4

SETTING, IMPACTS AND MITIGATION MEASURES

A. LAND USE

SETTING

Background

The City of Fremont has strived to provide its residents with a common civic and commercial center which would work to knit together the five original districts which comprise Fremont into a single city. The City has worked to create an intense civic, cultural and commercial core in the City Center, including a central park, city offices, library, and commercial development.

Existing Land Use

The Downtown area covers 110 acres within the Central Business District, of which 100 acres are development parcels and 10 acres are dedicated to public street right-of-ways.

Existing land uses are primarily commercial, including office, retail, services, medical and banking facilities. The Fremont City Hall is also centrally located here, but there are no public open spaces in the District.

The development pattern is low-density, low-rise buildings fronted by surface parking lots. Building heights are typically one to two stories, with the tallest buildings along Paseo Padre Parkway and Capitol Avenue at four stories. The existing land parcels vary greatly in size and configuration, with building patterns reflecting these irregularities.

The Downtown area contains 1,100,000 gross square feet of development for an existing floor are ratio (FAR) of 0.28, although it is zoned for a higher FAR of 0.5 generally, and 0.8 within one-half mile of the BART station. There are 15 acres of vacant or unimproved property, and nearly 50 percent of the land within the area is dedicated to surface parking lots. There is currently a total of approximately 483,000 gsf of retail space and approximately 586,000 square feet of office space in structures within the

Downtown area, and there are also approximately 11,200 gsf of housing within the area at present.

The Downtown area generally abuts developed areas. The Gateway Plaza Shopping Center is located north of the Downtown area across Paseo Padre Parkway. East of the Downtown area across Walnut Avenue are the Alameda County Veterans Memorial Park and Courthouse, offices, Fremont Hospital, assisted living facilities and retail operations. The Fremont Hub Shopping Center and Williams Historical Park are located south of the Downtown area across Fremont Boulevard. The area west of the Downtown area across Mowry Avenue is generally characterized by multi-family residential development, and a large vacant parcel at the southwest corner of Paseo Padre Parkway and Mowry Avenue.

Existing General Plan Designation and Zoning

Under the General Plan 2035, the entire Downtown area is designated Commercial – City Center. The City Center designation applies to the 460+ acre area in the heart of Fremont. The area was envisioned as Fremont's downtown more than 50 years ago and today includes a mix of mostly auto-oriented commercial, office, civic, health care, and limited residential uses. Looking forward, City Center will become more urban in character, with more intense infill development and redevelopment, particularly within ½ mile of BART. Trees, sidewalks, benches, plazas, public art and other amenities that make the streets pedestrian-friendly and create a "Main Street" ambiance are envisioned. While the City Center includes local-serving uses, it is envisioned primarily as a regional commercial center, employment center, and entertainment and cultural center. The designation also accommodates mid to high-rise residential projects and mixed use projects incorporating housing above non-residential uses.

Non-residential projects in the City Center are generally subject to a minimum FAR of 0.80 and maximum FAR of 1.5. Mixed use projects with ground floor commercial and residential uses above are subject to a minimum FAR of 1.25 and maximum FAR of 2.5. FAR increases of up to 3.0 are permitted within the TOD overlay. Mixed use projects located within the TOD Overlay are subject to minimum residential density of 50 units per acre. Such sites or projects may be zoned for exclusive residential uses even though they fall within the City Center General Plan designation.

The major portion of the Downtown area is zoned CBD (Central Business District), which is intended to provide for a concentration of retail, service, and office uses reflecting the needs of the entire city and the subregion. There are three areas designated Planned Development (P). One, P-2009-9, allows development of a civic park and 301 multi-family units known as Urban Housing and is located on 3.85 acres surrounded by Walnut Avenue, California Street and Beacon Avenue. A second area, P-2005-76, extends along both sides of Mt. Vernon Street allowing for mixed-use development (commercial space and residential use above at 50 – 70 units/acre). A third area, P-2008-

177, is located at the northeast corner of capitol Avenue and Hastings Street allowing a 4-story mixed-use (12 residential units over two levels of retail and office space). Planned development areas are intended to encourage and provide a means for effectuating desirable development, redevelopment, rehabilitation and conservation in the city, which features variations in siting, mixed land uses, and/or varied dwelling types.

Community Plans - CBD Concept Plan

The Downtown area has historically been referred to in part as the Focus Area of the CBD Concept Plan. The CBD Concept Plan presents a land use concept and development vision for the Central Business District. The General Plan Community Plans Element describes the applicability of the CBD Concept to development as interim guidance until individual sub-district plans are adopted. The overall CBD area covers 430 acres, which includes 324 acres of development and 80 acres of public streets. The Concept Plan describes the existing conditions and uses, size and scale of buildings, major destinations and the planning timeframe. It discusses existing General Plan policies related to development in the CBD, including transit and pedestrian orientation, development continuity, public open spaces and plazas, and public art. Zoning details are discussed, as well as view corridors, underutilized sites and parking. These conditions provide a framework for the Concept Plan's vision and goals.

The Concept Plan envisions smaller focus areas to serve as hubs of activities and a mix of uses including retail, office, entertainment, open space and cultural arts organized around a main street. This street is envisioned as Capitol Avenue between Paseo Padre Parkway and its extension to Fremont Boulevard. The goals of the Concept Plan include: 1) Create a recognizable and memorable mixed-use Downtown which people can take pride in and want to visit; 2) Improve the overall streetscape, design and pedestrian orientation in the CBD including connections to BART; 3) Encourage a network of strategically-place public and private parking facilities that support economic vitality, particularly for small businesses; 4) Reflect history, as appropriate, and Fremont's cultural diversity in the design and development of the Downtown including establishing a Cultural Arts Center in the CBD Focus Area.

IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA Criteria for Determining Impact

The following thresholds for measuring a Project's environmental impacts are based on CEQA Guidelines and other performance standards recognized by City of Fremont. For the purposes of this EIR, a significant impact would occur if the Project were to:

1) Physically divide an established community;

2) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local costal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or

3) Conflict with any applicable habitat conservation plan or natural community conservation plan.

DOWNTOWN COMMUNITY PLAN

The vision of the Downtown Community Plan is a vibrant mixed-use urban destination with street level commercial activities and mid-rise office and residential buildings. Under the Downtown Community Plan, a range of uses would be allowed, and the Plan will establish form-based design guidelines for future development. The Plan will provide development flexibility for individual sites so that they may support either residential or non-residential uses when consistent with the overall design intent of the Plan. In order to promote relatively high development densities in this section of Fremont, the Downtown Community Plan will require a minimum site development floor area ratio (FAR) of 0.80 to assure achievement of urban design and Transit Oriented Development (TOD) goals. The Plan incorporates LEED Neighborhood Development (ND) principles.

The Land Use Plan for Downtown is intended to balance long-term market flexibility with specific focused development patterns to create a viable and cohesive District. The Plan allows a majority of parcels to be either commercial or residential in use, while retail is prioritized for Capitol Avenue and its adjacent arterial roadways. Fremont's new Civic Center would be located in the center of Downtown, creating a public realm and focal point with municipal parking conveniently located for the neighborhood.

The current zoning for the City Center has a control of a Floor Area Ratio (FAR) of 0.8 for parcels within ½ mile of the Fremont BART station and 0.5 FAR for all other parcels, which translates into a potential of 2,364,400 gsf of development. The actual existing square footage within Downtown is 1,110,221 gsf, which is an FAR of 0.28.

The Downtown Community Plan would increase the allowable density in Downtown to be in the range of 0.8 to 1.5 FAR, or a potential of 2,860, 700 gsf to 5,363,800 gsf of development. The denser, compact development will create a more walkable and dynamic environment for Downtown.

Design Guidelines and particular zoning standards will not impose height restrictions but establish design requirements for build-to lines at street property lines, pedestrian-oriented ground floors, parking standards, green building, public art, and materials and finishes.

For the purposes of this environmental review, the following development assumptions of Downtown area buildout describe the redevelopment and intensification of the existing 1,000,000 square feet of existing commercial, office, and civic uses through 2035. Development assumptions consider an average buildout of 1.5 FAR throughout Downtown, in the following land use categories:

Land Use Category	Total Development at Buildout
Office	1,988,800 square feet
Civic	278,000 square feet
Retail/Commercial	443,100 square feet
Residential	2,500 units
Open Space/Plaza	2.3 acres

Office uses under the Downtown Community Plan will include general office, professional services and medical offices. Development anticipated under the Civic land use category includes consolidation of City office space and a new performing arts venue, with these uses coordinated around public open space and plazas. Retail/Commercial development will include establishments that provide personal services, restaurants, retail shops and other uses consistent with downtown development patterns. Residential development will consist of high-density urban housing types. Minimum density guidelines for residential development will be 50 units per acre if projects are stand-alone residential development not integrated within mixed-use buildings.

The Downtown Community Plan emphasizes TOD and improved connectivity with the extension of capitol Avenue to Fremont Boulevard. The Plan includes new sidewalk and street right-of-way sections that include bicycle lanes, street parking, street trees, and wide sidewalks. No vehicular capacity improvements are anticipated in conjunction with the development of the Downtown.

Development Controls

The following are general development controls which apply to all development within Downtown:

Density Requirements:

- For Residential: 50 dwelling units/acre minimum
- For All Other Uses: 0.80 Floor Area Ratio (FAR) minimum

Building Height Requirements:

- Minimum 22' high street wall from sidewalk to top of parapet
- Ground Floor Retail or Active Use: 16' – 22' ground floor to second floor

Parking and Circulation Requirements:

Type of Use	Minimum (non-exclusive use)	Minimum (Exclusive Use)	Maximum
Assembly Uses	1:5 seats	1:4 seats	1:3 seats
Commercial Uses (non-medical)	1:400	1:300	1:200
Medical Uses	1:300	1:250	1:200
Residential Uses	0.75 space/unit	1 space/unit	2 spaces/unit

- On-street parking is provided at a minimum of 70% of length of curb on both sides of the street, Corner bulb-outs within 24' of intersection, transit stops, and motorcycle or bicycle parking may be counted as parking. Requirements set forth by LEED-ND Neighborhood Pattern & Design Credit 1.
- New nonresidential and multiunit residential buildings are prohibited from building new off-street parking lots along building frontages; may include several sides if building fronts multiple streets. Parking lots, if necessary shall be placed on the side or rear of buildings. Multi-level structured parking, parking beneath habitable space, and underground parking facilities are allowed, per LEED-ND Neighborhood Pattern & Development Credit 5.
- Off-street parking if necessary, shall not exceed 2 acres, per LEED-ND Neighborhood Pattern & Design Credit 5.
- Refer to Downtown Community Plan Chapter 2 District Framework, section 2.3 Parking Plan for further information regarding Downtown parking requirements.

Open Space Requirements:

- Private development must include open space or other site facilities that provides an attractive environment for the occupants of the property.
- Designated parks and/or passive-use space, such as a square, park, paseo, or plaza is at least 1/6 acre in size and the median size of parks in Downtown are at least ½ acre, per LEED-ND Neighborhood Pattern & Design Credit 9.

Land Use Controls

The Downtown Community Plan establishes four development control zones: the Capitol Avenue Control Zone, The Edge Zone; the Civic Center Zone; and the Mid-District Zone (**Figure 4.1**). Downtown's land uses for future development will be governed according to the Land Use Controls Map (**Figure 4.2**) and the Allowable Land Uses by Downtown Development Zone matrix (**Table 4-1**).

Downtown Development Zone Controls

If a development parcel transverses with more than one zone, the following approach should be used:

- Capitol Avenue Zones takes first priority in standards over the Edge or Mid-District zone controls. The Capitol Avenue Zone Controls shall be adhered to within the first 50' back from the Capitol Avenue streetwall.

- Edge Zone will take priority over the Mid-District Zone Controls. The Edge Zone Development Controls shall be adhered to within the first 100' back from the Districts bounding roads: Mowry Avenue, Paseo Padre Parkway, Walnut Avenue and Fremont Boulevard.

Similarly, in the case where a development parcel transverses all three zones, the following procedures shall be used:

- Capitol Avenue Zone Controls apply for 50' back from Capitol Avenue, and Edge Zone Controls apply for 100' back from the Districts bounding streets.

Any clarifications required shall be left to the discretion of the Zoning Administrator.

The Downtown Community Plan establishes specific design standards within each of the Development Control Zones (see Downtown Community Plan, pages 109-117).

