of travel and patronage loads that correspond to the PM peak outbound commute from the Project Area to the region. As shown in Table 4-16, all regional transit providers, except BART to the East Bay, operate at less than their design capacity, which indicates that seats are generally available. All of the regional transit providers, except for BART, currently operate at a load factor of less than 1.0. BART uses a capacity threshold of 135 percent, and currently operates at 120 percent of capacity to the East Bay.

Parking

The existing on-street and off-street parking conditions were examined within the Project Area (see Figure 4-2~~1~~2, page 4-~~187~~211~~, for Project Area boundaries~~). The supply and occupancy of the on-street parking and public off-street parking facilities were determined for the weekday midday (generally noon to 2:00 PM). Parking surveys of evening conditions (generally 7:00 to 9:00 PM) recorded on-street parking utilization and a sample of off-street parking facilities utilization.

Portions of the Project Area fall within the residential parking permit areas "R," "U" or "S." The majority of the Project Area is located in Residential Permit Parking Area "S." Residential Permit Parking Area "R" is located on the northern portion of the Project Area and Residential Permit Parking Area "U" is located on the eastern portion of the Project Area. In general, only vehicles with residential permits may park in the Residential Permit Parking Areas for longer than the time-limited non-metered spaces, Monday through Friday from 8:00 AM to 6:00 PM.

The on-street parking within the vicinity of the Project Area is comprised of metered and unrestricted parking spaces which vary from 30 minute to two- or three-hour time limits. Yellow and white loading zones are typically located near businesses. On-street parking is generally well utilized throughout the day and evening. Observations conducted during the weekday midday period found on-street parking to be operating close to capacity.

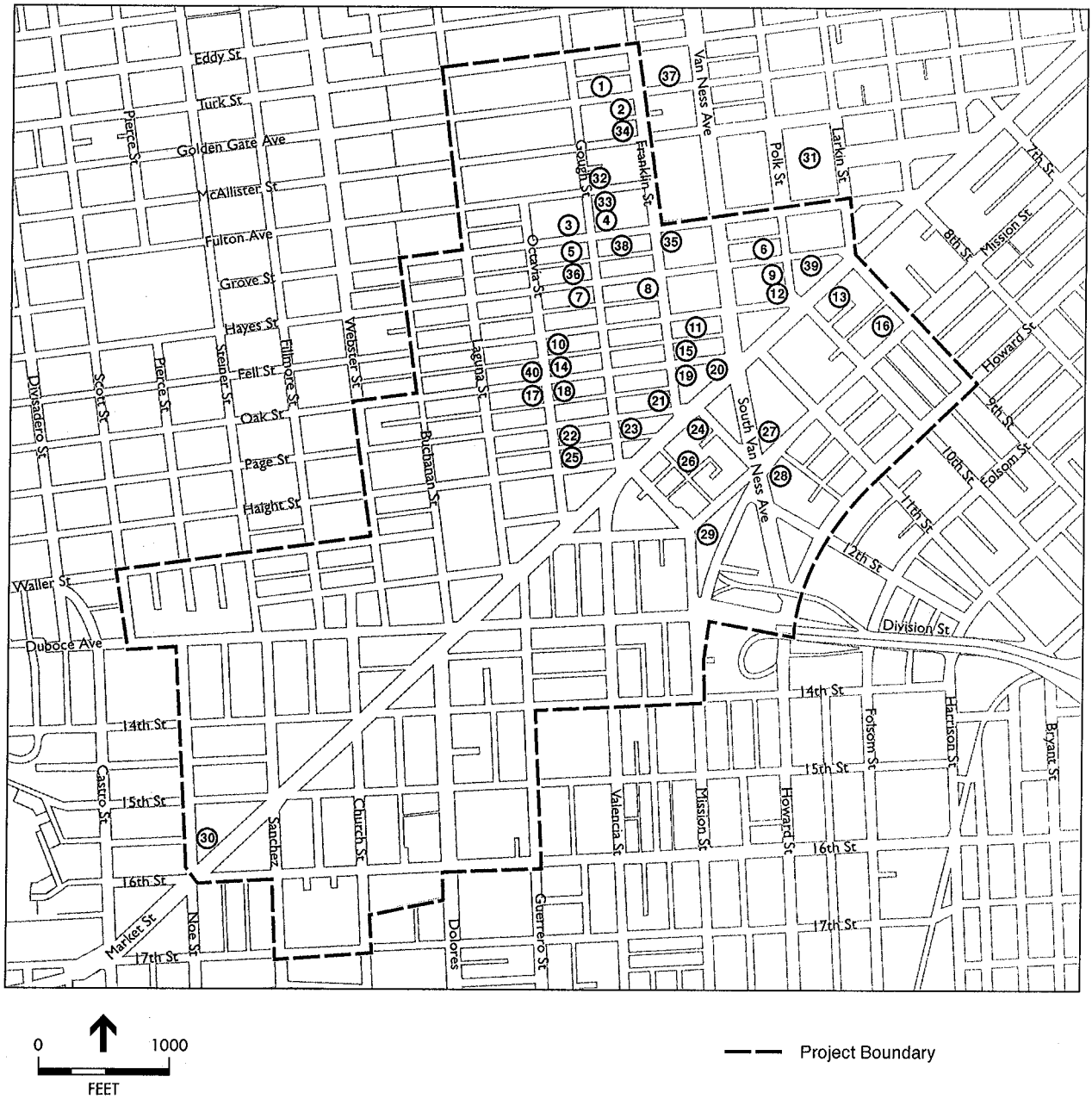
As of December 2005, within ~~Within~~ the Project Area, there are ~~34~~31 off-street ~~public~~ parking facilities providing a total of approximately 3,800 ~~3,160~~ spaces (See Appendix 9-C, Table C-5, page

Table 4-16:
Regional Screenline Analysis
Existing Year Conditions - Weekday PM Peak Hour

Screenline/Corridor	Ridership	Existing Year Capacity	Capacity Utilization
East Bay			
BART	17,535	14,560	120%
AC Transit	3,145	4,895	64%
Ferries	645	1,630	40%
Total East Bay	**21,325**	**21,085**	**101%**
North Bay			
GGT Bus	3,130	5,340	59%
GGT Ferry	755	2,410	31%
Total North Bay	**3,885**	**7,750**	**50%**
South Bay			
Sam Trans	3,155	10,360	30%
BART	1,900	2,900	66%
Caltrain	785	1,085	72%
Total South Bay	**5,840**	**14,345**	**41%**
Total All Screenlines	**31,055**	**43,175**	**72%**

Source: SF Guidelines, Nelson\Nygaard – September 2004.

9.C-7 for a list of the existing off-street parking facilities within the Project Area at the end of 2005). Approximately 1,040 spaces are reserved for designated employees or monthly parkers, while 2,760 spaces are available to the general public for hourly or daily parking. Although the Civic Center garage is outside of the Project Area, (see "31" on Figure 4-22) it is included in the analysis due to its size and proximity to the Project Area. ~~Weekday, midday, and evening parking occupancy counts were not collected for this study; however, a qualitative assessment of parking conditions was conducted through field observations. Overall, during the week the on-street and off-street facilities in the Project Area were generally near capacity midday, whereas during the weekday evening, spaces were generally available in the off-street facilities and near capacity on street.~~ About ten public parking lots (340 spaces) have been eliminated within the *Market Octavia Neighborhood Plan* Project Area since 2002, most of them along the east side of Octavia Boulevard. However, two surface parking lots opened under the Octavia Boulevard ramp north of Mission Street in February 2006 with a combined capacity of approximately 120 parking spaces. With the addition of these two parking lots, the total number of parking spaces is 3,920. Occupancy counts conducted in March 2006 indicated that the lots are approximately one-third full during a typical weekday midday.



SOURCE: Wilbur Smith Associates

Figure 4-22
Revised
Existing Year Off-Street Public Parking

Several weekday, midday and evening parking occupancy counts have been conducted in the vicinity of the Project Area.[82] The results of the counts are summarized in Table 4-16a.

Table 4-16a
Existing (September 2005) Off-Street Parking Supply and Occupancy
By Time of Day on a Typical Weekday

Type	Spaces(1)	10 AM		4 PM		6 PM	
- Reserved	1,043	858	82%	831	80%	499	48%
- Public	2,762	2,720	98%	2,297	83%	943	34%
Total spaces	**3,805**	**3,578**	**94%**	**3,128**	**82%**	**1,442**	**38%**

(1) Marked spaces
Note: The boundaries for these counts were slightly different than the boundaries of the DEIR Project Area.
Source: Wilbur Smith Associates – January 2006

Off-street facilities in the Project Area are almost at capacity (94 percent) by 10 AM, decreasing to approximately 82 percent of capacity by 4 PM. After 6 PM on a typical weekday (no evening performance), the parking facilities in the Project Area are below 40 percent of their maximum capacity. Similarly additional information has been gathered for evening parking occupancy with and without evening performances, which is summarized in the Table 4-16b.

Table 4-16b
Existing (2005) Off-Street Parking Supply and Occupancy
Weekdays at 8 PM

Type	Spaces(1)	No Event		One Event		Three Events	
- Reserved	987	299	30%	693	70%	747	76%
- Public	2,351	574	24%	1,487	63%	1,763	75%
Total spaces	**3,338**	**873**	**26%**	**2,180**	**65%**	**2,510**	**75%**

(1) Marked spaces; does not include those facilities that are closed by 8 PM
Note: The boundaries for these counts were slightly different than the boundaries of the DEIR Project Area.
Source: Wilbur Smith Associates – January 2006

Evening parking occupancy on a performance night in the Project Area is about two and a half times higher than on a non-performance night (65 percent vs. 26 percent). The parking demand

[82] Better Neighborhoods, 2002; S.F. Parking Authority, 2005; Wilbur Smith Associates, 2005.

increases to 75 percent on those nights when three events (Symphony, Opera, and Herbst Theater) occur at the same time. [83]

Although state law requires employers providing parking subsidies within air quality non-attainment areas to offer parking cash-out programs, the current collective bargaining agreement with unionized workers at the Performing Arts Organization mandates the provision of 300 parking spaces for use by employees of the Opera, 224 spaces for Ballet employees, and 102 spaces for Symphony employees. The Performing Arts employees have reserved parking in two lots on Fulton Street between Franklin and Gough Streets (Numbers 32 and 33 on Figure 4-22 Revised, page 4-211), one lot at the corner of Franklin and McAllister Streets (Number 34), and one lot on Hayes Street (Number 36). Lot 36 is a Central Freeway Parcel (Parcel J) and the Plan outlines specific development guidelines for these parcels. Lots 32, 33, and 34, which would be subject to the general development guidelines of the Plan, could transition from parking to residential or commercial uses with or without the implementation of the Plan (see Table C-5, Appendix 9-C for the development status as of September 2005).

Performance Evenings

Within the Civic Center area, there are three major performing arts venues: War Memorial Opera House (San Francisco Opera and Ballet), Davies Symphony Hall (San Francisco Symphony) and Figure 4-22: Existing Year Off-street Public Parking

Herbst Theater. The Opera season typically extends from September through January, with some performances in the summer; the Symphony season typically extends from September through June; and the Ballet season typically extends from February through May, with some performances in December. Overall, there are nine months when there are two companies in season, one month when there is one company in season, and two months when there are no companies in season. There are often performances by all three companies in December; however, because the Ballet and Opera use the same venue, their performances would not overlap. Most weekday and weekend evening performances are scheduled for 7:00 or 8:00 PM.

During events at the performing arts venues, on-street and off-street parking in the Civic Center area has higher occupancy than non-event days (with the occupancy increasing with the number of

[83] In 2005 there were 24 occasions out of a total of 286 event days (8.4 percent) when three performances took place simultaneously on a weekday evening (Expansion Feasibility Study Progress, Presentation to the San Francisco Parking Authority, Walker Parking, November 30, 2005).

concurrent events).[84] Most patrons tend to park at the Performance Arts Garage (located at the intersection of Gough and Grove Streets), which often reaches full occupancy for events. When multiple events occur at the venues, other off-street facilities in the immediate vicinity (primarily those located in the area bounded by Van Ness Avenue, Linden Street, Octavia Street, and McAllister Street) are fully occupied. However, those facilities further south and east (including the Civic Center Garage) are typically under-utilized and less than half occupied. In addition, on-street parking in the area is generally fully occupied.

When these conditions occur, it can be difficult to find parking in the Civic Center area, especially west of Van Ness Avenue. Patrons and employees of the performing arts venues and companies occupy the majority of the on-street and off-street parking in the area, which leaves few spaces for area residents and visitors. These effects are limited to the parking facilities in the immediate vicinity of the venues, and spaces are typically available in the remainder of the Project Area.

Pedestrians

The Project Area contains several key pedestrian corridors. With major thoroughfares that traverse the Project Area and the density and mix of residential and commercial uses, many heavily used pedestrian streets, such as Market and Hayes Streets and Van Ness Avenue, are also major transit and auto corridors (as described below).

Market Street

Pedestrians use Market Street as the connection between the Castro District and Downtown. Market Street is a main artery for transit feeding into downtown and to regional connections on BART, Caltrain, and the ferries. Along this thoroughfare, the intersections of Market Street/Van Ness Avenue and Church Street/Duboce Avenue have heavily-used sidewalks focused around the underground Van Ness Avenue and Church Street Muni Metro stations. These intersections are also transfer points for above-ground trolleys and buses. Along Market Street, passengers must cross to the middle of the street where the trolleys and buses have dedicated boarding islands.

Hayes Street

The mix of commercial and residential uses along Hayes Street, between Laguna Street and Van Ness Avenue, makes it a heavily used route for pedestrians and the focus of the Hayes Valley neighborhood. In addition to local foot traffic, there is a synergy between the performing arts

[84] As documented in the *Better Neighborhoods 2002 Civic Center Parking Analysis Existing Conditions Report*, June 2001.

complex at Civic Center, local off-street parking, and the restaurants and nightclubs of Hayes Valley resulting in a pedestrian presence until late in the evening. Within Hayes Valley, Franklin and Gough Streets have intermittent commercial uses and also have foot traffic as connectors between Market Street, Hayes Valley, and the Civic Center area.

Van Ness Avenue

Van Ness Avenue has multiple functions as a transit way, a regional highway, and the site of major institutions such as City Hall, Davies Symphony Hall, and the War Memorial Opera House, as well as large-scale office and residential buildings. Within the Project Area, use focuses around the Market Street/Van Ness Avenue intersection and the entrance to the Muni Metro station.

Other Residential Streets

There are several residential streets in the Project Area that are characterized by low vehicle volumes and local pedestrian trips, such as Octavia Street north of Hayes Street, Laguna Street, Buchanan Street, Webster Street, Fillmore Street, and Steiner Street. East-west streets that have similar characteristics are Fulton, Grove, Hayes (east of Laguna), Page, Haight and Waller Streets. All of the alleys in the Project Area are lightly traveled by vehicles and are used by pedestrians as alternatives to busier streets.

Some residential streets, such as Oak and Fell Streets, carry heavy automobile traffic, but comparatively low pedestrian volumes. These streets have sparse activity centers, making them less attractive pedestrian routes. In general, the streets to the south of Market Street in the Project Area have less residential density and fewer pedestrian amenities.

Vehicle/Pedestrian Conflicts

The Project Area has several high volume and high-speed streets operating as freeway connectors. Conflicts between autos and vehicles occur at several intersections along these corridors, including: Gough and Hayes Streets, Fell and Oak Streets, Van Ness and South Van Ness Avenues, and Market and Mission Streets. Direct pedestrian crossings are not allowed at several intersections, forcing pedestrians to use a less direct route to legally get to their destination or may prompt jay-walking. Recent efforts to decrease conflicts include the installation of pedestrian countdown signals at the Market Street intersections with Church Street and Van Ness Avenue, and pedestrian signals on Oak and Fell Streets. See Appendix 9-C, Table C-6, page 9.C-13, for a summary of the existing pedestrian safety conflict locations.

Bicycles

The Project Area contains several key bicycle corridors. The generally flat terrain combined with major thoroughfares that traverse the Project Area and the density and mix of residential and commercial uses in the Project Area, provide for bicycle travel. Many of the streets most heavily used by bicyclists are also major transit and auto corridors, especially Market Street where dense activity centers and flat terrain create desirable routes for all transportation modes. The fact that all modes must share and sometimes compete for space affects and defines the bicycling environment as do land use and streetscape design.

Bicyclists travel along the designated bicycle routes on Market, Valencia and Fourteenth Streets in the Project Area. Although Market Street has intermittent bicycle lanes inbound to Octavia Street, it serves as a main thoroughfare for bicyclists commuting to downtown from throughout the city. By contrast, Valencia Street has a continuous bike lane running almost its entire length from Market Street to Tiffany Street (one block south of Cesar Chavez Street). Bicycle volumes on Valencia Street during the weekday PM peak hour increased 144 percent from 88 to 215 bicyclists per hour once the bicycle lane was installed.

The Duboce Avenue bikeway (between Church and Dolores Streets behind the Market Street Safeway) is in the Project Area, and is one of the few fully exclusive bike paths in the city. The Market Street/Duboce Avenue route through the Project Area is a critical path for bicyclists on their way to the Haight, Western Addition, Sunset, and Richmond neighborhoods, as it provides the most even grade from downtown.

There are several other Bike Routes through the Project Area, including a signed, wide curb lane bike route on Webster Street between Duboce Avenue and Hickory Street, and on Page Street between Stanyan and Gough Streets. This wide curb lane becomes a Bike Route on Page Street between Gough and Market Streets. Other designated Bike Routes in which bicyclists share right-of-way with autos include all or portions of Octavia, McCoppin, Otis, Sanchez and Fourteenth Streets.

Locations in the Project Area where the bicycle network is discontinuous include the following: Market Street at key intersections and east of Octavia Street; Howard Street, west of Eleventh Street, with no connection to existing bike lanes on Fourteenth Street; and South Van Ness Avenue between Market and Howard Streets.

4.7.2 Impact Analysis

This section is organized differently from other EIR topic sections in that program, project, and cumulative impacts are identified under the discussion of each mode of transportation.. The assessment of cumulative impacts is based on a comparison of the 2025 with Central Freeway Parcels/Near-Term Transportation Improvements and 2025 with Plan conditions against the 2025 without Plan conditions. The project level transportation improvements assessed in the 2025 with Central Freeway Parcels/Near-Term Transportation Improvements scenarios are listed on pages 4-191 through 4-193.

Significance Criteria

The following are the significance criteria used by the Planning Department for the determination of impacts associated with a proposed project:

- The operational impacts on signalized intersections are considered significant if project-related traffic causes the level of service to deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F. The operational impacts on unsignalized intersections are considered potentially significant if project-related traffic causes the level of service at the worst approach to deteriorate from LOS D or better to LOS E or F and Caltrans signal warrants would be met, or causes Caltrans signal warrants to be met when the worst approach is already at LOS E or F. The Plan may result in significant adverse impacts at intersections that operate at LOS E or F under existing conditions depending upon the magnitude of the Plan's contribution to the worsening of delay. In addition, the Plan would have a significant adverse effect if it would cause major traffic hazards, or would contribute considerably to the cumulative traffic increases that would cause the deterioration in levels of service to unacceptable levels.

- San Francisco does not consider parking supply as part of the permanent physical environment.[85] Parking conditions are not static, as parking supply and demand varies from day to day, from day to night, from month to month, etc. Hence, the availability of parking spaces (or lack thereof) is not a permanent physical condition, but changes over time as people change their modes and patterns of travel.

- Parking deficits are considered to be social effects, rather than impacts on the physical environment as defined by CEQA. Under CEQA, a project's social impacts need not be treated as significant impacts on the environment. Environmental documents should, however, address the secondary physical impacts that could be triggered by a social impact. (CEQA Guidelines § 15131 (a).) The social inconvenience of parking deficits, such as having to hunt for scarce parking spaces, is not an environmental impact, but may lead to

[85] Under *California Public Resources Code*, § 21060.5, "environment" can be defined as "the physical conditions which exist within the area which will be affected by a proposed project, including land, air, water, minerals, flora, fauna, noise and objects of historic or aesthetic significance."

physical environmental impacts such as increased traffic congestion at intersections, air quality impacts, safety impacts, or noise impacts caused by congestion. In the experience of San Francisco transportation planners, however, the absence of a ready supply of parking spaces, combined with available alternatives to auto travel (e.g., transit service, taxis, bicycles or travel by foot) and a relatively dense pattern of urban development, induces many drivers to seek and find alternative parking facilities, shift to other modes of travel, or change their overall travel habits. Any such resulting shifts to transit service in particular would be in keeping with the city's "Transit-First" policy. The city's Transit-First Policy established in San Francisco's Charter Section 16.102 provides that "parking policies for areas well served by public transit shall be designed to encourage travel by public transportation and alternative transportation."

- The transportation analysis accounts for potential secondary effects, such as cars circling and looking for a parking space in areas of limited parking supply, by assuming that all drivers would attempt to find parking at or near the Plan site and then seek parking farther away if convenient parking is available. Moreover, the secondary effects of drivers searching for parking is typically offset by a reduction in vehicle trips due to others who are aware of constrained parking conditions in a given area. Hence, any secondary environmental impacts which may result from a shortfall in parking in the vicinity of the proposed project would be minor, and the traffic assignments used in the transportation analysis, as well as in the associated air quality, noise and pedestrian safety analyses, reasonably addresses potential secondary effects.

- The Plan would have a significant effect on the environment if it would cause a substantial increase in transit demand that could not be accommodated by adjacent (nearby) transit capacity, resulting in unacceptable levels of transit service; or cause a substantial increase in operating delay or costs such that significant adverse impacts in transit service levels could result. With the Muni and regional transit screenlines analyses, the Plan would have a significant effect on the transit provider if project-related transit trips would cause the capacity utilization standard to be exceeded during the weekday PM peak hour.

- The Plan would have a significant effect on the environment if it would result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas.

- The Plan would have a significant effect on the environment if it would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas.

- The Plan would have a significant effect on the environment if it would result in a loading demand during the peak hour of loading activities that could not be accommodated within the proposed on-site loading facilities or within convenient on-street loading zones, and created potentially hazardous conditions or significant delays affecting traffic, transit, bicycles or pedestrians.

- Construction-related impacts generally would not be considered significant due to their temporary and limited duration.

Travel Demand

Methodology/Approach

For the analysis of the Plan, three future transportation scenarios were examined: 2025 without Plan; 2025 with Plan; and 2025 with Central Freeway Parcels/Near-Term Transportation Improvements. The San Francisco County Transportation Authority (County Transportation Authority) countywide travel demand forecasting model (Model) was used to develop the travel forecasts for future 2025 without Plan conditions. The additional vehicle and transit trips generated by the Plan, as well as the Central Freeway parcels, were also forecast by the Model and were then added to the 2025 without Plan values to determine the 2025 with Plan conditions.

For modeling purposes, San Francisco was divided into approximately 766 geographical areas, known as Transportation Analysis Zones (TAZs). The Model also includes other zones outside the city for which data is obtained from the Metropolitan Transportation Commission (MTC) regional model. For each TAZ, the Model estimates the travel demand based on population and employment growth assumptions, determines the origin/destination, and mode of travel (auto, transit, walk and bicycle) for each trip, and assigns those trips to the transportation system (roadway network and transit lines). Model output is developed on a weekday daily and three-hour PM peak period basis.[86]

The most recent County Transportation Authority travel demand estimates, prepared in early 2004, incorporate the Association of Bay Area Governments (ABAG) land use and socio-economic database and growth forecasts for the year 2025 (*Projections 2002*). *Projections 2002* provides forecasts of economic and population growth for the City and County of San Francisco, as well as for the remaining eight Bay Area counties. The San Francisco Planning Department has made adjustments to these growth projections to reflect the emphasis on housing production associated with the Better Neighborhoods planning efforts. These adjusted housing and employment projections were the basis for the travel demand forecasts for this EIR. The development scenario used for the Model concentrated housing growth in the Better Neighborhoods areas (including the Project Area) and therefore provides a conservative estimate of the travel demand and impacts associated with the implementation of the Plan.

[86] For this effort, the weekday PM peak period model output was used. Since the Model's peak period represents three hours, the output was factored to a peak hour (estimated to be 0.37 from the County Transportation Authority), which would correspond to the weekday PM peak hour.

For the analysis of the Plan and the summarization of the Plan-related travel demand and parking demand, the Project Area was subdivided into six districts, with Districts A, B and C generally north of Market Street, and Districts D, E and F generally south of Market Street. A representation of these districts, and their correspondence to the Model TAZs is included in Appendix 9-C, Figure C-1, page 9.C-10.

The Model assumed the following major changes to the transportation network would occur by 2025: construction of Octavia Boulevard and the US 101 on- and off-ramps to Market Street and Octavia Boulevard; reconstruction of Doyle Drive; the new Central Subway (new Muni Metro line to/from Fourth/Townsend to Chinatown); bus rapid transit and transit preferential street improvements to several Muni lines and street; implementation of the Muni E-Line service to Fisherman's Wharf; and the extension of Caltrain to the new Transbay Terminal.

2025 without Plan Travel Projections

The Model was developed as a tool to forecast future traffic volumes on major regional traffic facilities and on major local streets, and to forecast local transit ridership for the entire city and major transit corridors. To develop individual turning movements at intersections (which is required to determine intersection operating conditions) and transit ridership on a line-by-line basis (which is required to determine future transit screenline and corridor capacity utilization), post-processing of the model output was conducted.

From the Model output, traffic growth factors were developed for each of the five transportation districts to reflect the increase in travel demand between the Existing Year and Year 2025. Traffic growth factors were applied to individual turning movements at intersections based on the district location. Average annual growth rates developed for traffic vary from -0.36 percent to +1.17 percent. Negative growth rates would occur along the streets that parallel existing Octavia Street, as it is anticipated that a portion of the north/south travel in the area would be redirected to the new Octavia Boulevard. Three adjustments to the Model-generated growth rates were conducted for the development of 2025 without Plan turning movement volumes.

- A manual overlay of vehicle-trips was conducted to account for the additional traffic that would be on the new Octavia Boulevard (in conjunction with the future on- and off-ramps for US 101).
- Previous adjustments to existing volumes to account for the demolition of the Fell Street off-ramp and the rerouting of traffic to city streets were eliminated for the future 2025 without Plan scenario.

- Vehicle trips from a new 500-unit residential development proposed for the UC Extension site (at the intersection of Market/Laguna/Hermann Streets) were estimated and manually assigned to the 2025 without Plan traffic volumes.

The growth in transit ridership between the Existing Year and 2025 without Plan scenario was developed from the base Model runs and applied to each transit screenline to derive the 2025 screenline transit projections and growth rates. The average annual growth rates would be 0.96 percent at the Northeast screenline, 0.43 percent at the Northwest screenline, 1.2 percent at the Southeast screenline and 0.43 percent at the Southwest screenline, which would result in a total annual growth of 0.67 percent.

For the Muni corridor analysis, the future ridership was based on the same growth rates as identified for the screenline analysis, with the growth rates approximated from the nearby screenlines. The regional transit ridership was based on information obtained from the *SF Guidelines*, but expanded from year 2020 to year 2025 using similar growth rates as developed for 2000 to 2020 conditions.

2025 with Plan Travel Projections

Plan Travel Demand

For the development of 2025 with Plan conditions, the new vehicle trips and transit trips generated by the Plan were determined and manually added to the 2025 without Plan traffic volumes at each of the study intersections and the 2025 without Plan screenline and corridor ridership at each of the Muni and regional transit locations.

On a weekday daily basis, the Plan would generate about 35,970 person-trips and 10,955 vehicle-trips. See Appendix 9-C, Table C-7, page 9.C-13, for a breakdown of the daily person and vehicle trips by district in the Project Area. During the weekday PM peak hour, the Plan would generate about 3,165 person-trips, of which about 45 percent would be by auto, 21 percent would be by transit, 29 percent would be by walk, and 5 percent would be by bicycle. The 1,415 auto person-trips would correspond to about 935 vehicle-trips. See Table 4-17 for the weekday PM peak hour person-trips by mode generated by the Plan in the Project Area and five districts.[87]

To estimate the geographical distribution of the new trips that would be generated with the Plan, the origin and destination of each trip was obtained from the Model for each TAZ. This data was aggregated in the County Transportation Authority's 15 planning neighborhoods and the San Francisco Planning Department's standard geographical regions. It was estimated that about 86

[87] The SFCTA Model includes auto, transit, walk and bicycle modes.

Table 4-17:
Project Trip Generation by Mode - Weekday PM Peak Hour

District	Person-Trips					Vehicle Trips
	Auto	Transit	Pedestrian	Bicycle	Total	
A	350	95	215	25	685	240
B	155	110	145	25	440	115
C	165	95	125	10	395	120
D	140	75	90	10	315	95
E	340	145	130	35	655	165
F	265	140	220	50	675	200
Total	**1,415**	**670**	**925**	**155**	**3,165**	**935**

Source: San Francisco County Transportation Authority Model, Wilbur Smith Associates – September 2004.

percent of the new inbound trips generated by the Plan would be within San Francisco, with about 14 percent to and from the region. See Appendix 9-C, Table C-8, page 9.C-14, for the inbound/outbound trip characteristics for each San Francisco geographical region.

The distribution of trips to and from the 15 planning neighborhoods was used for assigning the Plan-generated trips to the local and regional streets and transit lines. For each neighborhood, potential vehicular and transit routes to and from the Project Area were identified, and traffic/transit ridership was assigned based on the most convenient routes. It was generally assumed that most of the trips would utilize the major streets (such as Fell, Oak, Franklin, Gough and Market Streets) and transit lines as their primary route.

Plan Parking Demand

The County Transportation Authority Model does not provide information on existing or future parking demand. ~~As such, the parking demand was determined by the anticipated increase in residential uses in the Project Area, and based on the number and size of the units.~~ As such, this study determined the increase in parking demand for future residential uses in the Project Area by estimating the number and size of residential units based on the parking demand methodology in the *SF Guidelines*.[88]

It was estimated that there would be 4,440 new housing units in the Project Area, as a result of the Plan.[89] Given that this is a program-level analysis and the breakdown of the residential units has not

[88] *SF Guidelines*, Appendix G - Residential Parking Demand: 1.1 spaces for studio/1-bedroom units and 1.5 spaces for 2+bedroom units

[89] See Section 4.3, Population, Housing, and Employment, page 4-68, for more information.

been specified, it was estimated that around 50 percent of the residential units would be studio or one-bedroom units and around 50 percent would be two or more bedroom units.[90]

A portion of these residential units would be designated as affordable units. The City ~~Redevelopment Agency~~ has proposed that all of the Central Freeway parcels sold to market rate developers include at least 15 percent affordable units. The Central Freeway parcels developed by the Redevelopment Agency, Parcels A, C, G, K, O, Q, and U, ~~would likely include an equal or higher percentage of~~ are proposed as 100 percent affordable units. Other development within the Project Area may not provide any affordable units (due to their size) or would provide ~~between 10 and 12~~ approximately 15 percent affordable units (as required in other parts of the city). Other development within the Project Area may not provide any affordable units (due to their size) or would provide between 10 and 12 percent affordable units (as required in other parts of the city). Due to the uncertainty of how the development would proceed with the Plan, it was conservatively estimated that about 10 percent of the units would be affordable units.

According to the *SF Guidelines,* affordable rental units have a lower parking demand rate than affordable owner units. Since the percentage of owner and rental units has not been specified for all new units with the Project Area, it was estimated that around 20 percent of the affordable units would be owner occupied, and around 50 percent would be rental units. Therefore, to determine parking demand of the Project Area, approximately 110 units of the 4,440 residents units were designated affordable rental studio/one-bedroom units and 110 units were designated affordable rental two or more bedroom units.

Table 4-18 presents the parking demand rate for various types of residential units that would be developed in the Project Area. The Project Area-generated parking demand was determined for both the weekday midday (generally 1:00 to 3:00 PM) and evening (generally 7:00 to 9:00 PM) conditions. The peak parking demand for residential uses typically occurs in the evening and overnight. To estimate the midday residential parking demand, a 20 percent reduction in evening demand was assumed (per the *SF Guidelines*).

Table 4-19 presents the increase in Project Area-wide parking demand associated with the Plan by district. It should be noted that these totals do not include the parking demand associated with the other land uses in the Project Area, but only the increase in demand with the Plan. Overall, there

[90] Affordable housing assumptions were developed based on information provided by the Planning Department and Redevelopment Agency. Although some parcels (particularly the former Central Freeway parcels) may have somewhat higher percentage of affordable units, this analysis would result in a conservative estimate of the Plan-generated parking demand.

Table 4-18:
Summary of Residential Units and Parking Demand Rate

Type of Residential Unit	Midday Parking Demand Rate	Evening Parking Demand Rate
Studio/One-Bedroom	0.88	1.1
Affordable Studio/One-Bedroom Owner-Occupied	0.88	1.1
Affordable Studio/One-Bedroom Rental	0.36	0.45
Two or more Bedroom	1.2	1.5
Affordable Two or more Bedroom Owner-Occupied	1.2	1.5
Affordable Two or more Bedroom Rental	0.74	0.92

Source: *SF Guidelines*, Wilbur Smith Associates – September 2004.

Table 4-19:
Estimated Increase in Parking Demand

District	Midday Demand	Evening Demand
A	1,260	1,580
B	630	790
C	650	810
D	760	950
E	820	1,030
F	390	480
Total	**4,510**	**5,640**

Source: *SF Guidelines*, Wilbur Smith Associates – September 2004.

would be an increase in parking demand of about 4,510 spaces during the weekday midday period and 5,640 spaces during the weekday evening period.

Due to parking supply constraints and the Project Area's accessibility to transit and other alternative modes, future parking demand may be somewhat lower than estimated. To account for the limited number of available parking spaces in the Project Area, a reduced parking demand rate was also estimated based on the average number of vehicles owned by existing residents within the Project Area. Currently, the average number of vehicles owned in the Project Area is 0.60 per household, as compared to 1.11 per household for the city as a whole.[91] Therefore, an estimated future parking demand was also calculated by reducing the residential parking demand (based on the *SF Guidelines*) by 46 percent. As a result, if the current lower vehicle ownership rates continue in the Project Area,

[91] Based on Census 2000 information.

the theoretical future parking demand from the implementation of the Plan would be about 2,430 spaces during the weekday midday period and 3,050 spaces during the weekday evening period.

2025 with Central Freeway Parcels/Near-Term Transportation Improvements Travel Projections

The same travel demand methodology as described in the *2025 with Plan Travel Projections* section on page 4-208 was used to assess the project level transportation impacts of the 2025 with Central Freeway Parcels/Near-Term Transportation Improvements conditions.

The development of the 22 Central Freeway parcels would generate approximately 115 vehicle trips during weekday PM peak hour or approximately 12 percent of the vehicle trips generated by the Plan.