Figure 4.1: Downtown Development Control Zones

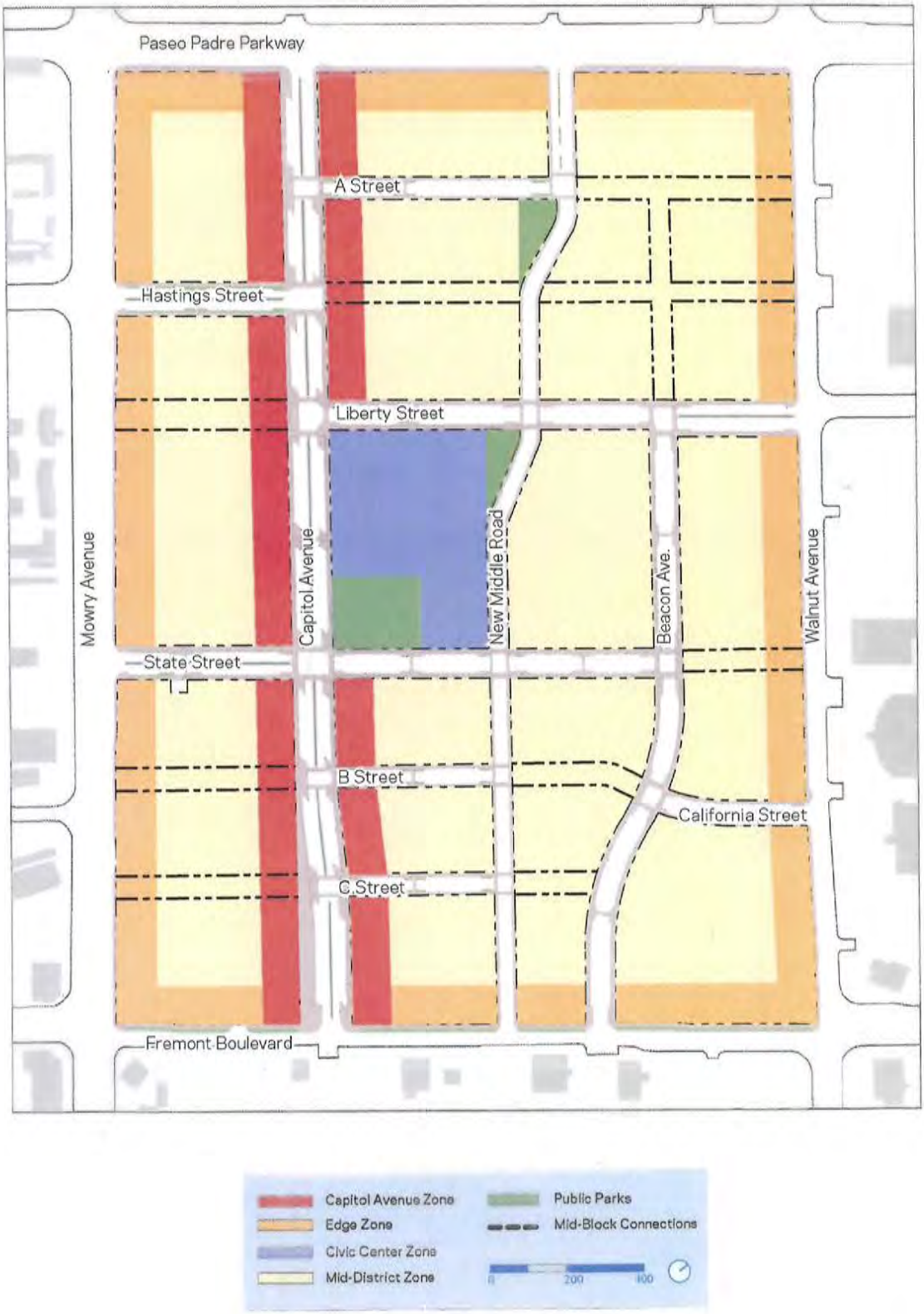


Figure 4.2: Downtown District Land Use Map

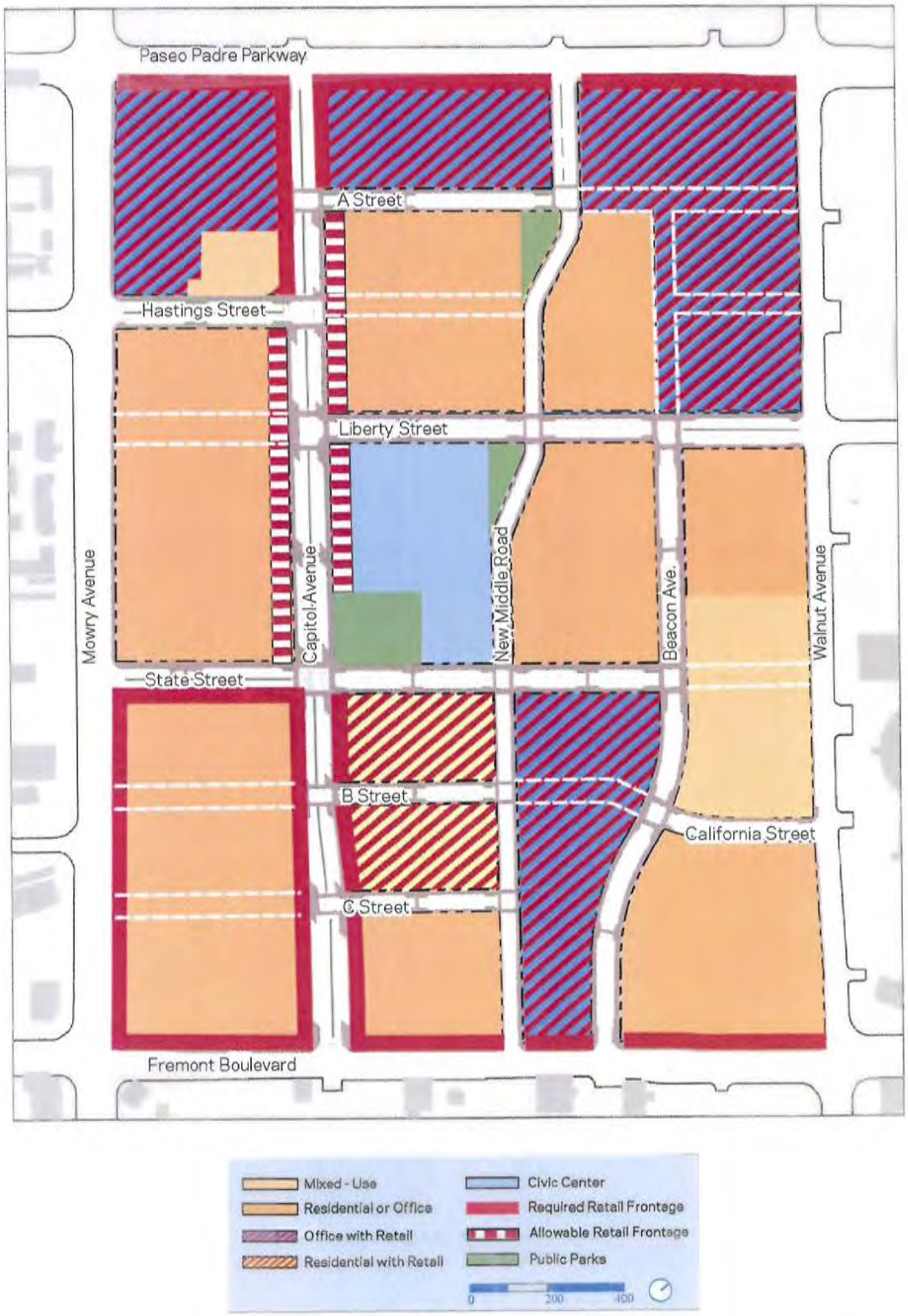


TABLE 4-1: ALLOWABLE LAND USES BY DOWNTOWN DEVELOPMENT ZONE

Allowable Land Uses by Midtown Development Zone Permitted Use: *P* Permitted Upper Floors Only: *P - Upper Flrs Only* Permitted Upper Floor Only, Zoning Admin. Permit 1st Flr: *P-Upper Flrs Only; ZAP - 1st Flr* Conditional Use Permit: *CUP* Zoning Administrator Permit: *ZAP* Not Permitted: - Active Use: *YES/NO.*	Capitol Ave. Zone	Edge Zone	Civic Center Zone	Mid-District Zone	Active Use
Community Facilities & Services					
Banquet Hall[1]	-	CUP	-	CUP	NO
College / University extension center	P - Upper Flrs Only	P	-	P	NO
Community service organization	P - Upper Flrs Only	P	P	P	NO
Cultural community center	ZAP	ZAP	ZAP	ZAP	YES
Exhibition and conference hall[1], freestanding not associated w/ a hotel	-	CUP	P	CUP	YES
Government offices and human services	P	P	P	P	NO
Library	P	P	P	P	YES
Schools, elementary and secondary[1]	-	CUP	-	CUP	NO
Schools, trade and vocational	P - Upper Flrs Only	P	-	P	NO
Structured parking facility, public or commercial[1]	CUP	P	P	P	NO
Lodging					
Hotels, limited service [1] and full service [1]	P	P	-	P	NO
Office					
Office, medical or dental [1]	P - Upper Flrs Only	P	-	P	NO
Office, professional or business [1]	P	P	P	P	NO
Recreation, Entertainment, & Arts					
Adult-oriented businesses [1] (per FMC Sec. 8-22130)	-	CUP	-	-	NO
Art Gallery and museum, public or private	P	P	P	P	
Concert Hall [1]	CUP	ZAP	P	ZAP	YES
Live Entertainment [1]	ZAP	ZAP	-	ZAP	YES
Nightclub [1]	CUP	CUP	-	-	YES
Health club [1] and recreation	P- Upper Flrs Only; ZAP - 1st Flr	P	-	P	NO
Studio - artisan/crafts	ZAP	P	-	P	YES

TABLE 4-1: ALLOWABLE LAND USES BY DOWNTOWN DEVELOPMENT ZONE (CONTINUED)

Allowable Land Uses by Midtown Development Zone Permitted Use: *P* Permitted Upper Floors Only: *P - Upper Flrs Only* Permitted Upper Floor Only, Zoning Admin. Permit 1st Flr: *P-Upper Flrs Only; ZAP - 1st Flr* Conditional Use Permit: *CUP* Zoning Administrator Permit: *ZAP* Not Permitted: - Active Use: *YES/NO.*	Capitol Ave. Zone	Edge Zone	Civic Center Zone	Mid-District Zone	Active Use
Studio - dance, martial arts, music, etc.	P - Upper Flrs Only	-	-	P - Upper Flrs Only	NO
Theater, motion picture [1] and performing arts [1]	P	P	P	P	YES
Residential					
Live/Work Units [1]	P	P	-	P	YES
Multi-Family	P	P	-	P	NO
Residential in Mixed use [1] building	P	P	-	P	YES
Townhouse [1]	P - Upper Flrs Only	-	-	P	NO
Retail					
Artisan/craftsman shop	P	P	-	P	YES
Auto parts sales	-	P	-	-	NO
Drinking place [1] (e.g., bar/tavern/pub)	ZAP	ZAP	-	ZAP	YES
Retail trade [1], general, 55,000 sf or less	P	P	-	P	YES
Retail trade [1], general, more than 55,000 sf	-	CUP	-	-	YES
Groceries, specialty foods, 10,000 sf or less	P	CUP	-	P	YES
Groceries, speciality food, more than 10,000 sf	P	P	-	CUP	YES
Restaurants + cafes with or without alcoholic beverages	P	P	ZAP	P	YES
Services					
Automotive rental and leasing	ZAP	ZAP	-	ZAP	NO
Automotive repair, minor [1]	-	CUP	-	-	NO
Bank, financial services	P	P	-	P	YES
Business support service	P	P	-	P	YES
Catering service	P - Upper Flrs Only	P	-	P	YES
Day care facility for adult [1]	-	CUP	-	CUP	NO
Day care, child [1]	ZAP	ZAP	-	ZAP	NO
Health and personal care	P	P	-	P	YES
Massage establishment [1] (per FMC §8-22148.05)	CUP	CUP	-	CUP	NO
Medical clinic, convenience [1]	P	P	-	P	NO
Tutoring and exam preparation services [1]	P - Upper Flrs Only	ZAP	-	ZAP	NO
Veterinary services	-	ZAP	-	ZAP	NO

NOTES:

[1] As defined in FMC Title VIII, Chapter 2, Article 1, Definitions

* Zoning Administrator may deem additional uses to be permitted or prohibited based on a finding that the use is similar in nature, function and operation to the uses listed in the Land Use Controls Matrix

General Plan 2035 Policies

Implementation of the following General Plan 2035 policies are intended to reduce potentially adverse effects related to land use and planning that may be associated with future development in the Downtown area:

- *Policy 2-1.1: Fremont's Regional Identity.*
- *Policy 2-1.2: A Complete City.*
- *Policy 2-1.5: Fremont City Center.*
- *Policy 2-1.7: Becoming a More Transit-Oriented City.*
- *Policy 2-1.8: Mixed Use Emphasis.*
- *Policy 2-1.9: Thoroughfares as Multi-use Corridors.*
- *Policy 2-1.10: Pedestrian Scale.*
- *Policy 2-1.11: Infill Emphasis.*
- *Policy 2-2.1: Opportunity Areas for Growth and Change.*
- *Policy 2-2.2: Integrating Land Use and Transportation Choices.*
- *Policy 2-2.3: Sustainable Development and Building.*
- *Policy 2-2.4: Use of the General Plan Land Use Map.*
- *Policy 2-2.5: Zoning and Subdivision Regulations.*
- *Policy 2-2.6: Residential Density Ranges.*
- *Policy 2.2-7: Building Height and Intensity.*
- *Policy 2-2.9: Adequacy of Infrastructure.*
- *Policy 2-2.10: Growth Management.*
- *Policy 2.2-11: Problem Parcels.*
- *Policy 2-2.12: Land Banking.*
- *Policy 2-2.13: Public-Private Partnerships.*

- *Policy 2-2.14: Maintaining and Improving Development Continuity.*
- *Policy 2-2.15: Land Use and Technology.*
- *Policy 2-3.8: Location of Higher Density Housing.*
- *Policy 2-3.9: Home Occupations.*
- *Policy 2-3.10: Non-Residential and Civic Uses in Residential Areas.*
- *Policy 2-4.1: Centers.*
- *Policy 2-4.2: Retail Hierarchy.*
- *Policy 2-4.3: Corridors.*
- *Policy 2-4.4: Scale of Commercial Development.*
- *Policy 2-4.5: Meeting a Range of Needs.*
- *Policy 2-4.6: Conversion of Older Shopping Centers and Commercial Uses.*
- *Policy 2-4.7: Collocation of Public Services in Centers.*
- *Policy 2-4.8: Connectivity and Centers.*
- *Policy 2-4.9: Making Shopping Centers More Pedestrian Friendly.*
- *Policy 2-4.10: Activating Commercial Centers.*
- *Policy 2-4.11: Access and Parking.*
- *Policy 2-4.12: Mixed Use and Multi-family Housing as a Component of Centers.*
- *Policy 2-4.13: Hotels.*
- *Policy 2-4.14: Use of Older and Historic Residences for Commercial Activities.*
- *Policy 2-4.15: Commercial Uses and Public Health.*
- *Policy 2-5.4: Regulation of Employment-Generating Land Uses.*
- *Policy 2-5.5: Offices.*
- *Policy 2-5.6: Employment Growth and the Transportation System.*

- *Policy 2-5.12: Transportation Demand Management.*
- *Policy 2-5.13: Amenities in Employment Districts.*

IMPACTS AND MITIGATION MEASURES

Physical Division of an Existing Community

Implementation of the Downtown Community Plan would not enable any development that would result in the physical division of any established community within Fremont. Although roadway modifications and other infrastructure improvements are proposed under the Downtown Community Plan within the Downtown District, none of these improvement projects would have the potential to separate one portion of Fremont from another.

Conflict with Applicable Land Use Plans/Policies/Regulations

Although the Downtown Community Plan would enable development within the Downtown area at densities higher than what would currently be permitted under existing land use regulations, and would permit higher-intensity development than currently exists in areas immediately adjacent to the Downtown area, the types of uses which would be permitted under the Plan (e.g., office, civic, retail/commercial, residential and open space/plaza) would not be inconsistent with the types of uses either already present within the Downtown area or those currently permitted under existing land use regulations.

Conflict with Habitat Conservation Plan/Natural Community Conservation Plan

There are currently no Habitat Conservation Plans or Natural Community Conservation Plans in force within the Downtown area.

B. AESTHETICS

SETTING

Scenic Resources

Paseo Padre Parkway, a portion of which abuts the Downtown area, has been identified as a Scenic Corridor in the General Plan 2035. Generally, overall views of the hills that frame the eastern edge of the City are the mostly relevant scenic resource related to the project area.

Visual Character

"The City Center includes almost all of the taller buildings in Fremont, as well as mid-rise commercial buildings close to the BART station. It includes a range of uses such as retail, office, banks, hospitals and residential. The core commercial area of the district is significantly made up of the Fremont Hub and Gateway Plaza shopping center at opposite ends of the City Center. The Downtown area is a representative mix of uses and form of City Center. Outside of the City Center area across Mowry Avenue, are suburban high density residential uses in a mix of two- and three-story buildings."

Light and Glare

Much of central Fremont is largely built-out, highly urbanized, and the source of substantial light and glare associated with structures, vehicles, roadways and parking areas.

Regulatory Setting

Current zoning regulations in force within the Downtown District limit building massing and require conditional use permit review for design review purposes, which limits the extent to which new structures might potentially affect aesthetic issues.

IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA Criteria for Determining Impact

The following thresholds for measuring a Project's environmental impacts are based on CEQA Guidelines. For the purposes of this EIR, a significant impact would occur if the Project were to:

1) Have a substantial adverse effect on a scenic vista;

2) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state or locally designated scenic highway;

3) Substantially degrade the existing visual character or quality of the site and its surroundings; or

4) Create a new source or substantial light or glare which would substantially and adversely affect daytime or nighttime views in the area.

GENERAL PLAN 2035 POLICIES

Implementation of the following General Plan 2035 Policies are intended to reduce potentially adverse aesthetic effects that may be associated with future development in the Downtown area:

Policy 4-1.1: Elements of City Form.

Policy 4-1.3: Centers.

Policy 4-1.5: Employment Districts.

Policy 4-1.8: Landmarks.

Policy 4-3.1: Design Excellence.

Policy 4-3.2: Architecture and Identity.

Policy 4-3.3: Commercial Building Design.

Policy 4-3.6: Industrial and Office Design.

Policy 4-3.7: Massing and Scale.

Policy 4.3-9: Multi-Family Residential Areas.

Policy 4-3.10: Development of Urban Residential and Mixed Use Projects.

Policy 4-3.12: Parking Lot Location.

Policy 4-3.13: Common Areas and Open Spaces.

Policy 4-3.14: Planned Districts.

Policy 4-4.6: Lighting.

Policy 4-5.1: Buffering and Screening.

Policy 4-5.2: Sound Walls.

Policy 4-5.3: Undergrounding Utility Lines.

Policy 4-5.5: Scenic Routes.

Policy 4-5.7: Tree Planting and Preservation.

Policy 4-5.8: Landscape Design.

IMPACTS AND MITIGATION MEASURES

Scenic Vistas

Under the Downtown Community Plan, Design Guidelines and a form-based code will guide future development in terms of building orientation, massing and architectural character while providing flexibility in the land uses to meet changing market demand. The form based code will not impose height restrictions, but will establish design requirements for build-to lines at street property lines, pedestrian-oriented ground floors, parking standards, green building, public art, and materials and finishes. As a result, some new structures that may be built under the Downtown Community Plan could be expected to be taller than existing structures within the Downtown area. However, compliance with Design Guidelines and form-based code requirements could be expected to result in the placement of taller buildings, however they do not change the general street pattern and layout or affect important public view corridors to scenic resources, primarily views of the hills to the east, - this results in potential impacts on a level of ***less than significant.***

Scenic Resources

As indicated above, some new structures that may be built under the Downtown Community Plan could be expected to be taller than existing structures within the Downtown area. However, compliance with Design Guidelines and form-based code requirements could be expected to result in the placement of taller buildings in such a way as to avoid potential interference with the formally-identified Scenic Corridor (Paseo Padre Parkway) that abuts the Downtown area, reducing potential impacts on to a level of ***less than significant.***

Visual Character

Development under the Downtown Community Plan would be of higher intensity than that currently present within the Downtown area, and higher density development would represent a change in the existing visual character of the area. However, development

anticipated under the Plan would not degrade the existing visual character of the Downtown area, and the resulting change in the existing visual character of the area would be considered a ***less than significant*** environmental effect.

Light and Glare

Development under the Downtown Community Plan would result in the construction of new structures on land that is currently vacant. Future structures, the lighting of future parking facilities, and the lights from vehicles that would be parked in those facilities would represent new sources of light and glare within the area. However, effective implementation of General Plan 2035 Policy 4-4.6 (which is intended to protect dark skies and reduce glare) would reduce potential lighting-related impacts associated with future development in the Downtown area to a level considered ***less than significant***.

The Downtown Community Plan indicates that the choice of exterior lighting fixtures, as well as the decision on light quantity and quality, should be governed by the factors such as convenience to the pedestrians as well as creating a safe walkable pedestrian environment. The design of fixtures and materials should be chosen so as to:

- Compliment the overall contemporary architectural character of Downtown,
- Use highly energy-efficient light sources such as LED lamping,
- Be sustainability designed and manufactured, and
- Be low maintenance, durable and have a long life cycle.

The Downtown Community Plan also indicates that signs shall be illuminated to be sufficiently legible but not over-lit to produce glare and distraction from the overall streetscape environment or neighboring work and living spaces. Light sources, including external spot or flood lighting, shall be shielded from direct view from passersby, except for neon and LED lighting. Energy-efficient, color-corrected lamping shall be used. Fluorescent, halogen, high-pressure sodium and incandescent lighting are prohibited. Flashing, intermittent, or "race-way/running" lighting is prohibited. For upper-story building signage, external surface lighting is prohibited; internally-lit signage is allowed.

C. POPULATION, EMPLOYMENT AND HOUSING

SETTING

Population and Housing

Residential development within the Downtown area is currently limited to several small parcels along Mt. Vernon Avenue. There are currently no multi-family housing units within the Downtown area. As a result, the current population within the District is limited to those living within ten single-family homes.

The California Department of Finance estimated that the population of Fremont on January 1, 2010 was 218,128 living in 72,659 house units, for an average of 3.03 persons per household.

Employment

Although the total number of employees who currently work within the Downtown area has not been determined, there are currently approximately 954,000 gross square feet of commercial and retail space, and approximately 144,000 square feet of City office space within the District. With an estimate of 1 employee for every 1,000 gross square feet of commercial and retail space, and an estimate of 1 employee for every 300 gross square feet of City office space, the total number of current employees within the Downtown area can be estimated to be approximately 1,434.

Regulatory Setting

Regional Housing Needs Allocation

The State of California requires every city to accommodate its fair share of regional growth through a process called the Regional Housing Needs Allocation (RHNA). The RHNA process is administered by ABAG, which allocates the total assignment for the none-county Bay Area to each of the nine counties and over one hundred cities. ABAG also identifies the number of units that must be accommodated in each of four income categories. Although cities and counties are not actually required to build the number of units in their RHNAs, they must show that the capacity exists in their community to build these units (i.e., that sufficient land is zoned to accommodate the new units that would need to be built in order to meet the RHNA "fair share" requirement within that community). The current RHNA for the City of Fremont covers the period 2007-2014. The City must demonstrate that it has the ability to accommodate the development of 1,348 housing units to serve very low-income households (approximately 700 of which would need to serve extremely low income households), 887 housing units to serve low-income households, 876 housing units to serve moderate income households, and 1,269

housing units to serve above moderate-income households. The City's certified Housing Element incorporates the RHNA allocations and all City policies related to affordability and other housing needs.

The City must maintain allowable housing development at the prescribed affordability and density levels of the current Housing Element. The City may not reduce housing development capacity below levels identified in the Housing Element.

IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA Criteria for Determining Impact

The following thresholds for measuring a Project's environmental impacts are based on CEQA Guidelines and other performance standards recognized by City of Fremont. For the purposes of this EIR, a significant impact would occur if the Project were to:

1) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);

2) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or

3) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

HOUSING ELEMENT (2007-2014) POLICIES

Implementation of the following Housing Element Goals are intended to reduce potentially adverse effects related to possible displacement of existing housing that may be associated with future development:

- Goal 4: Preserve existing supply of more affordable housing options.

- Goal 6: Continue to play a leadership role and to work collaboratively with other organizations to maintain and expand the range of housing alternatives in Fremont and the Bay Area.

IMPACTS AND MITIGATION MEASURES

Population Growth

The Downtown Community Plan has been developed in part to enable the City of Fremont to accommodate the City's share of regional population growth between 2010 and 2035. Under the Downtown Community Plan, this will be accomplished by directing

much of the future residential and mixed-use development within the City toward those areas best served by public transit (e.g., the Central Business District). During the twenty-five-year planning period, 2,500 new residential units could be built within the Downtown area under the Downtown Community Plan. This could result in a population increase of up to approximately 7,500 people. Implementation of the Downtown Community Plan would not induce population growth, because new residential development under the Downtown Community Plan would instead be intended to accommodate the City's portion of the region's anticipated population growth, and would not involve the extension of new infrastructure or public services to undeveloped areas to support new residential development (***less than significant***).