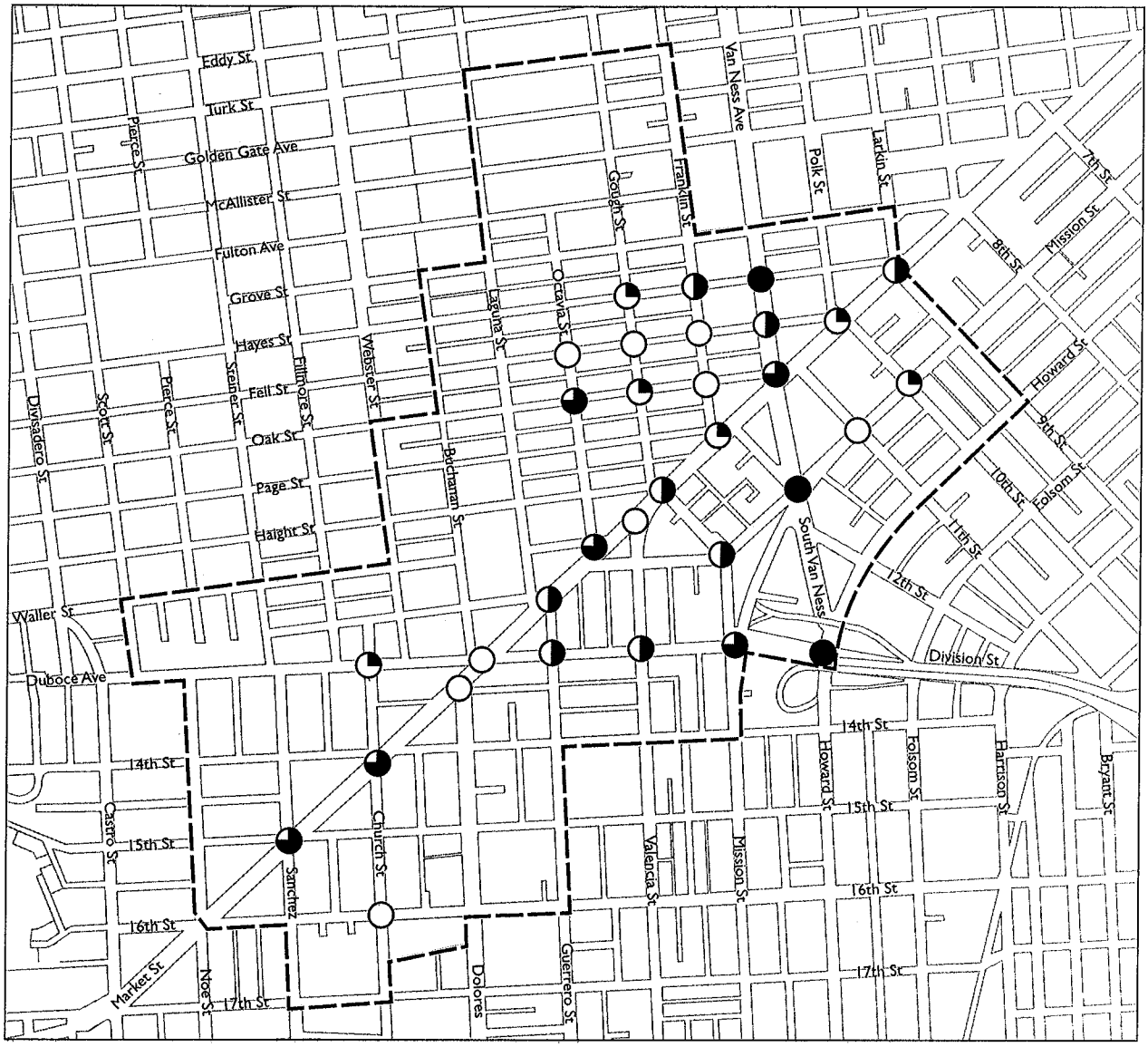
Traffic Impacts

Program Level

2025 without Plan

Under the 2025 without Plan conditions, the Octavia Boulevard Improvement Project would serve to accommodate and disperse traffic destined to and from the US 101 on- and off-ramps at Market Street. As planned, the Boulevard would have four center lanes for faster, freeway-related traffic, with a center landscaped median. One-way local access lanes would serve local traffic on each side of the center lanes. Octavia Boulevard would operate between Market and Fell Streets, with the freeway ramps touching down at the south side of the Market Street/Octavia Boulevard intersection. Due to the construction of the freeway ramps touching down at Market Street, McCoppin Street would dead end to the east of Market Street.

Under 2025 without Plan conditions, 9 of the 32 study intersections would operate unsatisfactorily at LOS E or F. See Figure 4-23 for the 2025 without Plan conditions. A detailed listing of the intersection level of service can be found in Appendix C, Table C-9. These nine intersections include three intersections that operate at LOS E or F under Existing Year conditions (Hayes Street/Van Ness Avenue, Mission Street/Otis Street/South Van Ness Avenue, and Duboce Avenue/US 101/South Van Ness Avenue). The Hayes Street/Van Ness Avenue intersections would degrade from LOS E to LOS F in 2025. Six intersections would degrade from satisfactory levels of service under Existing Year conditions to unsatisfactory levels of service under 2025 without Plan conditions, including:



SOURCE: Wilbur Smith Associates

Figure 4-23
2025 without Plan Level of Service-
Weekday PM Peak Hour

- Market Street/Octavia Boulevard (LOS D to LOS E)
- Oak Street/Octavia Boulevard (LOS A to LOS E)
- Market Street/Sanchez Street /Fifteenth Street (LOS D to LOS E)
- Market Street/Church Street /Fourteenth Street (LOS D to LOS E)
- Market Street/Van Ness Avenue (LOS C to LOS E)
- Duboce Avenue/Otis Street /Mission Street (LOS D to LOS E)

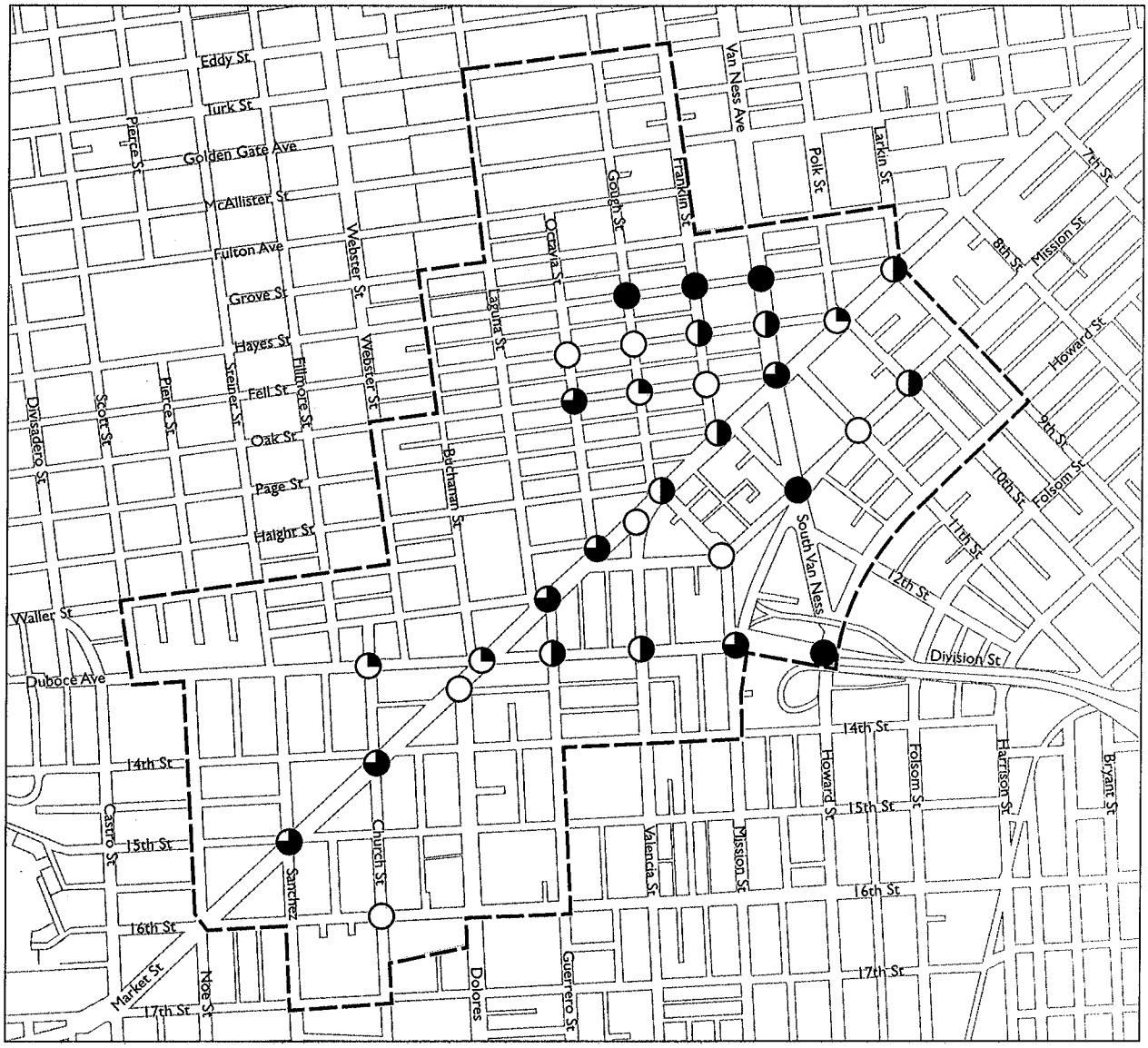
The unsignalized intersection of Duboce Avenue/Church Street would be considered to operate satisfactorily, as the worst approach would operate at LOS C.

Under 2025 without Plan conditions, operations at several intersections would change due to the Octavia Boulevard Improvement Project and the corresponding re-routing of vehicles from Ninth Street to Octavia Boulevard. For instance, the average delay per vehicle at the intersections of Fell Street/Gough Street, Oak Street/Gough Street, and Market Street/Larkin Street/Ninth Street would improve slightly under 2025 without Plan conditions. However, due to this re-routing of vehicles, the intersection of Market Street/Octavia Boulevard would worsen from LOS D to LOS E, and the intersection of Oak Street/Octavia Boulevard would worsen from LOS A to LOS E under 2025 without Plan conditions.

Vehicles would also reroute from westbound Duboce Avenue and northbound Guerrero Street/Laguna Street to Octavia Boulevard. This rerouting of vehicles would have no noticeable effect on the operating conditions at the intersections of Duboce Avenue/Valencia Street, Duboce Avenue/Guerrero Street, or Laguna Street/Market Street/Hermann Street/Guerrero Street.

2025 with Plan

In general, under the 2025 with Plan conditions, the operating conditions at the study intersections would remain similar to those under 2025 without Plan conditions. Under 2025 with Plan conditions, 12 of the study intersections would operate unsatisfactorily at LOS E or F, compared to 9 of the study intersections under 2025 without Plan conditions. See Figure 4-24 for the 2025 with Plan conditions. A detailed listing of the intersection level of service can be found in Appendix 9-C, Table C-9, page 9.C-15. The following three intersections would worsen to unsatisfactorily conditions with the Plan:



SOURCE: Wilbur Smith Associates

Figure 4-24
2025 with Plan Level of Service-
Weekday PM Peak Hour

- Hayes Street/Gough Street: This intersection would worsen from LOS C to LOS F due to changes to the network proposed by the Plan. At this location, one westbound lane on Hayes Street would be eliminated, which would cause the intersection to fail. Since this intersection operates at a satisfactory level of service under 2025 without Plan conditions and worsens to an unsatisfactory level of service under 2025 with Plan condition, this would effectively eliminate the Plan's proposed changes along Hayes Street (which would provide an eastbound lane on Hayes Street between Gough Street and Van Ness Avenue by eliminating a westbound lane). As such, in order to maintain acceptable intersection level of service operations, the Plan could not be implemented on Hayes Street.

  Unless the existing street configuration is maintained, implementation of the Plan would result in a significant and unavoidable impact.

- Hayes Street/Franklin Street: This intersection would worsen from LOS D to LOS F due to changes to the network proposed by the Plan. At this location, one westbound lane would be eliminated, which would cause the intersection to fail. Since this intersection operates at a satisfactory level of service under 2025 without Plan conditions and worsens to an unsatisfactory level of service under 2025 with Plan condition, this would be a significant impact. Implementation of Mitigation Measure 5.7.B, page 5-15, would effectively eliminate the Plan's proposed changes along Hayes Street (which would provide an eastbound lane on Hayes Street between Gough Street and Van Ness Avenue by eliminating a westbound lane). As such, in order to maintain acceptable intersection level of service operations, the Plan could not be implemented on Hayes Street.

  Unless the existing street configuration is maintained, implementation of the Plan would result in a significant and unavoidable impact.

- Laguna Street/Market Street/Hermann Street/Guerrero Street: This intersection would worsen from LOS D to LOS E due to increased intersection volumes. Since this intersection operates at a satisfactory level of service under 2025 without Plan conditions and worsens to an unsatisfactory level of service under 2025 with Plan condition, this would be a significant impact. Implementation of Mitigation Measure 5.7.C, pages 5-15, would reduce the impact, but not to a less than significant level. Significant and unavoidable impacts would remain at this intersection.

Under 2025 with Plan conditions, operating conditions would improve at the intersection of Otis Street/Gough Street/McCoppin Street from LOS D to LOS B, due to the increased capacity southeast on Gough Street, and at the intersection of Fell Street/Gough Street (remains at LOS B, but with a reduced average delay per vehicle), due to the increase in capacity along westbound Fell Street.

At some of the study intersections, the average delay per vehicle would remain constant or slightly decrease with the addition of Plan-related traffic. Using the *Highway Capacity Manual* methodology for intersection analysis, the level of service is calculated based on an average of the total vehicular

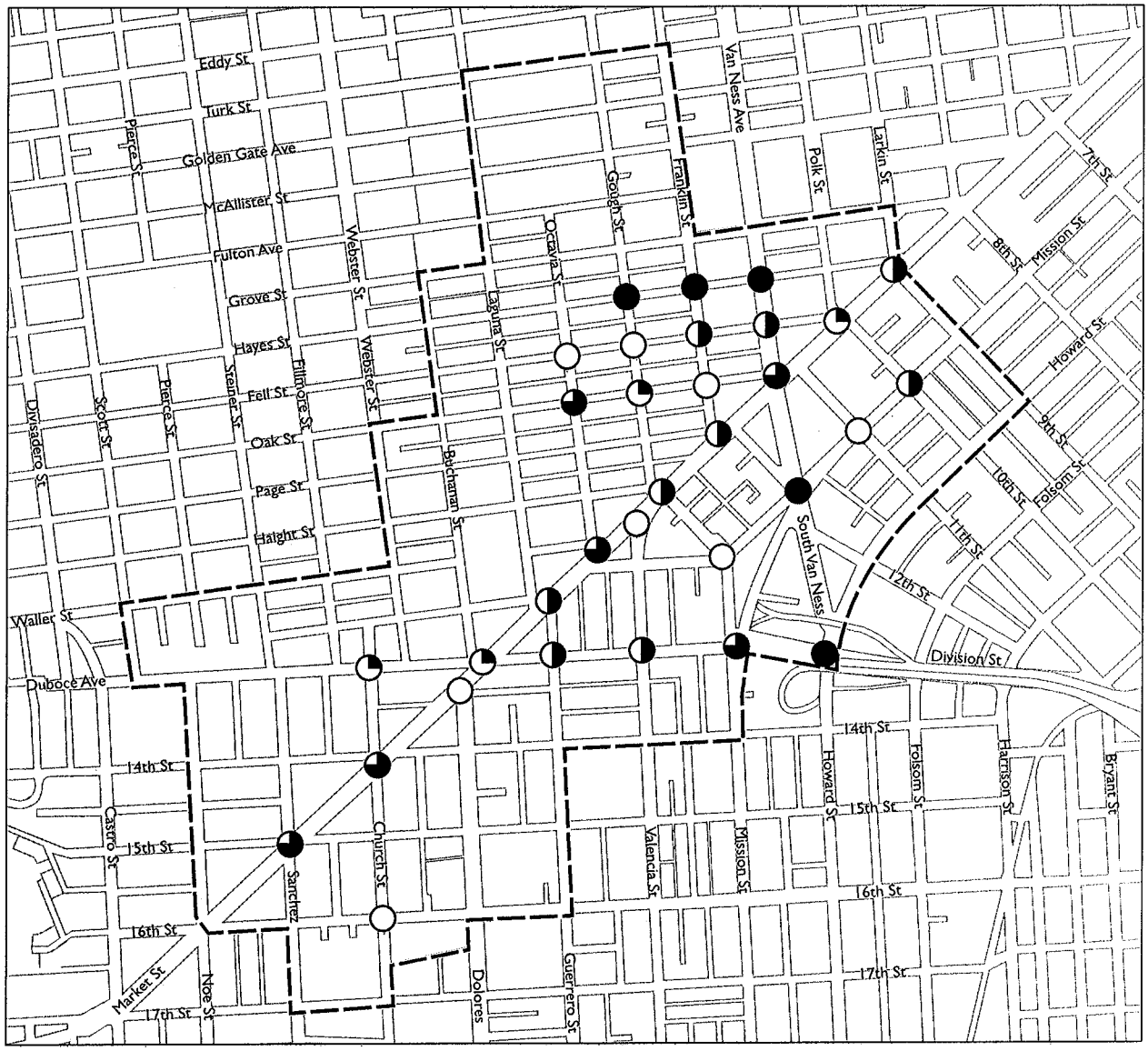
delay per approach, weighted by the number of vehicles at each approach. Increases in traffic volumes at an intersection usually result in increases in the overall intersection delay. However, if there are only increases in the number of vehicles at movements with low delays (e.g., through movements generally have low delays per vehicle), the average weighted delay per vehicle may decrease. For this reason, under 2025 with Plan conditions, the average delay per vehicle would decrease slightly at the intersection of Fell Street/Van Ness Avenue, as compared to 2025 without Plan conditions.

Project Level

The project level analysis assessed the traffic conditions in 2025 with the combined development of the 22 Central Freeway parcels and the implementation of the near-term transportation improvements. The total project level impacts are discussed below. The impacts associated with each of these changes are further discussed following the general discussion.

Under the 2025 with Central Freeway Parcels/Near-Term Transportation Improvements conditions, the operating conditions at the study area intersections would be similar to those under the 2025 without Plan conditions. Under the 2025 with Central Freeway Parcels/Near-Term Transportation Improvements conditions, 11 intersections would operate at unacceptable LOS E or F conditions compared to 9 intersections operating at unacceptable levels under the 2025 without Plan conditions. See Figure 4-25 for the 2025 with Central Freeway Parcels/Near-Term Transportation Improvements intersection level of service conditions. Of the 11 intersections operating at LOS E or F, only two would be operating at a degraded level of service when compared to the 2025 Without Plan conditions: the Hayes Street/Gough Street and Hayes Street/Franklin Street intersections would degrade from LOS C and LOS D, respectively, to LOS F with the development of the Central Freeway parcels and the implementation of the near-term transportation improvements.

Under the 2025 with Central Freeway Parcels/Near-Term Transportation Improvements, the operating conditions at the intersections of Hayes Street/Gough Street, Hayes Street/Franklin Street, and Hayes Street/Van Ness Avenue would operate at LOS F. This is due to Plan changes to the network (removing one westbound lane to Hayes Street and adding one eastbound lane to Hayes Street). The operating conditions at the intersections of Market Street/Octavia Boulevard/ McCoppin Street, Oak Street/Octavia Boulevard, and Market Street/Sanchez Street/15th Street would remain similar to those under 2025 without Plan conditions. At these intersections, delay under 2025 with Central Freeway Parcels/Near-Term Transportation Improvements conditions may increase slightly, but conditions would remain closer to those under 2025 without Plan conditions



SOURCE: Wilbur Smith Associates

Figure 4-25
2025 with Central Freeway Parcels/Near-Term Transportation Improvements, Level of Service-Weekday PM Peak Hour

than 2025 with Plan. The operating conditions at the Market Street/Church Street/14th Street and Laguna Street/Market Street/Herman Street/Guerrero Street intersections under 2025 with Central Freeway Parcels/Near-Term Transportation Improvements would experience increased delay that equals approximately half the increase in delay under 2025 with Plan conditions. Finally, operating conditions at the intersection of Mission Street/Otis Street/Van Ness Avenue would be unsatisfactory under all conditions (as are operating conditions at the intersections of Market Street/Octavia Boulevard/McCoppin Street, Oak Street/Octavia Boulevard, Market Street/Sanchez Street/15th Street, and Market Street/Church Street/14th Street.

Central Freeway Parcels

To assess the effect of the vehicle-trips generated by the development of the Central Freeway parcels on the future intersection operating conditions, the contribution of trips generated from the Central Freeway parcels to the 2025 with Central Freeway Parcels/Near-Term Transportation Improvements intersection turning movement volumes was determined. Two different percent contributions were calculated: the Central Freeway parcels generated as a percent of the total 2025 with Central Freeway Parcels/Near-Term Transportation Improvements traffic volumes, and the Central Freeway parcels-generated traffic as a percent of only the increase in traffic volumes between Existing Year conditions and 2025 with Central Freeway Parcels/Near-Term Transportation Improvements conditions. The percent contributions were calculated at the study intersections that would operate at LOS E or LOS F during the weekday PM peak hour.

At these intersections, the Central Freeway parcels would contribute between zero and one percent to the total 2025 with Central Freeway Parcels/Near-Term Transportation Improvements traffic volumes. The contributions to the growth in traffic volumes between the existing condition and 2005 were estimated to be between -40 and +8 percent, with the highest contributions at the intersections of Market Street/Guerrero Street/Laguna Street.

Thirteen intersections would operate at LOS E or LOS F conditions for 2025 with Plan conditions. The traffic contribution to these intersections from the Central Freeway parcels development would not be considered significant for these cumulative conditions. This was determined based on the examination of the volumes for the traffic movements that determine overall LOS performance at each of these intersections. At these intersections, which would operate with adverse traffic conditions for 2025 with Plan conditions, drivers would generally experience greater delays. The Central Freeway parcels would generally add traffic to movements which would continue to operate satisfactorily. In some instances, the Central Freeway parcels would add vehicles to movements at intersections which would operate poorly under 2025 conditions. However, in these instances the

Central Freeway parcels contribution to these movements would be small. Therefore, for these intersections with significant cumulative conditions, traffic generated from Central Freeway parcels would not represent a considerable contribution to the adverse cumulative conditions, and the Central Freeway parcels would not have a significant traffic impact.

Public Street Improvements

The impacts associated with the project level transportation improvements identified on pages 4-179 through 4-181 were also assessed. As noted above, under the 2025 with Central Freeway Parcels/Near-Term Transportation Improvements conditions, two of the Project Area intersections would be degraded to unacceptable levels of service when compared to the 2025 without Plan conditions. Hayes Street/Gough Street and Hayes Street/Franklin Street intersections would degrade from LOS C and LOS D respectively to LOS F. It was determined that the development of the Central Freeway parcels would not result in a considerable contribution to these degraded conditions.

The increase in congestion at these intersections would be primarily due to the operational changes associated with the proposed implementation of two-way operations on Hayes Street. This reduction in the level of service would be a significant traffic impact associated with the implementation of the near-term transportation improvements.

Implementation of Mitigation Measures 5.7.A and 5.7.B, pages 5-14 and 5-15, would effectively eliminate the Plan's proposed changes along Hayes Street (which would provide an eastbound lane on Hayes Street between Gough Street and Van Ness Avenue by eliminating a westbound lane). As such, in order to maintain acceptable intersection level of service operations, the Plan could not be implemented on Hayes Street.

Unless the existing street configuration is maintained, implementation of the Plan would result in a significant and unavoidable impact.

Cumulative Impacts

To assess the effect of the vehicle-trips generated by the Plan on the future intersection operating conditions, the contribution of the Plan to the 2025 with Plan intersection turning movement volumes was determined. Two different percent contributions were calculated: the Plan-generated traffic as a percent of the total 2025 with Plan traffic volumes, and the Plan-generated traffic as a percent of only the increase in traffic volumes between Existing Year conditions and 2025 with Plan

conditions. The percent contributions were calculated at the study intersections that would operate at LOS E or LOS F during the weekday PM peak hour and are presented in Table 4-20.

At these intersections, the Plan would contribute between one and six percent to the total 2025 with Plan traffic volumes. The contributions to the growth in traffic volumes were estimated to be between -69 and +861 percent, with the highest contributions at the intersections of Hayes Street/Gough Street and Mission Street/South Van Ness Avenue. It should be noted that there is a wide variation in terms of percent contributions at several of the study intersections (including Hayes Street/Gough Street, Hayes Street/Van Ness Avenue, Market Street /Van Ness Avenue, Mission Street /South Van Ness Avenue and Duboce Avenue/Mission Street /101 Off-Ramp) as future traffic volumes would be affected by the implementation of the Central Freeway Project, as well as the proposed Plan. Future traffic volumes at these intersections would be reduced due to the reassignment of vehicles from the city streets in association with the construction of Octavia Boulevard and the new on- and off-ramps, resulting in great variation for the project contribution to growth.

At the intersections of Laguna Street/Market Street/Guerrero Street/Hermann Street, Hayes Street/Gough Street and Hayes Street/Franklin Street, the Plan would have significant traffic impacts because traffic conditions would degrade from LOS C or D for 2025 without Plan conditions to LOS E or F for 2025 with Plan conditions.

The Plan would also have cumulatively considerable impacts to future traffic growth at the following four additional intersections operating at LOS E or F for 2025 with Plan conditions:

- Hayes Street/Van Ness Avenue
- Mission Street Otis Street/South Van Ness Avenue
- Market Street/Church Street/ Fourteenth Street
- Market Street/Sanchez Street/Fifteenth Street

The Plan would add substantial numbers of vehicles to multiple movements which determine overall LOS performance at these four intersections. Therefore, the Plan-added vehicles to these movements would represent a considerable contribution to the cumulative conditions at these four intersections. Thus, the Plan would have a significant impact on a total of 7 of the 12 intersections, which would operate at LOS E or F for 2025 with Plan conditions.

Table 4-20:
Plan's Contribution to 2025 with Plan Traffic Volumes for Intersections with LOS E or F Conditions

Intersection	Total Intersection Volume				Contribution to Total[a]	Contribution to Growth[b]
	Existing Year	2025 without Plan	Plan	2025 with Plan		
Hayes/Gough	3,315	3,135	205	3,335	6%	861%
Hayes/Franklin	3,595	4,010	175	4,185	4%	29%
Hayes/Van Ness	5,960	5,660	105	5,765	2%	-54%
Market/Octavia/McCoppin	2,740	5,450	210	5,660	4%	7%
Oak/Octavia	2,075	4,665	95	4,755	2%	4%
Market/Sanchez/15th	3,095	3,305	100	3,405	3%	33%
Market/Church/14th	3,755	4,105	130	4,230	3%	27%
Market/Guerrero/Laguna	3,495	3,875	100	3,980	3%	21%
Market/Van Ness/So Van Ness	5,610	5,740	225	5,965	4%	63%
Mission/South Van Ness	5,450	5,410	130	5,540	2%	148%
Duboce/Mission/101 Off Ramp	5,505	5,180	130	5,315	2%	-69%
Duboce/South Van Ness	5,170	5,535	75	5,610	1%	17%

Source: Wilbur Smith Associates – September 2004.

Notes:

Details or totals may not add due to rounding.

[a] Percentage of 2025 with Plan volumes attributable to the Plan.

[b] Project's contribution to growth between Existing Year and 2025 with Plan volumes.

At the following five intersections which would operate at LOS E or F for cumulative conditions, the Plan's traffic contributions would be considered not significant under 2025 with Plan cumulative conditions:

- Market Street/Octavia Boulevard/McCoppin Street
- Market Street/Van Ness Avenue South Van Ness Avenue
- Duboce Avenue/Mission Street/Otis Street/101 Off-Ramp
- Oak Street/Octavia Boulevard
- Duboce Avenue/South Van Ness Avenue

This was determined based on the examination of the traffic volumes for the traffic movements which determine overall LOS performance at these intersections. At these five intersections, which

would operate with adverse traffic conditions for 2025 without Plan as well as for 2025 with Plan conditions, drivers would generally experience greater delays. At these five intersections where Plan contributions to adverse cumulative conditions were found to be not significant, the Plan would generally add traffic to movements which would continue to operate satisfactorily. In some instances, the Plan would add vehicles to movements at intersections which would operate poorly under cumulative conditions. However, in these instances the Plan's contributions to these movements would be relatively small. Therefore, for these five intersections, Plan-related traffic would not represent a considerable contribution to the cumulative conditions, and the Plan would not have a significant traffic impact at these five intersections.

For the project level analysis, it was determined that the development of the Central Freeway parcels would contribute one percent or less to the total traffic volumes at intersections in 2025 and would contribute between -4 and +8 percent to the growth in traffic volumes. Based on the findings that the Central Freeway parcels-related traffic growth at critical movements at the affected intersections would be relatively small, the development of the Central Freeway parcels would not have a significant traffic impact.

Implementation of the project level, near-term transportation improvements would result in the degradation of level of service to unacceptable levels (LOS F) at the Hayes Street/Gough Street and Hayes Street/Franklin Street intersections when compared to the 2025 without Plan conditions. This increase in congestion would represent a considerable contribution to the significant traffic conditions and would have a significant traffic impact. Since these intersections operate at a satisfactory level of service under 2025 without Plan conditions and would worsen to an unsatisfactory level of service under 2025 with the project level transportation improvements, this would effectively eliminate the Plan's proposed changes along Hayes Street (which would provide an eastbound lane on Hayes Street between Gough Street and Van Ness Avenue by eliminating a westbound lane). As such, in order to maintain acceptable intersection level of service operations, the Plan could not be implemented on Hayes Street.

Unless the existing street configuration is maintained, implementation of the Plan would result in a significant and unavoidable impact.

Transit Impacts

This section presents the impacts of the Plan on the local and regional transit providers serving the Project Area, in terms of the Muni and regional screenline analyses and the Muni corridor analysis.

Program Level

Muni Screenline Analysis

The analysis of Muni screenlines assesses the effect of project-generated transit-trips on transit conditions in the outbound direction (from downtown San Francisco) during the weekday PM peak hour. Based on the origins/destinations of the transit trips generated by the Plan, the inbound and outbound trips were assigned to the four screenlines and the sub-corridors within each screenline. It should be noted that many transit trips that would travel to/from the Project Area would not cross any of the screenlines (e.g., trips between the Project Area and the western part of the city). As such, not all outbound Muni trips generated by the Plan appear in the screenline analysis.

Table 4-21 presents the Muni screenline analysis for the 2025 without Plan and 2025 with Plan scenarios. Between Existing Year and 2025 without Plan conditions, the ridership demand at the four screenlines is projected to increase by about 27 percent at the Northeast Screenline, 11 percent at the Northwest Screenline, 35 percent at the Southeast Screenline, and 11 percent at the Southwest Screenline. Capacity is projected to increase by about 32 percent (primarily due to the new Muni Third Street light rail and Central Subway, E-Embarcadero Line and increases to services on the major bus corridors). Overall, the Muni screenlines would operate at about 75 percent capacity under 2025 without Plan conditions.

The addition of approximately 205 Muni riders, generated by the proposed Plan, to the four screenlines would not substantially increase the peak hour capacity utilization. Capacity utilization for all screenlines would remain similar to those under 2025 without Plan conditions, and all screenlines and sub-corridors would continue to operate below the Muni capacity utilization standard. Implementation of the Plan would not result in a significant adverse impact on Muni service.

Muni Corridor Analysis

As previously discussed, a secondary analysis of transit corridors was performed for the Project Area, as many transit trips never cross the screenline, or do so in the off-peak direction. To develop a more complete understanding of transit performance in the neighborhood, supplemental east/west and north/south corridor analysis was performed. Five general corridors in the Project Area were identified, three north/south (Fillmore, Van Ness and Mission) and two east/west (Market and Western Addition). It should be noted that the lines included in these corridors do not

Table 4-21:
Muni Screenline Analysis
2025 without Plan and 2025 with Plan - Weekday PM Peak Hour

Corridor/Line	2025 Hourly Capacity	2025 without Plan		2025 with Plan	
		Hourly Ridership Demand	Capacity Utilization	Hourly Ridership Demand	Capacity Utilization
Northeast					
Kearny/Stockton Corridor	3,570	2,820	*79%*	2,820	79%
All other lines	2,515	1,200	*48%*	1,205	48%
Subtotal	**6,085**	**4,020**	**66%**	**4,025**	**66%**
Northwest					
Geary Corridor	3,190	2,795	*88%*	2,810	88%
All other lines	8,990	6,635	*74%*	6,670	74%
Subtotal	**12,180**	**9,430**	**77%**	**9,480**	**78%**
Southeast					
Third Street Corridor	1,435	570	*40%*	575	40%
Mission Street Corridor	1,725	1,570	*91%*	1,585	92%
All other lines	3,185	2,670	*84%*	2,690	84%
Subtotal	**6,345**	**4,820**	**76%**	**4,850**	**76%**
Southwest					
Subway lines	7,900	5,860	*74%*	*5,955*	*75%*
All other lines	1,990	1,570	*79%*	*1,595*	*80%*
Subtotal	**9,890**	**7,430**	**75%**	**7,550**	**76%**
Total All Screenlines	**34,430**	**25,700**	**75%**	**25,905**	**75%**

Source: SF Muni, San Francisco County Transportation Authority Model, Wilbur Smith Associates, Nelson\Nygaard – September 2004.

exactly match those of the Screenline Analysis in all cases, as this analysis focuses on corridors within the Project Area. For instance, in the Corridor Analysis the J-Church is included in the Market Street Corridor, while it is in the Southeast Corridor in the Screenline Analysis.

Table 4-22 presents the Muni corridor analysis for the 2025 without Plan and 2025 with Plan scenarios. Between Existing Year and 2025 without Plan conditions, the ridership demand at the five corridors is projected to increase as follows: Fillmore Corridor (16 percent southbound, 16 percent northbound), Van Ness Corridor (16 percent northbound, 16 percent southbound), Mission Street Corridor (16 percent inbound, 26 percent outbound), Market Street Corridor (16 percent inbound, 6 percent outbound), and Western Addition Corridor (16 percent inbound, 14 percent outbound).

Table 4-22
Muni Corridor Analysis
2025 without Plan and 2025 with Plan - Weekday PM Peak Hour

Corridor/Line	2025 Capacity	2025 without Plan		2025 with Plan	
		Passengers	Capacity Utilization	Passengers	Capacity Utilization
Fillmore					
Southbound	600	565	94%	570	95%
Northbound	820	690	84%	700	85%
Van Ness Corridor					
Northbound	1,105	1,180	107%	1,220	110%
Southbound	1,075	970	90%	1,005	93%
Mission Street Corridor					
Inbound	1,865	1,270	68%	1,335	72%
Outbound	1,615	1,480	92%	1,500	93%
Market Street Corridor					
Inbound	9,860	3,670	37%	3,785	38%
Outbound	9,755	7,185	74%	7,375	76%
Western Addition Corridor					
Inbound	2,720	1,055	39%	1,085	40%
Outbound	2,955	2,380	81%	2,400	81%

Sources: San Francisco County Transportation Authority Model, Muni, Wilbur Smith Associates, Nelson\Nygaard – September 2004.

The capacity on the corridors is projected to increase overall by about six percent based on projections from the Muni screenline data.

Overall, the Muni corridors would operate at between 37 and 107 percent capacity under 2025 without Plan conditions, with the highest utilization on the Fillmore and Van Ness corridors. Muni corridors near or at 100 percent of capacity operate under noticeably crowded conditions with many standees. Because most corridors include multiple lines, each with several vehicles during the peak hour, some individual buses/trains may operate at or above capacity and are more overcrowded, while others operate under less crowded conditions.

The addition of the Plan-generated riders to the five corridors would not substantially increase the peak hour capacity utilization. Capacity utilization for all corridors would remain similar to those

under 2025 without Plan conditions (with increases of generally one or two percent). If Project-generated transit riders chose to use the Muni bus lines that are at or near capacity (such as the Van Ness Avenue bus lines), they would contribute to the already crowded conditions. As there would be an increase of one or two percent due to project-generated riders on all corridors, and because there are Muni bus lines within each corridor with available capacity, this would not be a cumulatively considerable impact.