Displacement of a Substantial Number of Existing Housing Units

The Housing Element of the General Plan 2035 includes a policy and an action intended to promote the preservation of existing housing units which may need to be considered when redevelopment of property which currently supports housing is considered:

> *Policy 4.01: Preserve the existing supply of affordable housing, rental apartments, and mobile homes.*
>
> *Action 4.01-D: Mobile Home Preservation and Rent Stabilization. Preserve existing mobile homes (756 mobile homes) and continue to enforce the City's Mobile Home Rent Stabilization Ordinance.*

Much of development anticipated under the Downtown Community Plan would involve redeveloping parcels that already support urban uses in high-density residential or mixed-use projects. In other areas of the Downtown area where land may currently be considered underutilized, existing uses may be displaced by new development. Following anticipated development under the Downtown Community Plan, there would be a net increase in the total number of housing units within the District due to the changes in land use designations that would permit the development of transit-oriented multi-family residential units, as well as mixed-use development that could incorporate housing units. Any existing housing units in the Downtown area that might be displaced by development under the Downtown Community Plan would be replaced by residential development at higher densities, reducing any potential housing displacement impact to a level considered ***less than significant***.

Displacement of a Substantial Number of People

As indicated above, any existing housing units in the Downtown area that might be displaced by development under the Downtown Community Plan (including those housing units currently located along Mt. Vernon Avenue) would be replaced by residential development at higher densities, and would not necessitate the development of replacement housing elsewhere. With replacement housing available within the

Downtown area, there would be no displacement of existing residents within the District, and the impact would be considered ***less than significant***.

D. TRANSPORTATION, CIRCULATION AND PARKING

METHODOLOGY

Transportation and circulation impacts associated with implementation of the Downtown Community Plan were evaluated following the guidelines of the City of Fremont and the Alameda County Transportation Commission (ACTC). ACTC is a relatively new countywide transportation agency formed in 2010 from the merger of the Alameda County Congestion Management Agency and the Alameda County Transportation Improvement Authority.

Signalized Intersections

Selected intersections and roadway/freeway segments were included in the analysis. Intersection operations were evaluated for the one-hour during the morning, AM, (7:00 AM to 9:00 AM) and evening, PM, (4:00 PM to 6:00 PM) peak period with the highest measured traffic volumes.

The following 19 signalized study locations were selected in consultation with City staff:

- Mowry Avenue (north-south)/Mission Boulevard (east-west)
- Mowry Avenue (north-south)/Peralta Boulevard (east-west)
- Mowry Avenue (north-south)/Civic Center Drive (east-west)
- Walnut Avenue (north-south)/Civic Center Drive (east-west)
- Paseo Padre Parkway (east-west)/Mowry Avenue (north-south)
- Paseo Padre Parkway (east-west)/Capitol Avenue (north-south)
- Paseo Padre Parkway (east-west)/Walnut Avenue (north-south)
- Paseo Padre Parkway (east-west)/Stevenson Boulevard (north-south)
- Mowry Avenue (north-south)/Hastings Street (east-west)
- Walnut Avenue (north-south)/Liberty Street (east-west)
- Mowry Avenue (north-south)/State Street (east-west)
- Fremont Boulevard (east-west)/Mowry Avenue (north-south)

- Fremont Boulevard (east-west)/Capitol Avenue (north-south) [future intersection]
- Fremont Boulevard (east-west)/Beacon Avenue (north-south)
- Fremont Boulevard (east-west)/Walnut Avenue (north-south)
- Fremont Boulevard (east-west)/Sundale Drive (north-south)
- Fremont Boulevard (east-west)/Stevenson Boulevard (north-south)
- Mowry Avenue (north-south)/Argonaut Way (east-west)
- Mowry Avenue (north-south)/Blacow Road (east-west)

Unsignalized Intersections

For the purpose of the DRAFT EIR, no LOS analysis was conducted for the following unsignalized intersections in and near the Downtown District:

- Capitol Avenue/Hastings Street
- Capitol Avenue/Liberty Street
- Beacon Avenue/Liberty Street
- Liberty Street/Sundale Drive
- Capitol Avenue/State Street
- Beacon Avenue/State Street
- Beacon Avenue/California Street
- Walnut Avenue/California Street
- Walnut Avenue/Argonaut Way

Rather, the peak-hour volume signal warrants from the *Manual on Uniform Traffic Control Devices* (MUTCD, 2003) were used to determine if unsignalized intersections within and around the District should be considered for signalization.

Freeway and Roadway Segments

The ACTC requires analysis of project impacts to the Metropolitan Transportation System (MTS) roadways identified under the Congestion Management Plan (CMP) if the Project generates more than 100 PM peak-hour trips. As indicated below, the trip

generation for the Downtown Community Plan would exceed that threshold. The MTS roadways that implementation of the Downtown Community Plan may affect are Mowry Avenue, Fremont Boulevard, Paseo Padre Parkway, Stevenson Boulevard, Thornton Avenue (State Route 84), Peralta Avenue (State Route 84), Mission Boulevard (State Route 238), Interstate 880 (I-880) and Interstate 680.

The following CMP study roadway segments were selected for analysis:

Freeway Segments

- I-880 Eastbound and Westbound from Thornton Avenue to Mowry Avenue and from Mowry Avenue to Stevenson Boulevard,
- SR 84 (Thornton Avenue) Northbound & Southbound from I-880 to Fremont Boulevard,
- SR 84 (Peralta Boulevard) Northbound & Southbound from Fremont Boulevard to Mowry Avenue, and
- SR 238 (Mission Boulevard) Eastbound and Westbound from I-680 to Mowry Avenue.

Arterial Segments

- Fremont Eastbound and Westbound from I-880 to Thornton Avenue and from Thornton Avenue to Washington Boulevard,
- Mowry Avenue from I-880 to Fremont Boulevard and from Fremont Boulevard to Peralta Boulevard,
- Stevenson Boulevard from I-880 to Fremont Boulevard and from Fremont Boulevard to Mission Boulevard, and
- Paseo Padre Parkway from Thornton Avenue to Stevenson Boulevard

The ACTC provided the Countywide Transportation Demand Model to forecast AM and PM peak-hour roadway segment (link) volumes on the MTS network. The Countywide Model used the Association of Bay Area Governments (ABAG) Projections 2005 land use data, reviewed by the local jurisdictions, to estimate vehicle trips. The trips associated with implementation of the Downtown Community Plan were added to the model forecasts. Link volume-to-capacity (v/c) ratios were calculated based on the model forecasts. The link capacities were taken from the City of Fremont General Plan 2035 existing summary of roadway segments.

In addition to evaluating roadways and intersections, this analysis considers potential impacts to bicyclists, pedestrian and transit resulting from implementation of the Downtown Community Plan.

Analysis Scenarios

The operations of the 19 study intersections were evaluated for the following scenarios:

Scenario 1: *Existing Conditions* – Existing traffic conditions using volumes obtained from counts and current lane configurations and traffic control devices.

Scenario 2: *Background Conditions* – Scenario 1 volumes plus traffic from approved but not yet constructed developments in the area. No transportation improvements were assumed under these conditions.

Scenario 3: *Project Conditions* – Scenario 2 volumes plus net new traffic generated by the minimum and maximum anticipated development levels envisioned under the Downtown Community Plan. This scenario includes transportation improvements included as part of the Downtown Community Plan. This scenario is the basis from which Plan-related impacts are identified for California Environmental Quality Act (CEQA) purposes.

The roadway and freeway segments were evaluated per ACTC guidelines for the 2015 and 2035 horizon years.

Analysis Methods

Operations of the study intersections were evaluated with level of service (LOS) calculations. LOS is a qualitative description of vehicle traffic flow from the vehicle driver's perspective based on factors such as speed, travel time, delay, and freedom to maneuver. Six levels are defined from LOS A, with the least congested operating conditions, to LOS F, with the most congested operating conditions. LOS E represents "at-capacity" operations. Operations are designated as LOS F when volumes exceed capacity, resulting in stop-and-go conditions.

Signalized Intersections

The LOS analysis method for signalized intersections approved by the City of Fremont analyzes intersection operations based on average control vehicular delay, as described in Chapter 16 of the 2000 *Highway Capacity Manual* (*HCM*) published by the Transportation Research Board. Control delay includes initial deceleration delay, queue move-up time, stopped delay, and final acceleration delay. The average control delay for signalized intersections is calculated using version 8.0 of the TRAFFIX analysis software and is correlated to a LOS designation as shown in **Table 4-2**.

TABLE 4-2: SIGNALIZED INTERSECTION LEVEL OF SERVICE DEFINITIONS

Level of Service	Description	Average Control Delay Per Vehicle (Seconds)
A	Operations with very low delay occurring with favorable progression and/or short cycle lengths.	≤ 10.0
B	Operations with low delay occurring with good progression and/or short cycle lengths.	10.1 to 20.0
C	Operations with average delays resulting from fair progression and/or longer cycle lengths. Individual cycle failures begin to appear.	20.1 to 35.0
D	Operations with longer delays due to a combination of unfavorable progression, long cycle lengths, and high V/C ratios. Many vehicles stop and individual cycle failures are noticeable.	35.1 to 55.0
E	Operations with high delay values indicating poor progression, long cycle lengths, and high V/C ratios. Individual cycle failures are frequent occurrences.	55.1 to 80.0
F	Operations with delays unacceptable to most drivers occurring due to over-saturation, poor progression, or very long cycle lengths.	> 80.0

Source: *Highway Capacity Manual*, Transportation Research Board, 2000.

Freeway and Roadway Segments

Freeway operations were evaluated using the 2000 Highway *Capacity Manual* (HCM) volume-to-capacity ratio method, per Alameda County Transportation Commission (ACTC) guidelines. In this method, the peak hour volume on a segment in each direction is compared to the segment's vehicle carrying capacity and a volume-to-capacity ratio, or V/C, is calculated. The capacity is estimated as the number of lanes multiplied by 2,200 vehicles per hour per lane four four-lane freeway segments and 2,300 vehicles per hour per lane for segments with six or more lanes. **Table 4-3** summarizes the LOS threshold for freeway segments, and **Table 4-4** summarizes the LOS threshold for roadway segments identified in the county Congestion Management Program (CMP).

TABLE 4-3: FREEWAY SEGMENT LEVEL OF SERVICE DEFINITIONS

Level of Service	Average Travel Speed (mph)	Volume / Capacity Ratio	Maximum Service Flow (vehicles / hour / lane)
A	≥ 60	0.35	700
B	≥ 55	0.58	1,000
C	≥ 49	0.75	1,500
D	≥ 41	0.90	1,800
E	≥ 30	1.00	2,000
F	< 30	-	-

Source: Alameda County Congestion Management Agency. 2009 Congestion Management Program. Table 5. *Highway Capacity Manual*, Transportation Research Board, 1985.