Regional Transit Screenline Analysis

Similar to Muni, the analysis of regional transit screenlines assess the effect of project-generated transit-trips on transit conditions in the outbound direction (from downtown San Francisco) during the weekday PM peak hour. Based on the origins/destinations of the transit trips generated by the Plan, the outbound regional transit trips were assigned to the three regional transit screenlines. It was estimated that the project would contribute approximately 30 peak trips to the regional transit screenlines: 15 transit trips would be destined to the East Bay, five to the North Bay and ten to the South Bay during the weekday PM peak hour.

Table 4-23 presents the 2025 without Plan and 2025 with Plan screenline analysis for the regional transit carriers. Between Existing Year and 2025 without Plan conditions, ridership demand would increase approximately 62 percent at the East Bay Screenline, 50 percent at the North Bay Screenline, and 245 percent at the South Bay Screenline.

Capacity at the East Bay screenline is projected to increase by about 41 percent, capacity at the North Bay screenline is projected to increase by about 4 percent, and capacity at the South Bay screenline is projected to increase by about 22 percent. Note that the existing transit ridership and capacity as presented in the *SF Guidelines* does not include the recent extension of BART to the San Francisco Airport and Millbrae. Overall, the regional transit screenlines would operate at less than capacity under the 2025 without Plan conditions.

In general, the addition of plan-related passengers would not have a substantial impact on the regional transit providers during the weekday PM peak hour, as the capacity utilization for all screenlines would remain similar to those under 2025 without Plan conditions. In addition, the capacity utilization for all regional transit providers would be under their capacity utilization standards, except BART to the South Bay. Since the Plan would contribute about six riders to

Table 4-23
Regional Screenline Analysis
2025 without Plan - Weekday PM Peak Hour

Screenline/Corridor	2025 Capacity	2025 without Plan		2025 with Plan	
		Hourly Ridership Demand	Capacity Utilization	Hourly Ridership Demand	Capacity Utilization
East Bay					
BART	19,600	26,715	136%	26,730	136%
AC Transit	7,320	5,780	79%	5,780	79%
Ferries	1,930	2,040	106%	2,040	106%
Total	**29,730**	**34,535**	**110%**	**34,550**	**110%**
North Bay					
GGT Bus	5,340	4,630	87%	4,635	88%
GGT Ferry	2,710	1,190	44%	1,190	44%
Total	**8,050**	**5,820**	**72%**	**5,825**	**72%**
South Bay					
Sam Trans	1,300	1,140	88%	1,140	88%
BART	10,360	14,895	144%	14,900	144%
Caltrain	5,800	4,140	71%	4,145	71%
Total	**17,460**	**20,175**	**116%**	**20,185**	**116%**
Total All Screenlines	**55,240**	**60,530**	**110%**	**60,560**	**110%**

Source: *SF Guidelines*, Wilbur Smith Associates, Nelson\Nygaard – September 2004.

BART to the South Bay, it would not have a significant contribution to the 2025 Cumulative conditions.

Project Level

The Market and Octavia Neighborhood Plan would generate about 658 transit trips as a primary mode, but would not substantially increase the peak hour capacity utilization based on the Muni Screenline Analysis. Under 2025 with Plan conditions, capacity utilization for all screenlines would remain similar to those under 2025 without Plan conditions, and all screenlines and sub-corridors would continue to operate below the Muni capacity utilization standard. Therefore, as the development of the Central Freeway parcels would generate fewer transit trips than the 2025 with Plan conditions, the peak hour capacity utilization would not be substantially increased and the impact on Muni screenlines would be less than significant.

To develop a more complete understanding of transit performance in the neighborhood, a supplemental Muni east/west and north/south corridor analysis was performed. It was determined

that the addition of the Plan-related riders to the five corridors would not substantially increase the peak hour capacity utilization. As the development of the Central Freeway parcels would generate fewer transit trips than the 2025 with Plan conditions, project implementation would also not substantially increase the peak hour capacity utilization and the impact on the Muni corridors would be less than significant.

It was estimated that the Plan would generate 289 regional transit trips during the PM peak hour. Sixteen transit trips destined to the East Bay, three to the North Bay and nine to the South Bay and that these trips would not substantially increase the peak hour capacity utilization. As the development of the Central Freeway parcels would generate fewer transit trips than the 2025 with Plan conditions, project implementation would also not substantially increase the peak hour capacity utilization and the impact on regional transit would be less than significant.

The EIR analyzed one specific change to transit within the Project Area - disallowing curb-cuts on transit preferential streets. This change would not result in significant impacts to traffic/transit operations, pedestrians or bicyclists, as it would not affect future roadway configurations. However, disallowing curb cuts to off-street parking and loading facility may affect access to and from these facilities. In addition, this measure may result in an increase in double-parking by residents for dropping off passengers and groceries, and by truck and van loading and delivery activities (as discussed in the Loading Impacts section on page 4-256). In turn, these loading activities may adversely impact transit operations, but the impacts would be less than significant.

As part of the Plan, Hayes Street would be converted to operate two-ways with one lane eastbound and three lanes westbound between Van Ness Avenue and Franklin Street and with two lanes westbound and one lane eastbound between Franklin and Gough Streets. The purpose of this change was to enhance local vehicle circulation. As previously noted, this change would negatively affect intersection operating conditions at Hayes Street/Gough Street (LOS C to LOS F) and Hayes Street/Franklin Street (LOS D to LOS F) and would increase delay at Hayes Street/Van Ness Avenue (LOS F). As such, changes to the configuration of Hayes Street, designed to enhance local vehicle circulation, would decrease the attractiveness and efficiency of transit, since it is likely that this change would result in increases in travel times on the 21-Hayes line, and substantially affect transit operations, which would result in a significant impact.

Maintaining the current traffic operations on Hayes Street, as outlined in Mitigation Measure 5.7.A and 5.7.B, pages 5-14 to 5-15, would effectively eliminate the Plan's proposed changes along Hayes Street (which would provide an eastbound lane on Hayes Street between Gough Street and Van

Ness Avenue by eliminating a westbound lane). As such, in order to maintain acceptable intersection level of service operations, the Plan could not be implemented on Hayes Street.

Unless the existing street configuration is maintained, implementation of the Plan would result in a significant and unavoidable impact.

Implementation of Mitigation Measures 5.7.G and 5.7.H, pages 5-17 and 5-18, would reduce the impacts at the Hayes Street/Van Ness Avenue intersection, but not to a less than significant level. Significant and unavoidable impacts would remain at this intersection.

Parking Impacts

Future Parking Demand Conditions

About 340 off-street parking spaces have been eliminated within the Project Area since 2002 (almost all of them due to the removal of the Central Freeway and the construction of Octavia Boulevard).[92] In addition, based on information provided by the San Francisco Planning Department and the San Francisco Parking Authority (See Table C-5 in Appendix 9-C) it is estimated that approximately 980 spaces would be eliminated as part of the Plan or other private development projects within the Project Area (260 spaces reserved for Performing Arts employees, 160 spaces reserved for City employees, 90 private spaces and 480 public spaces). Thus, the overall parking space reduction between 2002 and the Plan's completion date is approximately 1,320 spaces. Table 4-23a summarizes existing and future parking conditions within the Project Area at different times on a typical weekday.

Table 4-23a
Existing and Future Off-Street Parking Supply and Occupancy
By Time of Day on a Typical weekday

Scenario	Spaces(1)	10 AM	4 PM	6 PM
Existing (2005)	3,805	94%	82%	38%
Future	2,825	127%	111%	51%
Parking shortfall (approx. spaces)		750	300	n.a.

(1) Marked spaces
Note: The boundaries for these counts were slightly different than the boundaries of the DEIR Project Area.
Source: Wilbur Smith Associates – January 2006

[92] Expansion Feasibility Study Progress, Presentation to the San Francisco Parking Authority, Walker Parking, November 30, 2005.

As shown in the table, there would be an off-street parking shortfall of about 750 spaces within the study area by 10 AM once some of the existing spaces are eliminated as part of the Plan or other private development projects. The shortfall would be reduced to about 300 spaces by 4 PM. By 6 PM the future supply would be able to accommodate the expected demand. The number of spaces shown in Table 23a refers to marked spaces and additional spaces could be made available by implementing valet parking during the day. It is estimated that the implementation of valet parking would increase the available parking supply by 280 spaces during the day.

Table 4-23b provides information about existing and future parking occupancy for evening weekday nights with and without evening performances.

Table 4-23b
Existing and Future Off-Street Parking Supply and Occupancy
Weekdays at 8 PM

Scenario	Spaces[1]	No Event	One Event	Three Events
Existing (2005)	3,338	26%	65%	75%
Future	2,358	37%	92%	106%
Parking shortfall (approx. spaces)		n.a.	n.a.	150

[1] Marked spaces; does not include those facilities that are closed by 8 PM.
Note: The boundaries for these counts were slightly different than the boundaries of the DEIR Project Area.
Source: Wilbur Smith Associates – January 2006

There would not be an evening parking shortfall within the study area on those nights with only one performance. On those nights when three performances take place simultaneously (Symphony, Opera, and Herbst Theater), the parking demand would be six percent above the capacity of the facilities (150 spaces). On the other hand, approximately 200 additional spaces could be made available in the evening with the implementation of valet parking within the study area, which would eliminate the expected shortfall.

Program Level

For the purpose of this analysis, the program level parking impacts associated with the Plan were assessed by comparing the potential new off-street residential parking supply (as defined by the parking requirements in the Project Area) with the anticipated parking demand. Since maximum parking controls are proposed within the Project Area (not minimum requirements as in the *Planning Code*), three different estimates of the future parking supply for the Project Area were created based on the different types of parking levels allowed under the proposed zoning districts:

- No minimum number of spaces added;
- Maximum number of spaces under the *allowed* development of proposed Market and Octavia Zoning Districts; and
- Maximum number of spaces under the *conditional use* development of proposed Market and Octavia Zoning Districts.

The program level analysis was conducted using standard parking demand assumptions (see pages 4-209 and 4-210). Two additional parking analyses were conducted. The first assessed the parking impacts of lower vehicle ownership in the Project Area as a result of the implementation of policies and zoning regulations proposed in the Plan to restrict parking and the second assessed the parking impacts if the existing *Planning Code* requirements were imposed on development within the Project Area.

The allowed development of proposed districts was assumed at the maximum allowed 0.25 spaces per unit for DTR uses, 0.5 spaces per unit for NCT uses and 0.75 spaces per unit for RTO uses. The conditional use development of proposed districts was estimated at 0.5 spaces per unit for DTR uses, 0.75 spaces per unit for NCT uses and 1.0 space per unit for RTO uses. Table 4-24 presents the three parking supply scenarios by district. Overall, the new residential development could provide up to 2,080 parking spaces under the allowed conditions and up to 3,160 parking spaces under conditional use development conditions.

Table 4-24
2025 Project Area Estimated Net New Parking Supply

District	No Minimum Supply	Maximum Supply (Allowed [a])	Maximum Supply (Conditional Use[b])
A	0	540	850
B	0	320	470
C	0	370	520
D	0	190	370
E	0	400	590
F	0	260	360
Total	**0**	**2,080**	**3,160**

Source: Wilbur Smith Associates – September 2004.

Notes:

a Allowed development conditions assumes up to 0.25 spaces per unit for Downtown Residential (DTR); 0.5 spaces per unit for Neighborhood Commercial-Transit (NCT); and 0.75 spaces per unit for Residential Transit Oriented (RTO).

b Conditional Use development conditions assumes up to 0.5 spaces per unit for DTR; 0.75 spaces per unit for NCT; and 1.0 space per unit for RTO.

Weekday Midday

Under the no minimum space (0 spaces) development condition, no new parking spaces would be added in association with Plan-related development; therefore new residential parking demand would not be accommodated in the Project Area, resulting in an estimated shortfall of 4,510 spaces during the weekday midday. Under the allowed (2,080 spaces) and conditional use (3,160 spaces) development conditions, the Project Area would not accommodate the entire parking demand and would result in an estimated shortfall of 2,430 spaces and 1,350 spaces, respectively, during the weekday midday. Table 4-25 presents the anticipated 2025 parking supply and demand for the six districts during weekday midday. The estimated parking shortfalls shown in Table 4-25 for each development condition do not include the shortfall of approximately 750 spaces (refer to Table 4-23a) that would occur independent of the Plan.

Table 4-25
2025 Project Area Parking Supply and Demand - Weekday Midday Conditions

District	Demand[a]	No Minimum Supply	Parking Shortfall/ Surplus	Maximum Supply (Allowed)	Parking Shortfall/ Surplus	Maximum Supply (Conditional Use)	Parking Shortfall/ Surplus
A	1,260	0	*-1,260*	540	*-720*	850	*-410*
B	630	0	*-630*	320	*-310*	470	*-160*
C	650	0	*-650*	370	*-280*	520	*-130*
D	760	0	*-760*	190	*-570*	370	*-380*
E	820	0	*-820*	400	*-420*	590	*-240*
F	390	0	*-390*	260	*-130*	360	*-30*
Total	**4,510**	**0**	***-4,510***	**2,080**	***-2,430***	**3,160**	***-1,350***

Source: *SF Guidelines*, Wilbur Smith Associates – September 2004

Notes:

[a] Based on *SF Guidelines* parking demand calculations for weekday midday conditions (see pages 4-216 and 4-217).

Weekday Evening

Under the no minimum space (0 spaces) development condition, the Project Area would not accommodate any of residential parking demand resulting in an estimated shortfall of 5,640 spaces. Under the allowed (2,080 space supply) and conditional use (3,160 space supply) development conditions, the Project Area would not accommodate the entire parking demand and would result in an estimated shortfall of 3,560 spaces and 2,480 spaces, respectively, during the weekday evening.

Table 4-26 presents the anticipated 2025 parking supply and demand for the six primary districts during weekday evening conditions.

Table 4-26
2025 Project Area Parking Supply and Demand - Weekday Evening Conditions

District	Demand[a]	No Minimum Supply	Parking Shortfall/ Surplus	Maximum Supply (Allowed)	Parking Shortfall/ Surplus	Maximum Supply (Conditional Use)	Parking Shortfall/ Surplus
A	1,580	0	*-1,580*	540	*-1,040*	850	*-730*
B	790	0	*-790*	320	*-470*	470	*-320*
C	810	0	*-810*	370	*-440*	520	*-290*
D	950	0	*-950*	190	*-760*	370	*-580*
E	1,030	0	*-1,030*	400	*-630*	590	*-440*
F	480	0	*-480*	260	*-220*	360	*-120*
Total	**5,640**	**0**	***-5,640***	**2,080**	***-3,560***	**3,160**	***-2,480***

Source: *SF Guidelines*, Wilbur Smith Associates – September 2004
Notes:
a Based on *SF Guidelines* parking demand calculations for weekday evening conditions (see pages 4-216 and 4-217).

As a result, there would be a parking shortfall during both time periods under all three estimates of the future parking supply. With the additional land uses associated with the Plan and the proposed parking requirements, the off-street parking occupancy in the Project Area would increase to over 100 percent capacity.

On weekday evenings when there are performances at venues in and around the Project Area (including the San Francisco Opera, Ballet and Symphony) parking conditions are more constrained in the Civic Center area and there would be fewer spaces available for visitors and residents of the new residential units. On those nights when three performances take place simultaneously (Symphony, Opera, and Herbst Theater) there would be an additional parking shortfall of 150 spaces, due to reduction of parking spaces caused by the Plan or other private development projects.[93] Strategies for managing parking demand on weekdays and performance evenings were evaluated in the report *Better Neighborhoods 2002 Civic Center Parking Analysis Recommendations* (the "Civic Center Parking Analysis"). Recommended strategies included:

[93] In 2005 there were 24 occasions out of a total of 286 event days (8.4 percent) when three performances took place simultaneously on a weekday evening (Expansion Feasibility Study Progress, Presentation to the San Francisco Parking Authority, Walker Parking, November 30, 2005).

- Abolish discounted parking and subsidies for certain user groups (i.e., students, city employees and vehicles, Performing Arts and International School staff) and adjust prices at the Civic Center and Performing Arts garages. The rates at these garages are approximately 33 percent less for monthly parking and 25 percent less for hourly parking compared to other San Francisco garages in areas with similar land-use patterns and levels of transit service.

- Improve parking and transit information available to those traveling to the area through a Parking Guidance System with variable message signs on Van Ness Avenue, Franklin and Gough Streets with real-time information on spaces available in the Civic Center area and include expanded transit information to patrons with pre-purchased performance tickets. Similar recommendations include developing a pre-paid parking space program, valet parking for performing artists, developing transit-performance ticket packages, and directing motorists to under-utilized garages in the district (i.e., the Civic Center Plaza garage).

- Improve security at Civic Center Plaza garage and other under-utilized facilities. Garages and surface lots within blocks of the Performing Arts garage are under-utilized during performance evenings, due to the perceived lack of security. Measures to increase safety at these facilities such as hiring additional security personal and improving lighting would increase the desirability of parking at these locations and reduce parking demand closer to the performance venues at impacted parking facilities.[94]

None of the programs recommended by the Civic Center Parking Analysis would include construction of new parking supply ~~increase the supply of parking spaces~~ within the study area and the overall shortfall would be the same. However, the policies recommended would help to better manage the existing supply of parking through improved utilization. In addition, the City and County of San Francisco has had preliminary discussions about expanding the existing Performing Arts garage by approximately 350 parking spaces. As such, this would increase the number of parking spaces available to performing arts patrons and further decrease the shortfall.

The potential new ~~residential~~ developments within the Project Area ~~would eliminate existing off-street parking lots, particularly those located along the former Central Freeway parcels (estimated to be about 160 spaces)~~ that will take place as part of the Plan or other private projects would eliminate approximately 980 spaces from existing parking lots. As such, it is likely that the future off-street parking supply would be less than currently available, and the future parking shortfall during the weekday midday and evening periods may be higher than estimated.

[94] San Francisco Planning Department, Better Neighborhoods 2002 Civic Center Parking Analysis Recommendations, July 2001.

The changes to the street network as proposed as part of the Plan (including the conversion of streets from one-way to two-way operations, and the establishment of new bicycle facilities) may eliminate existing on-street parking spaces. However, based on the current plans for these proposals, any reduction in on-street parking is anticipated to be relatively minor.

Due to these parking shortfalls, it would be difficult for drivers to find parking in the Project Area. As a result, drivers may park outside the Project Area (either on-street or in off-street facilities), or may switch to transit, carpool, bicycle or other modes of travel. Due to parking shortfalls, there may be impacts to pedestrians, bicycles, and transit caused by parking on the sidewalk, double-parking, and parking at intersections or other illegal parking activity. In general, parking shortfalls relative to demand are not considered significant environmental impacts in the urban context of San Francisco. Parking deficits may be an inconvenience to drivers, but are not considered significant physical impacts on the environment.

Reduced Vehicle Ownership

Due to parking supply constraints in the Project Area, future parking demand may be lower (as compared to the rates assumed for standard analysis). As previously discussed on pages 4-246 through 4-247, the Project Area's future parking demand was estimated at 4,510 spaces during the weekday midday period and 5,640 spaces during the weekday evening period under a reduced vehicle ownership rate. Table 4-27 presents the anticipated 2025 parking supply and demand during the weekday midday assuming a reduced vehicle ownership rate. If no additional parking spaces were provided, the parking shortfall for new development would be 2,430 spaces, equivalent to the projected demand. If the maximum number of parking spaces allowed under the proposed zoning regulations were provided, the parking shortfall would be 350 spaces, and if the maximum parking spaces under a conditional use were allowed, there would be a parking surplus of 730 spaces.

Table 4-28 presents the anticipated 2025 parking supply and demand during the weekday evening assuming a reduced vehicle ownership rate. The parking demand would be reduced to 3,030 spaces, which would also be the shortfall if no additional parking spaces were provided in association with new development in the Project Area. If the maximum number of spaces allowed under the zoning regulations were provided, the parking shortfall would be reduced to 970 spaces. If the maximum number of spaces allowed under a conditional use were provided, there would be a parking surplus of 110 spaces.

Table 4-27
2025 Project Area Parking Supply and Demand with Reduced Vehicle Ownership Rate
Weekday Midday Conditions

District	Demand[a]	No Minimum Supply	Parking Shortfall/ Surplus	Maximum Supply (Allowed)	Parking Shortfall/ Surplus	Maximum Supply (Conditional Use)	Parking Shortfall/ Surplus
A	680	0	*-680*	540	*-140*	850	*170*
B	340	0	*-340*	320	*-20*	470	*130*
C	350	0	*-350*	370	*20*	520	*170*
D	410	0	*-410*	190	*-220*	370	*-40*
E	440	0	*-440*	400	*-40*	590	*150*
F	210	0	*-210*	260	*50*	360	*150*
Total	**2,430**	**0**	***-2,430***	**2,080**	***-350***	**3,160**	***730***

Source: *SF Guidelines*, Wilbur Smith Associates – September 2004.
Notes:
a Based on Census 2000 Sample of Project Area – Number of vehicles per household. Parking demand estimated at 46 percent less than future weekday midday parking demand.

Table 4-28
2025 Project Area Parking Supply and Demand - Weekday Evening Conditions
with Reduced Vehicle Ownership Rate

District	Demand[a]	No Minimum Supply	Parking Shortfall/ Surplus	Maximum Supply (Allowed)	Parking Shortfall/ Surplus	Maximum Supply (Conditional Use)	Parking Shortfall/ Surplus
A	850	0	*-850*	540	*-310*	840	*0*
B	430	0	*-430*	320	*-110*	470	*40*
C	440	0	*-440*	370	*-70*	520	*80*
D	510	0	*-510*	190	*-320*	370	*-140*
E	560	0	*-560*	400	*-160*	590	*30*
F	260	0	*-260*	260	*0*	360	*100*
Total	**3,050**	**0**	***-3,050***	**2,080**	***-970***	**3,160**	***110***

Source: *SF Guidelines*, Wilbur Smith Associates – September 2004.
Notes:
a Based on Census 2000 Sample of Project Area – Number of vehicles per household. Parking demand estimated at 46 percent less than future weekday evening parking demand.

Existing Planning Code Required Parking Supply

An additional analysis was conducted to determine the parking conditions if parking supply were developed in compliance with existing *Planning Code* requirements and a standard parking demand was assumed. Based on *Planning Code* requirements, approximately 1.0 parking spaces per housing unit would be developed, regardless of district (Downtown Residential, Neighborhood Commercial-Transit, and Residential Transit Oriented). Overall, it is estimated that the new residential units would be required to provide approximately 4,440 parking spaces.

With the *Planning Code* required parking supply (approximately 4,440 spaces), the Project Area could not fully accommodate the projected parking demand during the weekday midday and evening, and would result in an estimated shortfall of about 70 spaces during the weekday midday and about 1,200 spaces during the weekday evening. Table 4-29 presents the anticipated 2025 parking supply and demand during the weekday midday assuming a supply of 1.0 parking space per housing unit.

Table 4-29
2025 Project Area Parking Supply and Demand - Weekday Midday Conditions
One Parking Space per One Housing Unit

District	Demand	1.0 to 1.0 Supply (Planning Code)	Parking Shortfall/ Surplus
A	1,260	1,240	*-20*
B	630	620	*-10*
C	650	640	*-10*
D	760	750	*-10*
E	820	810	*-10*
F	390	380	*-10*
Total	**4,510**	**4,440**	***-70***

Note: Details and totals may not add due to independent rounding.
Source: *SF Guidelines*, Wilbur Smith Associates – September 2004,

Table 4-30 presents the anticipated 2025 parking supply and demand during the weekday midday assuming a supply of 1.0 parking spaces per 1.0 housing unit.

Overall, the parking shortfall with the 1.0 to 1.0 supply would be less than with the No Minimum Supply, Maximum Supply (Allowed) and Maximum Supply (Conditional Use) scenarios that were assessed for the zoning regulations proposed under the Plan.

The County Transportation Authority Model does not factor the provision (in terms of location or amount) of off-street parking for land uses into the determination of modal split. As such, the

Table 4-30
2025 Project Area Parking Supply and Demand - Weekday Evening Conditions
One Parking Space per One Housing Unit

District	Demand	1.0 to 1.0 Supply (Planning Code)	Parking Shortfall/ Surplus
A	1,580	1,240	*-340*
B	790	620	*-170*
C	810	640	*-170*
D	950	750	*-200*
E	1,030	810	*-220*
F	480	380	*-100*
Total	**5,640**	**4,440**	***-1,200***

Source: *SF Guidelines*, Wilbur Smith Associates – September 2004.
Note: Details and totals may not add due to independent rounding.

traffic analysis conducted for this report would continue to be applicable for any parking supply provided within the Project Area.

In summary, parking shortfalls are projected to occur if the new parking requirements proposed in the Plan are implemented, unless vehicle ownership patterns similar to those that presently exist in the Project Area are replicated by new residential development. If the parking supply is limited as proposed under the Plan and the vehicle ownership is above 1.0 per household, the parking shortfall would range from 2,480 to 5,640 spaces. With the new parking requirements and reduced vehicle ownership as anticipated by the Plan, the parking shortfall would range from 2,430 space deficit to a 730 space surplus. If a 1.0 to 1.0 ratio of parking spaces per unit were provided, assuming a vehicle ownership of greater than 1.0 per unit, the projected parking shortfall would be 1,200 spaces.

To reduce the parking demand associated with the implementation of the Plan, the following improvement measures have been identified.

- Coordinate with City CarShare to promote the use of car-sharing for area residents. In addition, designate a certain portion of new parking spaces for CarShare vehicles.
- With the reduced vehicle ownership scenario, the parking deficit under the Plan would be reduced. As such, efforts to enhance transit, pedestrian and bicycle circulation and access in the Project Area as proposed in the Plan would reduce the reliance upon private vehicles. In addition, by limiting the number of off-street parking spaces available within the new residential development, it is likely that the number of vehicles per household would be reduced. Combined, these concepts would result in a reduction in parking demand and parking shortfall would be reduced or in some instances eliminated.

To the extent that future development projects in the Project Area are not included in this program level analysis, separate parking analysis may be required in the future.

Project Level

The analysis of parking impacts may be specific to individual development projects, and can include a comparison of proposed parking space supply to the *Planning Code* requirements and the estimated parking demand. As such, to the extent that future development projects on the Central Freeway parcels are not included in this analysis, they may require separate parking impact analyses.

Parking shortfalls relative to demand are not considered significant environmental impacts in the urban context of San Francisco. Parking deficits may be an inconvenience to drivers, but are not considered significant physical impacts on the environment. At the program level, it was determined that the shortfall in parking resulting from the Plan implementation would not result in significant parking impacts. Development of the Central Freeway parcels would result in less intense development and less of a potential parking shortfall. Therefore, the development of Central Freeway parcels would not result in a significant parking impact.

Pedestrian Impacts

Program Level

For the purpose of this analysis, a general assessment of pedestrian conditions was conducted in order to estimate the number of new pedestrian trips that would be generated by the Plan, and to identify any potential future pedestrian conflicts. In addition, the new pedestrian facilities and amenities proposed as part of the Plan were evaluated, particularly in relation to any potential new effects to the circulation network.

The Plan would generate about 915 pedestrian trips as a primary mode during the weekday PM peak hour. Additional walk trips would be made to and from nearby parking facilities and local/regional transit operators. Most of the new walk trips would generally occur in the vicinity of the major areas of new residential development (including along Octavia Boulevard) and in the vicinity of the primary transit nodes (such as along Market Street).

Overall, it is anticipated that conditions for pedestrians will not change substantially due to overall growth of the Project Area over the Existing Year and 2025 without Plan scenarios. As such, it is likely that pedestrian level of service along sidewalks and crosswalks will not change markedly from the base case and therefore would not result in significant adverse impacts to pedestrians.

To the extent that future development projects in the Project Area are not included in this program level analysis, separate pedestrian analysis may be required in the future for specific development projects.

Project Level

The analysis of pedestrian impacts specific to individual development projects include a discussion of the anticipated number of pedestrian trips that would be generated during the weekday PM peak hour, the existing and proposed width of the adjacent sidewalks, and an assessment of potential safety concerns and conflict locations. As such, to the extent that future development projects on the Central Freeway parcels are not included in this analysis, they would require separate pedestrian analysis.

It is estimated that the Plan would generate about 915 pedestrian trips as a primary mode during the weekday PM peak hour. Additional walk trips would be made to and from nearby parking facilities and local/regional transit operators. Overall, it is projected that conditions for pedestrians would not change substantially due to overall growth or Plan-related growth in the Project Area between the Existing Year and 2025 without Plan scenarios. As such, it is likely that pedestrian level of service along sidewalks and crosswalks will not change markedly from the base case. As the development of the Central Freeway parcels would generate fewer pedestrian trips than the Plan, the peak hour capacity utilization of pedestrian facilities would not substantially increase and therefore would not result in significant impacts to pedestrian, bicycle, or traffic/transit operations.

The Plan includes a number of pedestrian changes within the Project Area. In general, these changes would not result in significant impacts to traffic/transit operations, parking or bicyclists, as they would not affect future roadway configurations.

Bicycle Impacts

Program Level

A general assessment of bicycle conditions was conducted in order to estimate the number of new bicycle trips that would be generated by the Plan, and to identify any potential future bicycle conflicts. In addition, the new bicycle facilities and amenities proposed as part of the Plan were evaluated, particularly in relation to any potential new effects to the circulation network.

As previously discussed, it was estimated that the Plan would generate about 145 bicycle trips as a primary mode during the weekday PM peak hour. Additional bicycle trips would be made to travel

to and from local/regional transit operators. Most of the new bicycle trips would occur in the vicinity of the major areas of new residential development (including along Octavia Boulevard) and along the major bicycle routes throughout the Project Area (such as along Market, Valencia, Eleventh and Fourteenth Streets).

Overall, it is anticipated that conditions for bicyclists will not change substantially due to overall growth of the Project Area over the Existing Year and 2025 without Plan scenarios. As such, it is likely that bicycle operations along streets and within the current and future bicycle facilities would not change markedly from the base case with Plan implementation. Although the Plan would result in an increase in the number of vehicles throughout the Project Area, this increase would not be substantial enough to affect bicycle travel in the area. Implementation of the Plan would not result in significant bicycle impacts.

To the extent that future development projects in the Project Area are not included in this program analysis, separate bicycle analysis may be required in the future for specific development projects

Project Level

The analysis of bicycle impacts may be specific to individual development projects, and can include a discussion of the anticipated number of bicycle trips that would be generated during the weekday PM peak hour and an assessment of potential safety concerns and conflict locations, plus a comparison of proposed bicycle parking spaces to the *Planning Code* requirements. As such, to the extent that future development on the Central Freeway parcels is not included in this analysis, they may require separate bicycle impact analysis.

It is estimated that the Plan would generate about 145 bicycle trips as a primary mode during the weekday PM peak hour. Additional bicycle trips would be made to and from local/regional transit operators. Overall, it is projected that conditions for bicyclists would not change substantially due to overall growth or Plan-related growth in the Project Area between Existing Year and 2025 Without Plan scenarios. As such, it is likely that bicycle operations along streets and within the current and future bicycle facilities will not change markedly from the base case. Although the Plan would result in an increase in the number of vehicles throughout the Project Area, this increase would not be substantial enough to affect bicycle travel in the area. As the development of the Central Freeway parcels would generate fewer trips overall than the Plan, bicycle travel in the area would not be substantially affected and would not result in significant bicycle impacts.

The Plan includes two bicycle changes within the Project Area (see also Figure 4-19, page 4-180). The purpose of these changes was to improve existing bicycle deficiencies in the Project Area, as well as to make the neighborhood more functional and desirable for non-motorized transportation. These projects are summarized below, with an assessment of their effects.

Central Freeway: With the construction of the new Central Freeway touchdown at Market Street, there will be a gap between the continuous Valencia Street bike lanes and the improved bike routes along Octavia Boulevard. The Plan proposes a project to connect these two bicycle routes with a new bike path along the east side of the new freeway touchdown structure, linking both north- and south-bound bicycle traffic. A protected left-turn lane to this bike path would be created in the Valencia Street median. Completion of this project would provide safe linkage for an important cross-town route in San Francisco's bicycle network and increase overall bicycle usage.

Bicycle Lanes on Howard Street: The Plan proposes installation of bike lanes on both sides of Howard Street in the Project Area. This project would join South of Market bike routes to the Fourteenth Street bike lanes and the Valencia Street bike lanes, increasing the interconnectivity of the bicycle network and connecting Downtown and South of Market with the Mission and neighborhoods to the southeast.

As part of this project, at the intersection of Howard and Division Streets in the southbound direction, bicyclists would be routed to a striped box at the front of the intersection crosswalk. This designated area would serve as bicycle storage space during the red-signal phase for the southbound movements. By routing bicycles to this area, bicyclists could avoid traffic entering the freeway on-ramp at Division Street and South Van Ness Avenue and thus safely navigate the intersection. This bicycle storage space would not change signal timing or phasing at the intersection.

Both the bike path connecting Valencia Street and Octavia Boulevard bike lanes and the Howard Street bike lanes would not result in significant impacts to traffic/transit operations or pedestrians, as they would not affect future roadway configurations.

Loading Impacts

Program Level

As part of the Plan, new curb cuts would not be allowed on transit preferential streets (which include portions of Hayes Street, Haight Street, Duboce Avenue, Sixteenth Street, Market Street, Mission Street, Otis Street and Van Ness Avenue in the Project Area). As such, access to off-street loading facilities for new residential development located along these streets would need to occur

from side streets or back alleyways. It is likely that some of the parcels would not have access to side streets or back alleyways. As a result, it may be difficult to adequately serve the loading and delivery needs of these projects, which would lead to an increased potential for double-parking and the illegal use of sidewalks and bicycle lanes for loading/unloading activities. This would result in disruptions to the traffic flow on the adjacent streets, and could potentially affect transit, pedestrian and bicycle operations.

In addition, the proposed *Planning Code* changes would reduce off-street loading requirements. As a result, it may be difficult to adequately serve the loading and delivery needs of these projects, which would lead to an increased potential for double-parking and the illegal use of sidewalks and bicycle lanes for loading/unloading activities. This would result in disruptions to the traffic flow and transit operations on the adjacent streets, and could potentially affect transit, pedestrian and bicycle operations. The loading impacts related to implementation of the Plan would not, however, be considered significant. No mitigation measures would be required.

To the extent that future development projects in the Project Area are not included in this program analysis, separate loading analysis may be required in the future for specific development projects.

Project Level

The analysis of loading impacts may be specific to individual development projects, and can include a comparison of proposed loading space supply to the *Planning Code* requirements and the estimated loading demand during the peak hour of loading activities. As such, to the extent that the loading impacts are not included in this analysis, they may require a separate loading impact analysis for future development projects on the Central Freeway parcels. It should be noted, however, that each new project would be required to meet the *Planning Code* requirements for the number and size of loading spaces. In addition, each new project would be required to provide garbage/recycling facilities. As a result, the project level impacts would be expected to be less than significant.

Construction Impacts

In general, the analysis of construction impacts are specific to individual development projects, and include a discussion of temporary roadway and sidewalk closures, relocation of bus stops, affects to roadway circulation due to construction trucks, and the increase in vehicle-trips, transit trips and parking demand associated with construction workers. As such, construction impacts have not been assessed for the Plan and separate construction impact analyses would need to be conducted for all future development projects in the Project Area. Note that potential impacts associated with

individual projects are not considered significant since they are temporary and of short-term duration.

In general, construction-related activities typically occur Monday through Friday, between 6:00 AM and 6:00 PM, with limited construction activities on weekends (on an as-needed basis). Construction staging typically occurs within project sites and from the adjacent sidewalks. These sidewalks along the site frontages are usually closed throughout the construction duration, with temporary pedestrian walkways constructed in the adjacent parking lanes. Temporary traffic lane closures need to be coordinated with the city in order to minimize the impacts on local traffic. Lane and sidewalk closures are subject to review and approval by the Department of Public Works (DPW) and the Inderdepartmental Staff Committee on Traffic and Transportation (ISCOTT). Bus stops relocations need to be coordinated with the city and the appropriate transit agencies.[95]

During the construction period, temporary and intermittent traffic and transit impacts may result from truck movements to and from project sites. Truck movements during periods of peak traffic flow would have greater potential to create conflicts than truck movements during non-peak hours because of the greater number of vehicles on the streets during the peak hour that would have to maneuver around queued trucks. The sponsors of individual projects would have to meet with Muni, DPT, ISCOTT, and other responsible City agencies to coordinate construction activities so as to minimize construction impacts on vehicular, transit and pedestrian traffic.

Temporary parking demand from construction workers' vehicles and impacts on local intersections from construction worker traffic would occur in proportion to the number of construction workers who would use automobiles. Parking of construction workers' vehicles would temporarily increase occupancy levels in off-street parking lots, either by those vehicles or by vehicles currently parking in on-street spaces that would be displaced by construction workers' vehicles.

It is possible that construction activity associated with a development would overlap with that of other nearby projects. As a condition of street closure, use of parking lanes for construction and other permits, the city could require that construction contractors for multiple projects meet to determine ways to minimize traffic and transit disruption due to construction activities.

The following improvement measures have been identified to reduce the temporary effects associated with construction activity.

[95] If it is determined that temporary Muni bus stop relocation would be needed, the relocations would be coordinated with the Muni Street Operations/Special Events office, which can be contacted at (415) 554-9286.

- Limiting truck movements to the hours between 9:00 AM and 3:30 PM (or other times, if approved by DPT) would minimize disruption of the general traffic flow on adjacent streets during the AM and PM peak periods.

- All construction contractors would meet with the Traffic Engineering Division of the Department of Parking and Traffic, the Fire Department, Muni, and the Planning Department to determine feasible measures to reduce traffic congestion, including transit disruption and pedestrian circulation impacts during construction of individual development projects.

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4.8 AIR QUALITY

This section presents a description of the air basin and the regulatory status, describes the potential effects of the project on air quality, and provides a comparison of the Market and Octavia Neighborhood Plan with regional air quality plans.

4.8.1 Environmental Setting

The Project Area is within the San Francisco Bay Area Air Basin. The Bay Area Air Quality Management District (BAAQMD) is the local regulatory agency for air quality issues.

San Francisco is located at the northern end of a narrow peninsula, which separates San Francisco Bay from the Pacific Ocean, and is known for cool pleasant summers and mild winters. Precipitation averages approximately 20 inches a year with pronounced wet and dry seasons, characteristic of a Mediterranean climate. The average annual wind speed is about nine miles per hour (mph) with lighter winds, six to seven mph, occurring in the winter and stronger winds, ten to eleven mph, in the summer.[93] Winds tend to blow on-shore out of the north/northwest.[94]

Temperature patterns in the city are variable. In the winter there is little variation, with average maxima from 55 to 60 degrees Fahrenheit and average minima in the mid- to upper-40s. Average temperatures rise until June and remain nearly constant through August with average maxima in the lower 60s near the ocean and upper 60s in the sunny eastern half of the city. Summer minima range from 50 to 55 degrees Fahrenheit. The warmest time of the year is September and October when the fog diminishes greatly and some of the warmth from the Central Valley flows westward. At this time of year, the average maxima are in the mid-60s near the ocean and in the mid-70s in the warmest areas of the city. The average minima are about the same as they are during the summer.

A primary factor for air quality is the mixing depth, i.e., the vertical dimension available for dilution of contaminant sources near the ground. Over the Bay Area, the occurrence of temperature inversions limits this mixing depth and consequently limits the availability of air for dilution.[95]

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93 National Oceanic and Atmospheric, Association National Climatic Data Center http://www.ncdc.noaa.gov/oa/ncdc.html

94 Bay Area Air Quality Management District, *BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans*, December 1999.

95 Bay Area Air Quality Management District, Climate, Physiography, and Air Pollution Potential – Bay Area and Its Subregions, undated.

Air Quality Standards and Legislation

Federal

The *1970 Federal Clean Air Act* established National Ambient Air Quality Standards (NAAQS) for six criteria pollutants; carbon monoxide, ozone, particulate matter, nitrogen dioxide, sulfur dioxide, and lead. The NAAQS are divided into primary and secondary standards. Primary standards set limits to protect public health, including the health of "sensitive" populations such as asthmatics, children, and the elderly (Table 4-31). Secondary standards set limits to protect public welfare, including protection against decreased visibility, damage to animals, crops, vegetation, and buildings.

The *Clean Air Act* contains provisions for the classifying geographic areas based on compliance with the national standards. The *Clean Air Act* classifies areas based on the following criteria:[96]

- Non-attainment: any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard or the pollutant;
- Attainment: any area (other than an area identified in above) that meets the national primary or secondary ambient air quality standard for the pollutant; or
- Unclassifiable: any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

The Bay Area Air Basin is classified as non-attainment for the NAAQS 1-hour ozone standard and as marginal non-attainment for the 8-hour ozone standard. The *Clean Air Act* and subsequent *Federal Clean Air Act Amendments* of 1997and 1990 required State Implementation Plans be developed for non-attainment areas to identify strategies to achieve attainment of the NAAQS. On October 31, 2003, the Environmental Protection Agency (EPA) proposed a finding of attainment for the San Francisco Bay Area for the national 1-hour ozone standard based on monitoring data from 2001, 2002, and 2003. In April 2004, the EPA made a final finding that the Bay Area had attained the national 1-hour ozone standard. The finding of attainment does not mean the Bay Area has been reclassified as an attainment area for the 1-hour standard, but that the California Air Resources Board (ARB) may submit a redesignation request to EPA to be reclassified as an attainment area.

In July 1997, the EPA established a new 8-hour carbon monoxide standard and a new standard for particulate matter less than or equal to 2.5 microns in diameter ($PM_{2.5}$). The California ARB has

[96] US Environmental Protection Agency, *Clean Air Act, 1970.*

Table 4-31:
Ambient Air Quality Standards and Bay Area Attainment Status

Pollutant	Averaging Time	California Standards [a]		National Standards [b]	
		Concentration	Attainment Status	Concentration [c]	Attainment Status
Ozone	8-Hour			0.08 ppm	N [d]
	1-Hour	0.09 ppm	N	0.12 ppm	N [d]
Carbon Monoxide	8-Hour	9.0 ppm	A	9 ppm	A [e]
	1-Hour	20 ppm	A	35 ppm	A
Nitrogen Dioxide	Annual Average			0.053 ppm	A
	1-Hour	0.25 ppm	A		
Sulfur Dioxide	Annual Average			0.03 ppm	A
	24-Hour	0.04 ppm	A	0.14 ppm	A
	1-Hour	0.25 ppm	A	--	
Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 $\mu g/m^3$	N [f]	50 $\mu g/ m^3$	A
	24-Hour	50 $\mu g/m^3$	N	150 $\mu g/m^3$	U
Particulate Matter - Fine ($PM_{2.5}$)	Annual Arithmetic Mean	12 $\mu g/m^3$	N [f]	15 $\mu g/m^3$	U
	24-Hour			65 $\mu g/m^3$	U
Sulfates	24-Hour	25 $\mu g/m^3$	A		
Lead	Calendar Quarter			1.5 $\mu g/m^3$	A
	30-Day Average	1.5 $\mu g/m^3$	A		
Hydrogen Sulfide	1-Hour	0.03 ppm	U	--	
Vinyl Chloride (chloroethene)	24-Hour	0.010 ppm	No information available	--	
Visibility Reducing Particles (VRP)	8-Hour (10:00 to18:00 PST)	[h]	A	--	

Notes:

-- = No standards A = Attainment N = Non-attainment U = Unclassified
µg/m3 = milligrams per cubic meter ppm = parts per million PST = Pacific Standard Time

[a] California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1-hour and 24-hour), nitrogen dioxide, suspended particulate matter - PM_{10}, and visibility reducing particles are values that are not to be exceeded. The standards for sulfates, Lake Tahoe carbon monoxide, lead, hydrogen sulfide, and vinyl chloride are not to be equaled or exceeded. If the standard is for a 1-hour, 8-hour, or 24-hour average (i..e., all standards except for lead and the PM_{10} annual standard), then some measurements may be excluded. In particular, measurements are excluded that the California ARB determines would occur less than once per year on the average. The Lake Tahoe CO standard is 6.0 ppm, a level one-half the national standard and two-thirds the state standard.

(continued next page)

Table 4-31:
Ambient Air Quality Standards and Bay Area Attainment Status (cont.)

[b] National standards other than for ozone, particulates, and those based on annual averages are not to be exceeded more than once a year. The 1-hour ozone standard is attained if, during the most recent three-year period, the average number of days per year with maximum hourly concentrations above the standard is equal to or less than one. The 8-hour ozone standard is attained when the 3-year average of the fourth highest daily concentrations is 0.08 ppm or less. The 24-hour PM_{10} standard is attained when the 3-year average of the 99th percentile of monitored concentrations is less than 150 $\mu g/ m^3$. The 24-hour $PM_{2.5}$ standard is attained when the 3-year average of 98th percentiles is less than 65 $\mu g/m^3$.

Except for the national particulate standards, annual standards are met if the annual average falls below the standard at every site. The national annual particulate standard for PM_{10} is met if the 3-year average falls below the standard at every site. The annual $PM_{2.5}$ standard is met if the 3-year average of annual averages spatially averaged across officially designed clusters of sites falls below the standard.

[c] National air quality standards are set at levels determined to be protective of public health with an adequate margin of safety. Each state must attain these standards no later than three years after that state's implementation plan is approved by the Environmental Protection Agency.

[d] In August 1998, the Bay Area was redesignated to non-attainment-unclassified for the national 1-hour ozone standard. In June 2004, the Bay Area was designated as a marginal non-attainment area of the national 8-hour ozone standard.

[e] In April 1998, the Bay Area was redesignated to attainment for the national 8-hour carbon monoxide standard.

[f] In June 2002, the California ARB established new annual standards for $PM_{2.5}$ and PM_{10}.

[h] Statewide Visibility Reducing Particles Standard (except Lake Tahoe Air Basin): Particles in sufficient amount to produce an extinction coefficient of 0.23 per kilometer when the relative humidity is less than 70 percent. This standard is intended to limit the frequency and severity of visibility impairment due to regional haze and is equivalent to a 10-mile nominal visual range.

Source: http://www.baaqmd.gov/pln/ambientairquality.asp, January 2003.

submitted air monitoring data and designation recommendations to the EPA. The California ARB recommended that the San Francisco Air Basin be unclassified for $PM_{2.5}$ due to insufficient data.

The EPA designated the Basin as a marginal non-attainment area for the new national eight-hour ozone standard. The Basin is classified as attainment or unknown status for the remaining national standards.

California

The State of California has established State ambient air quality standards (SAAQS) (see Table 4-31, page 4-263 for the criteria pollutants, as well as for pollutants for which there is no corresponding NAAQS). The SAAQS for the criteria pollutants are equal to, or more stringent than, the NAAQS. Analogous to the *Clean Air Act,* the *1988 California Clean Air Act* requires areas of the State to be designated as attainment or non-attainment. Plans must be prepared for non-attainment areas describing strategies to achieve the SAAQS. The SAAQS and air basin designation are established by California ARB. The Bay Area Air Basin is currently in non-attainment status of State standards for ozone, PM_{10}, and $PM_{2.5}$.

Bay Area Air Quality Management District

The Bay Area Air Basin includes seven counties: Alameda, Contra Costa, Marin, Napa, San Francisco, Santa Clara, and San Mateo; and portions of Solano and Sonoma counties. The Bay Area Air Quality Management District (BAAQMD) and California ARB have joint responsibility for enforcing the achievement and maintenance of State and national ambient air quality standards in the Bay Area Air Basin.

The BAAQMD adopted the *Bay Area 2000 Clean Air Plan* on December 20, 2000. The *2000 Clean Air Plan* is the third triennial update of the District's original *1991 Clean Air Plan* . The *2000 Clean Air Plan* includes a control strategy review to ensure that the plan continues to include "all feasible measures" to reduce ozone, an update of the District's emission inventory, estimates of emission reductions achieved by the plan, and an assessment of air quality trends.

On October 24, 2001, the BAAQMD adopted the Bay Area *2001 Ozone Attainment Plan.* The *2001 Ozone Attainment Plan* was in response to the EPA's partial disapproval of the Bay Area's *1999 Ozone Attainment Plan* and finding of failure to attain the national ambient air quality standard for ozone. The Plan provides for attainment of the national ozone standard by 2006 and requested consideration of an improved attainment assessment. As noted above, the EPA has proposed a finding of attainment for the national 1-hour ozone standard.

The BAAQMD is currently preparing the *Bay Area 2004 Ozone Strategy.* That plan will include a variety of measures to further reduce emissions of ozone precursors, NO_2 and volatile organic compounds, including: (1) stationary source measures to reduce emissions from industrial and commercial facilities, (2) mobile source measures to encourage conversion to low emission fuels, and (3) transportation control measures to promote transit, carpooling, walking and cycling.

The Toxics Hot Spots program is the BAAQMD's program to identify and reduce ambient concentrations of toxic air contaminants (TACs). The California ARB has identified 192 substances as toxic air contaminants under the *California Code of Regulations* Section 93001. The Toxics Hot Spots program involves the evaluation of health risks due to routine and predictable TAC emissions from industrial and commercial facilities. The BAAQMD has established specific public notification measures for various levels of risk identified under the program (Levels 1, 2, and 3). Level 3 corresponds to a cancer risk greater than 500 in one million (500 per million), Level 2 corresponds to a cancer risk between 100 and 500 per million, and Level 1 corresponds to a cancer risk between 10 and 100 per million.

City and County of San Francisco

San Francisco's *General Plan* includes policies that address air quality issues (see Section 4.1, Plans and Policies, pages 4-2 and 4-3).[97] The policies are found in the Air Quality Element, the Transportation Element, and the Residential Element. The Air Quality Element plan for air quality improvement is composed of six sections, including: (1) adherence to air quality standards, (2) improvements related to mobile sources, (3) land use planning, (4) public awareness, (5) reduction of dust, and (6) energy conservation. Policies in the element confirm the city's plan to work with State and Federal regulatory agencies to improve regional air quality.

Air quality objectives found in the Transportation Element seek to reduce mobile sources of air pollution through implementation of the traffic control measures (TCMs). The focus of the TCMs is to reduce air impacts from transportation sources by reducing roadway congestion on roadways, giving priority to public transit, encouraging the alternative modes of travel; and promoting coordination between land use and transportation to improve air quality.

The Commerce and Industry Element contains policies encouraging new commercial development in conjunction with new residential development to minimize transportation impacts. The negative traffic impacts of new development would be minimized if housing were to be provided in conjunction with commercial development thereby reducing the number of vehicle trip miles.

The Residential Element contains similar policies. Provision for new housing near employment centers reduces commute trips and improves air quality. By providing an improved neighborhood environment in combination with neighborhood oriented services within walking distance, pedestrian activities as a substitute for vehicle travel are encouraged and, as a result, fewer trips are made by automobiles and therefore air quality is improved.

Regional and Local Air Quality

The Bay Area Air Basin encompasses approximately 5,600 square miles. Degradation of the ambient air quality occurs in the basin due to emission of air pollutants from industrial and urban development and intense use of motor vehicles. Motor vehicle emissions are the major source of air pollution in the Bay Area. As stated above, the San Francisco Air Basin is in non-attainment status for the national ozone standard and for the State ozone, PM_{10}, and $PM_{2.5}$ standards. While the basin is in attainment status for carbon monoxide, traffic congestion at intersections can cause localized

[97] San Francisco Planning Department, *General Plan*, amended by Resolution No.14149 adopted on June 27, 1996.

concentrations that violate air quality standards. These criteria pollutants are briefly described in Appendix 9-D.

The nearest permanent air quality monitoring station to the Project Area is in San Francisco on Arkansas Street. This station monitors ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM_{10}, and $PM_{2.5}$. Table 4-32 provides a summary of the days violating the air quality standards.

Table 4-32:
Air Quality Summary Arkansas Street San Francisco Station 2001-2003

Standard		Days Standard violated in 2001	Days Standard violated in 2002	Days Standard violated in 2003
1-Hour State Ozone	0.09 ppm	0	0	0
1-Hour National Ozone	0.12 ppm	5	3	2
8-Hour National Ozone	0.08 ppm	2	2	0
1-Hour State NO_2	0.25 ppm	0	0	0
8-Hour State Standard CO	9.0 ppm	0	0	0
8-Hour National Standard CO	9 ppm	0	0	0
24-Hour National PM_{10}	50 μg/ m^3	0	0	0
24-Hour State PM_{10}	150 μg/ m^3	8	4	1
24-Hour National $PM_{2.5}$	65 μg/ m^3	2	4	0

Notes:
Ppm = parts per million
μg/m^3 = microgram per meter cubed
Source: California Air Resources Board website http://www.arb.ca.gov, May 2004.

Sensitive Receptors

Concentrations of air pollutants may endanger the health of the most sensitive segments of the population, such as elementary school children, hospital patients, people practicing outdoor sports, and residents of retirement homes. Land uses where these segments of the population reside (i.e., schools, childcare centers, hospitals, convalescent homes, family residences, and ball parks) are considered sensitive receptors. Existing sensitive receptors located within the Project Area include schools, hospital, childcare centers, convalescent or nursing homes, family residences, parks, and playgrounds.

4.8.2 Impact Analysis

Significance Criteria

According to the *CEQA Guidelines,* a project may be deemed to have a significant environmental impact on air quality if the project would result in any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

The BAAQMD recommends that CEQA air quality evaluations for specific area plans focus on an analysis of the plan's consistency with the most recently adopted regional air quality plan.[98] The Market and Octavia Neighborhood Plan would be an implementing document of the city's *General Plan.* As such, it is a policy framework that would be the basis of new zoning and *Planning Code* controls for the area, as well as urban design guidelines, housing policies, and an implementation program for public improvements by various public agencies. The most recently adopted plan for the San Francisco Bay Area Air Basin is the *2000 Clean Air Plan.* Consistency with the *Clean Air Plan* is based on the following criteria:

- The specific area plan's consistency with the *Clean Air Plan* population and vehicle use projections[99];
- The extent to which the specific area plan implements *Clean Air Plan* transportation control measures; and
- Whether the specific area plan provides buffer zones around sources of odors and toxics.

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[98] Bay Area Air Quality Management District, BAAQMD CEQA Guidelines, Assessing the Air Quality Impacts of Projects and Plans, December 1999.

[99] The BAAQMD guidelines includes a second criterion that the rate of increase in vehicle miles traveled for the area be no greater than the rate of increase in population. This criterion is based on *Health and Safety Code,* Section 40919(d), which establishes this performance standard for districts classified as serious non-attainment areas under the *California Clean Air Act.* Subsequent to the publication of the BAAQMD guidelines, this section of the *Health and Safety Code* was amended and this requirement eliminated.

Localized carbon monoxide concentrations due to congestion at intersections would also be considered a significant impact to air quality if the concentrations violated State or national air quality standards.

Program Level

Air quality impact assessments were made by estimating concentrations of pollutants for the 2025 Without Plan and 2025 With Plan conditions consistent with the transportation analysis conducted for the EIR. As population and employment growth would occur in the Project Area independent of the Plan, thereby affecting the transportation and air quality conditions, it is more accurate to assess the impacts of the Plan against a 2025 base year than the existing conditions.

Conformity with Clean Air Plan

Both the City of San Francisco and the BAAQMD use population projections from the Association of Bay Area Governments (ABAG) for planning purposes. ABAG produces a biannual report on regional population and employment trends. The *2000 Clean Air Plan* used population projections from the 1998 annual report *(Projections '98)* to estimate emission inventories from 2000 through 2006.[100] *Projections '98* predicts that the population in the nine Bay Area counties will increase from 6,824,200 to 7,142,800 between 2000 and 2005; for an average annual increase of about 318,600 residents or a 0.9 percent annual population growth rate. Implementing the Plan within the Project Area in the next 20 years would result in about 4,440 additional units and 7,620 new residents or an average annual increase of about 380 residents. This increase would contribute less than 0.01 percent to the 0.9 percent annual growth rate for the Bay Area region. The growth associated with the Plan is already accounted for as part of the overall growth expected to occur in San Francisco. The Plan would focus growth in the Market Octavia Neighborhood in an area that is conveniently located to transit and city services. As a result, the small contribution of the Plan growth to overall regional growth would not be expected to be considerable and would be in conformity with the *Clean Air Plan.*

The *2000 Clean Air Plan* is an update of the original *Clean Air Plan* adopted by the BAAQMD in 1991. The *1991 Clean Air Plan* proposed 23 Transportation Control Measures (which have been subsequently amended and revised to the current 22 measures) to be implemented in an effort to reduce ozone. The BAAQMD guidelines list seven measures that local governments should implement as part of area plans. These are as follows:

[100] Bay Area Air Quality Management District, *Bay Area 2000 Clean Air Plan and Triennial Assessment,* December 20, 2000.

- TCM 1: Support voluntary employer-based trip reduction programs
- TCM 9: Improve bicycle access and facilities
- TCM 12: Improve arterial traffic management
- TCM 15: Local clean air plans policies and programs should incorporate measures to reduce the number and length of single-vehicle occupant trips
- TCM 17: Conduct demonstration projects which will reduce vehicle emissions
- TCM 19: Promote pedestrian travel
- TCM 20: Promote traffic calming

In 1973, the San Francisco Planning Commission and Board of Supervisors adopted the "Transit-First Policy," giving top priority to public transit investments as the centerpiece of the city's transportation policy, and adopting street capacity and parking policies to discourage increases in automobile traffic. The *General Plan* has adopted the above referenced Transportation Control Measures into the Transportation Element as policy statements. The Plan proposes improvements in the operation and convenience of transportation, with a focus on transit, bicycle, and pedestrian movements that would address these policies and provide consistency with the *General Plan* and the *1997 Clean Air Plan* in terms of the Transportation Control Measures.

The Project Area is currently well served by public transit. The Project Area is served by the San Francisco Municipal Railway (MUNI), which provides service by subway-surface light-rail vehicles (Metro streetcars), electric trolley buses, and diesel buses. The Bay Area Rapid Transit (BART) also has stations within walking distance. The Project Area's household to vehicle ratio is one-half that of the rest of the city. The following elements of the Plan would comply with the Transportation Control Measures listed above:

- Improvements to the area's bicycle network would include new bicycle lanes at the new Central Freeway touchdown at Market Street and on Howard Street (TCM 9).
- Restricting curb cuts on all transit preferential streets designated in the Plan to facilitate traffic and transit flows (TCM 12).
- Improvements to the pedestrian environment, including sidewalk widening and corner plazas, improved crosswalks, creation of linear green streets, and better buffering from traffic (TCM 19).
- Traffic calming strategies to reduce traffic speeds and cut-through volumes on alleys and secondary streets (TCM 20).

The Plan would be in conformance with the *Clean Air Plan* and therefore would not have a significant impact on air quality related to Plan conformance.

Odors and Toxics/Sensitive Receptors

The Plan does not contain provisions for buffer zones around sources of odors or toxics. Land use within the Project Area is primarily residential and commercial. Only a portion is used for light industry. The Plan envisions enhancing the mixed-use residential and commercial nature of the neighborhood and therefore does not specifically address buffer zones to segregate land uses that could potentially generate odors or store toxic materials. However, the *San Francisco General Plan* contains policies and guidelines that addresses land use as it pertains to both odors and toxics.

The Air Quality Element of the *San Francisco General Plan* contains the following policy statement, which addresses compatibility of land use and sensitive receptors as it pertains to air quality:

Policy 3.7 Exercise air quality modeling in building design for sensitive land uses such as residential developments that are located near the sources of pollution such as freeways and industries.

Project review and approval in the city should consider air quality implications. Certain land uses such as some types of industrial uses and freeways generally emit air pollutants that could be hazardous to human health, particularly for sensitive receptors such as children, elderly and people with respiratory diseases. When reviewing new housing projects or other land uses to be used by sensitive receptors, location of industrial sites or other sources of air pollution should be considered in the design of the building to orient the air intake of the building away from the sources of pollution. Conversely, future industrial and other air polluting development should consider the existence of sensitive receptors in the vicinity. With adherence to these guidelines, no significant air quality impacts on sensitive receptors would be expected to occur.

The Commerce and Industry Element of the *San Francisco General Plan* contains the following urban development guidelines which address odors:

- "Use should not detract from the livability of the district or adjacent residential areas by causing offensive noise, odors..."
- Restaurants "should be designed and operated to contain fumes and odors within the cooking areas, so that such fumes and odors will not spread to adjacent or upper-story uses."
- "Rooftop mechanical equipment which may be visually obtrusive or create disturbing noises or odors should be located away from areas of residential use..."

These provisions in the *General Plan* provide development policies and guidelines that are designed to provide for protection of the public from nuisance odors or exposure to toxic air emissions.

Development of the Project Area would proceed under the policies and guidelines of the *General Plan.* For the above reasons, the Plan would not result in a significant air quality impact due to odors or toxics.

Carbon Monoxide

Increases in residential density could result in more vehicle trips and redesign of roads could result in increased traffic congestion, which could cause increased concentrations of carbon monoxide at major intersections.

Carbon monoxide emissions are highest near congested major intersections. The Project Area is located at the intersection of three of the city's grid systems. A number of major intersections suffer from traffic congestion during peak traffic periods. Vehicles emit more carbon monoxide when traveling at slower speeds. By increasing residential density, the Plan would create additional vehicular traffic on the local roads, thereby increasing the carbon monoxide levels in these areas, particularly if the increased traffic were to cause vehicles to travel at slower speeds or increase stop and go traffic. However, improvements in roadway configurations could improve traffic flow-through and thereby decrease the level of carbon monoxide emissions.

Carbon monoxide emissions were projected using CALINE4 Version 1.3, a dispersion model for predicting air pollutant concentrations near roadways. The vehicle emission rates for the years modeled were based on the California ARB's computer program EmFac2002. Carbon monoxide concentrations adjacent to the roadway were modeled at intersections predicted by the transportation study to operate under Level of Service (LOS) E or F for existing conditions and future year 2025 cumulative conditions. The carbon monoxide concentrations were modeled using peak PM hour traffic volumes. The model assumed that traffic speeds would average 25 miles per hour (mph) on the roadway and would be reduced to an average of 5 mph 150 meters from the intersection, except where the volumes were less than 100 vehicles per hour where an average speed of 10 mph was assumed. The model results are presented in Table 4-33.

The results suggest that the 8-hour average carbon monoxide concentration at five intersections currently violate the State and federal carbon monoxide standards (see intersections in **bold face** in

Table 4-33:
Estimated Carbon Monoxide Concentrations at Major Intersections

Intersection	Existing Conditions 2004		2025 With Plan	
	1-Hour CO Concentration (ppm)	8-Hour CO Concentration (ppm)	1-Hour CO Concentration (ppm)	8-Hour CO Concentration (ppm)
Hayes Ave./Gough St.	9.9	6.9	4.1	2.9
Hayes St./Franklin St.	9.5	6.7	4.1	2.9
Hayes St./Van Ness Ave.	14.0	**9.8**	4.4	3.1
Market St./Octavia Blvd./McCoppin	9.8	6.9	5.1	3.6
Market St./Franklin St./Page St.	9.7	6.8	4.1	2.9
Oak St./Octavia Blvd.	7.4	5.2	4.5	3.2
Market St./Sanchez St./15th St.	10.5	7.4	4.1	2.9
Market St./Church St./14th St.	9.7	6.8	4.3	3.0
Laguna St./Market St./Guerrero St.	10.7	7.5	4.5	3.2
Market St./Van Ness Ave./South Van Ness Ave.	15.3	**10.7**	5.0	3.5
Market St./Larkin St./9th St./Hayes St.	16.9	**11.8**	5.4	3.8
Mission St./Otis St./South Van Ness Ave.	15.1	**10.6**	5.1	3.6
Duboce Ave./Otis St./Mission St./101 Off Ramp	12.7	8.9	4.5	3.2
Duboce Ave./South Van Ness Ave.	14.1	**9.9**	5.0	3.5
State Standard	20.0	9.0	20.0	9.0
National Standard	35.0	9.0	35.0	9.0

Notes:
CO = carbon monoxide
ppm = parts per million
Violations of State and national standards are indicated in bold.
Source: BASELINE, 2004.

Table 4-33). However, the predicted carbon monoxide concentrations at these intersections in 2025 with the Plan implementation would be below both the State and national average 8-hour standard and the average 1-hour standard, primarily due to the lower vehicle emissions in future years due to various State and Federal programs. Therefore, the Plan would not have a significant impact on the carbon monoxide concentrations at the intersections.

Project Level

Central Freeway Parcels

The development of the Central Freeway parcels for residential and mixed uses would contribute less than 0.01 percent to the Bay Area region annual growth rate. This development would occur in

an area that has a high degree of transit accessibility and therefore would be consistent with the regional *Clean Air Plan.* Development of the Central Freeway parcels under the provisions of the San Francisco *General Plan* that protect sensitive receptors against nuisance odors and toxic emissions would not result in a significant air quality impact.

Increasing the development density along the former freeway corridor could result in increased congestion on surface streets in the vicinity of the Central Freeway parcels. However, when assessed within the context of the transportation improvements also proposed as part of the Plan and removal of the Central Freeway, the CO concentrations in the vicinity of the Central Freeway parcels would decline in the future and would be below adopted standards (see Table 4-33, page 4-273).

Redevelopment of the Central Freeway parcels would result in less than significant air quality impacts.

Public Street Improvements

Public street improvements proposed as part of the Plan would generally improve traffic flows in the Project Area, although some intersections would experience a decline in level of service. However, the overall effect would be a reduction in carbon monoxide emissions and therefore would not result in a significant air quality impact.

Open Space Improvements

The open space improvements would convert street space or underutilized property to public plaza areas at the Central Freeway touchdown on Octavia Plaza, at McCoppin Square on McCoppin Street, and at Brady Park in the Brady Block. These proposed projects would create new open space in the Project Area and would not result in significant air quality impacts.

Construction Impacts

Site Preparation

Plan or individual project implementation would include construction activities that would result in short-term PM_{10} and $PM_{2.5}$ emissions. Site preparation and construction activities in the Project Area would include soil excavation and backfilling, grading, and equipment vehicular traffic on paved and unpaved roads. Soils exposed during construction activities would be subject to wind erosion. As a result, short-term dust emissions would cause a temporary increase in localized PM_{10}

and $PM_{2.5}$ concentrations. PM_{10} and $PM_{2.5}$ emissions are considered by the California Air Resources Board to be the greatest pollutant of concern associated with construction activities.

Construction-related impact result from dust emissions and emissions from construction equipment burning fossil fuels. The BAAQMD approach to CEQA analysis of construction impacts is to emphasize implementation of effective and comprehensive control measures rather than detailed quantification of emissions. Particulate matter is the pollutant of greatest concern with respect to construction activities. The BAAQMD recognizes that construction equipment emits carbon monoxide and ozone precursors; however, these emissions are accounted for in the *2000 Clean Air Plan* and are not expected to impede attainment or maintenance of ozone and carbon monoxide standards in the Bay Area. The BAAQMD has not developed pollution-specific quantitative threshold values for air emissions from construction activities. The air emissions associated with construction activities would be a potentially significant air quality impact.

The implementation of particulate emissions controls as recommended by BAAQMD and as outlined in Mitigation Measure 5.8.A on page 5-19 would reduce this impact to a less than significant level.

Construction Equipment

Short-term exhaust emissions from construction equipment would be generated during construction of projects due to Plan implementation. The primary pollutants associated with exhaust emissions from construction equipment consist of ozone precursors (reactive organic compounds or ROG and nitrogen oxides or NOx), PM_{10}, and $PM_{2.5}$. Exhaust emissions would also be generated from transporting excavated soils off-site. Threshold of significance for pollutants generated from construction activities have not been established by the BAAQMD. Exhaust emissions generated from construction equipment would temporarily increase compared to existing conditions. These impacts would be potentially significant if not mitigated.

The implementation of Mitigation Measure 5.8.B. to reduce exhaust emissions, as outlined on page 5-19, would reduce the impact to a less than significant level.

Cumulative Impacts

The San Francisco Air Basin is in non-attainment for the State air standard for PM_{10} and $PM_{2.5}$ and the State and national air standard for ozone. The *1991 Clean Air Plan* and subsequent updates set forth measures to be undertaken to obtain compliance with the standards. These plans have accounted for reductions due to decreased vehicle emissions by fuel reformulations and engine

improvements, increased regulation of stationary sources, and population trends. Local area plans that are consistent with the *Clean Air Plan* will have air quality impacts that have been accounted for in the *Clean Air Plan* and will not impede obtainment of the air quality standards. The Plan and other foreseeable development in San Francisco would be consistent with the *Clean Air Plan* and therefore would not have a significant cumulative air quality impact.

4.9 NOISE

This section describes the existing acoustical setting in the Project Area and identifies potential noise-sensitive receptors. It also evaluates the effects of transportation and land use improvements and changes on these sensitive human noise receptors.

4.9.1 Environmental Setting

Terminology

Sound is caused by pressure vibrations in air. The sound level is the intensity of the pressure vibrations, and it is most often measured in terms of decibels (dB).[101] Noise is defined as unwanted sound. Noise may be considered objectionable due to its pitch or loudness. Pitch is the depth of a tone or sound, with higher pitches generally being more objectionable than lower pitch sounds. Loudness is the intensity of the sound waves as received by the human ear.

The human ear does not perceive sound at low frequencies in the same manner as those at higher frequencies. Sounds of equal intensity at low frequency do not seem as loud as those at higher frequencies. Noise levels caused by traffic and other urban activities are usually considered in terms of A-weighted decibels (dBA). The A-weighted network is used in sound analysis systems to simulate the human ear. A-weighted sound levels are expressed in units of decibels, dBA. Generally, a difference of 3 dB is barely noticeable to most people and a difference of 10 dB is perceived as a doubling of loudness. Each 3 dB increase or decrease in sound level represents approximately two-times or one-half, respectively, of the sound intensity.

Noise levels from a particular source generally decline as distance to the receptor increases. Other factors such as weather and reflecting or shielding also help intensify or reduce the noise level at any given location. Noise for a roadway is typically reduced by approximately 3 dB for each doubling of distance. Noise levels are reduced by intervening structures. Generally, a single row of buildings between the receptor and the noise source reduces the noise level by about 5 dB.

[101] A decibel (dB) is the standard unit of sound amplitude, or loudness; decibels are measured on a logarithmic scale, similar to the scale used to measure earthquake intensity. A logarithmic scale is a non-linear scale; for decibels, each increase in 10 dB multiplies the previous value by 10. For example, 50 dBA is 10 times louder then 40 dBA, while 60 dBA is 100 times louder than 40 dBA.