TABLE 4-4: ARTERIAL SEGMENT LEVEL OF SERVICE DEFINITIONS

Arterial Class	I	II	III
Range of Free Flow Speeds (mph)	35 to 45	30 to 35	25 to 35
Typical Free Flow Speeds (mph)	40	33	27
Level of Service	**Average Travel Speed (mph)**		
A	≥ 35	≥ 30	≥ 25
B	≥ 28	≥ 24	≥ 19
C	≥ 22	≥ 18	≥ 13
D	≥ 17	≥ 14	≥ 9
E	≥ 13	≥ 10	≥ 7
F	< 13	< 10	< 7

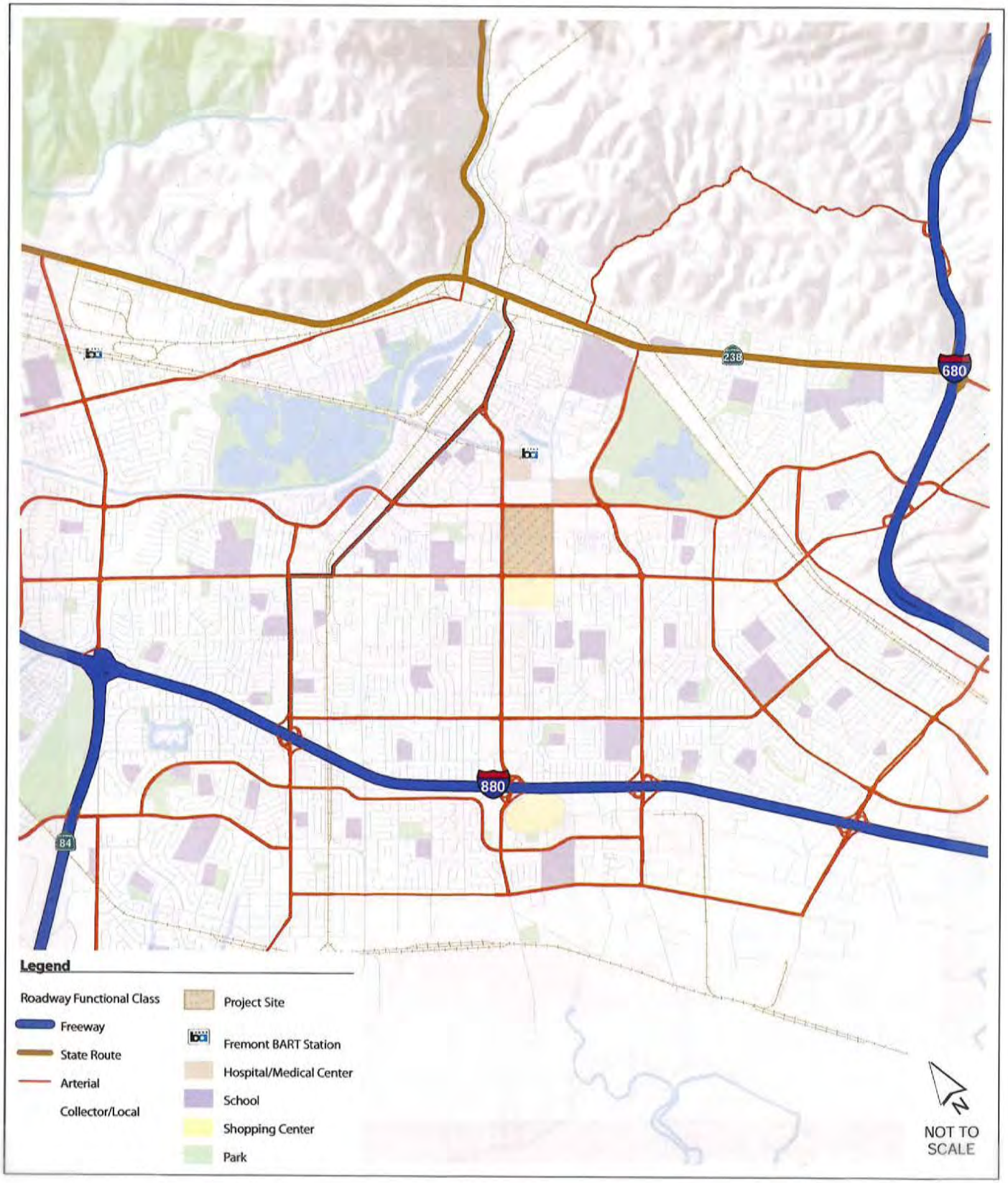
Source: Alameda County Congestion Management Agency. 2009 Congestion Management Program. Table 5. *Highway Capacity Manual*, Transportation Research Board, 1985.

SETTING

Existing Roadway Network

Regional access to Fremont is provided by two freeways (I-880 and I-680) and two state routes (Peralta Boulevard/Mowry Boulevard [SR 84] and Mission Boulevard [SR 238]). Mowry Avenue, Walnut Avenue, Fremont Boulevard/Washington Boulevard, and Paseo Padre Parkway connect the freeways and state routes with the Downtown District. The locations of these roadways and other more local roadways are shown on **Figure 4.3**. Detailed descriptions of the key roadway facilities are presented below.

Figure 4.3: Existing Roadway Classification and Regional Access



Regional Access Roadways

Interstate-880 (I-880), also known as the Nimitz Freeway, extends in a north-south direction on the east side of the San Francisco Bay[1]. It extends from Oakland in the north to San Jose in the south. I-880 is eight lanes wide in the vicinity of the Downtown District, with four lanes in each direction (three mixed-flow lanes and one High Occupancy Vehicle (HOV) lane). HOV lanes are reserved for use by carpool and vanpools, buses, and motorcycles during the morning and evening commute periods. I-880 has an interchange with Mowry Avenue that provides access to the Downtown District. The peak direction of travel is northbound during the AM peak hour and southbound during the PM peak hour. Near the Downtown District the average daily traffic (ADT) volume for this roadway is approximately 195,000 vehicles.

I-680 extends in a north-south direction along the eastern border of the greater Bay Area from Fairfield in the north to San Jose in the south. Near the Downtown District I-680 is a six-lane freeway, and the Washington Boulevard and Mission Boulevard interchanges serve the Downtown District. Southbound I-680 is the commute direction during the AM peak hour and northbound I-680 is the commute direction during the PM peak hour. In 2010, the southbound HOV lane was converted to a 14 mile High Occupancy Toll (HOT) lane between SR 84 in Alameda County and SR 237 in Santa Clara County. Similar to an HOV lane, regular carpool users, motorcycles, transit buses and eligible hybrids vehicles can continue to use the HOT lane for free. In addition, the HOT lane allows single occupancy to use the lane by paying a toll. The HOT lane is separated from the single-occupancy lanes by double solid lines with three specific entry and exit points along the stretch of the lane. Near the Downtown District the ADT for this roadway is approximately 145,000 vehicles.

Peralta Boulevard/Thornton Avenue (SR 84) is a four- to six-lane arterial that connects I-880 and Mission Boulevard. Near the Downtown District the ADT for this roadway is approximately 17,000 vehicles. SR 84 is oriented north-south for the purpose of this analysis.

Mission Boulevard (SR 238) is a four-lane arterial located east of the Downtown District. It extends north from I-680 in Fremont through Union City to Hayward. Near the Downtown District the ADT for this roadway is approximately 35,000 vehicles. Mission Boulevard is oriented east-west for the purpose of this analysis.

---

[1] In the vicinity of the City of Fremont, I-880 is oriented in a northwest-southeast alignment. For descriptive purposes for this study, I-880 and roadways parallel to it (e.g., I-680, Mission Boulevard, Paseo Padre Parkway, and Fremont Boulevard) are considered as east-west roadways and all cross streets (e.g., Peralta Boulevard, Mowry and Walnut Avenues) are considered north-south roadways.

Local Access Roadways

Mowry Avenue is a six-lane divided arterial street that connects the Downtown District to an interchange with I-880, and to Mission Boulevard; the Downtown District is located on the east side of Mowry Avenue between Paseo Padre Parkway and Fremont Boulevard. A portion of Mowry Avenue (between Peralta Boulevard and Mission Boulevard) is designated as SR 84. Near the Downtown District the ADT for this roadway is approximately 35,000 vehicles. Mowry Avenue is oriented north-south for the purpose of this analysis.

Paseo Padre Parkway is a six-lane north-south divided roadway that travels along the northern border of the Downtown District. Based on the City of Fremont's current General Plan, "a parkway has the same function as an arterial but is designated with different aesthetic objectives and has larger setbacks and widths to allow for more extensive landscape treatment." Near the Downtown District the ADT for this roadway is approximately 27,000 vehicles. Paseo Padre Parkway is oriented east-west for the purpose of this analysis.

Fremont Boulevard is a six-lane north-south arterial located south of Paseo Padre Parkway and travels along the southern border of the Downtown District. This roadway turns into Washington Boulevard and has an interchange with I-680. Near the Downtown District the ADT for this roadway is approximately 29,000 vehicles. Fremont Boulevard is oriented east-west for the purpose of this analysis.

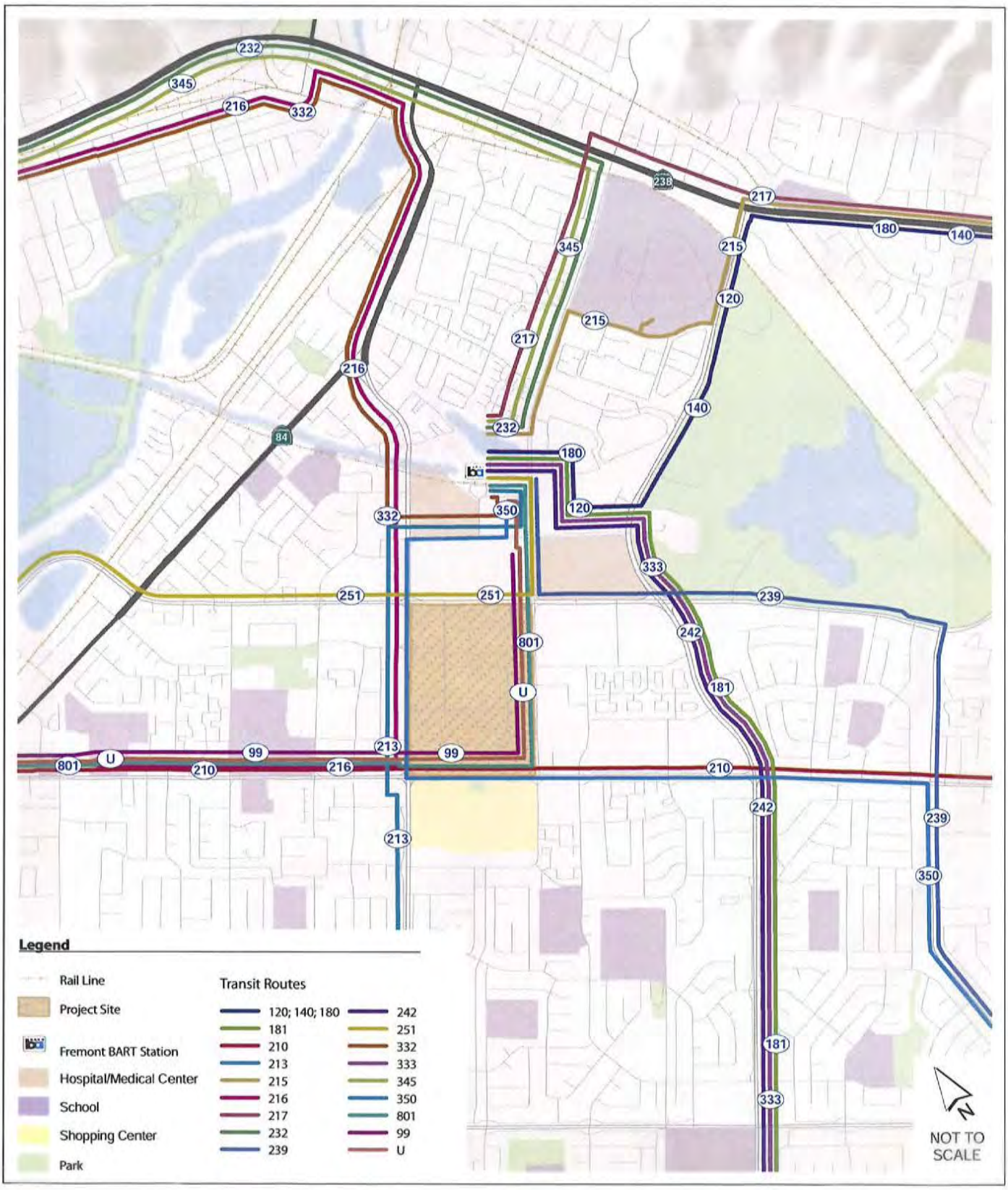
Walnut Avenue is a four-lane arterial that extends from Fremont Boulevard to Mission Boulevard and travels along the eastern border of the Downtown District. Near the Downtown District the ADT for this roadway is approximately 16,000 vehicles. Walnut Avenue is oriented north-south for the purpose of this analysis.

Civic Center Drive is a four-lane roadway that bisects the Washington Hospital campus and extends from Mowry Avenue to Stevenson Boulevard. Civic Center Drive is oriented east-west for the purpose of this analysis.

Existing Transit Service

The City of Fremont encourages the use of transit as an alternative mode of transportation and is primarily served by two major transit providers: Bay Area Rapid Transit (BART) and Alameda-Contra Costa Transit (AC Transit). BART provides commuter rail service and AC Transit provides local and regional bus service. The Santa Clara Valley Transportation Authority (VTA), which is the primary transit provider for Santa Clara County, also provides some regional bus access to the City of Fremont. Transit service and facilities are shown on **Figure 4.4**. The City of Fremont is served by intercity commuter rail transit - Amtrak and Altamont Commuter Express, and paratransit services for seniors and people with disabilities.

Figure 4.4: Existing Transit Service



Bay Area Rapid Transit (BART)

BART operates train service throughout the San Francisco Bay Area providing service for approximately 335,000 passengers per day. The Fremont BART Station is located near the Walnut Avenue/Civic Center Drive intersection, and is within a half mile walk of the center of the Downtown District. There are two BART lines that serve the Fremont station: the Richmond-Fremont Line and the Daly City-Fremont Line (the Fremont station is the current terminus of those lines). On weekdays, BART operates trains every five to 15 minutes. The Fremont-Daly City line does not operate on weekday evenings or Sundays. Passengers bound for San Francisco and Daly City must transfer to the Dublin/Pleasanton-SFO/Millbrae Line at the Bay Fair station in San Leandro during times the Fremont-Daly City line is not in service. The Fremont BART Station is considered the 15th busiest BART station (out of 43 stations) with approximately 7,800 boardings on weekdays.