Because environmental noise fluctuates over time, statistical indicators are used to characterize the noise as it changes in time. Two of the most commonly used indicators are L_{eq} and L_{dn}.[102] The equivalent energy indicator, L_{eq}, is an indicator of cumulative noise exposure presented over a stated time period, usually one hour. The day-night average, L_{dn}, is a 24-hour average which accounts for the greater sensitivity of most people to nighttime noise. Community Noise Equivalent Level (CNEL) is also a 24-hour average, like L_{dn}, but is further weighted for sensitivity to evening noise.[103] These and other indicators are used to describe noise from different sources in different environments. For example, L_{dn} and CNEL are often used to describe general community noise levels, as they penalize nighttime and evening noise. The L_{eq} over a one-hour period ($L_{eq}(h)$, or hourly L_{eq}) is usually used to describe environmental noise near nonresidential sensitive receptors, because most people would not remain at these locations for more than a few hours. L_{10} and L_{90} are the A-weighted sound levels, which are exceeded 10 percent and 90 percent of the time, respectively, during the measurement period.

The levels in dB are used to evaluate hearing damage risk or community noise guidelines and ordinances. The term "sound level" as used in this document is understood to represent the A-weighted sound level unless otherwise noted. Appendix 9-E, Table E-1, page 9.E-2, presents A-weighted sound levels of typical noise sources.

Sounds that exist in an area result from a multitude of sources from various natural (wind and wildlife) and community (human, aircraft, motor vehicle and industrial) sources. Traffic noise is the major contributor to the overall sound level in most urban areas, including the Project Area. At distant receptors, traffic sounds will tend to blend with other sounds in the environment. In this form it becomes a major component of the residual or background ambient sound level. At nearby receptors, traffic may emit instantaneous sound peaks as part of the overall environmental sound level due to the intermittent nature of vehicular flow throughout the day and night.

Acoustical terminology commonly used are presented in Appendix 9-E, Table E-2, page 9.E-3.

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[102] L_{eq}, the equivalent steady-state sound level, is the average acoustic energy content of noise for a stated period of time. The L_{eq} of two different time-varying noise events are the same if the events deliver the same acoustic energy to the ear during exposure, no matter what time of the day or night they occur, unlike some other measurements that adjust for difference in noise sensitivity at night.
L_{dn} is a day-night average noise level, a 24-hour average L_{eq}; it takes into account the greater sensitivity of persons to nighttime noise and adds 10-dBA to the noise level added during the hours of 10:00 p.m. to 7:00 AM.

[103] CNEL is a community noise equivalent level 24-hour average noise similar to L_{dn} but with an additional 5 dBA added during the hours of 7:00 p.m. to 10:00 p.m. to account for sensitivity to evening noise.

Exposure to Noise

Hearing loss can occur due to chronic exposure to excessive noise, but may also occur from a single event, such as an explosion. Natural hearing loss associated with aging may also be accelerated by chronic exposure to loud noises. The Occupational Safety and Health Administration (OSHA) has adopted noise exposure standards to prevent hearing loss. The maximum average allowable level over an eight-hour period is 90 dBA. OSHA's threshold limit values vary with duration of exposure.

The American Conference of Governmental Industrial Hygienists (ACGIH) also has promulgated threshold limit values (TLVs) referring to sound pressure levels and duration of exposure that represent conditions under which it is believed that nearly all workers may be repeatedly exposed without adverse effect on their ability to hear and understand normal speech. ACGIH, OSHA and Cal/OSHA all have threshold limit values for noise (see Appendix 9-E, Table E-3, page 9.E-4). The ACGIH recommended values are 5 dBA or more below the Cal/OSHA and OSHA permissible exposure limits.

Annoyance includes interferences to sleep, speech, radio and television, and house vibrations. People tend to respond adversely to unexpected sounds, like car horns, as well as louder sounds, such as an aircraft flyover. The Federal Highway Administration, the US Environmental Protection Agency, Caltrans and the City and County of San Francisco have all promulgated ambient sound level objectives to minimize noise interferences and annoyance.

Noise Regulations

Traffic Noise Regulations

The Federal Highway Administration (FHWA) regulations (23 *Code of Federal Regulations* 772) constitute the federal traffic noise standards that apply to certain projects, i.e., federally-aided new highway construction or major changes in existing highways. Caltrans extends these standards to state-funded highway projects or highway improvements. While no major transportation facility upgrades are proposed as part of the Plan, changes in the local circulation pattern have the potential to change noise levels in the Project Area and the methodology adopted by FHWA is a reasonable standard against which to assess these traffic noise impacts. Traffic noise impacts under the FHWA and Caltrans are assessed against several criteria. The first is the criteria that addresses increase in the ambient noise levels. Noise increases resulting from highway improvements that exceed 12 dBA equivalent hourly sound level ($L_{eq}(h)$) are considered significant and require mitigation measures. The second approach is to review traffic noise impacts against noise abatement criteria (see

Appendix 9-E, Table E-4, page 9.E-4). This approach was used to assess the projected increases in ambient noise levels resulting from implementation of the Plan in the Project Area.

California Building Code

To protect new multi-family indoor environments, Title 24 of the *California Code of Regulations (CCR)* established standards governing indoor noise levels that apply to all new (post-1974) multifamily residential units (i.e., hotels, motels, apartments, condominiums, and other attached dwellings) in California.[104] The design of the residential structures is subject to an acoustical analysis when located in an area where the exterior day/night noise average (L_{dn}) exceeds 60 dBA. The design must be capable of attenuating exterior noise to a maximum L_{dn} noise level of 45 dBA in any habitable room. This code is enforced by San Francisco's Department of Building Inspection during review of building permits.

San Francisco Noise Ordinance

The *San Francisco Noise Ordinance* regulates both construction noise and fixed source noise. Noise from motor vehicle operation on public highways is regulated by California State Law and the *California Vehicle Code.* While unnecessary, excessive, or offensive noise limits are imposed to protect all people in an area, nuisance noise is generally limited by the *Noise Ordinance* to within 5 dBA of ambient noise levels.

Article 29 of the *San Francisco Police Code* regulates fixed and mobile noise sources; Sections 2907 and 2908 of the *Code* regulate sound emissions from construction equipment to an equivalent sound level of 80 dBA at a distance of one hundred feet (100 ft.) from such equipment during the hours from 7:00 AM to 8:00 PM. Construction activities during the nighttime period from 8:00 PM to 7:00 AM may not exceed the ambient level by 5 dBA at the nearest property line, unless a special permit is granted prior to such work.

Caltrans' Standard Specification Sections 7 and 42 provide limits on construction sound levels to under 86 dBA at a distance of 15 meters.

[104] Uniform Building Code and California Code of Regulations, Title 24, Part 2 – a portion of the California Building Standards Code.

San Francisco General Plan

Transportation noise reduction measures are identified in the Environmental Protection Element of the *San Francisco General Plan.* Objectives 9, 10, and 11 call for the reduction of transportation-related noise by imposing traffic restrictions; minimizing the impact of noise by promoting site planning, design, and construction methods and materials that would reduce noise impacts on affected areas; and by promoting land uses that are compatible with transportation noise levels (see Plans and Policies, Chapter 4.1, pages 4-5 to 4-6, for a listing of these policies).

Noise Sensitive Uses

Residential uses distributed throughout the Project Area are considered more sensitive to higher noise levels than commercial, office, entertainment, and industrial uses. The *San Francisco General Plan* includes Land Use Compatibility Guidelines that suggest "satisfactory" noise levels for various land uses. The maximum exterior L_{dn} considered satisfactory is 60 dBA for residential uses and transient lodging; 65 dBA for schools, churches, libraries, and hospitals; 70 dBA for office and commercial uses. For residential uses in areas with background noise levels from 60 to 70 dBA: "New construction or development should be undertaken only after a detailed analysis of the noise reduction requirement is made and needed noise insulation features included in the design." For areas with background noise levels above 70 decibels, "New construction or development should generally be discouraged."

Background Noise

Background noise, sometimes referred to as ambient sound level or residual noise, is the result of varied community and transportation noise sources over a wide area. While the background sound level will vary between daytime and nighttime and day-to-day, measurable sound energy remains due to the quantity of contributing sources. Any noise can contribute to the background sound level, but the major contributors in the Project Area are transportation sources.

The Transportation Noise Element of the *San Francisco General Plan* shows background levels as already being elevated in San Francisco's urban areas.[105] In San Francisco, the day-night sound level (L_{dn}) of 55 dBA, established by the US Environmental Protection Agency (EPA) as the long-term objective requisite to protect public health and welfare with a five decibel margin of safety, is met only in a comparatively small portion of the city, which generally does not include the Project Area.

[105] City and County of San Francisco, Transportation Noise Element of the *San Francisco General Plan*, Map 1.

In other words, most of San Francisco currently exceeds the EPA's long-term goal for land use/noise compatibility.

Because background sound levels are so dependent upon traffic noise, traffic volumes, car-to-truck mixes, number of lanes and traffic speeds are major determinants of background sound levels. The Transportation Noise Element of the *San Francisco General Plan* assigns to thoroughfares with peak hour traffic volumes exceeding 100 vehicles, a sound level equal to that at the front facades of adjacent buildings or at a distance equivalent to 50-feet from the centerline of the thoroughfare.[106] The L_{dn} sound levels range from a high of 80 dBA at major traffic thoroughfares like Highway 101, to 55 dBA at local neighborhood streets in residential only areas. While some changes have occurred in the Noise Element's background and thoroughfare sound levels due to varying traffic patterns after the 1989 earthquake, average conditions remain relatively similar today, with improved vehicle noise controls offsetting increasing traffic volumes.

While Caltrans and the Federal Highway Administration have formulated traffic noise projection models for freeways, these models are limited in their ability to predict noise attenuation and reflections within dense urban areas.

In San Francisco some streets have higher background sound levels than normally determined from traffic volumes due to the presence of greater truck or Muni vehicle traffic. Within the Project Area Van Ness Avenue, Franklin Street, Gough Street, Dolores Street and South Van Ness Avenue have the highest background sound levels for thoroughfares running north-and-south. Market, Fell and Sixteenth Streets have the highest background sound levels for thoroughfares running predominantly east-and-west.

Note, however, that the demolition of the Central Freeways has redirected traffic flows to local streets with some resultant increases in thoroughfare noise levels since 1974 for local thoroughfares in the proximity of the former freeway.

Background sound levels measured by SCA Environmental at 39 sites within the Project Area are presented in Table 4-34. (See Appendix 9-E, Table E-5, page 9.E-5, for time of day of measurements and the major noise contributors for each location.) Figure 4-26, page 4-285, identifies the location where sound measurements were taken.

[106] City and County of San Francisco, Transportation Noise Element of the *San Francisco General Plan*, Map 2.

Table 4-34:
Representative Sound Monitoring Data Within Project Area

	Site [a]	Measured Sound Level (dBA)			
		L_{dn}	L_{eq}	L_{10}	L_{90}
1	15th St. between Dolores and Landers Sts.	68			
2	Buchanan St. at Haight St.	65			
3	Octavia St. and Grove St	65			
4	Fell St. at Laguna St.	70-75	74(1) 72(24)		
5	Highway 101 on-ramp on S. Van Ness Ave. near 14th St.	70-75	73(1) 71(24)		
6	SFR&P's Noe Beaver Mini-Park	60-65	61	73	51
7	Davies Medical Center	55-60	59	72	49
8	Duboce Park	65-70	68	84	51
9	Residential at SE Corner of Church/Herman Sts.	65-70	66	83	49
10	UCSF Dental Clinic at 100 Buchanan St.	60-65	61	75	51
11	French Institute/UC Berkeley Extension	65-70	66	81	49
12	Koshland Park	55-60	59	71	48
13	Residential at SE Corner of Hayes & Buchanan Sts.	65-70	67	79	54
14	Typical Residential Alley, Birch St.	60-65	60	76	51
15	Commercial Area at NE Corner of Gough & Fulton Sts.	70-75	70	84	56
16	Hayward Playground / Freedom West Homes	60-65	64	77	55
17	Swett Elementary School	65-70	68	87	56
18	War Memorial and SF Ballet	70-75	70	83	59
19	Res. above Commercial, NW Corner Hayes/Octavia Sts.	65-70	69	82	55
20	Fox Plaza Residential Highrise & Offices	70-75	72	84	62
21	Sanchez School, Sanchez St.	60-65	63	79	50
22	Everett Elementary School, Church St.	65-70	67	80	52
23	Mission Dolores School, 3371 16th St.	65-70	68	78	58
24	Mission Dolores Church	65-70	68	86	52
25	Typical Resident Alley, Spencer St.	60-65	60	81	47
26	Bishop Anthony Hall / Annunciation HS, 245 Valencia St.	60-65	65	77	52
27	Central Hotel, Valencia St. off Market St.	65-70	66	79	55
28	High Density Commercial at Market & Octavia Sts.	70-75	72	85	63
29	Commercial w/Low Density Industrial on S. Van Ness Ave.	70-75	74	87	63
30	High Density Residential Alley, Lafayette/Minna Sts.	55-60	59	69	54
31	Mid-Density Com./Industrial Mix, Mission St. off 10th St.	65-70	66	79	59
32	Typical Mixed Commercial/ Industrial Alley at Grace Alley	60-65	62	77	58
33	High Density Commercial Zone at Mission St. off 9th	70-75	70	83	61

Table 4-34:
Representative Sound Monitoring Data Within Project Area (cont.)

Site [a]		Measured Sound Level (dBA)			
		L_{dn}	L_{eq}	L_{10}	L_{90}
34	High Density Commercial on Market St. off 9th St.	70-75	73	88	63
35	Commercial, Upper Level Residential, Market/Sanchez Sts.	65-70	67	80	58
36	Commercial, Upper Level Residential, Market/Octavia Sts.	65-70	66	78	60
37	High Density Commercial at Market St. & Van Ness Ave.	70-75	70	86	63
38	High Density Commercial at Market & 9th Sts.	70-75	73	83	62
39	Commercial, 13th St. & S. Van Ness Ave. (Overpass)	70-75	74	88	65

[a] At property line of nearest noise receptor or far edge of sidewalk, as applicable.
Note: Measurements taken 2/9/00, 2/11/00, 1/28/03, 5/11/04, and 11/8/04.
Source: SCA Environmental, 2004.

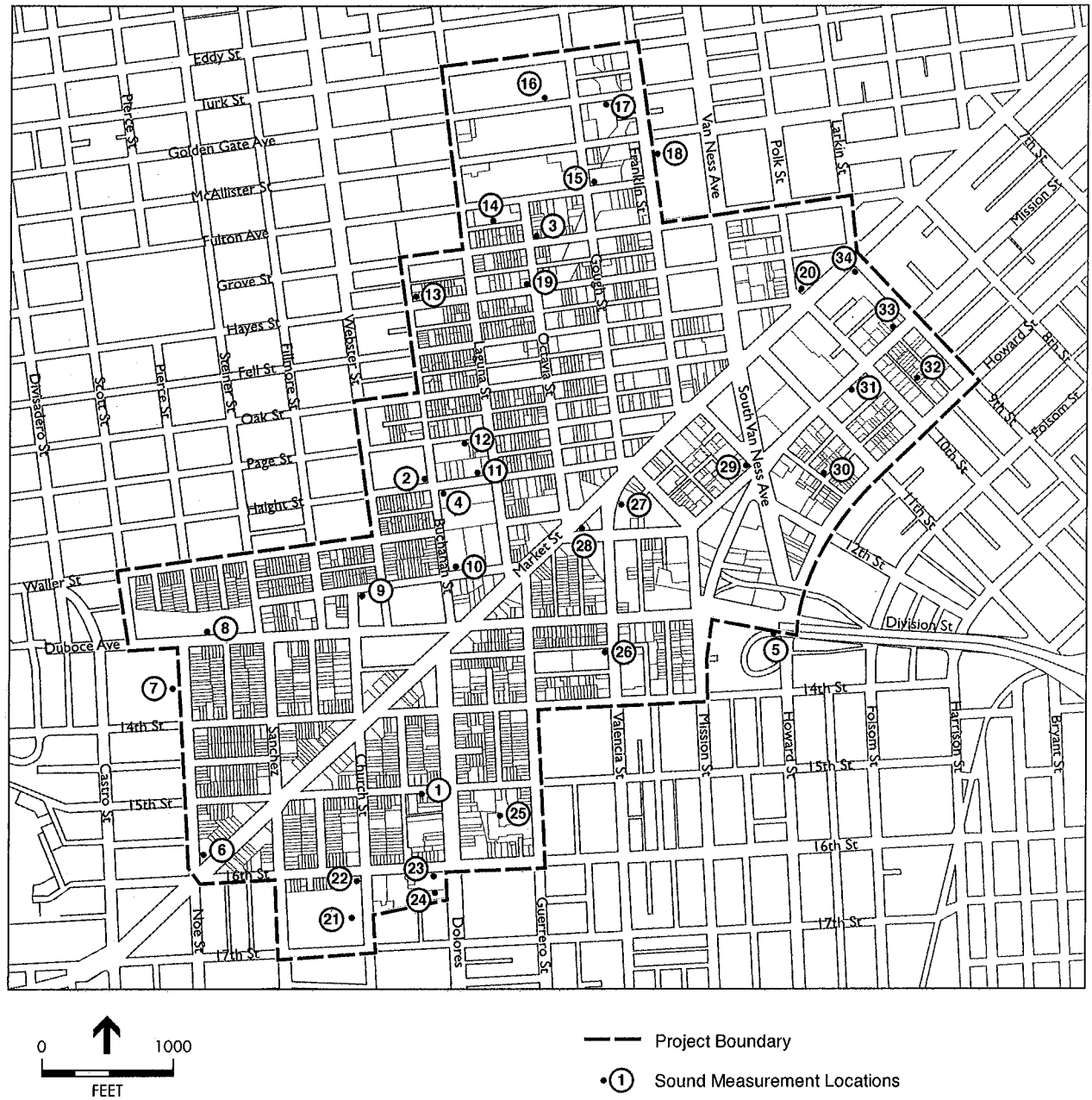
Background noise levels (L_{90} levels) in the Project Area, as well as most of the Downtown areas, range from an L_{dn} of 55 to 65 dBA mostly within backyard areas protected from surface transportation noise. Commercial and residential development with tight lot lines and crowded buildings serve as a noise barrier to these backyard areas. Many backyard areas have average backyard background sound levels up to 10 to 15 dBA below sidewalk levels (as seen in sampling locations 12 and 30 in Table 4-34, pages 4-283 to 4-284, which occurred in typical back alleys within the Project Area).

4.9.2 Impact Analysis

Significance Criteria

A project may be deemed to have a significant environmental impact on noise if the development of the project would:

- Expose residents in excess of standards established by the *San Francisco General Plan*, the *San Francisco Noise Ordinance*, the Federal Highway Administration and Caltrans Standards, and other applicable standards, ordinances or guidelines.
- Expose residents to excessive ground-borne vibrations and noise generally associated with new construction. Cause a substantial permanent increase in ambient sound levels, exceeding 12 dBA.



SOURCE: SCA Environmental Inc., May 2004

Figure 4-26
Background Ambient Sound Measurement Locations

- Cause a substantial temporary or periodic increase in ambient sound levels in the project area above pre-existing levels.
- Result in substantial increases to the ambient noise levels at any sensitive receptor.
- Cause violations of CCR Title 24 Noise Insulation Standards, or San Francisco Noise Ordinance, if applicable.
- Be substantially impacted by existing noise levels.

Program Level

The key potential impacts associated with development within the Project Area are transportation impacts from increasing thoroughfare traffic and construction-related impacts from building demolitions, excavations and new construction. Secondary impacts include noise impacts associated with changes in land use, i.e., fixed heating, ventilating or air-conditioning (HVAC) equipment or local noise-generating activities.

Traffic Noise Impacts

Transportation noise impact assessments were made by estimating future day-night equivalent sound levels for the 2025 without Plan and 2025 with Plan conditions consistent with the transportation analysis conducted for the EIR. As population and employment growth would occur in the Project Area independent of the Plan, thereby affecting the transportation and noise conditions, it is more accurate to assess the impacts of the Plan against a 2025 base year than the existing conditions.

Transportation noise impacts were assessed using Caltrans' *Traffic Noise Analysis Protocols for New Highway Construction and Highway Reconstruction Projects,* dated October 1998. Adjustments were made in the standardized protocols to adjust for an urban environment, stop-and-go local thoroughfares, and other background ambient noise sources and to compare existing traffic volumes and traffic level of service (LOS) with existing background ambient sound levels and traffic counts made by SCA Environmental.

Peak hour traffic sound levels for representative noise-sensitive receptors within the Project Area are presented in Table 4-35. Most of the representative noise-sensitive receptors would have an ambient increase of 0 to 5 dBA in 2025 without Plan conditions. Of the 39 noise sensitive receptors included in Table 4-35, there are five locations that would experience an increase of 5 dBA and two locations, Location 10 (the UCSF Dental Clinic at 100 Buchanan Street) and Location 26

Table 4-35:
Summary of Modeled Peak-Hour Traffic Sound Levels

Location	Existing Sound Level (L_{dn}) - dBA	Estimated 2025 Without Plan Sound Level (L_{dn}) - dBA	Estimated 2025 Without Plan Ambient dBA Increase	Estimated 2025 With Plan Sound Level (L_{dn})	Estimated 2025 With Plan Ambient dBA Increase
1	68	65-70	<2	65-70	<2
2	65	60-65	0	60-65	0
3	65	65-70	0-5	65-70	0-5
4	70-75	65-70	0-5	65-70	0-5
5	70-75	70-75	0	70-75	0
6	60-65	65-70	5	65-70	5
7	55-60	60-65	5	60-65	5
8	65-70	65-70	0	65-70	0
9	65-70	65-70	0	65-70	0
10	60-65	70-75	10	70-75	10
11	65-70	65-70	0	65-70	0
12	55-60	60-65	5	60-65	5
13	65-70	65-70	0	65-70	0
14	60-65	60-65	0	60-65	0
15	70-75	70-75	0	70-75	0
16	60-65	60-65	0	60-65	0
17	65-70	65-70	0	65-70	0
18	70-75	70-75	0	70-75	0
19	65-70	65-70	0	65-70	0
20	70-75	70-75	0	70-75	0
21	60-65	65-70	5	65-70	5
22	65-70	65-70	0	65-70	0
23	65-70	65-70	0	65-70	0
24	65-70	65-70	0	65-70	0
25	60-65	60-65	0	60-65	0
26	60-65	70-75	10	70-75	10
27	65-70	65-70	0	65-70	0
28	70-75	70-75	0	70-75	0
29	70-75	70-75	0	70-75	0
30	55-60	55-60	0	55-60	0
31	65-70	65-70	0	**70-75**	**5**
32	60-65	60-65	0	60-65	0
33	70-75	70-75	0	70-75	0

Table 4-35:
Summary of Modeled Peak-Hour Traffic Sound Levels (cont.)

Location	Existing Sound Level (L_{dn}) - dBA	Estimated 2025 Without Plan Sound Level (L_{dn}) - dBA	Estimated 2025 Without Plan Ambient dBA Increase	Estimated 2025 With Plan Sound Level (L_{dn})	Estimated 2025 With Plan Ambient dBA Increase
34	70-75	70-75	0	70-75	0
35	65-70	70-75	5	70-75	5
36	65-70	70-75	0	70-75	0
37	70-75	70-75	0	70-75	0
38	70-75	70-75	0	70-75	0
39	70-75	70-75	0	70-75	0

Source: SCA Environmental, 2004.
Note: Numbers in bold represent increases in dBA associated with implementation of the Plan.

(Annunciation High School at 245 Valencia Street), that would experience an increase of 10 dBA in the ambient noise level in 2025 without Plan. The projected increases of 5 to 10 dBA at these locations are considered less than significant impacts based on the significance threshold of a 12 dBA change identified in the significance criteria.

Only Location 31 (mixed use, commercial/industrial on Mission Street near Tenth Street) would experience an increase of 5 dBA associated with implementation of the Plan. The projected increase of 5 dBA at Location 31 would be considered a less than significant impact.

A day-night equivalent sound level (L_{dn}) of 70-75 dBA, as experienced along many of the major arterials within the Project Area, is compatible for commercial ground level development with residential development on the upper floors provided noise reduction features are designed into the building's exterior facades as required by CCR Title 24. In general, the interior noise levels would be approximately 15 dBA less than exterior noise levels on a typical building in the Project Area. The potential for interior noise level impacts would be further offset by the code required noise insulation as noted above.

Day-night equivalent sound levels at various intersections that are projected to experience a drop in the peak hour level of service (LOS) are shown in Table 4-36.

Despite the drop in the level of service at many intersections with the implementation of the Plan, no corresponding increase in estimated day-night equivalent sound levels would be expected to

Table 4-36:
Day-Night Equivalent Sound Levels Corresponding to Drops in Peak Hour LOS

Intersection	Existing LOS [a]	Existing Background Ambient Sound Level (L_{dn})	LOS in 2025 Without Plan	Estimated 2025 Without Plan Sound Level (L_{dn})	LOS in 2025 With Plan	Estimated 2025 With Plan Sound Level (L_{dn})
Hayes Street/Gough Street	C	70-75	C	70-75	F	70-75
Hayes Street/Franklin Street	C	70-75	D	70-75	F	70-75
Hayes Street/Van Ness Avenue	E	70-75	F	70-75	F	70-75
Market Street/ Van Ness Avenue	C	70-75	E	70-75	E	70-75
Market Street/Octavia Blvd./ McCoppin Street	D	70-75	F	70-75	F	70-75
Market Street/Franklin Street/Page Street	D	70-75	E	70-75	E	70-75
Oak Street/Octavia Street	A	65-70	E	70-75	E	70-75
Market/Sanchez/15th Streets	D	65-70	E	70-75	E	70-75
Duboce Avenue/Church Street	B	65-70	C	70-75	C	70-75
Mission Street/10th Street	B	70-75	C	70-75	D	70-75

[a] LOS = Level of Service based on Wilbur Smith Associates September 2004 projections
L_{dn} = Day-night equivalent sound level
Source: SCA Environmental, 2004.

occur, due largely to a reduction in engine revolutions per minute (rpms), tire noise, and increased engine idling. Only those intersections with a current LOS A or B would be expected to show an appreciable increase in day-night equivalent sound level when peak hour level of service fell below LOS C. Most intersections within the Project Area with a LOS C or lower currently have an estimated day-night equivalent sound level of 70-75 dBA, as confirmed by background ambient sound measurements conducted throughout the Project Area.

In general, under the 2025 With Plan conditions, the sound environment at most local thoroughfares would remain similar to those under the 2025 Without Plan conditions, except for

Hayes Street between Octavia Boulevard and Gough Street, where the arterial would worsen from 65-70 dBA to 70-75 dBA due to a drop in LOS on Hayes Street. The impacts resulting from these noise level increases associated with the implementation of the Plan would be less than significant.

Stationary Source Noise Impacts

New development resulting from implementing the Plan may introduce a variety of stationary sources of noise including electrical and mechanical air conditioning equipment, most of which would be located on rooftops. Although noise levels from equipment sources may be annoying in a quiet environment, existing ambient noise conditions within the Project Area would generally mask noise from on-site equipment. Noise levels from operation of equipment would result in an increase of ambient noise levels that would be considered less than significant.

Sensitive Noise Receptors

Existing Sensitive Receptors

Residential uses are the primary sensitive land use in the Project Area. Schools including Swett Elementary School, Sanchez School, and Everett Elementary School are also located in the Project Area. Existing traffic noise levels at most of the study locations near residential and school uses are high enough (above 65 dBA on the exterior of the building) for the *San Francisco General Plan* Environmental Protection Element to discourage new residential developments unless noise reduction features are included. Newer residential buildings and schools are required to meet interior noise standards in Title 24 of the *California Code of Regulations,* and therefore, would include adequate noise insulation.

The future ambient exterior noise level with Plan-related traffic noise would range from about 60 to 75 dBA L_{dn}. The interior noise levels would be about 15 dBA less than exterior levels with windows open and 25 dBA less with windows closed. The exterior noise levels could be annoying to some residents along relatively noisy streets (such as Market Street) within the Project Area; the level of annoyance would depend on a number of factors, including whether most other buildings in the affected residential areas contain sufficient noise insulation. While exterior noise levels may increase and result in an associated interior noise level increase, these increases would not be of a magnitude to substantially alter the exterior noise environment and would not cause a significant impact. As the interior noise levels would be about 15 dBA less than the exterior noise levels, there would not be significant impacts on the interior noise levels either.

Future Sensitive Receptors

Future housing uses would be required by Title 24 of the *California Code of Regulations* to provide an interior environment with noise levels below 45 dBA (L_{dn}). Therefore noise increases at the potential housing locations would not be a significant impact. It is anticipated that all new building development projects within the Project Area that would result from the Plan would include noise reduction measures in their design, including measures identified under *San Francisco General Plan* Policy 10.2.

Project Level

Central Freeway Parcels

Sound measurements were conducted at seven sensitive noise receptor locations along the former Central Freeway corridor where redevelopment of the Central Freeway parcels is proposed.[107] Ambient noise levels are not projected to increase at any of these locations as a result of the development of the Central Freeway parcels or as a result of the proposed transportation improvements.

Redevelopment on the freeway parcels could increase noise associated with exterior electrical and mechanical equipment on new buildings, but this noise would be a less than significant impact within the context of the existing ambient noise levels. Residential units developed on the Central Freeway parcels would be required to provide an interior noise environment below 45 dBA (L_{dn}) in compliance with Title 24 of the *California Code of Regulations* and to incorporate noise reduction measures as outlined in Policy 10.2 of the *San Francisco General Plan.*

With required Title 24 measures, the noise impact from the redevelopment of the Central Freeway parcels would be considered less than significant.

Public Street Improvements

The transportation improvements associated with the Plan would not result in significant noise impacts as noted in Tables 4-35, page 4-287 and 4-36, page 4-289, due to relatively high ambient noise levels in the Project Area.

[107] Locations 3 and 14 through 19 on Table 4-34, page 283 and Figure 4-26, page 285.

Open Space Improvements

The creation of new open spaces at the Central Freeway touchdown at Market Street (Octavia Plaza), at McCoppin Square on McCoppin Street, and in Brady Park in the block bounded by Market, Twelfth, Otis and Gough Streets would introduce new sensitive noise receptors in the Project Area. The levels projected in the vicinity of these open spaces (see Table 4-35, page 4-287, Locations 27, 28, and 29) in 2025 are not projected to increase above existing levels. There would be no new significant noise impacts resulting from the development of the proposed new open spaces.

Construction Impacts

Program Level and Project Level

Noise emitted from construction activity originates from the machinery, equipment and vehicles used on site. Examples are air compressors, pneumatic and hydraulic tools, scrapers, concrete mixers, tracked and wheeled dozers and loaders, and backhoes. Other noise sources include trucks transporting and unloading materials, backup alarms and hand tools, like hammers, power saws, etc.

Project Area construction due to Plan implementation would involve a number of discrete but varying tasks, such as utility installation, building demolition, road improvements and new building construction. (See Appendix 9-E, Table E-6, page 9.E-9, for distances of typical construction equipment and activities to the regulated equivalent sound level L_{eq} contour of 85 dBA. This table also lists usage factors, or the percentage of time in use, and the average noise conditions associated with their use.) The excavation phase for new construction is generally the noisiest. Most of the heavy equipment emits about 85 to 88 dBA at 50 feet. Only sandblasting, larger horsepower graders and scrapers or pile driving operations are expected to impact noise-sensitive receptors beyond a distance of 50-feet from the center of construction activity.

The increase in the ambient sound levels during construction would be a function of the work completed and construction scheduling. Most construction would be limited to the hours of 7:00 AM and 8:00 PM as defined by Article 29 of the *San Francisco Police Code.*

In addition to noise from construction sites, construction activities would cause increased traffic noise along access routes to the development sites. Heavy trucks would bring excavated materials, equipment, and building materials to and from each site.

Construction activities in the Project Area would be conducted in compliance with the *San Francisco Noise Ordinance* (Article 29, *San Francisco Police Code).* The ordinance requires that noise levels from individual pieces of construction equipment, other than impact tools, not exceed 80 dBA at a distance of 100 feet from the source. Impact tools, such as jackhammers and impact wrenches, must have both intake and exhaust muffled to the satisfaction of the director of Public Works. Section 2908 of the *Noise Ordinance* prohibits construction work between 8:00 PM and 7:00 AM, if noise is expected to exceed the ambient noise level by 5 dBA at the project property line, unless a special permit is authorized by the director of Public Works. Project demolition and construction resulting from implementing the Plan must comply with the *Noise Ordinance.* Compliance with the *Noise Ordinance* would reduce construction impacts to a less than significant level.

Cumulative Impacts

The ambient noise levels at all locations throughout the Project Area would increase as a result of traffic generated by cumulative development as discussed in Section 4.7, Transportation, page 4-225. Table 4-36, page 4-289, summarizes the modeled noise levels from existing, cumulative (2025 without Plan), and cumulative-plus-project (2025 with Plan) traffic at 39 noise analysis locations. The cumulative traffic analysis includes PM peak hour traffic hour traffic increases associated with implementing the Plan and other projected growth within San Francisco and in the Project Area. The PM peak hour traffic values were scaled to arrive at a total 24-hour (L_{dn}) traffic increase.

With cumulative growth in traffic (including the Plan) in 2025, 24-hour traffic noise levels would increase by 5 dBA or less at all but two of the intersections in 2025 without Plan. The 10 dBA increase in cumulative noise at Location 10 (UCSF Dental Clinic at 100 Buchanan Street and Location 26 (Annunciation High School at 245 Valencia Street) (as discussed in traffic noise above) in 2025 without Plan would not cause a substantial increase in traffic noise and would result in a less than significant cumulative noise impact. The Plan would not cause an increase in sound above the cumulative increases except at study Location 31 (Mission Street off Tenth Street) where implementation of the Plan would lead to a 5 dBA increase. The 5 dBA cumulative increase in ambient noise levels, above the existing and 2025 without Plan conditions, would not be considered a significant cumulative noise impact.

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4.10 HAZARDOUS MATERIALS

A hazardous materials assessment was conducted for the Project Area to identify potential contaminant sources within and adjacent to the Project Area that may affect development. Hazardous substances are generally considered to be materials with certain chemical and physical properties that pose a substantial present or future hazard to human health or the environment when improperly handled, stored, disposed or otherwise managed; they are commonly used in commercial, agricultural, and industrial applications as well as to a limited extent in residential areas. If improperly handled, they can result in public health hazards through contamination of soil or groundwater or through airborne releases as vapor, fumes or dust. The potential for accidental or unauthorized releases of hazardous materials can also pose a public health concern. In general, discarded or inherently waste-like hazardous substances are referred to as hazardous waste.

4.10.1 Environmental Setting

Legal and Regulatory Requirements

Hazardous materials are defined ina a number of ways. Under California law, a hazardous material is defined as, "...any material that, because of its quantity, concentration, or physical or chemical characteristics poses a significant present or potential hazard to human health and safety or to the environment if released." Hazardous materials include, but are not limited to, "hazardous substances, hazardous waste, and any material which a handler or the administering agency has a reasonable basis for believing that it would be injurious to the health and safety of persons or harmful to the environment if released into the workplace or environment" (Cal. Health & Safety Code §25501(o)).

Hazardous wastes are wastes that, because of their quantity, concentration, or physical, chemical, or infectious characteristics, may either cause, or significantly contribute to an increase in mortality or an increases in serious illness, or pose a substantial present or potential hazard to human health or the environment when improperly treated, stored, transported, disposed of, or otherwise managed (Cal. Health & Safety Code §25517).

Hazardous wastes or materials are regulated under federal, state and local regulations. The following is an overview of the major laws and regulations applying to hazardous waste:

The U.S. Environmental Protection Agency (U.S. EPA) is the lead agency responsible for enforcing federal regulations that affect public health or the environment. The following federal regulations apply to hazardous wastes.

CERCLA: *The Comprehensive Environmental Response, Compensation and Liability Act* (CERCLA) or Superfund, as amended by the *Superfund Amendments and Reauthorization Act* (SARA), was originally passed in 1980. CERCLA created national policies and procedures to identify and remediate sites previously contaminated by the release of hazardous substances. These laws have the effect of holding past and present owners of real property liable for the costs of site investigations and remediation associated with environmental contamination regardless of whether the current owner was responsible for the contamination.

RCRA: *The Resource Conservation and Recovery Act of 1976* (RCRA) regulates hazardous waste storage, treatment and disposal sites. The State of California implements the RCRA requirements under authorization from the US Environmental Protection Agency (EPA) through enforcement of the *California Hazardous Waste Control Law,* which provides regulations that equal or exceed the federal standards.

California hazardous materials laws incorporate federal standards, but are often stricter than federal laws. The California Department of Toxic Substances Control (DTSC) is responsible for regulating the management of hazardous substances including the remediation of sites contaminated by hazardous substances. The Regional Water Quality Control Board (RWQCB) is authorized by the State Water Resources Control Board to enforce water quality regulations, and the Bay Area Air Quality Management District (BAAQMD) governs requirements on remediation and other activities to protect ambient air quality from dust or other airborne contaminants. Other state laws also regulate underground storage tanks containing hazardous substances; enforcement is by the San Francisco Department of Public Health.

Local environmental laws and regulations include:

- *San Francisco Health Code,* Article 22A, the Maher Ordinance, (formally Article 20 of the *San Francisco Public Works Code*) which requires soil analyses for a specific list of inorganic and organic chemicals at construction sites where (1) at least 50 cubic yards of soil are disturbed; (2) for construction on the bay side of the historic high-tide line, or (3) wherever a reason to believe hazardous waste may be present. In 1986, the San Francisco Board of Supervisors adopted this contaminated soils ordinance in response to public concerns about hazardous material exposures.

- *San Francisco Health Code,* Article 21, the hazardous materials ordinance, which requires that during construction contractors need to get Hazardous Materials permits for storage of 55 gallons, 500 lbs or 200 cubic feet of compressed gas.
- *San Francisco Building Code,* Chapter 36, Work Practices for Exterior Lead-Based Paint, which requires specific notifications and work standards, and identifies prohibited work methods and penalties for buildings constructed prior to 1979 (which are assumed to have lead-based paint on their surfaces. The ordinance contains performance standards, including establishment of containment barriers that all demolition activities in San Francisco must comply with.

Existing Reports, Data Bases and Land Use Changes

A review of existing hazardous waste reports and data was conducted to identify potential hazardous waste concerns that may affect the Project Area. A summary of report findings is contained herein.

In addition to site-specific reports, publicly available federal and state databases were reviewed to obtain information on the location of potential sites of environmental concern that may adversely affect the Project Area. These sites include registered underground storage tanks (USTs) and leaking underground storage tanks (LUSTs); facilities that use, generate, treat or dispose of hazardous waste and substances; transporters of hazardous wastes; solid waste landfill sites; and unauthorized spills and releases of regulated substances.

In addition, an evaluation of historical land uses and land use changes in the Project Area was conducted to identify potential historical contaminant sources. This included a review of Sanborn maps and historical aerial photographs, where available.

Soils

Soil investigations within the Project Area include the *Soil Investigation Report Octavia Boulevard Improvement Project,* prepared in June 2003, and the *Phase 1 Environmental Site Assessment for the Central Freeway Land Transfer Project,* prepared in January 2002 as part of the Caltrans' freeway demolition investigation.[108,109] The footprint of the investigations for the Octavia Boulevard project covers ten blocks on both sides of Octavia Boulevard ranging from Hayes Street to Market Street.

The Octavia Boulevard project investigations included sampling of area soils using a hand auger and direct push methods, for soil depths up to 15 feet below ground surface. Soil samples were

[108] Fugro West for the San Francisco Department of Public Works, *Soils Investigation Report Octavia Boulevard Improvement Project,* June 2003

[109] Treadwell & Rolo, Inc. for Caltrans, Phase I Environmental Site Assessment for the Central Freeway Land Transfer Project, January 18, 2002.

collected to represent typical public works construction activities, including construction of Hayes Green, miscellaneous piping and conduit installations, excavation of freeway footings, and street grading, with most sampling involving surface or shallow soil impacts.

Much of the paved area of the Octavia Boulevard site consists of two to three inches of asphalt paving or consists of three to four inches of concrete sidewalk with an underlayment of two to four inches of baserock. The underlying soils consist of varying depths of silty sand and lean clay with varying amounts of gravel. Fill materials were encountered to depths of up to 10 feet, although no serpentine (asbestos-containing rock) or groundwater were encountered to these depths.

Soil samples were collected and analyzed for benzene, toluene, ethylbenzene and xylenes (BTEX), total petroleum hydrocarbons measured as diesel, gasoline or motor oils (TPHd, TPHg, and TPHmo, respectively), volatile organic compounds (VOCs), semi-volatile organic compounds (SVOCs), and metals. Results of the soil analyses on samples showed minor or no concentrations of hazardous materials or wastes except as noted:

- Only one of twenty samples analyzed contained less than 0.25 percent Chrysotile asbestos, requiring special disposal and handling procedures.
- Elevated lead concentrations were found in historic fill materials.

For the four construction scenarios investigated, the consultant made the following findings:

- Surface soils on the northern portion of Hayes Green, between Hayes and Linden Streets, are classified as non-hazardous.
- Surface soils on the southern portion of Hayes Green, between Linden and Fell Streets, contain up to 680 ppm of total lead and may represent a risk to future uses; therefore, the Department of Public Works has proposed replacing 18-inches of existing topsoil with clean topsoil to prevent exposures to lead for future site users. Based on leachability testing the soils in this block are classified as California hazardous, requiring disposal at a Class 1 landfill.
- Soils in Octavia Street between Page and Haight Streets are considered California Hazardous waste subject to handling and disposal at a Class 1 landfill.
- Former freeway footing excavations near Boring B22C2 on Octavia Street between Haight and Market Streets will require leachability testing and possible disposal as RCRA hazardous wastes.
- Lead concentrations for surface soils ranged from 0.82 to 1,600 ppm with leachability test results of 4.79 to 14.1 milligram per liter (mg/l), exceeding the residential risk-based screening levels, but falling below the construction risk-based screening levels for typical street grading activities. With the possible exception of Boring B22C2 (on Octavia Street

between Haight and Market Streets), soils that which require further testing with possible disposal as RCRA hazardous waste, the surface soils from street grading activities will be disposed at a Class 1 landfill as California hazardous waste.

- Gradation and compaction tests indicate that many study area soils are suitable for recompaction as structural fill in accordance with the City and County of San Francisco's Bureau of Engineering Standard Specifications (reference CCSF-DPW, 2000). However, the soils do not meet the city's sand bed requirements and would not be suitable for backfilling of water main trenches.

Because certain soil lead concentrations exceed either residential or construction risk-based screening levels, preparation of a Site Mitigation Plan (SMP) was recommended for future excavation projects to comply with environmental regulations regarding the handling, disposal, and stockpiling of hazardous wastes and the notification to workers of the presence of such materials..

Soil sampling undertaken by the San Francisco Housing Authority for the former Hayes Valley South Housing Developments, bounded by Buchanan, Webster, Fell and Hayes Streets near the western edge of the Project Area, found area soils containing 9.8 to 16 ppm lead, but no other detectable contaminants.[110]

While the above sampling summaries cover only a portion of the Project Area, these results show an overall pattern of potential contaminants. The presence of lead-contaminated soils in the Project Area, particularly near the graded surface, is common as testified by waste manifests, San Francisco Department of Public Works and Public Utilities Commission records, and previous studies. Lead contaminants, largely from the use of leaded-gasoline particulates and historical landfill activities, are anticipated to cover the majority of paved and unpaved areas of the Project Area. Arsenic contamination, largely as a result of historical biodegradation of shellfish, can be found in sandy soils throughout the Bay Area, including suspected contaminants within the Project Area. Lastly, petroleum hydrocarbons may be prevalent in soils and groundwater within the Project Area, particularly in the vicinity of older leaking underground storage tanks.

[110] SCA Environmental, Inc. letter-report to Mr. William Gantz, MBA Urban Development, 1101 Lucas Street, St. Louis, MO 63101, dated April 18, 1997, re: Detail Report-Soil Sampling, Hayes Valley South, San Francisco, CA; SCA Project No.: F-2067.

Serpentine Rock

The presence of naturally-occurring asbestos, serpentine and ultramafic rock poses a health and safety concern and is regulated by the California Air Resources Board through the Bay Area Air Quality Management District (BAAQMD) and the City and County of San Francisco's *Maher Ordinance.* Although the Project Area is outside of the historic high-tide line, the Project Area, particularly near the northwest extent along Market Street, is known to have evidence of naturally occurring serpentine outcrops, which contain asbestos.

Soil sampling at the San Francisco Housing Authority's former Hayes Valley South Housing Developments, bounded by Buchanan, Webster, Fell and Hayes Streets near the western edge of the Project Area, found area soils varying from none detected to "trace" quantities of serpentine rock in these soils.[111] Similar outcroppings of serpentine can be expected in the higher elevations of the Project Area, such as the northwest corner along Webster Street near Oak and Page Streets where serpentine outcroppings may be located.

Asbestos

Besides the presence in naturally-occurring serpentine rock, asbestos was commonly used throughout the construction industry for its thermal, acoustical and wearability properties. Asbestos-containing construction materials are those manufactured materials with an asbestos content greater than 0.1 percent. Commonly occurring asbestos-containing construction materials include the following products:

- Surfacing Materials, such as fireproofing and acoustical plasters (generally pre-1980);
- Thermal System Insulation (TSI) (generally pre-1980); and
- Miscellaneous Materials, including roofing, stuccos, wallboard and joint compounds, glazing compounds and caulking, mastics, paints, asbestos containing materials, and plasters.

Note that only surfacing materials and thermal system insulation are banned materials by the EPA. Miscellaneous materials represent materials that have voluntarily been removed from the marketplace, although some materials, like roof-patching compounds, are still found to be asbestos-containing.

[111] *Ibid.*

While no site-by-site survey has been conducted within the Project Area, the following typically occurring suspect materials may be found in the Project Area's residential, commercial and light industrial development, based on the buildings' ages, with buildings constructed prior to 1973 most at risk for asbestos contamination, with contamination dropping in 1980, and then again from 1990 to the present.

Based on the age of the neighborhood, the majority of buildings within the Project Area, both commercial and residential, are likely to contain one or more of these suspect materials. The quantity and condition of asbestos containing construction materials varies from site-to-site.

Lead-Based Paints

Most pre-1978 housing and commercial buildings contain lead-based paints as defined by the US Housing and Urban Development (HUD) to have a lead content of greater than or equal to 0.5 percent by weight, 5,000 parts per million (ppm) or 1.0 milligrams per centimeter squared (mg/cm2). Nationwide, this represents about three quarters of the housing stock. Recognizing these conditions, loose and peeling paints pose a health hazard, particularly to pre-school children. Activities like scraping, sanding, using a heat gun or torching surfaces with lead-based paints can release lead dust and fumes. These hazards may remain long after the construction is completed if not properly cleaned-up and controlled.

Since many buildings within the Project Area predate 1978, the existing likelihood of lead hazards and exposures from residential and commercial properties are substantial if painted substrates are not properly maintained.

While no site-by-site survey has been conducted within the Project Area, lead-based paint sampling has been conducted for San Francisco Housing Authority's 462 Duboce Avenue property and the former Hayes Valley North & South Housing Developments, which lie within the Project Area boundaries. Sampling of lead-based paints in these public housing units revealed HUD-defined lead-based paints in the laundry rooms and on metal window frames, metal door frames, metal columns, and stairwells in two of the four projects tested.

Much of the housing stock within this region is of similar age and is expected to have similar lead-based paint components, unless previously abated. Hayes Valley North and South have been demolished and replaced. The quantity and condition of lead-based paints (LBPs) and lead-containing paints (LCPs) varies from site-to-site.

Radon

No specific information is available concerning radon levels in the Project Area. However, a 1990 survey by the Department of Health Services indicated a mean radon level of 1.1 picocuries per liter (pCi/l) in residences in the San Francisco area, of which the Project Area is a part. This value is below the EPA's recommended action level of 4.0 pCi/l.

Environmental Databases

Existing conditions in the Project Area were identified from environmental databases compiled by Environmental Data Resources, Inc. in their report dated December 23, 2002. All of the identified sites in this section are from this database.

A "modified" radius report was run to account for the distributed nature of the Project Area, with the central target identified at the intersection of Octavia Street and Oak Street. The files found no sites included on the following lists:

- CERCLIS: Contaminated Sites Under CERCLA
- NPL: Federal Superfund Sites
- LIENS: Field Notices of Superfund Liens
- BZP: Sites designated as Border Zone Properties (Deed Restrictions)
- HWIS: Hazardous Waste Generators, Treatment, Storage and Disposal Facilities

The consultant conducted a review of state and local zoning, planning, sewer, water, environmental and other departmental records, using information gained from the following database files. The findings from the databases are summarized below:

The *Resource Conservation and Recovery Act* (RCRIS) database includes selected information on sites that generate, store, treat or dispose of hazardous waste as defined by the Act, compiled by the US Environmental Protection Agency. A review of the RCRIS-SQG lists, has revealed seven RCRIS-SQG sites within the Project Area located on Oak, Fell and Gough Streets. .

CAL-Sites contains the database of both the known and potential hazardous substances sites identified by the California Department of Toxic Substance Control (DTSC). A total of 12 CAL-Sites were identified within an approximately one-mile radius of the target property. Of these, one CAL-Site falls within the Project Area. This is the BMW of San Francisco automobile dealership located at 1675 Howard Street near South Van Ness Avenue.

The California Hazardous Material Incident Report System (CHMIRS) contains information on reported hazardous material incidents, i.e., accidental releases or spills as reported by the California Office of Emergency Services. A review of the CHMIRS list reveals 11 CHMIRS sites within a one mile radius of the target property. The three CHMIRS sites falling within the Project Area are at 2020 Market Street, 250 Valencia Street and South Van Ness at Market Street.

The CORTESE database identifies public drinking water wells with detectable levels of contamination, hazardous substance sites selected for remedial action, sites with known toxic materials identified through the abandoned site assessment program, sites with underground storage tanks having a reportable release and all solid waste disposal facilities from which there is a known migration compiled by the California Environmental Protection Agency Office of Emergency Information. A review of the CORTESE list has revealed 236 sites within approximately one-mile of the target area. A total of 53 CORTESE contaminant sites are identified for the Project Area, encompassing residential, institutional, industrial and commercial developments and distributed widely throughout the Project Area boundaries.

Proposition 65 Notices contain facility notifications about any release that could impact drinking water and thereby expose the public to a potential health risk as compiled by the California Water Resources Control Board. A review of the *Proposition 65* Noticesindicates eight sites within one-mile of the target area and three sites within the Project area at 364 Haight Street, 1798 Mission Street, and 10 south Van Ness Avenue.

The Solid Waste Facilities/Landfill Sites records typically contain an inventory of solid waste disposal facilities or landfills compiled from the Integrated Waste Management Board's Solid Waste Information System (SWIS) database. A review of the list, reveals one Solid Waste Facilities/Landfill Site within approximately one-half mile of the target property: the Caltrans District 4 property at 140 Oak Street.

The Leaking Underground Storage Tank (LUST) Incident Reports contain an inventory of reported leaking Underground Storage Tanks (USTs) as compiled by the State Water Resources Control Board's Leaking Underground Storage Tank Information System. A review of the LUST list reveals 128 LUST sites within approximately one-half mile of the target property.[112] There are about 70 LUST sites falling within the Project Area. Leaking Underground Storage Tank sites comprise the largest segment of identified hazardous materials sites within the Project Area including a mix of

[112] Environmental Data Resources, Inc., dated July 11, 2002

residential, institutional, commercial and industrial developments and spread throughout the Project Area.

Voluntary Cleanup Program sites contain low-threat-level properties with either confirmed or unconfirmed releases in which the project proponents have requested the Department of Toxic Substance Control to oversee investigation and/or cleanup activities at DTSC's costs. A review of the Voluntary Cleanup Program list reveals one site within approximately one-fourth to one-half mile radius of the target property that falls within the Project Area.[113] This property is the BMW of San Francisco automobile dealership at 1675 Howard Street (near South Van Ness Avenue).

The California Facility Inventory Database contains active and inactive underground storage tank locations compiled by the State Water Resources Control Board. A review of the California Facility Inventory Database sites indicates 17 California Facility Inventory Database sites within approximately one-fourth mile of the target property. Fifteen California Facility Inventory Database sites fall within the Project Area. The density of California Facility Inventory Database sites at the western extent of the Project Area is anticipated to be lower than those associated with the higher density and greater commercial and retail development near the target center.

A review of the Historical UST Registered Database list reveals ten sites within approximately one-fourth mile of the Project Area.[114] Eight sites fall within the Project Area. The density of Historical UST Registered Database sites at the western extent of the Project Area is anticipated to be lower than those associated with the higher density and greater commercial and retail development near the target center.

HAZNET data are extracted from copies of hazardous waste manifests received each year by the California Department of Toxic Substance Control (DTSC). The annual volume of manifests is typically 700,000 to 1 million annually, representing about 350,000 to 500,000 shipments. A review of the HAZNET list has revealed about 61 HAZNET sites within approximately a one-fourth mile radius of the Project Area. Since the database does not list the hazardous materials transported, the relevance of the data is limited with wastes varying from inks and toners, to PCB ballasts to asbestos wastes.

[113] Environmental Data Resources, Inc., dated October 10, 2002.
[114] Environmental Data Resources, Inc. and dated October 15, 1990.

4.10.2 Impact Analysis

Significance Criteria

A project may be deemed to have a significant effect if it could:

- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.
- Create a substantial hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school and has a result, would it create a significant hazard to the public or the environment.
- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 ("Cortese List") or within the area in San Francisco identified pursuant to Article 20 of the San Francisco Health Code (Maher area), and, as a result, create a significant hazard to the public or the environment.
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?

Program Level

Hazardous Materials Generation and Use

In general potential significant impacts related to hazardous materials are precluded by the stringent regulatory regime that exists with regard to hazardous materials and hazardous waste. For any subsequent development proposed pursuant to the Plan, one or more of the above-noted laws and regulations would normally intercede to ensure that no significant impact would result. For the most part, impacts related to hazardous materials would stem from construction-related activities.

Most existing businesses in the Project Area currently process, use or generate hazardous substances (cleaners, solvents, etc.). If any of these businesses currently generate hazardous substances, they may possibly increase production of hazardous materials and hazardous wastes. Implementation of the Plan would encourage only a modest growth and expansion of existing business (only 60 new jobs are projected in association with implementation of the Plan). The increase in potential production, handling, or transport of hazardous materials would therefore be small.

Existing and future generators of hazardous wastes or material would be subject to regulations as are currently in place, at a minimum. To the extent that commercial land uses were to employ

hazardous materials, business users may be required by the Department of Public Health to develop a Hazardous Materials Business Plan, in conformance with Article 21 of the *San Francisco Health Code.* In addition, hazardous waste generators are required to consider source reduction as an option to off-site treatment or disposal of hazardous wastes in accordance with the *Hazardous Waste Source Reduction and Management Review Act* of 1989. This would reduce the quantity of hazardous materials or wastes generated at a specific site. Although the risk of upset can never be completely eliminated, any future production or generation of hazardous materials would not be expected to create a public health or environmental hazard if adequate safety precautions are employed in accordance with existing federal state and local laws and regulations pertaining to hazardous materials and wastes (see Legal and Regulatory Requirements under Environmental Setting, page 4-295 above. Thus, this impact would be considered less than significant.

Implementation of the Plan would not be expected to increase the number of businesses in the Project Area, but would result in an increase of about 60 new jobs. The population would increase by about 4,440 residents. An accident or spill of hazardous materials could expose additional workers, residents, and the environment to health and safety risks. Newer types of equipment and facilities generally have more and improved safety features to minimize accidents and spills. These improvements in safety features would likely offset any increases in accident or spill potential due to new development in the Project Area.

With adherence to Title 8 and Title 2 of the *California Code of Regulations* on a program level, the impacts related to the handling and transport of hazardous wasters would be considered less than significant. Individual projects would be subject to more regulatory review and evaluation to determine site-specific impacts.

Construction Impacts

Demolition or renovation of existing structures or building materials associated with development related to implementing the Plan in the Project Area could result in exposure to hazardous building materials, such as asbestos, lead, mercury or PCBs, with associated public health concerns. The extent of any demolition or renovation activity within the Project Area is unknown at this time and would depend upon specific development or expansion projects that may occur. It is also unknown how extensively hazardous building materials occur within the Project Area. However, it is assumed that the proposed development would increase the potential for demolition and renovation activities within the Project Area. If demolition or renovation activities were to occur, it is likely that many of the structures to be demolished or renovated were constructed during the period when asbestos,

lead and PCBs were commonly used in building materials. Fluorescent lights containing mercury vapors are still commonly used in many buildings.

Asbestos

Demolition and renovation of residential and commercial properties in the Project Area may result in asbestos impacts and associated health concerns, including asbestosis, lung cancer, or mesothelioma. The latent period for these diseases is generally 20 to 40 years and the potential for disease increases with duration and extent of exposures.

Potential exposure to asbestos and resulting adverse health effects are possible if building demolition and renovation occurs within a subsequent development site. Sampling of suspected asbestos-containing material prior to demolition is standard practice; if asbestos is identified, it must be abated in accordance with applicable law prior to construction. State law requires that local agencies not issue demolition or alteration permits until an applicant has demonstrated compliance with notification requirements under applicable federal regulations regarding hazardous air pollutants, including asbestos. In the Bay Area, demolition, renovation and removal of asbestos-containing building materials is under the purview of the Bay Area Air Quality Management District (BAAQMD) Regulation 11, Rule 2), which regulates airborne pollutants, including asbestos, through both inspection and law enforcement. Asbestos abatement contractors must follow state regulations and be certified as such by the state Contractors Licensing Board. Both property owner and waste hauler are assigned responsibility for asbestos-containing material removed from a property and transported to a licensed landfill. Pursuant to state law, the Department of Building Inspection would not issue a building permit pending compliance with these regulations.

Lead-based Paints

Over time, low-level lead exposures from paint, dust and soils can cause a range of health problems including permanent damage to the brain, nervous system and kidneys. In sufficient levels, lead can cause health problems in adults affecting fetal development and reproductive organs. Such exposure is largely preventable if required precautionary measures are taken, as required by federal, state and local regulations.

Lead-based paint and PCB-containing materials could also be encountered as a result of dust-generating activities that include removal of walls, sanding, welding, and material disposal during construction of subsequent development projects. These materials could expose workers and persons in close proximity including off-site locations, which could result in adverse health effects. Precautions and work practices in compliance with Chapter 36 of the San Francisco Building Code

would ensure no adverse affects due to work involving lead paint, while items containing PCBs are required to be managed as hazardous waste and must be handled in accordance with OSHA worker protection requirements.

Project related construction and demolition activities may encounter wood pilings or railroad ties that are treated with creosote, which must be disposed of in an approved landfill. However, removal of timber piling is not expected to create hazards to worker health and safety, as creosote would not be handled in a liquid form, and creosote concentrations in the pilings are likely to have decreased over time. Proper disposal of creosote treated lumber would reduce potential impacts to a less than significant level.

Implementation of the measures describe above, including compliance with asbestos abatement and PCB disposal regulations would reduce potential impacts associated with construction-related hazardous materials to a less than significant level. To the extent that the Plan would encourage new construction, temporary impacts or risks would occur during the demolition phase of development induced by the Plan. At the same time, these impacts would be offset by the permanent reduction of hazardous materials within the Project Area and the reduction in operation and maintenance costs associated with properly maintaining these hazardous materials.

Serpentine Rock

Besides the asbestos hazards associated with building demolition and renovation of residential and commercial properties in the Project Area, excavation, grading and construction activities associated with Plan implementation may disturb naturally-occurring serpentine rock, resulting in potentially significant asbestos health hazards. Studies for the Octavia Boulevard Improvement Project showed little evidence of asbestos-contaminated soils within this area of the city; however, site-by-site investigations are warranted in areas of known landfill or naturally-occurring outcrops, particularly in the Northwest segment of the Project Area.[115]

With required implementation of Air Resources Board regulations, contained in Section 93105: Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying and Surface Mining Operations, any impacts due removal or disturbance of serpentine soils would be reduced to a less than significant effect.

[115] Fugro West, Inc., *Soil Investigation Report Octavia Boulevard Improvement Project, San Francisco, California*, prepared for the San Francisco Department of Public Works, dated June 2003.

The required measure would not allow any person to conduct road construction or maintenance activities or grading without notifying the Air Resources Board at least fourteen days before the beginning of the activity, equipment and operations must not cause visible dust emissions crossing the project boundaries, and all the following dust control measures must be implemented throughout the work: (1) unpaved areas of vehicular traffic must be stabilized and kept adequately wet, treated with a chemical dust suppressant, or covered with material that contains less than 0.25 percent asbestos; (2) vehicle speed across unpaved areas shall not exceed 15 miles per hour (mph) unless the road surface and berms are sufficiently stabilized to prevent dust emissions during vehicle passbys; (3) storage piles and disturbed areas not subject to vehicular disturbances shall be stabilized by being kept adequately wet, treated with a chemical dust suppressant, or covered with material that contains less than 0.25 percent asbestos; and (4) activities must be conducted so that no track-out is visible on any paved roads open to the public by using wet sweeping or a High Efficiency Particulate Air (HEPA)-filtered vacuum device within twenty-four (24) hours; and.

Monitoring of serpentine soil excavation and grading activities in 1997 at the former San Francisco Housing Authority's Hayes Valley South Development, located between Buchanan, Webster, Fell and Hayes Streets, found airborne asbestos concentrations at the property's fence lines to all be below 0.002 fiber/cc, or under Cal/OSHA's perimeter ambient standard of 0.01 fibers/cc (SCA, 1997)[116] when proper dust control measures were utilized. This monitoring reveals that proper control measures, including frequent wetting of the soils are sufficient to lessen airborne asbestos hazards to a less than significant level.

Soils

The Plan calls for height and use reclassifications and for housing and commercial development growth. Construction activities would be localized on individual parcels as well as areawide from street, park and public utility improvements associated with such growth. Portions of the Project Area, such as Hayes Green, have already been studied for environmental impacts, including soil investigations and laboratory analyses as part of independent studies. Block-by-block soils investigations and soil handling and disposal requirements have been specified for the Octavia Boulevard improvements as discussed under the Environmental Settings Section herein. Similar testing and measures would be expected under this Plan on a development-by-development basis.

[116] SCA Environmental, Inc. letter-report to Mr. William Gantz, MBA Urban Development, 1101 Lucas Street, St. Louis, MO 63101, dated April 14, 1997 re: Summary Report Air Sampling on 4/13/97 at Hayes Valley South, San Francisco, CA; SCA Project No.: F-2067.

Prior to conducting any remediation activities, a Site Health and Safety Plan would be prepared pursuant to state and federal requirements and guidelines to ensure worker safety. This plan would require soil characterization, dust control during demolition, excavation, and construction; minimization of construction equipment exhaust, implementation of protocols for managing stockpiled and excavated soils, site security to prevent unauthorized entry, construction worker meetings to provide information, and, where groundwater contamination is identified, protocols for managing groundwater during construction to minimize worker and public exposure. The Site Health and Safety Plan and all subsequent reports would be provided to the Department of Public Health and other relevant agencies.

Site characterization would involve investigation to identify old or abandoned underground tanks, buried debris, or unidentified contamination that may be present. In particular, physical investigations or comprehensive soil testing would be needed to determine the presence of underground tanks beneath previously extant buildings. If an unidentified tank containing hazardous materials or vapors or buried hazardous debris were uncovered or disturbed during excavation, construction workers, visitors, or occupants could experience adverse health effects. Therefore, wherever ground-disturbing activities are proposed in areas, where there is a potential for the presence of underground storage tanks, ground-penetrating radar, magnetic surveys, or other appropriate methods would be employed to locate previously unknown tanks. If any tanks are identified, the site owner or contractor would coordinate with the Department of Public Health to determine whether the tank must be removed or may be closed in place. The Site Health and Safety Plan would include procedures for implementing a contingency plan in the event unanticipated subsurface hazards are discovered during construction.

In general, impacts to soils, including impacts to leaking underground storage tanks or serpentine formations, would be determined by demolition and reconstruction on individual affected parcels, and would be dependent upon height reclassifications only to the affect of the depth of required footings and foundations. Likewise, most reported Project Area lead or arsenic soil contaminants occur at or near current surface grades and rarely impact materials below a three-foot depth, except at former landfill areas. While no specific landfill occurs within the Project Area, the South of Market Area was filled with debris following the 1906 Earthquake and Fire, which is a contributing cause for elevated lead levels within the Project Area.

The San Francisco Department of Public Health oversees implementation of the *Maher Ordinance.* The Hazardous Waste Unit of the Environmental Health Department has primary responsibility for other hazardous wastes within San Francisco including site mitigation plans and determining

compliance with ordinance requirements. Implementation of required measures in compliance with applicable regulations and standards regarding underground storage tanks, buried debris, unidentified contamination would reduce potential impacts associated with construction-related hazardous materials to a less than significant level.

Fire Hazards, Emergency Response, or Evacuation Plans

San Francisco ensures fire safety primarily through provisions of the Building Code and the Fire Code. Existing and new buildings are required to meet standards contained in these codes. In addition, the final building plans for any new residential project greater than two units are reviewed by the San Francisco Fire Department as well as the Department of Building Inspection), in order to ensure conformance with these provisions. Subsequent development projects would be required to conform to these standards, which (depending on the building type) may include development of an emergency procedure manual and an exit drill plan. In this way, potential fire hazards (including those associated with hydrant water pressure and emergency access) would be mitigated during the permit review process.

Project Level

Hazardous Materials Generation and Use

Central Freeway Parcels

Soils investigations and site assessments conducted as part of the Central Freeway Land Transfer project and the Octavia Boulevard project recommended the preparation of a Site Mitigation Plan for future excavation projects in the vicinity of the parcels. Subsequent development occurring on these parcels in association with the proposed Plan could result in the transport, handling, use, and/or generation of hazardous materials on the Central Freeway parcels. Future development on these parcels would be subject to individual site assessments and compliance with relevant regulations administered by the Department of Public Health. Given the current regulations governing these activities, impacts resulting from future development of the Central Freeway parcels would be considered less than significant.

Public Street Improvements

The public street improvements could result in ongoing use of paints and other solvents on paved surfaces, and in ongoing use of pesticides and herbicides for maintenance of landscaping in the right-of-way. Given the current regulations governing use, generation and transport of hazardous materials, any impacts resulting would be considered less than significant.

Open Space Improvements

The open space improvements could result in ongoing use of paints and other solvents on paved surfaces and buildings, and in ongoing use of pesticides and herbicides in the landscaped areas of parks. Given the current regulations governing use, generation and transport of hazardous materials, any impacts resulting would be considered less than significant.

Construction Impacts

Central Freeway Parcels

Hazardous materials contaminate some of the parcels vacated by the Central Freeway project. Because all of the Central Freeway parcels have been cleared of pavement and structures, no impacts related to demolition or renovation activities would apply to these parcels. Thus asbestos and lead would not be issues on any of these parcels. Any contaminated surface soils would be remediated per requirements of the Central Freeway project and its identified measures that will be included in Caltrans Construction Specifications. Contaminated parcels are subject to additional regulatory review and evaluation for site-specific clean-up impacts on a case-by-case basis. These impacts would be part of the Central Freeway Project and not due to the Plan.

For individual construction projects, including excavation for subsurface parking facilities, that are proposed on any of these Central Freeway parcels, construction impacts would be regulated such that no project would be expected to result in individual construction impacts regarding the removal, transport, or disposal of hazardous materials. Due to the regulatory requirements governing construction, it is not anticipated that any project would result in potentially significant construction-related impacts.

Public Street Improvements

Hazardous materials contaminate portions of the public streets throughout the Project Area. The contaminated thoroughfares are subject to additional regulatory review and evaluation for site-specific impacts. If hazardous materials are present, potentially significant construction-related soil

impacts could occur. Adherence to existing regulations governing the handling and disposal of hazardous materials would reduce these impacts to a less than significant level.

Open Space Improvements

Open space improvements would have few direct construction impacts from hazardous waste, although soils removal would be involved with some improvements. Potential soil contaminants in the sites proposed for open space improvements could include lead, petroleum hydrocarbon and asbestos as determined by limited representative sampling completed to date. Construction and soil removal impacts are adequately regulated to preclude any potential hazardous waste impacts.

Fire Hazards, Emergency Response, or Evacuation Plans

Provisions of the *San Francisco Building Code* and *Fire Code* and review of final building plans by the San Francisco Department of Building Inspection and Fire Department ensure fire safety in new development. All new development on the Central Freeway parcels would be required to conform to these standards with adherence to these codes. Potential fire hazard impacts would be less than significant.

The public street improvements would not be subject to these regulations.

Similarly, the creation of new public spaces including Octavia Plaza, McCoppin Square, and Brady Park, would potentially release asbestos and lead-based paint hazards where demolition of suspect materials is required. Asbestos and lead-based paint hazards are regulated and no potentially significant effects due to any demolition or construction would be anticipated to occur.

Cumulative Impacts

Cumulatively, development in areas within and outside of the Project Area would potentially add opportunities for contact with new sources of hazardous substances. Most of these effects would be similar to impacts related to implementing the *Market and Octavia Neighborhood Plan* and would be subject to the same regulatory requirements as discussed under Legal and Regulatory Requirements on page 4-295 of this EIR. As with the proposed Plan, no potentially significant cumulative effects would be expected to result. The potential would exist for unknown soil contaminants to be disturbed on a project level that could result in potentially significant hazardous waste effects on workers and other people in the area.

Note, however, that new development in the Project Area would minimize hazardous materials use and waste generation under applicable regulatory requirements. New development would be less

likely to impact the environment than older uses. Thus, the Market and Octavia Neighborhood Plan would not create a substantial contribution to cumulative hazardous materials use or waste generation or disposal.

REFERENCES

Environmental Data Resources, Inc., The EDR Radius Map with GeoCheck, Octavia Blvd., Octavia and Oak Street, San Francisco, CA 94102, December 23, 2003.

Environmental Data Resources, Inc., The EDR Radius Map with GeoCheck, 165 10th Street, San Francisco, CA 94103, April 15, 2004.

Fugro West, Inc., *Soil Investigation Report Octavia Boulevard Improvement Project, San Francisco, California,"* dated June 2003, prepared for the San Francisco Department of Public Works.

SCA Environmental, Inc. letter-report to Mr. William Gantz, MBA Urban Development, 1101 Lucas Street, St. Louis, MO 63101, dated April 18, 1997, re: Detail Report-Soil Sampling, Hayes Valley South, San Francisco, CA; SCA Project No.: F-2067.

Treadwell and Rollo, *Phase 1 Environmental Site Assessment for the Central Freeway Land Transfer Project,* dated January 18, 2002 prepared for Caltrans.

4.11 GEOLOGY, SOILS, AND SEISMICITY

This section summarizes available information on general geologic, soil, and seismic conditions and considerations that apply to the Project Area, including a summary assessment of potential geologic hazards.