The Fremont BART Station has about 10 acres of surface parking with approximately 1,500 spaces. Bicycle parking is provided with approximately 120 bike racks and 34 bike lockers. Convenient bus access is provided at the bus transfer facility just north and south of the station.

Planned system improvements relevant to the City of Fremont include the BART extension into Santa Clara County. Currently, the two BART lines that serve the Fremont station also terminate at this station, since this is the system's southernmost station. BART is working with VTA to extend the BART system southward through Fremont into the cities of Milpitas, San Jose, and Santa Clara. The first planned extension is the Warm Springs Extension, consisting of a one-station, 5.4 mile extension into the southern part of Fremont. Subject to funding, a second optional station at Irvington may be added at a later date. This extension will include a subway beneath Fremont Central Park but will otherwise run mostly at-grade. The second extension consists of two potential stations and a ten-mile extension from Warm Springs to the Berryessa neighborhood of San Jose. The Berryessa Extension is expected to go through the City of Milpitas before reaching the City of San Jose in Santa Clara County.

Alameda-Contra Costa (AC) Transit

AC Transit provides bus service in Alameda and Contra Costa Counties, including the City of Fremont. Five bus routes operate on Mowry Avenue adjacent to the Downtown District (Routes 212, 216, 242, 251, and 350). Three bus routes operate on Walnut Avenue near the Downtown District (Routes U, 99, and 801). One bus route operates on Fremont Boulevard (Routes 210). Seven additional routes, Lines 215, 217, 232, 239, 332, 333, 345, serve the Fremont BART station but do not travel on the perimeter of the Downtown District. The AC Transit bus routes that operate in the Downtown area are summarized in **Table 4-5**.

TABLE 4-5: EXISTING TRANSIT SERVICE

Route	Description	Frequency of Service (minutes)	
		Commute Times[1]	Non-Commute Times[2]
AC Transit Routes			
99	Mission Boulevard (Fremont BART – Bay Fair BART)	30	30-40
210	Washington Boulevard (Ohlone College – Union Landing Shopping Center)	30	30
212	Pacific Commons (Fremont BART – Pacific Commons)	30	30-60
215	Osgood Road (Fremont BART – Warm Springs)	45	45 (Weekdays Only)
216	Niles Boulevard (Union city BART – Fremont BART - New Park Mall)	60	60 (Weekdays Only)
217	Mission San Jose (Fremont BART – Great Mall Light Rail Station)	30	30-40
232	Mission Boulevard (Fremont BART – New Park Mall)	60	60 (Weekdays Only)
239	Mission Boulevard (Fremont BART – Warm Springs Boulevard)	45	45 (Weekdays Only)
242	Stevenson Boulevard (Fremont BART – Ohlone College Newark Campus)	60	60
332	Paseo Padre (Fremont BART – Union City BART – New Park Mall)	60	60 (Weekdays Only)
333	Cedar Boulevard (Fremont BART – Union City BART)	60	60 (Weekdays Only)
345	Mowry Avenue (New Park Mall – Fremont BART)	-	60 (Weekends Only)
350	Mowry Avenue (Fremont BART – Pacific Commons)	-	60 (Weekends Only)
801	International-Mission All Nighter (Fremont BART – Downtown Oakland)	No Service	60 (Owl Hours Only)
U	Stanford Express (Fremont BART – Stanford University)	30-60	No Service (Weekdays Only)
VTA Routes			
120	Fremont BART – Lockheed Martin Transit Center	30-60	No Service (Weekdays Only)
140	Fremont BART – Mission College & Montague Expressway	60	No Service (Weekdays Only)
180	Fremont BART – Great Mall/Main Transit Center/ San Jose Diridon Station[3]	30	30 (Weekdays Only)
181	Fremont BART – San Jose Diridon Station	15-30	40-60 (Weekdays Only)
BART			
Fremont – Richmond		15	15-20
Fremont – Daly City		15	15-20[4]

Notes:

1. Commute times are weekdays from 6:00 to 9:00 AM and 4:00 to 7:00 PM.
2. Non-commute times are weekdays outside of commute times and weekends.
3. San Jose Diridon Station only served on weekends.
4. No Sunday service available.

Source: AC Transit, October 2010; Santa Clara Valley Transportation Authority, January 2011; BART, February 2011

Santa Clara Valley Transportation Authority (VTA)

The VTA provides bus and light rail transit service in Santa Clara County, and also has four express bus routes (Express Routes 120, 140, 180, and 181) that provide service to the Fremont BART station (using I-680 and I-880). These routes are summarized in **Table 4-5**, above.

Altamont Commuter Express (ACE)

The San Joaquin Regional Rail Commission (SJRRC) operates Altamont Commuter Express (ACE) commuter rail service of over 85 miles between Stockton and San José. It operates a limited number of trains per day, with trains leaving Stockton in the morning and returning in the evening. The only Fremont station is the Centerville Station located at 37260 Fremont Boulevard near Peralta Boulevard and connects south to San José. The station is approximately 1.2 miles west of the intersection of Fremont Avenue/Mowry Avenue and passengers may transfer from the Downtown District via AC transit lines.

Amtrak

Amtrak provides intercity passenger rail service in the City of Fremont via the Capitol Corridor route. Amtrak's Capitol Corridor service connects San Jose to Auburn, with 16 stations through eight Northern California counties. The Fremont Amtrak station is the Centerville Station, located on Fremont Boulevard. The train provides a limited number of daily round trips, and is accessible from the Downtown District via AC Transit Routes 99, 210, 801 and U.

Paratransit

City of Fremont Paratransit and East Bay Paratransit are door-to-door alternative transit services for seniors and persons with disabilities that are prevented from using regular transit services. Services are provided during the same hours that BART and AC Transit operate. Applicants are required to submit a form and go through a review process to be eligible for services.

Existing Pedestrian and Bicycle Facilities

Pedestrian Facilities

Pedestrian facilities are comprised of sidewalks, pedestrian paths, crosswalks, and pedestrian signals. According to the Fremont Pedestrian Master Plan (December 2007), nine percent of the total trips made in the City of Fremont are by foot. As part of the City Center, the Downtown District has good pedestrian access as the surrounding roadway system has sidewalks on both sides. The CBD is one of the most concentrated centers of pedestrian activity in Fremont, second only to the Irvington District. Outside of the

Downtown District, Mowry Avenue south of Mission Boulevard is the only location that is currently without sidewalks on both sides (for a total of 1,700 feet).

Two (2) main types of crosswalks exist: marked (striped) crosswalks and unmarked (no striping) crosswalks. Although pedestrians have the right to cross at any legal crosswalk whether marked or unmarked, this section focuses on marked crosswalks – both controlled and uncontrolled. Controlled crosswalks include those controlled by a traffic/pedestrian signals or stop signs. Uncontrolled, marked crosswalks can exist mid-block or at intersections with side-street stop control only (or all-way yield control intersections with low volumes). The locations of the existing crosswalks at study signalized intersections are shown on **Figure 4.5**.

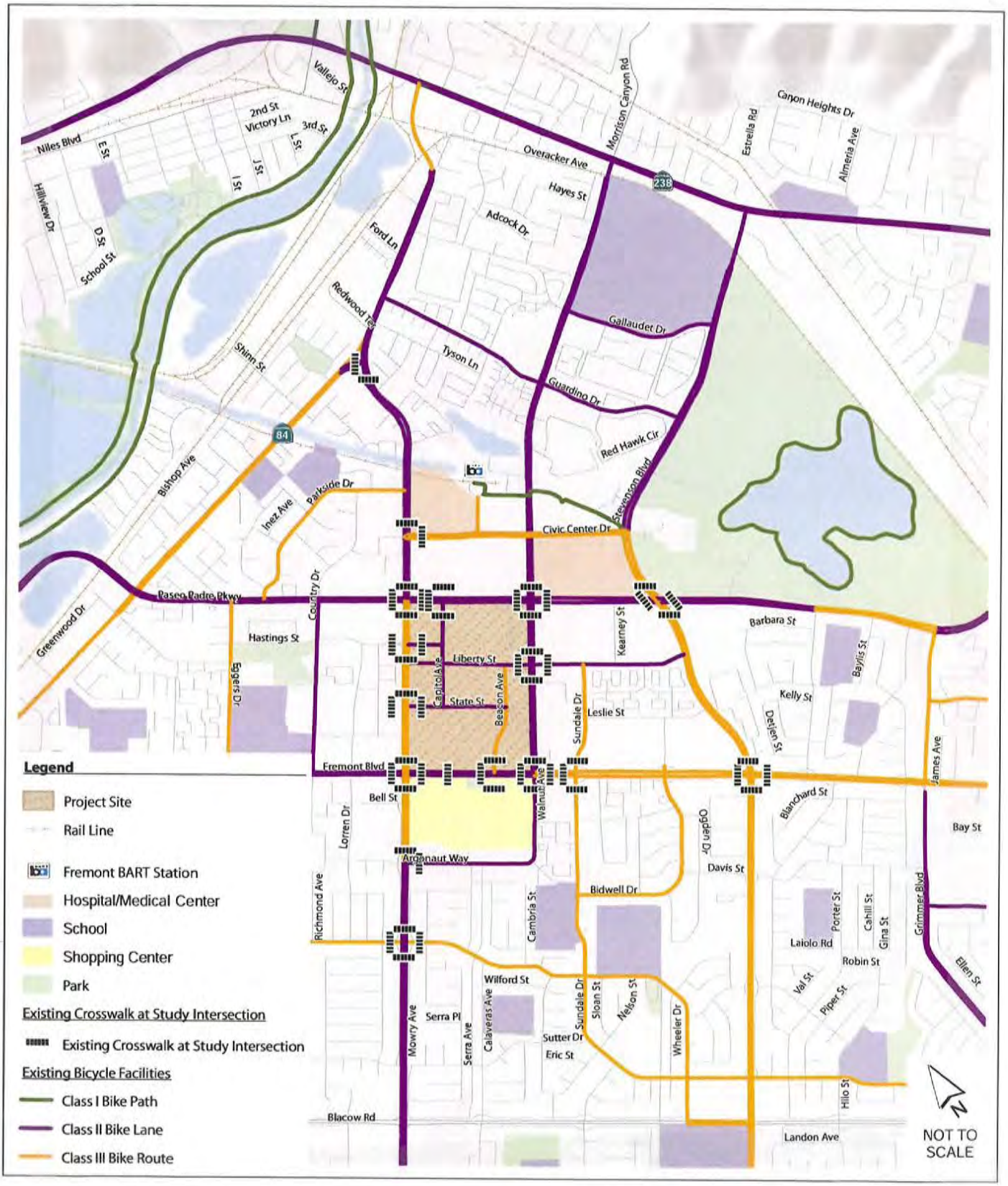
Signalized Crosswalks

Crosswalks are marked at all signalized intersections, although crossings on some legs[2] are currently prohibited to reduce vehicular delay and/or deemed unsafe for pedestrians/bicyclist, including:

- Mowry Avenue / Mission Boulevard – west leg
- Mowry Avenue / Peralta Boulevard – north leg
- Mowry Avenue / Civic Center Drive – south leg
- Mowry Avenue / Hastings Street – north leg
- Mowry Avenue / State Street – south leg
- Fremont Boulevard / Capitol Avenue – west leg
- Fremont Boulevard / Beacon Avenue – east leg
- Fremont Boulevard / Sundale Drive – east leg
- Mowry Avenue / Argonaut Way – west leg

[2] Intersections typically have three or four legs, where a leg comprises both the lanes approaching the intersection and departing the intersection from one direction.

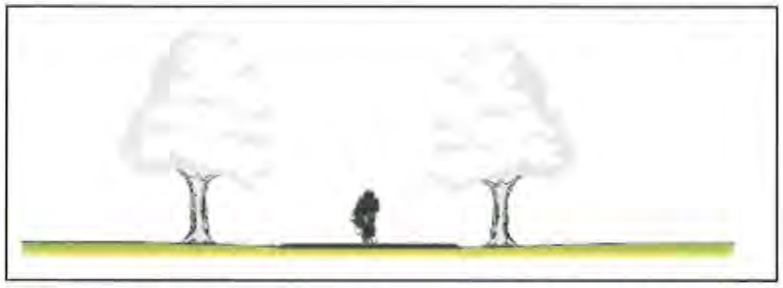
Figure 4.5: Existing Pedestrian and Bicycle Facilities



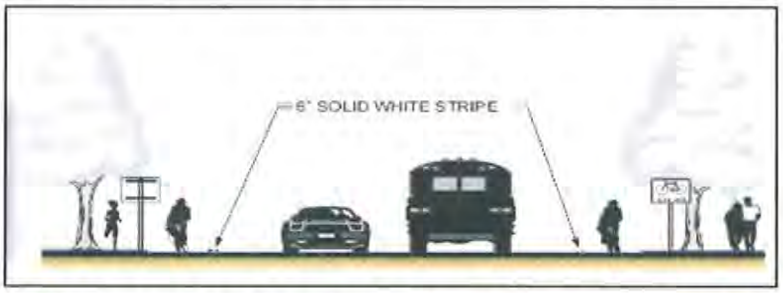
Bicycle Facilities

Bikeway planning and design in California typically relies on guidelines and design standards established by California Department of Transportation (Caltrans) in the Highway Design Manual (Chapter 1000: Bikeway Planning and Design). Caltrans provides for three distinct types of bikeway facilities, as described below and shown on the accompanying illustrations.

Class I Bikeway (Bike Path) provides a completely separate right-of-way and is designated for the exclusive use of bicycles and pedestrians with minimized vehicle and pedestrian cross-flow.



Class II Bikeway (Bike Lane) provides a restricted right-of-way and is designated for the use of bicycles with a striped lane on a street or highway. Bicycle lanes are generally five (5) feet wide. Adjacent vehicle parking and vehicle/pedestrian cross-flow are permitted.



Class III Bikeway (Bike Route) provides for a right-of-way designated by signs or pavement markings for shared use with pedestrians or motor vehicles.

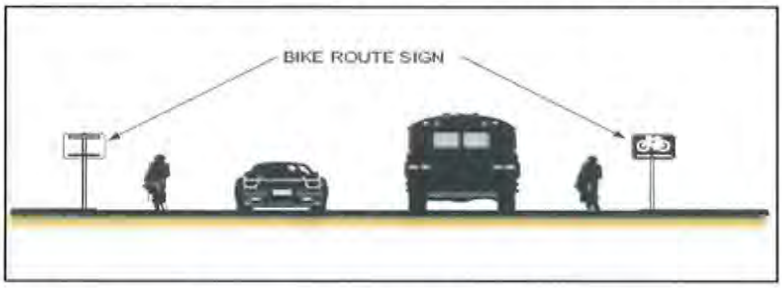


Figure 4.5, above, shows the existing bicycle facilities in and near the Downtown District. Major roadways with existing bike facilities are listed below:

Existing Class I Bike Path

- Trail north of Civic Center Drive between Stevenson Boulevard and Walnut Ave (connects to BART)

Existing Class II Bike Lanes

- Mission Boulevard, Paseo Padre Parkway, Walnut Avenue, Liberty Street, Capitol Avenue, State Street, Country Drive, Guardino Drive, Gallaudet Drive,
- Mowry Avenue,
- Stevenson Boulevard (north of Civic Center Drive),
- Fremont Boulevard (Eggers Drive to Walnut Avenue), and
- Argonaut Way (Mowry Avenue to Walnut Avenue).

Existing Class III Bike Routes

- Peralta Boulevard, Parkside Drive, Sundale Drive, Eggers Drive, Civic Center Drive, BART Way, Beacon Avenue,
- Stevenson Boulevard (south of Civic Center Drive), and
- Fremont Boulevard (east of Walnut Avenue and west of Eggers Drive).

Existing Traffic Volumes

This section discusses the traffic volumes used to evaluate existing intersection operations. Existing traffic volumes utilize the same traffic counts collected in 2007 and 2008 for the General Plan Update EIR and additional intersections in 2009. The combination of traffic count conditions represents a slightly more robust activity and higher intensity of use of existing development than currently represented in traffic counts. Overall population figures have not changed substantially, and overall employment has been flat to declining since 2008. The 2008 traffic conditions have been carried forward as an appropriate approximation of the existing conditions due to the economic slowdown and drop in economic activity and stabilized population growth.

Intersection Volumes

Intersection operations were evaluated during the morning (AM) and evening (PM) commute periods, when traffic volumes are highest. The City of Fremont conducted traffic counts at the study locations for two-hour periods, 7:00 AM to 9:00 AM and 4:00 PM to 6:00 PM, in 2007, 2008 and 2009. The highest one-hour measured volumes during

each of these periods (the AM and PM peak hour volumes) were used in the intersection analysis. These volumes are shown on **Figure 4.6**. Intersection lane configurations and traffic control devices (stop signs or traffic signals) are also shown on these figures. **Technical Appendix (A)** contains the original traffic count sheets used for this analysis.

Existing Intersection Levels of Service

Level of service calculations were conducted for each of the signalized study intersections during the AM and PM peak hours. Existing individual peak-hour factors were applied. Existing operations of the intersections are presented in **Table 4-6**. **Technical Appendix (B)** contains the level of service calculation sheets. These calculation sheets include detailed input data and report the delay experienced by vehicle drivers for the intersection as a whole, on each approach, and for individual movements. An intersection approach corresponds to the all of the lanes approaching from one direction and movements refer to the designated turn (left or right) or through for each lane (or lane group).

All intersections are operating at LOS D or better with the exception of Mission Boulevard /Mowry Avenue, which operates at LOS E during the morning peak hour.

Collision Data Review

The City of Fremont provided collision data at 12 locations for the past three years (36 months) from November 1, 2007 through November 1, 2010. The frequencies of collisions and whether the collision involved a motor vehicle with a pedestrian, bicycle, other motor vehicle, or fixed object (e.g., a sign or signal pole) are listed in **Table 4-7**. A total of 70 collisions were reported. No fatalities were reported as a result of the collisions. Overall, those roadways that have higher traffic volumes have larger numbers of reported collisions.

Where data was available, an average collision rate, reported in accidents per million vehicles, was calculated for each of the intersections on or near the boundaries of the Downtown District. The average collision rates are normalized for number of years and traffic volumes. These calculated collision rates were compared to the statewide collision rates for similar facilities contained in the *2002 Collision Data on California State Highway* (Caltrans, 2003). **Figure 4.7** shows the frequency of collisions by intersection and compares the area's average collision rate to statewide rates for similar facilities. All analyzed intersections had collision rates below the statewide average.

For the 3-year period, a total of seven reported collisions were pedestrian and/or bicycle related. The highest number of pedestrian/bicycle collisions (three collisions) was reported at the Hastings Street/Mowry Avenue intersection; which represents nearly 40 percent of the total collisions reported at this intersection.

Figure 4.6: Existing Intersection Peak-Hour Volumes, Lane Geometries, and Signal Controls

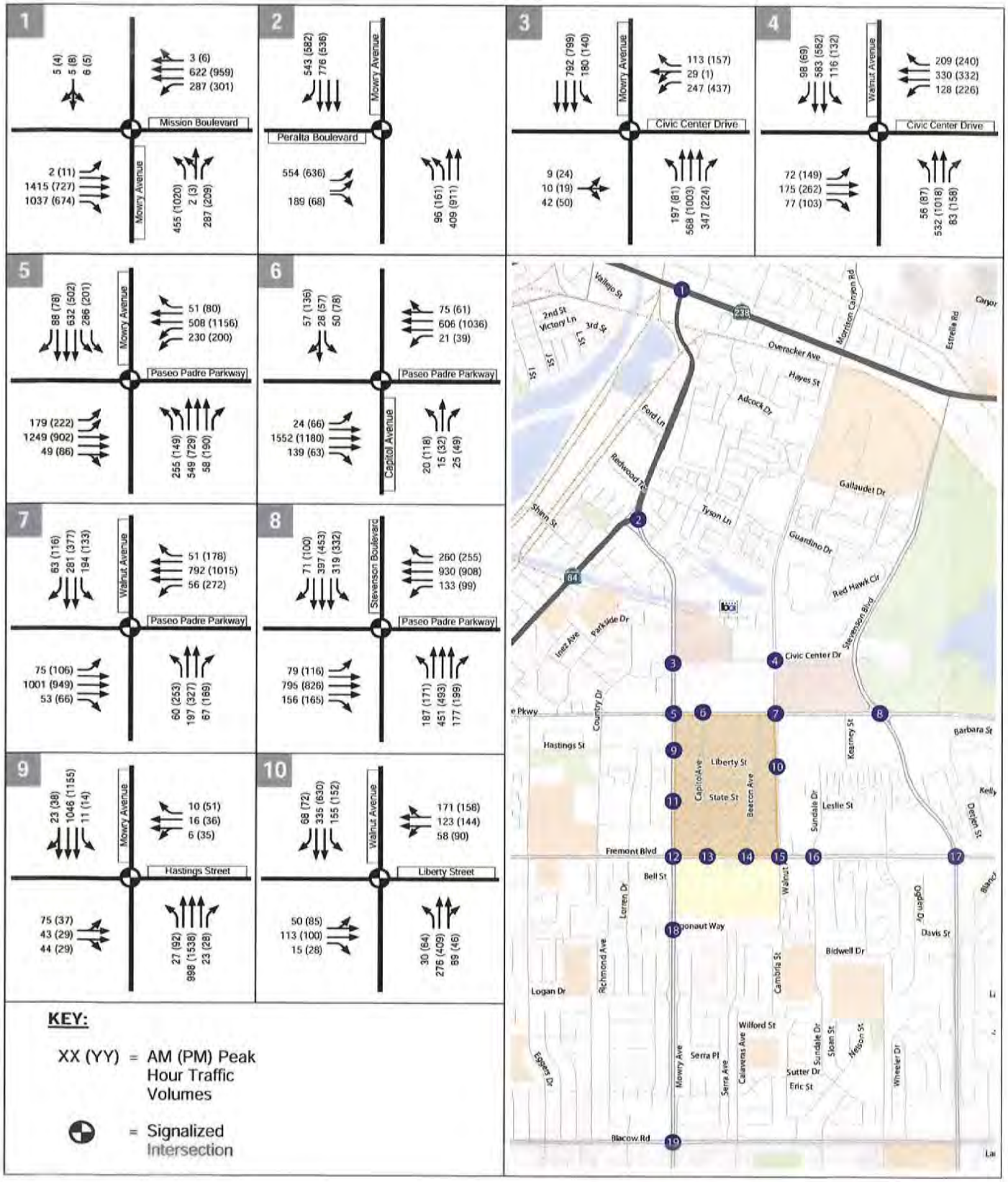


Figure 4.6: Existing Intersection Peak-Hour Volumes, Lane Geometries, and Signal Controls (continued)