4.11.1 Environmental Setting

Topography

The topography of the Project Area generally slopes from west to east, with elevations ranging from approximately 200 feet above mean sea level at Page and Webster Streets to 25 feet above mean sea level at Mission and Fourteenth Streets.[117] The slope is steep north of Duboce Avenue and west of Octavia Street, with slope gradients in excess of 15 percent. The gradient in the remainder of the Project Area is less severe, with slopes ranging from 5 to 15 percent in the southwest region and less than 5 percent in the north and east regions.

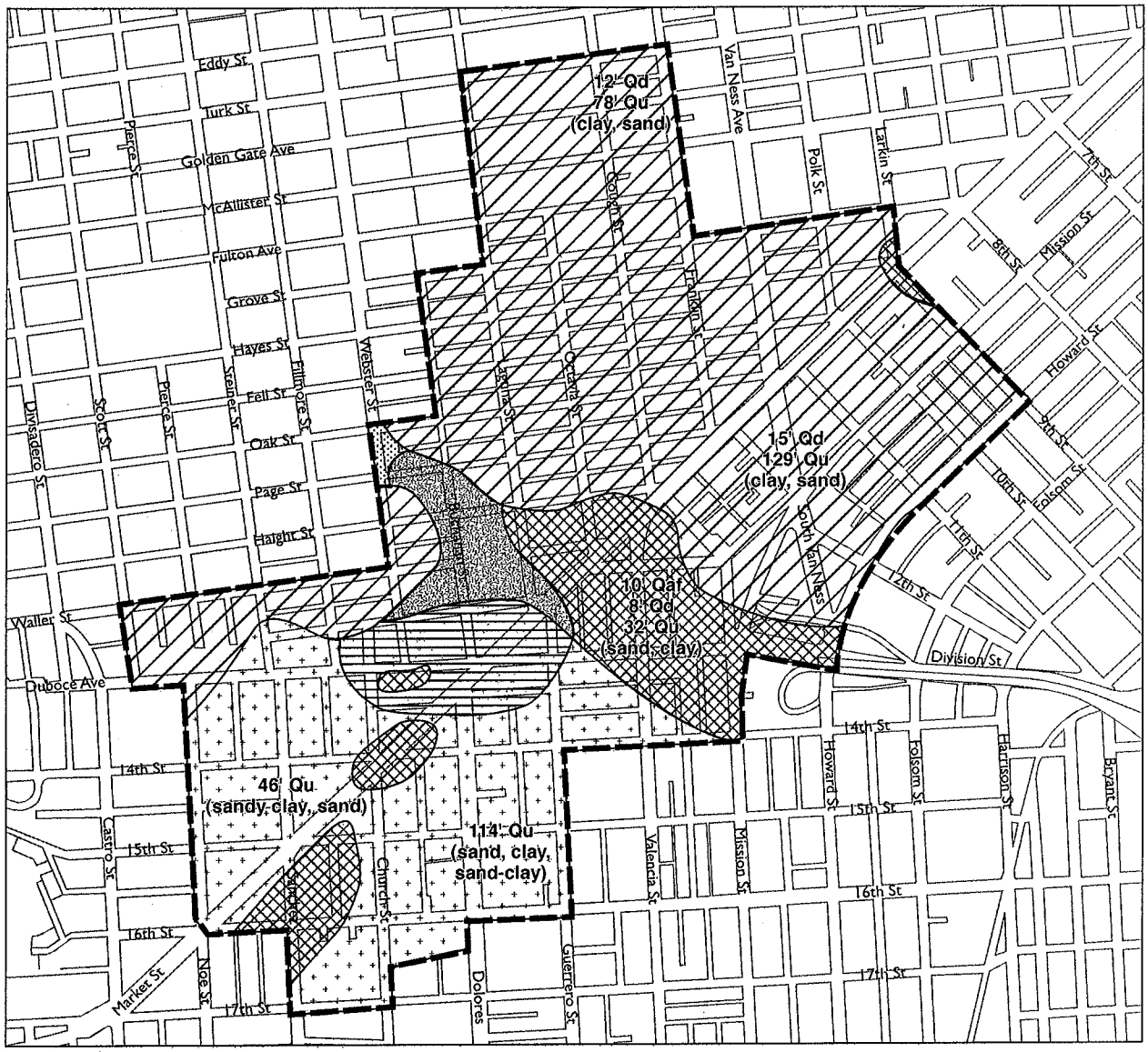
Geology

The City of San Francisco is located within the Coast Ranges geomorphic province. The geology can generally be described as bedrock hills surrounded by broad valleys, which are underlain by unconsolidated deposits or artificial fill. The bedrock comprises sedimentary and metamorphic rocks of the Franciscan formation, late Jurassic or Cretaceous in age. The unconsolidated surficial deposits are of the Pleistocene and Holocene age, and are the result of wind- or water-deposited sand, mud, and clay; slope wash; alluvium; landslide debris; and artificial fill. The thickness of the surficial deposits range from several feet to more than 100 feet.[118]

The Project Area consists primarily of five types of near-surface geologic material (see Figure 4-27). The northern portion consists of 12 to 15 feet of dune sand overlying deposits of clay and sand. The southern area consists of surficial deposits of sandy clay and sand to depths of 46 to 114 feet. The central portion is divided into two areas. The area west of Laguna Street is underlain by graywacke sandstone interbedded with thin layers of shale and serpentine intrusions. East of Laguna Street there is approximately ten feet of fill overlying eight to ten feet of dune sand, which is

[117] The above mean sea level elevations are based on the National Geodetic Vertical Datum of 1929 (NGVD-29) as identified in the US Geological Survey maps for San Francisco North.

[118] Schlocker, J., Geology of San Francisco North Quadrangle, California, U.S. Geological Survey, Professional Paper 782, 1994.



SOURCE: Geology of the San Francisco North Quadrangle, California, 1974

Figure 4-27
Geologic Map

underlain by about 30 feet of clay and sand deposits. Centered at Duboce Avenue and Dolores Street is an outcropping of serpentine bedrock that encompasses an approximate six-block area.[119]

Locally, the bedrock has been crushed and sheared through geologic and tectonic processes making their engineering properties variable. The engineering properties of dune sand are also variable depending on the level of water saturation. Saturated dune sand is susceptible to liquefaction,[120] while unsaturated, well-compacted sand provides moderate to high shear strength when confined. The engineering properties of other surficial deposits and fill material are variable depending on the nature and origin of the deposits.[121]

Slope Stability

The primary factors influencing the stability of a slope are 1) the nature of the soil and bedrock that underlie the slope, 2) the geometry of the slope (i.e., height and steepness), 3) the level of saturation, and 4) the presence of older landslide deposits. The slope stability of the Project Area is classified as "stable" to "moderately stable" (see Figure 4-28). While the Project Area contains some steep slopes, these are not underlain by landslide deposits.[122] The Project Area is outside the Potential Landside Areas, as mapped in the Community Safety Element of the *San Francisco General Plan.*[123]

Faults

Earthquakes occur on planes of weakness in the earth's crust known as faults as the result of the accumulation of strain caused by tectonic forces. An earthquake is the release of this strain, which causes rupture and displacement along the fault plane. The intersection of the fault plane with the surface of the earth is referred to as the fault trace. The *Alquist-Priolo Earthquake Fault Zone Act of 1972* was established by the California Legislature to mitigate the potential hazards of surface rupture along fault traces associated with seismic activity. The Act requires the California Division of Mines and Geology (renamed the California Geological Survey) to evaluate and delineate active faults throughout the state. A fault or fault zone is considered active under the provisions of the Act if there is evidence of surface displacement within the last 11,000 years.

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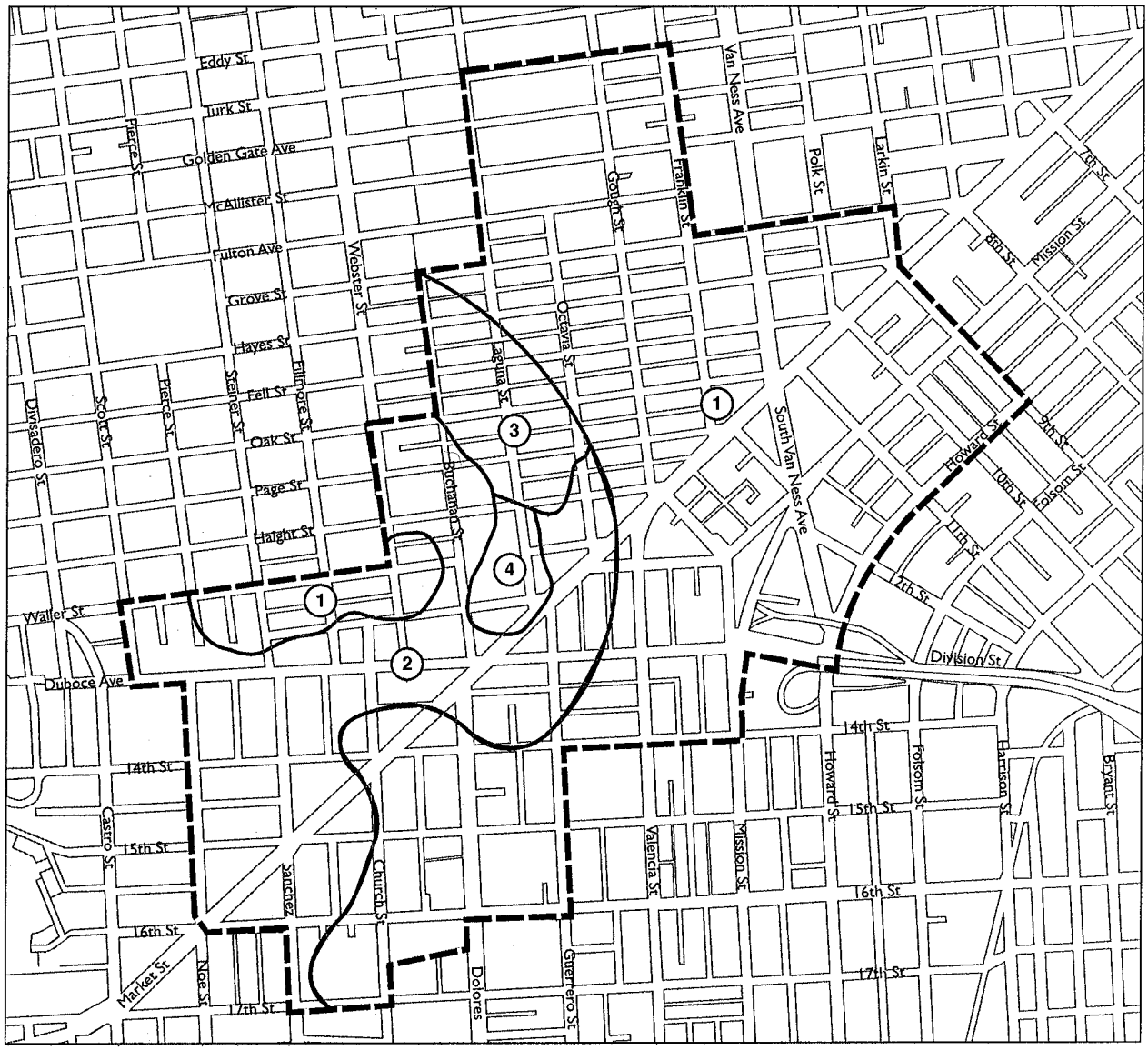
[119] Schlocker, 1994.

[120] Liquefaction is the temporary transformation of loose, saturated granular sediments from a solid state to a liquefied state as a result of seismic ground shaking. Because saturated soils are a necessary condition for liquefaction, soil layers in areas where the groundwater table is near the surface have a higher liquefaction potential than areas where the water table is deeper.

[121] Schlocker, 1994.

[122] Nilsen H. Tor, et al, *Relative Slope Stability and Land-Use Planning, Selected Examples from the San Francisco Bay Region, California, Geological Survey Professional Paper* 944, 1979.

[123] City and County of San Francisco, *General Plan,* Community Safety Element, August 15, 1997.



0 1000 FEET

SOURCE: Relative Slope Stability and Land Use Planning Geological Survey Professional Paper, 1994

Project Boundary

(1) STABLE
0-5% Slope
Not underlain by landslide deposits

(2) GENERALLY STABLE
5-15% Slope
Not underlain by landslide deposits

(3) GENERALLY STABLE
>15% Slope
Not underlain by landslide deposits

(4) MODERATELY STABLE
>15% Slope
Underlain by bedrock units susceptible to landslides but not underlain by landslide deposits

Figure 4-28
Slope Stability Map

There are no known active faults within San Francisco; however, several active faults within the Bay Area have the potential to produce major shaking in the Project Area.[124] The faults most likely to impact the Project Area are the San Andreas Fault, located approximately eight miles to the west, the San Gregorio Fault, located approximately 14 miles to the southwest, the Hayward Fault, located approximately 12 miles to the east, and the Calaveras Fault, located more than 25 miles southeast of San Francisco.

Earthquakes in the region are a threat to the soil stability within the Project Area and vicinity. Earthquakes have the potential to cause health and safety hazards and damage to buildings and roads from ground shaking, liquefaction, or ground failure in surface materials. The potential for a specific area to be affected depends on the soil properties and its proximity to the fault. Unconsolidated, saturated fine sands and silts and unconsolidated, moist to wet clays experience the greatest soil movement and ground shaking acceleration.

Subsidence and Liquefaction

The *General Plan* identifies the area along the former alignment of the former Central Freeway, from Mission Street to Market Street, as being potentially prone to subsidence and liquefaction.[125]

A liquefaction hazard map produced by the Association of Bay Area Governments (ABAG) indicates that the liquefaction hazard in the Project Area ranges from very low to very high (see Figure 4-29).[126]

Groundshaking

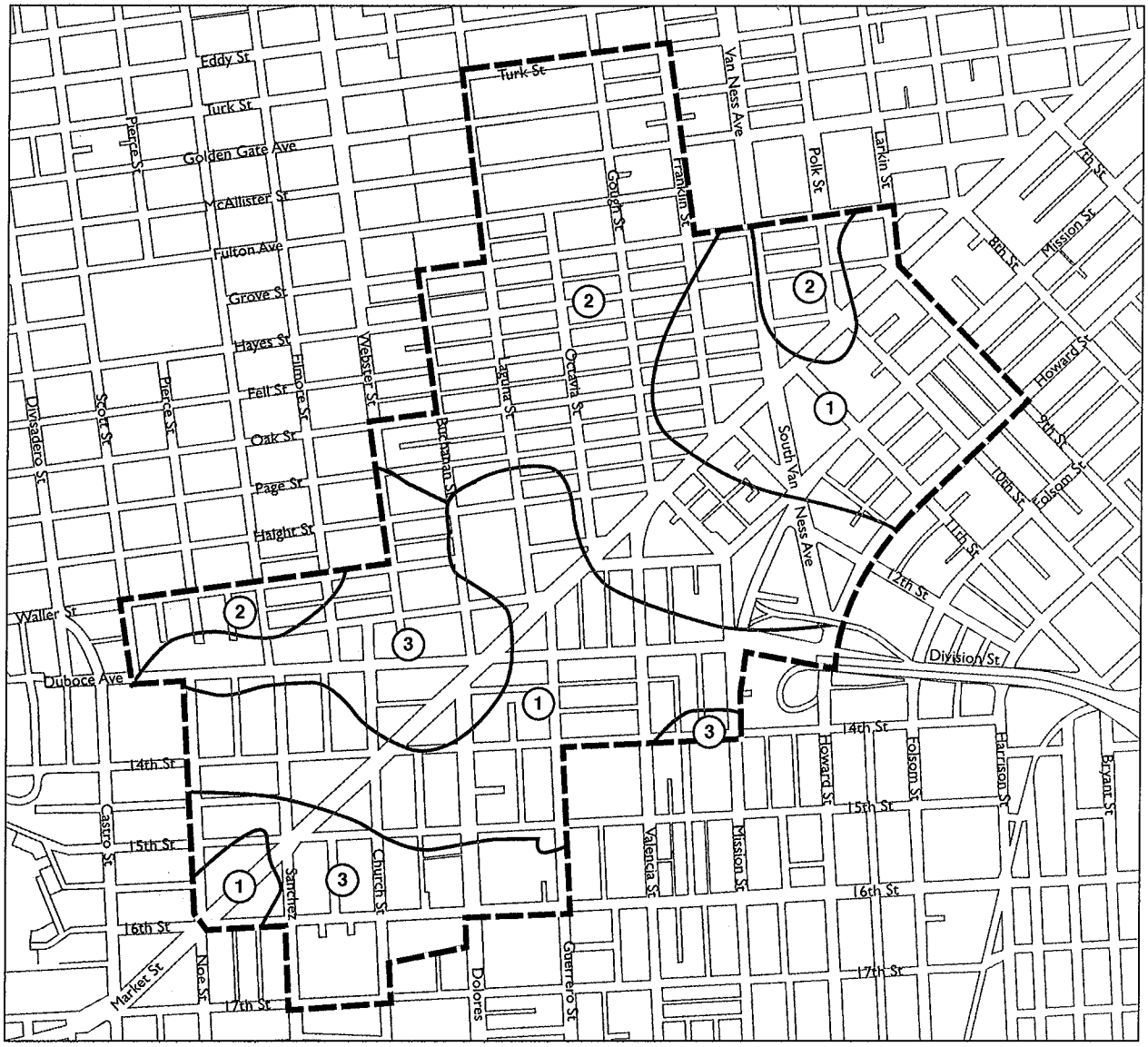
The magnitude of an earthquake is a measure of the amount of energy released at the source (i.e., hypocenter or focus) of the quake. The Richter Magnitude Scale is generally the most familiar magnitude scale and is based on the amplitude of seismic waves measured at a number of seismograph sites, after being corrected for distance from the earthquake. The Richter scale is logarithmic and therefore, an increase of one magnitude unit represents a ten-fold increase in amplitude. However, in terms of total energy released by the earthquake, an increase of one unit on the Richter Scale corresponds to approximately a 32-fold increase in energy.

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124 Jennings, C.W., Fault Activity Map of California and Adjacent Areas, Department of Conservation Divisions of Mines and Geology, 1994.

125 City and County of San Francisco, 1997.

126 Association of Bay Area Governments (ABAG), website at http://www.abag.ca.gov, 2004.



SOURCE: Association of Bay Area Governments, Sept. 2003

Figure 4-29
Liquefaction Hazard Map

A more recent and commonly used measure of the release of energy during an earthquake is moment magnitude. Moment magnitude is determined from the physical size (area) of the rupture of the fault plane, the amount of horizontal and/or vertical displacement along the fault plane, and the resistance of the rock type along the fault to rupture. The moment magnitude can be calculated following an earthquake or estimated for an expected earthquake if the fault rupture area and displacement and rock properties can be estimated accurately. Therefore, the magnitudes of expected earthquakes in the San Francisco Bay area are reported as moment magnitudes.

The intensity of ground shaking during an earthquake is a more subjective measure of the perceptible effects of seismic energy at a given point and varies with distance from the epicenter and local geologic conditions. The Modified Mercalli Intensity Scale (MMI) is the most commonly used scale for measurement of the subjective effects of earthquake intensity (see Appendix 9-F, Table F-1, page 9.F-2). This scale uses the observations of the people who experienced an earthquake to estimate its intensity. The shaking intensity within the Project Area from a 7.2 magnitude earthquake on the San Andreas Fault in the San Francisco vicinity would be expected to be VII (strong) to VIII (very strong) on a Modified Mercalli Intensity Scale.[127]

Intensity can also be quantitatively measured using accelerometers (strong motion seismographs) that record ground acceleration at a specific location, a measure of force applied to a structure under seismic shaking. Acceleration is measured as a fraction or percentage of the acceleration under gravity (g). Estimates of the peak ground acceleration have been made for the Project Area based on probabilistic models that account for multiple seismic sources. Under these models, consideration of the probability of expected seismic events is incorporated into the determination of the level of ground shaking at a particular location. The expected peak horizontal acceleration (with a 10 percent chance of being exceeded in the next 50 years) generated by any of the seismic sources potentially affecting the area, ground acceleration in the Project Area would be between 0.5 and 0.7g, based on all known seismic sources and regional geologic conditions.[128]

The 1906 San Francisco Earthquake, centered on the San Andreas Fault near Olema in Marin County, was a 7.9 magnitude earthquake, which resulted in shaking intensities within the Project Area ranging from VII (strong) to X (violent).[129] In 1989, the 6.9 magnitude Loma Prieta

[127] ABAG, 2004.
[128] Peterson, M., *et al, Seismic Shaking Hazard Maps of California*, California Division of Mines and Geology Map Sheet 48, 1999.
[129] ABAG, 2004.

earthquake, centered about 60 miles south of San Francisco, also along the San Andreas Fault, resulted in shaking intensities within the Project Area ranging from VI (moderate) to VII (strong).[130]

In a fact sheet published in 2003, the US Geological Survey estimated a 62 percent probability that between 2003 and 2032 a 6.7 or greater magnitude earthquake will occur within the San Francisco Bay Region.[131] The probability of a 6.7 magnitude or greater earthquake occurring along individual faults was estimated to be 21 percent along the San Andreas Fault, 10 percent along the San Gregorio Fault, 27 percent along the Hayward Fault, and 11 percent along the Calaveras Fault.[132]

Unreinforced Masonry Buildings

Older buildings in San Francisco constructed of masonry (typically brick) without the benefit of reinforcement are referred to as Unreinforced Masonry Buildings (UMBs). The Department of Building Inspection (DBI) maintains a master list of over 2,000 UMBs citywide. UMBs are considered "hazardous" in an earthquake because they often fail structurally, resulting in the collapse of walls or the entire building.

Chapter 16C, Section 1604B of the *2001 San Francisco Building Code* requires all UMB property owners to retain a licensed civil structural engineer or architect to file a Building Inventory Form with the city to identify the "hazard class" of the building. The *Building Code* requires all owners of UMBs to seismically upgrade buildings by February 15, 2006. Unreinforced masonry buildings of single-family occupancy and multi-unit apartments containing fewer than five dwelling units or guest rooms used solely for residential purposes are exempted from the these requirements. Exterior alterations, seismic retrofit, and/or demolition of UMBs are evaluated by the Planning Department before approval of a building permit application.

Approximately 87 properties within the Project Area were listed in the city's October 2003 UMB Permit and Completion Monthly Status Report. Of these 87 properties, about 61 have completed a seismic retrofit, been demolished, or are exempt. Twenty-six properties had not completed seismic upgrades.[133]

[130] ABAG, 2004.
[131] U S Geological Survey (USGS), Earthquake Hazards Program, website at http://quake.wr.usgs.gov, 2003.
[132] USGS, 2003.
[133] City and County of San Francisco, UMB Permit and Completion Monthly Status Report, October 31, 2003.

Parapet Safety Program

Chapter 16C, Section 1602D of the *2001 San Francisco Building Code* requires that the owner of a building employ an engineer or architect to evaluate parapets or appendages that are supported on or attached to an exterior wall of a building adjacent to a property line, passageway, open courtyard or public way or any other location where failure of such parapet or appendage would be hazardous to life or limb, if so notified by the city.

The owner must submit a written report on the condition of the parapet or appendage to the Department of Building Inspection. If the condition is found to present a hazard because it is unable to sustain expected lateral earthquake forces (as defined in the *Building Code),* the building owner must reinforce or remove the parapet.

4.11.2 Impact Analysis

Significance Criteria

A project may be deemed to have a significant impact on the environment if it could:

- Substantially increase exposure of people or structures to substantial adverse effects including the risk of loss, injury, or death involving:
- Rupture of a know earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a know fault,
- Seismic-related ground failure, including liquefaction, and/or
- Landslides;
- Result in substantial soil erosion or the loss of topsoil;
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the *Uniform Building Code* (1994), creating substantial risks to life or property.

Program Level

Ground Shaking

The San Francisco Bay Area is expected to experience very strong to violent ground shaking during large earthquakes occurring on any of the major active faults in the Bay Area. Earthquakes on more distant faults could also affect the region. During moderate to severe ground shaking, the Project Area could be exposed to lateral and vertical forces that could cause damage to structures, unless structures were designed to withstand high levels of ground shaking.

Because it is necessary to design structures and facilities to withstand the anticipated effects of seismic activity from nearby as well as distant faults, there is a comprehensive regulatory environment in place to ensure the risks to people and property are managed to the extent practical. The major state regulations protecting the public from geo-seismic hazards, other than surface faulting, are contained in the *California Code of Regulations*, Title 24, Part 2, the *California Building Code* and the *California Public Resources Code*, Division 2, Chapter 7.8, *The Seismic Hazards Mapping Act.* Both the *California Building Code* and the *Seismic Hazards Mapping Act* apply to public buildings and a large percentage of private buildings intended for human use or occupancy. On July 29, 2003, California adopted a new building code for most commercial construction, developed by the National Fire Protection Association, as the basis for updating the state's building code. The state also adopted the *International Building Code* as the basis for California's residential construction. Following incorporation of the new codes into the state's existing building code, and a series of public hearings, the revised code could become law as early as 2005. Project permits issued after the adoption of the law would be subject to the provisions of the revised code. At the local level, the Project would be required to conform to the *San Francisco Building Code*, which includes seismic safety performance standards that apply to all new construction in the city. The San Francisco Department of Building Inspection (DBI) would, in it review of building permit applications, require the project sponsor to prepare a geotechnical report pursuant to the State *Seismic Hazards Mapping Act.* The report would assess the nature and severity of the ground shaking hazard(s) on the site and recommend project design and construction features that would reduce the hazard(s).

To ensure compliance with all current *San Francisco Building Code* provisions regarding structural safety, when the DBI reviews the geotechnical report and building plans for a development proposal, it determines the necessary engineering and design features for the project to reduce potential damage to structures from ground shaking.

Background information provided to DBI would require building construction measures that ensure the security and stability of adjoining properties as well as any project site within the Project Area during construction. Because these procedures are required under existing DBI rules, no additional geotechnical mitigation measures would be needed to avoid significant environmental impact through the environmental review process. In addition, any changes incorporated into the foundation design required to meet the *San Francisco Building Code* standards that are identified as a result of the DBI review process would constitute minor modifications of the project and would not require additional environmental analysis. Therefore, potential damage to structures from ground shaking at the Project Area would be less than significant through the DBI requirement for a geotechnical report and review of the building permit application pursuant to its implementation of the *San Francisco Building Code.*

Structural and Nonstructural Damage

Seismic shaking in the Project Area during an earthquake on one of the nearby regional faults could cause structural and nonstructural damage to structures within the Project Area. Strong to very strong ground shaking is expected to occur in the Project Area in the event of a major earthquake on the San Andreas Fault. This level of seismic shaking could cause damage to poorly reinforced structures.

The Project Area contains approximately 26 buildings constructed of unreinforced masonry that are have not been retrofitted, demolished or exempted from the upgrades required by Chapter 16c, Section 1604B of the *San Francisco Building Code.* These unreinforced masonry structures have a high potential for structural failure during earthquake events. In addition, unreinforced masonry chimneys and parapets on these unreinforced buildings can be damaged by severe ground shaking. These structures present a substantial hazard to people exposed to falling debris. An increase in housing and commercial development would allow more people into the area, which could result in an increased number of injuries and fatalities during a major earthquake. This increase in potential for increased exposure to falling debris from unreinforced masonry buildings has been mitigated to a large degrees and should be substantially reduced by February 2006, when all upgrades to unreinforced buildings are required to be completed.

Adherence to the provisions of the *San Francisco Building Code* as it relates to the Parapet Safety Program and UMB Ordinance would decrease the risk from falling debris as a result of unreinforced structures.

The 2001 *San Francisco Building Code* is consistent with the *1997 Uniform Building Code* (UBC), as amended by the 2001 California Building Code, and as further amended by these San Francisco codes. The following measures would be required for all new development in the Project Area to minimize the risks to people and property:

- All new structures and utilities would be designed in accordance with the *Uniform Building Code* for Seismic Zone 4.
- New development would require a detailed geotechnical report conforming to the California Division of Mines and Geology recommendations presented in "Guidelines for Evaluating Seismic Hazards in California."
- Recommendations for building design included in the final geotechnical report would be followed to minimize potential hazards associated with foundation damage or failure.
- An earthquake preparedness and emergency response plan would be developed for each commercial project. Each project would include requirements for securing nonstructural elements (i.e., furnishings and equipment) and an emergency evacuation program.

The potential for damage to buildings from seismic shaking as the result of an earthquake of large magnitude cannot be eliminated. Construction standards contained within the *Uniform Building Code* are intended to reduce the affects to a level that would minimize structural damage and therefore injury or loss of life. Retrofit or removal of unreinforced masonry buildings or parapets would reduce the risk of injury due to structural damage from earthquakes. Implementation of the required measures above would reduce the potential impact to a less than significant level.

Ground Subsidence, Liquefaction, and Landslides

Seismic hazards due to ground shaking include ground subsidence (and differential settling of buildings), liquefaction, and landslides. As shown on the Liquefaction Hazard Map (Figure 4-29, page 4-304), approximately one quarter of the Project Area is underlain by soil with a high potential for liquefaction. Much of the damage from the 1906 Earthquake and Fire was due to liquefaction and subsidence of former tidal areas that had been filled in with soil.[134] Portions of the Project Area have steep slopes (up to 15 percent) with bedrock that has been characterized as susceptible to landslides.

In its review of the building permit application for a development proposal in the Project Area, the Department of Building Inspection (DBI) would require the project sponsor to prepare geotechnical reports to assess the nature and severity of the hazards at the site and to recommend project design

[134] San Francisco, 1997.

and construction features that would reduce those hazards. Preliminary geotechnical investigations would be required for all proposed improvements within the Project Area that could be affected by liquefaction hazards. If the geotechnical investigation were to indicate that liquefaction hazards were present for a specific site proposed for development, the report would be required to include measures to mitigate the hazard (e.g., appropriate foundation design, excavation of potentially unstable material, etc.). Implementation of the recommendations in the geotechnical report would be required by DBI for project approval. With adherence to these required measures, potential subsidence, liquefaction, and landslide impacts would be less than significant.

Surface Settlement

Compression of the existing fill due to new building loads could result in ground surface settlement and damage to proposed buildings. Expansive soils may also be present within the Project Area. To prevent possible damage to project structures, pavement, and infrastructure from expansive soils and soil settlement regulations governing new construction have been put in place to manage the risk to people and property.

Soil settlement can occur when weight is placed on soil beyond what it has experienced in the past. This can lead to consolidation of the soil and settlement of buildings or other structures. The settlement can damage structures, utilities, roadways, and sidewalks.

Expansive soils consist of clay particles that react to moisture changes by shrinking (when they dry) or swelling (when they get wet). Expansive soils can consist of silty to sandy clay and clayey sand. The extent of shrinking and swelling is influenced by environment, such as alternating wet and dry cycles, and by the amount and kind of clay in the soil. This type of physical change in the soils can have a detrimental affect on building foundations, concrete walkways, swimming pools, roadways, and masonry walls.

Damage to structures and utilities can present hazards (e.g., damage to gas or electrical lines) to residents and visitors to the area. Differential settlement of buildings and pavements can produce tripping hazards. Weakened structures such as retaining walls can spontaneously fail or be more susceptible to catastrophic damage from earthquakes.

DBI requires grading and/or building permits for construction of new buildings. Permit applicants are required to submit a geotechnical report addressing soil conditions for review and approval by the city Public Works Department. For any development in the Project Area, the reports must specify the extent to which fill at the site would be excavated and/or recompacted to account for

any soil settlement. The reports would be based on a sufficient analysis of soils conducted by a qualified geotechnical engineer or geologist and include appropriate soils, foundation, and structural engineering to adequately account for any differential settlement or expansive soils underlying the site. With the adherence to DBI permit review procedures, there would be no significant impacts related to soil settlement.

Project Level

Central Freeway Parcels

The *General Plan* identifies the area along the alignment of the former Central Freeway, from Mission Street to Market Street, as being potentially prone to subsidence.[135] The development of the vacant Central Freeway parcels would increase density in the corridor formerly occupied by the elevated Central Freeway and result in increased numbers of people being exposed to potential seismic hazards. Changes in building codes have improved the ability of structures to withstand seismic disturbances.

The 2001 *San Francisco Building Code* is consistent with the *1997 Uniform Building Code* (UBC), as amended by the 2001 California Building Code, and as further amended by these San Francisco codes. The following measures would be required for all new development in the Project Area to minimize the risks to people and property:

- All new structures and utilities would be designed in accordance with the *Uniform Building Code* for Seismic Zone 4.
- New development would require a detailed geotechnical report conforming to the California Division of Mines and Geology recommendations presented in "Guidelines for Evaluating Seismic Hazards in California."
- Recommendations for building design included in the final geotechnical report would be followed to minimize potential hazards associated with foundation damage or failure.
- An earthquake preparedness and emergency response plan would be developed for each commercial project. Each project would include requirements for securing nonstructural elements (i.e., furnishings and equipment) and an emergency evacuation program.

As outlined above, geotechnical field investigations would need to be performed within this area as part of the DBI permit review process to obtain sufficient information on which the engineering geologist and/or civil engineer can evaluate the nature and severity of the risk and incorporate design provisions that would minimize the risk of structural failure due to seismic events.

[135] San Francisco, 1997.

In its review of the building permit application for a development proposal in the Project Area, the Department of Building Inspection (DBI) would require the project sponsor to prepare geotechnical reports to assess the nature and severity of the hazards at the site and to recommend project design and construction features that would reduce those hazards. Preliminary geotechnical investigations would be required for all proposed improvements within the Project Area that could be affected by liquefaction hazards. If the geotechnical investigation were to indicate that liquefaction hazards were present for a specific site proposed for development, the report would be required to include measures to mitigate the hazard (e.g., appropriate foundation design, excavation of potentially unstable material, etc.). Implementation of the recommendations in the geotechnical report would be required by DBI for project approval. With adherence to these required measures, potential subsidence, liquefaction, and landslide impacts would be less than significant.

DBI requires grading and/or building permits for construction of new buildings. Permit applicants are required to submit a geotechnical report addressing soil conditions for review and approval by the city Public Works Department. For any development in the Project Area, the reports must specify the extent to which fill at the site would be excavated and/or recompacted to account for any soil settlement. The reports would be based on a sufficient analysis of soils conducted by a qualified geotechnical engineer or geologist and include appropriate soils, foundation, and structural engineering to adequately account for any differential settlement or expansive soils underlying the site. With the adherence to DBI permit review procedures, there would be no significant impacts related to soil settlement.

The investigation of geotechnical and soil conditions and the application of the building codes for new development based on these conditions would reduce the potential for impacts related to structural damage; ground subsidence, liquefaction, and landslides; and surface settlement to a less than significant level.

Public Street Improvements

Surface street improvements would not result in structural failures due to geologic or seismic impacts as new structures would generally not be part of these improvements, with the exception of new transit shelters that would be added. However, the design of these structures, including the tie-downs, restraints, and supports, would be in accordance with the UBC for Seismic Zone 4 and therefore would not be expected to catastrophically fail during a seismic event. Roadways would be designed in accordance with *Caltrans Highway Design Manual* and would require evaluation of soil bearing strength and soil stability based on soil classification and geotechnical testing. No significant seismic or geotechnical impacts would be expected due to implementation of these projects.

Open Space Improvements

Open space improvements would not result in structural failures due to geologic or seismic impacts as new structures would generally not be part of these improvements. No seismic or geotechnical impacts would be expected due to implementation of these projects.

Construction Impacts

Program Level

Currently, the majority of the Project Area is covered with buildings, concrete, and asphalt. Soil erosion is not a considered a problem. However, the potential for temporary exposure of soil erosion would occur during construction of new buildings or public improvements in the Project Area. This represents a potential significant impact.

The construction industry has developed control measures, often referred to as Best Management Practices (BMPs), to prevent erosion and discharge of soil sediments to the storm drain system. BMPs may include some or all of the following measures:

- Soil stabilization by seeding or chemically stabilizing exposed soil;
- Temporary swales or sediment basins to control runoff;
- Runoff velocity reduction by slope roughening or terracing; and
- Sediment control using sediment traps such as silt fences, straw bales, or sand bags.

If Mitigation Measure 5.11.A, page 5-21, is implemented, impacts would be reduced to a less than significant level.

The excavation for new construction in the Project Area could also impact groundwater supplies. Any groundwater encountered during construction of the proposed project would be subject to requirements of the City's Industrial Waste Ordinance (Ordinance Number 199-77), requiring that groundwater meet specified water quality standards before it may be discharged into the sewer system. The Bureau of Systems Planning, Environmental and Compliance of the San Francisco Public Utilities Commission must be notified of projects necessitating dewatering, and may require water analysis before discharge. Should dewatering be necessary, the final soils report would address the potential settlement and subsidence impacts of this dewatering. Based upon this discussion, the report would contain a determination as to whether or not a lateral movement and settlement survey should be done to monitor any movement or settlement of surrounding buildings and adjacent streets. If a monitoring survey is recommended, the Department of Public Works would require

that a Special Inspector (as defined in Article 3 of the Building Code) be retained by the project sponsor to perform this monitoring.

Groundwater observation wells would be installed to monitor potential settlement and subsidence. If, in the judgment of the Special Inspector, unacceptable movement were to occur during dewatering, groundwater recharge would be used to halt this settlement. Costs for the survey and any necessary repairs to service lines under the street would be borne by the project sponsor.

Adherence to these regulatory standards would result in a less than significant impact.

Project Level

Construction of new buildings on the vacant Central Freeway parcels and public street and open space improvements may result in temporary disruption exposure of the soil to wind and storm water erosion. This represents a potentially significant impact. The implementation of Mitigation Measure 5.11.A, page 5-21, would reduce the impacts to a less than significant level.

Construction on the Central Freeway parcels could impact groundwater in the Project Area. Adherence to regulatory standards administered by the Department of Public Works as outlined above would reduce the impact to a less than significant level.

Cumulative Impacts

The seismicity of the San Francisco Bay Area exposes residents and visitors to potential hazards from seismic events. If implemented, the Market and Octavia Neighborhood Plan, in conjunction with other development occurring in San Francisco, would increase the residential density resulting in increased numbers of people exposed to seismic hazards. However, improvements in the understanding of structural failures that have resulted from seismic events has led to building code changes that have improved the ability of buildings to withstand seismic disturbances. As a result, redevelopment of areas within San Francisco and the Bay Area results in an overall decrease of risk from injury from failing structures as new buildings are built and older building are retrofitted in compliance with more stringent building and safety codes. Therefore, the cumulative impact of increased exposure in terms of numbers is counteracted by increased safety measures and therefore the cumulative impact would not be considered significant.

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4.12 PUBLIC FACILITIES, SERVICES, AND UTILITIES

This section addresses existing community facilities and utilities, including parks and open space, water supply, wastewater treatment, gas and electricity, and other services.

4.12.1 Parks and Open Space

Environmental Setting

The City and County of San Francisco manages over 2,000 acres of developed parkland and open space. This includes major parks such as Golden Gate Park (with over 1,000 acres) that are enjoyed by residents of the entire Bay Area, as well as by visiting tourists. In addition, there are many smaller neighborhood parks and playgrounds scattered throughout the city that are used primarily by residents of the immediately adjacent community.

The Project Area is a relatively densely populated urban neighborhood. The Project Area does not contain any large regional park facilities, but has a number of smaller parks and open spaces (refer to Figure 4-17, page 4-124). Existing parks and community centers within the Project Area are identified in Table 4-37.

In addition to the above identified parks, open spaces, and recreation centers, the wide, palm-tree lined boulevard that stretches along Dolores Street provides additional green open space that is used by neighborhood residents. In addition, smaller linear public open spaces or mini-plazas have been created along some streets near the Project Area, including the landscaped bulbs along Noe Street, just outside the western boundary of the Project Area. Finally, wall-sized murals provide public art amenities at several of the recreation centers, as well as along the bikeway and pedestrian path that stretches along Reservoir Street, behind the Safeway shopping complex at Church and Market Streets.

Other public parks and open spaces lie immediately adjacent to the Project Area boundaries, and provide additional recreation and open space resources to neighborhood residents. These adjacent parks are listed in Table 4-38, page 4-335.

The portion of the Project Area that currently has the fewest existing park and open space amenities is the area referred to in the Plan as SoMa West – South of Market between Eleventh and Valencia Streets. Until the demolition of the Central Freeway, this area was relatively isolated from adjacent residential and commercial areas by high-volume roadways and freeway off-ramps.

TABLE 4-37:
EXISTING PARKS IN THE PROJECT AREA

Park Name	Location	Size (acres)	Facilities/amenities
Hayward Playground	Block bounded by Golden Gate Avenue, Gough Street, Turk Street, and Laguna Street	5.64	2 softball fields with bleachers, basketball and tennis courts, and children's playground
Hayes Valley Community Center	Buchanan Street between Hayes and Linden Streets	N/A	Community center, outdoor playground, tennis courts, basketball court
Koshland Park	Page and Buchanan Streets	0.87	lawns, basketball hoop, playground
Duboce Park	Duboce Avenue, Scott Street to Steiner Street	4.20	restrooms, playgrounds, benches, lawns, basketball court

N/A = Not Available

Source: Mara Feeney & Associates, 2004.

Data Sources: San Francisco Recreation and Parks Department; Twin Peaks Council; and Field Survey conducted by Mara Feeney & Associates.

Impact Analysis

Significance Criteria

A project would have a significant impact on a public service provider if it could:

- Result in substantial adverse physical impacts associated with the provision of new 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 parks.

Program Level

The Market and Octavia Neighborhood Plan would not directly impact any of the existing parks or open space amenities within the Project Area, except those impacts associated with shading of open space areas (see Section 4.5, Shadow and Wind, page 4-129, for discussion of potential shadow impacts on parks). Since build-out under the Plan would result in higher population densities within the Project Area, demand for or use of existing parks and open space by neighborhood residents would increase. The Plan, however, proposes to create new parks and open space amenities within the Project Area, generally to take advantage of unique opportunities presented by the removal of the Central Freeway structures.

TABLE 4-38:
EXISTING PARKS ADJACENT TO THE PROJECT AREA

Park Name	Location	Size (in acres)	Facilities/amenities
War Memorial Open Space	Franklin Street between War Memorial Opera House and Veteran's War Memorial Building	.85	Lawn
Civic Center Plaza	Grove and Larkin Streets	5.86	fountain, walkway, lawn area, seating, 2 playgrounds
United Nations Plaza	End of Fulton Street at Market Street	2.60	pedestrian mall, lawns, fountain
Buchanan Mall	Buchanan and Grove Streets	1.81	linear greenway with pathways and play structures
Ella Hutch Recreation Center	East of Buchanan Mall between Golden Gate Avenue and McAllister Street	N/A	Recreation center, tennis courts, basketball courts
Jefferson Square	Eddy and Gough Streets	5.64	walking paths, lawns, benches
Noe-Beaver Mini Park	Noe and Beaver Streets	0.50	community garden, benches
Howard-Langton Mini-Park	Howard Street between Seventh and Eighth Streets	0.25	benches, landscaping
Dolores Park	Dolores Street between Eighteenth, Twentieth, and Church Streets	14.00	Lawn, pathways, tennis courts, soccer field, picnic area, play area

N/A = Not Available

Source: Mara Feeney & Associates, 2004.

Proposed new parks in the Project Area include (see also Figure 4-17, page 4-124):

- Octavia Plaza – A new public plaza would be created on Market Street adjacent to the new freeway touchdown south of Market Street at Octavia Boulevard.
- McCoppin Square – A portion of McCoppin Street that will no longer carry traffic would be converted into new public open space. A public plaza is proposed at the corner of Valencia and McCoppin Streets.
- Brady Square – A new public square is proposed along Brady Street between Stevenson and Colton Street in the block bounded by Market, Twelfth, Otis, and Gough Streets.

The Plan proposes a number of other measures aimed at improving the quality of residential streets and alleys as neighborhood open spaces or multi-use areas. These include traffic-calming strategies (such as concrete bulbs that narrow the roadway to slow traffic and can serve as neighborhood mini-plazas), street tree plantings, new medians and pedestrian refuges at intersections that serve heavy regional traffic (such as the intersections of South Van Ness Avenue/Mission Street and Market/Dolores Streets). Widening public sidewalks to create a linear greenway is proposed for McCoppin Street between Valencia and Otis Streets and for Hayes Street between Franklin and Laguna Streets. Boulevard treatment, including the creation of tree-lined medians, dedicated transit lanes and rows of trees to separate pedestrians from moving traffic lanes, is proposed for South Van Ness Avenue from Mission Street to Division Street, as well as for Octavia Boulevard, where streetscape improvements are proposed from Market Street to the proposed new Hayes Green neighborhood park. Sidewalks along the commercial section of Hayes Street would be widened to create a linear open space that would connect to the pedestrian promenade that is currently under construction along Octavia Boulevard. Streets and alleys in the SoMa West area would be reconfigured to include narrow pedestrian crossings, creating new open space areas that may be used as mini-plazas, community gardens, or play areas for children. Besides creating a new park, the Plan would also make pedestrian improvements within the block bounded by Market, Twelfth, Otis and Gough Streets (site of Brady Park) creating street spaces for public use.

Other open space amenities included as part of the Plan include public art in the design of streets and public spaces.

Implementation of the Market and Octavia Neighborhood Plan would have a negligible impact on employment in the Project Area, but it would increase residential population in the Project Area. The Plan (2025 with Project condition) would increase the total number of households in the Project Area by 29 percent above the 2025 without Project condition.[136] The increase in households would equate to a population increase of approximately 7,620 new residents or a 26 percent increase in total residents when compared to the 2025 without Plan condition. This increase in population would result in increased residential demand for parks and open space in and immediately adjacent to the Project Area.

The Hayes Valley and Civic Center areas have numerous parks and open space areas, however, the portion of the Project Area south of Market Street has no existing parks. Creation of new parks and open spaces and enhancement of streetscapes throughout the Project Area, as described above,

[136] Pittman-Edmonson table entitled Market/Octavia Plan - EIR Analysis Base Year (2004) and Future Conditions (2025).

would offset the increased use of existing parks by an ultimately larger neighborhood population. The proposed Octavia Plaza, McCoppin Square, and Brady Park improvements would enhance neighborhood livability and quality of life for current and future residents, especially in the SoMa West area that is particularly lacking in open space amenities at present. Overall, the Plan would have a net positive effect on the image of the city by improving open space and park uses in the Project Area. Implementation of the Plan would not cause a significant impact on parks and recreation facilities.

Project Level

Central Freeway Parcels

The redevelopment of the Central Freeway parcels would negligibly increase the demand for open space in the Project Area. Development of 800 to 900 residential units on these parcels is projected to increase the Project Area population by approximately 1,495 to 1,680 residents. The residents on the Central Freeway parcels would use existing parks, open spaces, and recreation areas near the corridor including: Hayward Playground, Jefferson Square, War Memorial Open Space, Koshland Park, and Howard-Langton Mini-Park. The provision of the new Hayes Green park as part of the Octavia Boulevard project and Octavia Plaza, McCoppin Square, and Brady Park proposed in the Plan would offset the increased demand. As a result, no significant impact on recreation and open space facilities is expected to occur as a result of redevelopment of the Central Freeway parcels.

Public Street Improvements

As part of the package of public street improvements proposed in the Plan, new pedestrian amenities, such as the McCoppin Street linear greenway, and traffic calming techniques, such as curb bulbouts and widened sidewalks, are proposed in the public rights-of-way throughout the Project Area. These improvements would enhance the opportunities for open space use in the Project Area. Therefore, implementation of the proposed transportation improvements would result in a net positive benefit to the Project Area due to the enhanced open space opportunities, and therefore, would not result in a significant impact on open space and recreation facilities.

Open Space Improvements

The creation of public open spaces, Octavia Plaza and McCoppin Square at the Central Freeway touchdown and Brady Park on the block bounded by Market, Twelfth, Otis and Gough Streets would increase the opportunities for residents, worker, and visitors to the Project Area to participate in open space activities, particularly in the underserved SoMa West area. As a result of the increased access to open space, these new open space improvements would result in a net positive benefit to

the Project Area and would not result in a significant environmental impact on open space and recreation facilities.

4.12.2 Utilities

Environmental Setting

Water Supply

The San Francisco Public Utilities Commission (PUC) is the entity within the City and County of San Francisco responsible for providing water, wastewater and municipal power services to San Francisco. The PUC Hetch Hetchy Water and Power Department provides drinking water to all San Francisco residents, as well as to residents of several other Bay Area counties. The San Francisco PUC controls a network of dams, hydroelectric plants, water storage reservoirs, aqueducts, tunnels and pipelines. This system collects water from melting snow (from watersheds in Yosemite National Park and Stanislaus National Forest) and stores it in three major reservoirs. The water flows by gravity through approximately 150 miles of pipelines and tunnels, producing hydroelectric power as it flows down from the Sierras to customers in the San Francisco Bay Area.

The PUC's water delivery system has a "firm" delivery capacity, based on historical hydrological conditions, of approximately 239 million gallons per day (mgd). Prolonged droughts can lower this capacity, and periods of higher than normal rain can increase it. Currently the system delivers an annual average of 260 mgd to 2.3 million customers in its service area. Approximately one-third of those customers reside in San Francisco.[137]

Within San Francisco, there are 12 reservoirs, totaling 408 million gallons of stored water. The PUC has 17 pump stations and approximately 1,250 miles of pipelines that deliver water to local customers. Approximately 800,000 people in the City of San Francisco receive water from this distribution system. The City's average daily water demand is currently about 91 mgd. This is projected to only slightly increase over the next thirty years.

[137] Water System Master Plan, April 2000.

Wastewater Treatment

The San Francisco PUC also provides homes and businesses in the city with wastewater collection, treatment and disposal services. The sewer system collects sewage and storm water runoff that is treated at one of three treatment plants, then discharged through effluent outfalls in San Francisco Bay and the Pacific Ocean. During dry weather, approximately 84 million gallons of wastewater are treated per day. During wet weather, the amount of wastewater treated daily increases. The existing facilities can treat a maximum of approximately 465 million gallons of combined sewage and storm water runoff per day.[138] The average dry weather flow (wastewater from all residential, commercial and industrial uses) to San Francisco's two sewage treatment plants is over 83 million gallons per day. In the rainy season, stormwater runoff is mixed with this dry weather flow, in various amounts depending upon the rainfall intensity.

The system is made up of collection sewers, transport and storage sewers, pump stations, overflow structures, and outfalls. During rainstorms, the storage/transports prevent untreated sewage from overflowing to the bay or ocean. However, shoreline treated discharges occur approximately one to ten times a year.

Gas and Electricity

Hetch Hetchy Water and Power supplies electricity to the City and County of San Francisco to power city street lights and to run municipal offices and services, including MUNI and the San Francisco International Airport. San Francisco operates three power plants in the Sierra Nevada mountains that are capable of producing over 400 megawatts (MW) of electricity. Under the terms of the *Raker Act,* which permitted the Hetch Hetchy system, the city must sell any power that is surplus to meeting its municipal needs to the Modesto and Turlock Irrigation Districts (and once the needs of these districts are met, to other public power agencies) at cost. San Francisco is prohibited from selling Hetch Hetchy generated power to any investor-owned utility.[139]

The Pacific Gas and Electric Company (PG&E), which is headquartered in San Francisco, provides gas and electrical services to private residential and commercial customers in San Francisco. PG&E provides gas and electric services to approximately thirteen million people throughout its 70,000-square-mile service area in Northern and Central California. The utility delivers gas to its customers through an estimated 45,000 miles of gas pipelines. Electricity is produced at numerous locations around the state, including coal, gas, nuclear, hydroelectric and geyser plants. PG&E delivers

[138] http://sfwater.org/main.cfm
[139] The Electricity Resource Plan: Choosing San Francisco's Energy Future, December 2002.

electricity to its customers through an estimated 136,500 miles of transmission lines that span the service area.[140]

San Francisco's current peak energy demand of approximately 900 MW is expected to increase to almost 1100 MW by 2012. Demand is met by a combination of generation and transmission. There are two existing power plants located within the City and County of San Francisco – the Potrero Power Plant and the Hunters Point Power Plant – that meet some of the local need for electricity. These plants currently generate 570 MW, but through a settlement agreement between San Francisco and PG&E, the Hunters Point Power Plant (which produces 213 MW) is scheduled for closure by the end of 2005. San Francisco is proposing to install several mid-size gas turbine generators, promote energy efficiency and install alternative energy projects in the near future to help meet energy demand, but to meet peak demand, electricity will have to continue to be imported through transmission lines that connect through PG&E's Martin Service Center in Daly City to the rest of PG&E's power grid.[141]

PG&E imports electricity through the Martin Service Center to meet demand in San Francisco. The imported electricity is delivered from Martin Service Center to PG&E substations located around the city, and from there it is delivered to individual homes and businesses in San Francisco. In August 2004, the California Public Utility Commission approved PG&E's proposal to construct a new 27-mile 230 kilo Volt (kV) transmission line from the Jefferson Service Center in San Mateo County to Martin Service Center to improve capacity and reliability of the electricity supply in San Francisco and on the Peninsula. With the approval of this project, which is scheduled to break ground in January 2005, San Francisco's electricity requirements will be met for the foreseeable future.[142]

Other Utilities

A number of private companies provide telephone, internet access and cable TV services to residents of San Francisco, including residents of the Project Area. Most of these utility and service lines are buried beneath city streets, which are maintained by the San Francisco Department of Public Works (DPW). Any service company wishing to excavate in the public right-of-way is required to obtain an excavation permit from DPW. DPW publishes rules regarding who can dig where, when and how, and restoration of the public right-of-way upon completion of work. Most

[140] http://www.cpuc.ca.gov/Environment/info/aspen/jefferson_martin/feir.htm.
[141] http://temp.sfgov.org/sfenvironment//aboutus/energy/policy.htm.
[142] http://www.cpuc.ca.gov/PUBLISHED/FINAL_DECISION/31992.htm.

excavation in city streets is done by utilities, both private (such as PG&E, Pacific Bell, TCI, etc.) and public (such as San Francisco PUC and DPW).[143]

Impact Analysis

Significance Criteria

A project would have a significant impact on a public service provider if it could:

- Conflict with wastewater treatment requirements of the Bay Area Regional Water Quality Control Board.
- Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects.
- Require new or expanded water supply entitlements or resources.
- Conflict with federal, state, and local statutes and regulations related to solid water, or generate solid waste in excess of landfill capacity.

Program Level

Water and Wastewater

While the design capacity of San Francisco's water and wastewater systems are adequate to meet existing and projected citywide demand, San Francisco PUC has determined that these facilities need overhauling to ensure their reliability in the future. The PUC has embarked upon a long-term, bond-financed capital improvement project to upgrade the water treatment facilities and distribution systems, as well as the wastewater treatment plants and sewage collection systems that serve residents of San Francisco. In November 2002, San Francisco voters approved this $3.6 billion capital improvement program to repair, replace and seismically upgrade the Hetch Hetchy system's aging pipelines, tunnels, reservoirs and dams. These system-wide improvements, scheduled to be completed over a 13-year period beginning in 2004, are expected to ensure continued adequacy of water supply and wastewater treatment services to meet projected demand for residential and commercial customers in San Francisco, including those in the Project Area with implementation of the Plan. As a result, implementation of the Plan would not result in significant impacts to the water or wastewater services in San Francisco.

[143] http://209.77.149.9/sfdpw/sccc/utltprmt.htm.

Gas and Electricity

Future development that would be expected to occur with implementation of the proposed Plan could include reuse and rehabilitation of existing buildings, as well as the construction of new structures. Project-specific development under the Plan would be required to meet current state and local codes concerning energy consumption, including Title 24 Energy Conservation Standards of the *California Code of Regulations.* The San Francisco Department of Building Inspection would enforce compliance with Title 24 through the building permit review process. As a result, development resulting from Plan implementation would adequately conserve energy and would not result in a significant environmental impact to energy resources.

The California Energy Commission is currently considering applications for the development of new power-generating facilities in San Francisco, the Bay Area, and elsewhere in the State. These facilities could supply additional energy to the power supply grid within the next few years. The project-generated demand for electricity under development that would occur due to the Plan would be negligible in the context of overall demand within San Francisco and the State, and would not in and of itself require a major expansion of power facilities. Therefore, the energy demand associated with the proposed Plan would not result in a significant physical environmental effect.

The Hetch Hetchy system is expected to continue producing more than enough power to meet San Francisco's municipal needs, with surplus power continuing to be sold at cost to the Modesto and Turlock Irrigation Districts. Both San Francisco and PG&E are involved in preparing annual projections of electricity demand in San Francisco and in planning to meet future demand and increase grid reliability. As noted above, the City and County of San Francisco is developing local alternative energy supply projects and installing conventional mid-size gas turbines that will enhance local power generation capability and make the city less dependent on imported power to meet peak demand, even after closure of the Hunters Point Power Plant. These changes, in combination with the construction of PG&E's recently approved Jefferson-Martin transmission line, would ensure that there would be sufficient power to meet demand in San Francisco under the Plan. Therefore, there would be no significant impact on gas or electricity services in association with the implementation of the Plan.

Similarly, commercial providers of other services (telephone, cable, etc.) that may be required or desired by future residents of the Project Area would provide any requested service. Meeting future demand could involve installing new equipment or service lines in the public right of way. The Department of Public Works has a system in place for regulating such activity, and this would not be considered a significant environmental impact.

No significant impacts are identified for public utilities as a result of implementation of the Plan; therefore, no mitigation measures are warranted.

Project Level

Central Freeway Parcels

The demand for public utility services generated by the redevelopment of the Central Freeway parcels would be met by all public utility service providers as outlined above. There would be no significant impact on public utilities resulting from development on the Central Freeway parcels.

Public Street and Open Space Improvements

The public street and open space improvements proposed may require excavation in the public right-of-way and potential relocation of utilities. All excavation work would be subject to DPW's permit system, as noted under the construction Impacts Section. No significant impacts to public utilities would occur as a result of the public street or open space improvements proposed to be implemented with the Plan.

Construction Impacts

Program Level and Project Level

Construction could involve short-term and temporary disruption to utilities and services; however, because of DPW's permit and oversight system, which requires implementation of standard construction mitigation measures, these impacts would be minor and less than significant.

Cumulative Impacts

No cumulative impacts to utilities were identified.

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San Francisco Public Utilities Commission, Long Term Strategic Plan, February 28, 2001.

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4.13 OTHER TOPICS CONSIDERED

4.13.1 Hydrology

Environmental Setting

Surface Water Features

There are no surface water features such as lakes, creeks, or streams within the Project Area. Most of the Project Area is entirely paved or covered by structures. Wastewater and storm water flow to the combined sanitary sewer and storm water sewer system.

Flooding and Tsunamis

No portions of the Project Area are located within a 100-year or 500-year flood hazard zones as mapped by the Federal Emergency Management Agency (FEMA). The lowest elevation within the Project Area is approximately 25 feet above mean sea level. The estimated elevation of a 100-year tide in the San Francisco Bay east of the project area (China Basin) is approximately 6.5 feet above mean sea level.[144] Additionally, the projected sea level rise in the San Francisco Bay is estimated to be approximately 1.25 feet in the next 100 years.[145]

A study by the Federal Insurance Administration estimated the probabilities that seismic sea waves (tsunamis) would produce runup of seawater into San Francisco. The maximum runup from tsunami waves in the China Basin area is predicted to be 5.0 feet above mean sea level for a 100-year tsunami and 8.4 feet for a 500-year tsunami. [146,147] This is below the minimum elevation within the Project Area.

Groundwater

The project area is underlain by the Downtown Groundwater Basin (Basin) as defined by the *San Francisco Groundwater General Plan.* The Basin is approximately 200 feet deep and has an estimated recharge of 5,900 acre-feet per year. Based on data collected from wells in the local area between 1988 and 1992, groundwater occurs at depths of 4 to 7 feet below ground surface at lower ground

144 US Army Corps of Engineers, San Francisco Bay, Tidal Stage vs. Frequency Study, October 1984.
145 Titus, J., and V. Narayanan, *The Probability of Sea Level Rise*, US Environmental Protection Agency, October 1995, EPA 230-R-95-008.
146 Mean sea level is based on the National Geodetic Vertical Datum of 1929, a vertical geodetic datum formerly called "Sea Level Datum of 1929."
147 Garcia, A.W., and J.R. Houston, Type 16 Flood Insurance Study: Tsunami Predictions for Monterey and San Francisco Bays and Puget Sound, November 1975.

surface elevations and at depths of approximately 25 feet below ground surface in higher elevations within the Project Area.[148]

It is estimated that 800 acre-feet per year of groundwater is extracted by dewatering operations associated with buildings that have subsurface structures below the groundwater surface elevation.[149] The city does not currently use groundwater from the Basin to supply potable or non-potable water users. The groundwater is not considered a likely source of potable water because of the density of sites within the downtown area where historical uses have been known or suspected to have deteriorated the quality of the groundwater. The potential for further development for non-potable use is considered low because shallow groundwater and high clay content in the soil create a potential for groundwater extraction to cause subsidence. However, the San Francisco Water Department is considering the non-potable reuse of groundwater from dewatering activities.[150]

Impact Analysis

Significance Criteria

A project may be considered to have a significant hydrology effect if it could cause:

- Changes to the absorption rates, drainage patterns, or the rate and amount of surface runoff;
- Exposure of people or property to water related hazards such as flooding;
- Discharge into surface water or alter surface water quality (e.g. temperature, dissolved oxygen or turbidity);
- Change to the amount of surface water in any water body;
- Change to currents or the course or direction of surface water movements;
- Change to the quantity of ground water, either through direct additions or withdrawals, or through interception of an aquifer by cuts or excavations or through substantial loss of ground water recharge capability;
- Alteration of the direction or rate of flow of ground water;
- Substantial reduction of the amount of ground water otherwise available for public water supplies;
- Inundation by seiche, tsunami, or mudflow.

[148] US Geological Survey (USGS), Geohydrology, Water Quality, 2nd Estimation of Ground-Water Recharge in San Francisco, California, 1987-1992, Report 93-4019, 1993.
[149] San Francisco Public Utility Commission (SFPUC), *San Francisco Groundwater Master Plan*, May 1997.
[150] San Francisco Public Utility Commission (SFPUC), *San Francisco Groundwater Master Plan*, May 1997.

Program Level

Surface Water Features

Implementation of the Plan would not substantially affect the area of impervious surface in the Project Area or alter site drainage. Site-specific related wastewater and storm water would continue to flow to the combined sanitary sewer and storm water sewer system. Implementation of the Plan would not result in a significant impact associated with surface water runoff.

Flooding and Tsunamis

The lowest elevation within the Project Area is approximately 25 feet above mean sea level, therefore the Project Area is not expected to be affected by extreme high tides or by a rise to 6.5 feet above mean sea level for a 100-year flood. The 16.15 feet maximum rise in water levels associated with a worst-case combination of extreme high tide, increased sea level, and a 500-year tsunami would be below the 25-foot minimum elevation of the Project Area. As a result, implementation of the Plan in the Project Area would not be expected to result in significant hydrological impacts associated with flooding or tsunamis.

Groundwater

Any groundwater encountered during construction of the proposed Plan would be subject to requirements of the City's Industrial Waste Ordinance (Ordinance Number 199-77), requiring that groundwater meet specified water quality standards before it may be discharged into the sewer system. The Bureau of Systems Planning, Environment and Compliance of the S.F. Public Utilities Commission must be notified of projects necessitating dewatering, and may require water analysis before discharge. Should dewatering be necessary, the final soils report would address the potential settlement and subsidence impacts of this dewatering. Based upon this discussion, the final soils report would contain a determination as to whether or not a lateral movement and settlement survey should be done to monitor any movement or settlement of surrounding buildings and adjacent streets. If a monitoring survey is recommended, the Department of Public Works would require that a Special Inspector (as defined in Article 3 of the Building Code) be retained by the project sponsor to perform this monitoring.

Groundwater observation wells would be installed to monitor potential settlement and subsidence. If, in the judgment of the Special Inspector, unacceptable movement were to occur during dewatering, groundwater recharge would be used to halt this settlement. Costs for the survey and any necessary repairs to service lines under the street would be borne by the project sponsor. With

the implementation of the Plan subject to these requirements, the impacts associated with dewatering would be considered less than significant.

Project Level

Central Freeway Parcels

The Central Freeway parcels are currently vacant land that was previously occupied by the elevated freeway and surface parking lots. The redevelopment of these parcels would once again introduce impervious surfaces on these lots. All development on these parcels would be required to manage wastewater and storm water run-off within the combined sanitary and storm water sewer system. There would be no significant impacts associated with surface water run-off.

The lowest level above mean sea level for the Central Freeway parcels is above the elevation in the city that would be subject to flooding during a 100-year flood or inundation by a tsunami and therefore would not result in a significant impact associated with flooding.

As noted above, all projects developed within the Project Area would be subject to the City's Industrial Waste Ordinance, requiring that groundwater meet specified water quality standards before it may be discharged into the sewer system. Dewatering operations would be subject to soils report addressing the potential settlement and subsidence impacts of this dewatering. With the implementation of these requirements, the impacts to ground water would be less than significant.

Public Street and Open Space Improvements

The public street improvements are not envisioned to alter the amount of impervious surfaces, as many of the improvements reallocate existing space within the public right-of-way. One of the focuses of the Plan is the reclamation of some of the public rights-of-way within the Project Area for pedestrian use creating public plazas or parks at Octavia Plaza, McCoppin Square, and Brady Park. This would result in the introduction of landscape amenities, replacing paved surfaces, thereby providing a positive benefit to the Project Area. The impacts to surface water run-off would be less than significant.

The lowest elevation in the Project Area is above the lowest level in San Francisco subject to flooding or susceptible to tsunami wave action, therefore there would be no significant flooding impacts associated with the implementation of the public street and open space improvements in the Project Area.

As outlined under the Central Freeway parcels discussion above, the public improvements proposed in the Project Area would be subject to the City's Industrial Waste Ordinance. With the implementation of these requirements, the impacts to ground water would be less than significant.

During operations, any plan-related development, at a program or project level, would be required to comply with all local wastewater discharge requirements to ensure that impacts are less than significant.

Construction Impacts

Certain projects resulting from implementing the Plan within the Project Area would include subsurface excavation in order to accommodate underground parking and basements. Dewatering could be required. Any groundwater encountered during plan-related construction would be subject to the *San Francisco Industrial Waste Ordinance (Ordinance No. 199-77),* which requires that groundwater meet specified standards before being discharged into the sewer system. The Bureau of Environmental Regulation and Management of the San Francisco Utilities Commission would be notified if any project were to require dewatering.

Construction activities could result in an increase in the amount of sediment or debris contained in storm water runoff entering the storm water sewer system, potentially reducing the storm system capacity and causing localized flooding.

Before receiving a permit for any grading operations within the Project Area, a developer is required to submit the grading plan to the city for review. The grading plan must include erosion control measures. Discharges of storm water from construction projects would require the use of Best Management Practices (BMPs) pursuant to *California Building Code* Chapter 33, Excavation and Grading.

City personnel would conduct regular inspection to ensure compliance with the erosion control measures. Implementation of appropriate BMPs would reduce impacts to a less than significant level. BMPs designed to reduce sediment in storm water may include some or all of the following:

- Soil stabilization controls;
- Watering for dust control;
- Perimeter silt fences;
- Placement of hay bales;
- Sediment basins; and

- Monitor entry and egress from the construction site to minimize off-site tracking of sediment.

Given the regulatory requirements, no mitigation measures would be warranted for hydrologic impacts relating to implementing the Plan or specific projects associated with the redevelopment of the Central Freeway parcels or public street and open space improvements. Implementation of the proposed Plan and the specific projects identified above would not result in a significant hydrologic environmental impact.

4.13.2 Biology

The Project Area is in a developed urban area that is completely covered by structures, impervious surfaces, and introduced landscaping. No known rare, threatened or endangered animal or plant species are known to exist in the Project Area. Implementation of the proposed Plan, development of the Project Area or the Central Freeway parcels, and implementation of the proposed public street improvements would not affect, or substantially diminish, plant or animal habitats. The proposed Plan would not interfere with any resident or migratory species, nor would require removal of substantial numbers of mature, scenic trees. Project specific open space that would be expected to occur with implementation of the Plan would include plants and street trees appropriate for the urban landscape of the Project Area. The proposed Plan and development of the Central Freeway parcels and the public street and open space improvements would therefore not have a significant impact on biological resources.

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4.14 GROWTH INDUCEMENT

Growth would be an inherent effect of the proposed Market and Octavia Neighborhood Plan. The Plan is intended to induce growth in the Project Area by creating a policy framework that would encourage new housing development, public open space, and transportation improvements that would alter land use and density, and enhance the neighborhood character of the Project Area. If successfully implemented, the proposed Plan would be expected to induce substantial population and housing growth in the Project Area. The Plan would also accelerate the amount of housing development that would be expected to occur in the Project Area by 2025.

Direct Growth Impacts

Population growth in the Project Area would represent less than one percent of the total city population in 2025, and 11.7 percent of the total city population growth between 2004 and 2025 (refer to Table 4-3, page 4-79). With implementation of the proposed Plan, there would be a negligible increase of approximately 60 jobs (less than one percent of total city employment growth in 2025). Potential new housing development, as a result of the Plan, in the Project Area would represent 14.5 percent of the city's housing growth between 2004 and 2025, and about one percent of the city's total housing stock in 2025. Implementation of the proposed Plan would not represent a significant growth in population, employment or housing in the citywide context as a whole.

The Plan would seek to locate increased housing opportunities in the Project Area, which is well served by transit, services and public infrastructure rather than this growth occurring in other areas in the city or outside of the city. By 2025, an additional 1,520 housing units would be added to the Project Area without implementation of the Plan. With implementation of the Plan, an additional 4,440 units of housing would be added between 2004 to 2025 or, on average, about 210 units per year, which would be within overall housing growth projections of approximately 1,460 units per year for San Francisco. No expansion to existing municipal infrastructure or public services would be required, although the Plan would provide improvements to, and the creation of, new transportation and public open space improvements that would be consistent with Plan goals to encourage housing growth in the Project Area. The Plan would not require the development of new public services to accommodate significant growth beyond that which is already anticipated by the Plan and by citywide projections prepared by the Planning Department.

Indirect Growth Impacts

The approximately 60 new jobs that would be attributable to the proposed Plan would generate demand for about 20 new housing units that could be accommodated by the 4,440 new units that could be constructed under the proposed Plan. Not all of the estimated 4,440 new housing units would be occupied by existing San Francisco residents. Some of the new units would be occupied by residents who choose to move to the city. In the regional context, this would not represent growth in demand for housing, but rather a shift of existing workers and residents within the region to an urban residential neighborhood that is more conveniently located near a large employment center that is accessible by transit. To this extent, in-commuting to the city would be reduced and regional benefits to air quality and traffic impacts could occur as a result of reduced trip length and reduced dependence on travel by private auto.