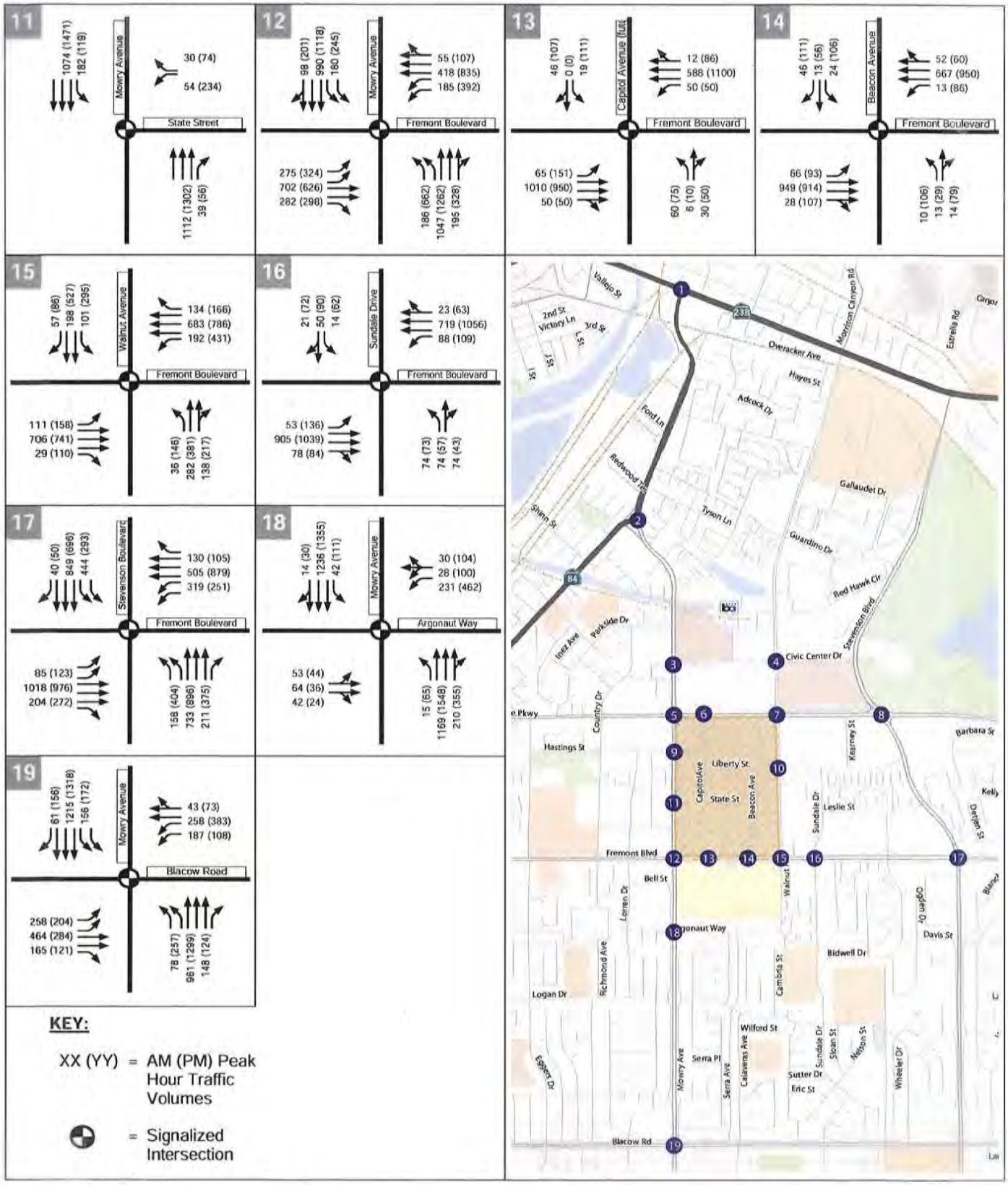


TABLE 4-6: EXISTING SIGNALIZED PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Count Date	Peak Hour	**Delay (sec/veh)[1]**	**LOS[2]**
Mission Boulevard/Mowry Avenue	2/13/2008	AM	**62.4**	**E**
		PM	33.6	C
Mowry Avenue/Peralta Boulevard	2/13/2008	AM	14.1	B
		PM	16.2	B
Mowry Avenue/Civic Center Drive	2/13/2008	AM	24.9	C
		PM	24.9	C
Walnut Avenue/Civic Center Drive	2/12/2008	AM	26.1	C
		PM	30.7	C
Paseo Padre Parkway/Mowry Avenue	5/15/2007	AM	39.4	D
		PM	37.3	D
Paseo Padre Parkway/Capitol Avenue	4/1/2008	AM	12.1	B
		PM	23.2	C
Paseo Padre Parkway/Walnut Avenue	6/19/2007	AM	33.4	C
		PM	39.6	D
Paseo Padre Parkway/Stevenson Boulevard	4/18/2007	AM	39.9	D
		PM	39.0	D
Mowry Avenue/Hastings Street	4/2/2008	AM	14.1	B
		PM	11.5	B
Walnut Avenue/Liberty Street	10/1/2009	AM	22.0	C
		PM	23.3	C
Mowry Avenue/State Street	4/2/2008	AM	11.0	B
		PM	18.1	B
Mowry Avenue/Fremont Boulevard	2/6/2008	AM	34.5	C
		PM	47.3	D
Fremont Boulevard/Fremont Hub Driveway	n/a[3]	AM	14.8	B
		PM	22.0	C
Fremont Boulevard/Beacon Avenue	10/1/2009	AM	10.3	B
		PM	21.7	C
Fremont Boulevard/Walnut Avenue	2/13/2008	AM	33.4	C
		PM	47.3	D
Fremont Boulevard/Sundale Drive	10/1/2009	AM	21.5	C
		PM	23.3	C
Fremont Boulevard/Stevenson Boulevard	2/12/2008	AM	35.8	D
		PM	37.6	D
Mowry Avenue/Argonaut Way	2/6/2008	AM	22.9	C
		PM	37.1	D
Blacow Road/ Mowry Avenue	2/6/2008	AM	30.5	C
		PM	31.6	C

Note:
Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections.
LOS calculations performed using the *2000 Highway Capacity Manual (HCM)* method using the TRAFFIX analysis software package.
Existing volumes extrapolated from adjacent intersections.
Results in **bold** represent unacceptable levels of service.
Source: Fehr & Peers, February 2011.

TABLE 4-7: COLLISION DATA SUMMARY (NOVEMBER 2007 – NOVEMBER 2010)

Location	Motor Vehicle Involved with				Total Collisions	Daily Volume[1]
	Ped	Bicycle	Motor Vehicle	Fixed Object		
A. Civic Center Drive/Mowry Avenue	-	-	5	-	5	27,300
B. Civic Center Drive/Bart Way	-	1	-	1	2	N/A
C. Civic Center Drive/Walnut Avenue	1	-	1	1	3	29,000
D. Paseo Padre Parkway/Mowry Avenue	-	-	13	-	13	43,100
E. Paseo Padre Parkway/Capitol Avenue	-	-	1	-	1	27,600
F. Paseo Padre Parkway/Walnut Avenue	1	-	5	-	6	34,300
G. Hastings Street/Mowry Avenue	2	1	5	-	8	27,000
H. Liberty Street/Walnut Avenue	-	-	4	-	4	17,300
I. California Street/Walnut Avenue	-	-	1	-	1	11,300
J. Fremont Boulevard/Mowry Avenue	1	-	16	-	17	55,100
K. Fremont Boulevard/Fremont Shopping Center	-	-	7	-	7	23,400
L. Fremont Boulevard/Walnut Avenue	-	-	2	1	3	33,600
Total	5	2	60	3	70	-

Notes:

1. Intersection daily traffic volumes are estimated based on AM and PM peak-hour intersection counts, which were assumed to be 20 percent of daily traffic.

Source: City of Fremont, 2010

Parking

Parking relates both to land use and transportation. The design and location of parking lots and the provision of off-street parking is primarily related to land use. The provision of parking becomes a transportation issue when parking and transportation needs conflict and when the availability of parking influences transportation choices. For example, providing on-street parking could affect traffic flow, bicycle routes and access. Similarly, the availability and cost of parking can influence a traveler's decision to use transit or to drive.

Transportation System Efficiency

Transportation Demand Management or TDM refers to a series of transportation measures to maximize the efficient use of existing transportation infrastructure. These measures include carpooling, vanpooling, transit, walking, bicycling, telecommuting, compressed work weeks, etc. A number of these measures are available to Fremont residents and employees, including:

Figure 4.7: Collision Frequency and Average Collision Rates

Commuter Check Program

Commuter Checks are vouchers issued by employers and accepted by transit operators (such as BART, ACE and AC Transit) for the purchase of transit tickets. By designating up to $230 per month specifically for transit use, employees receive may have the designated amount deducted (pre-tax) and may be redeemed for transit tickets at the transit agency or at participating banks and stores. Many large employers, including the City, participate in this program.

511 Regional Rideshare Program

The "5-1-1" Regional Rideshare Program provides up to the minute information on highway traffic, transit schedules, or finding a car or van pool.

Guaranteed Ride Home Program

The Alameda County Transportation Commission (ACTC) Guaranteed Ride Home Program guarantees a ride home from work in case of unexpected illness, family crisis, unscheduled overtime, or a missed rideshare trip for those who use alternate mode of transportation.

Background Conditions

This section describes the roadway operational conditions and the results of the level of service analysis under the Background Conditions scenario, including existing traffic plus traffic from all applicable approved but not yet constructed (or occupied) developments in the vicinity of the Downtown District. Some of these projects may now be occupied, but they were included because they were not yet occupied at the time when the counts were collected, to provide a conservative analysis.

Background Traffic Estimates

Traffic volumes for Background Conditions were estimated by adding traffic generated by approved but not yet constructed projects in the vicinity of the Downtown District to existing volumes. A list of approved projects was obtained from the City of Fremont. The vehicle trips added to the transportation system from the approved projects were estimated by using average rates/regression equations from the Institute of Transportation Engineers' (ITE) *Trip Generation* (8th Edition) unless project-specific information was available from a traffic study provided by city staff. **Table 4-8** summarizes these approved projects. A detailed trip generation estimate table is included in **Technical Appendix (C)**. The resulting background traffic volumes are presented on **Figure 4.8**.

TABLE 4-8: APPROVED DEVELOPMENTS

Project Name	Location	Description	AM Peak Hour Trips	PM Peak Hour Trips
Central Park South	41075 Railroad Ave	145 Single Family Units 40 Condo Units	136	175
Genius Kids Preschool	3645 Mowry Ave	40 Students	34	34
Farwell Medical	39180 Farwell Dr	32 ksf Medical Office	74	111
CC Medical	2333 Mowry Ave	15 ksf Medical Office	34	52
Medical Office	Beacon Ave / Liberty St	30 ksf Medical Office	69	104

Source: City of Fremont, December 2010; Fehr & Peers, December 2010.

Figure 4.8: Background Intersection Peak-Hour Volumes, Lane Geometrics, and Signal Controls

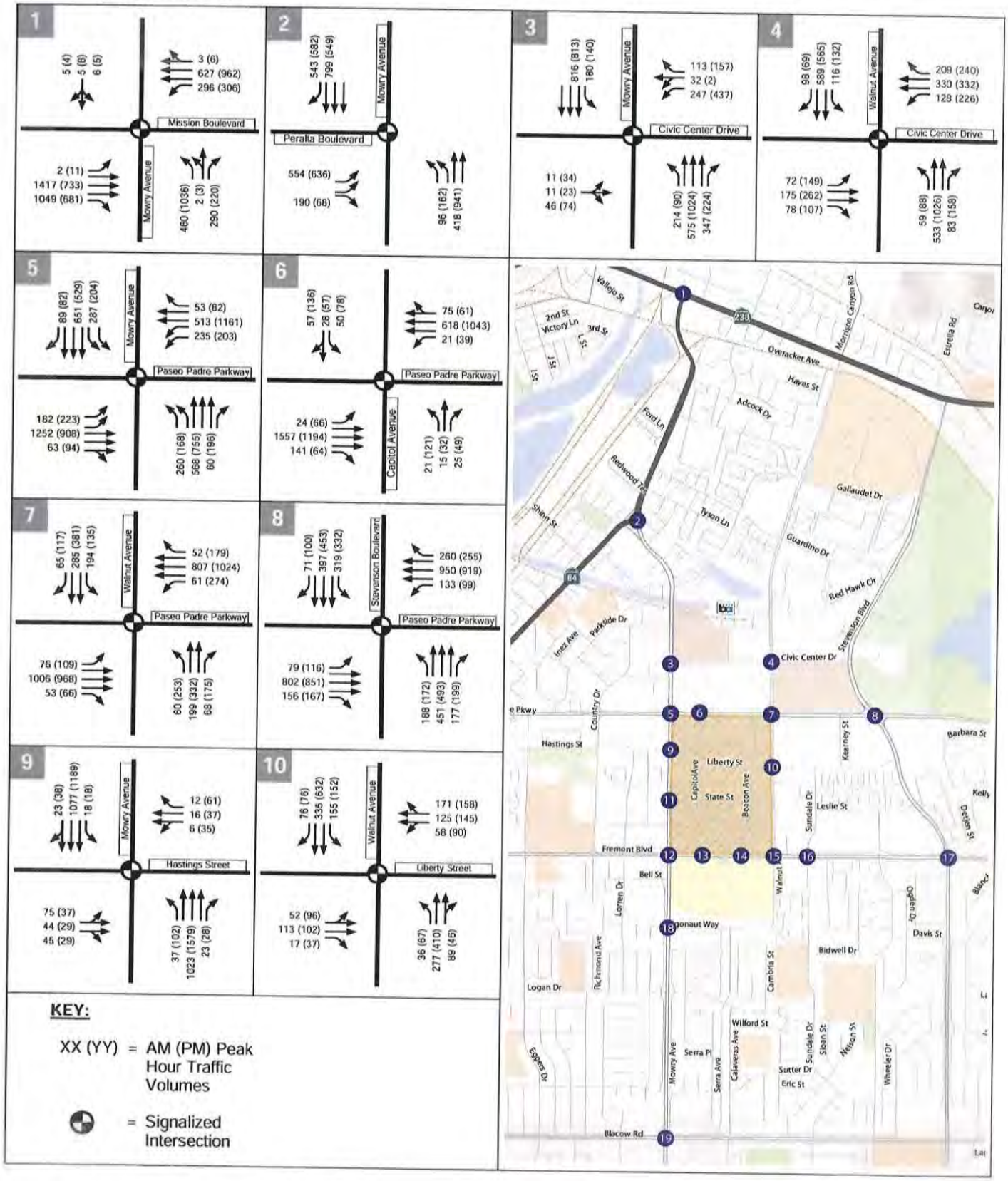
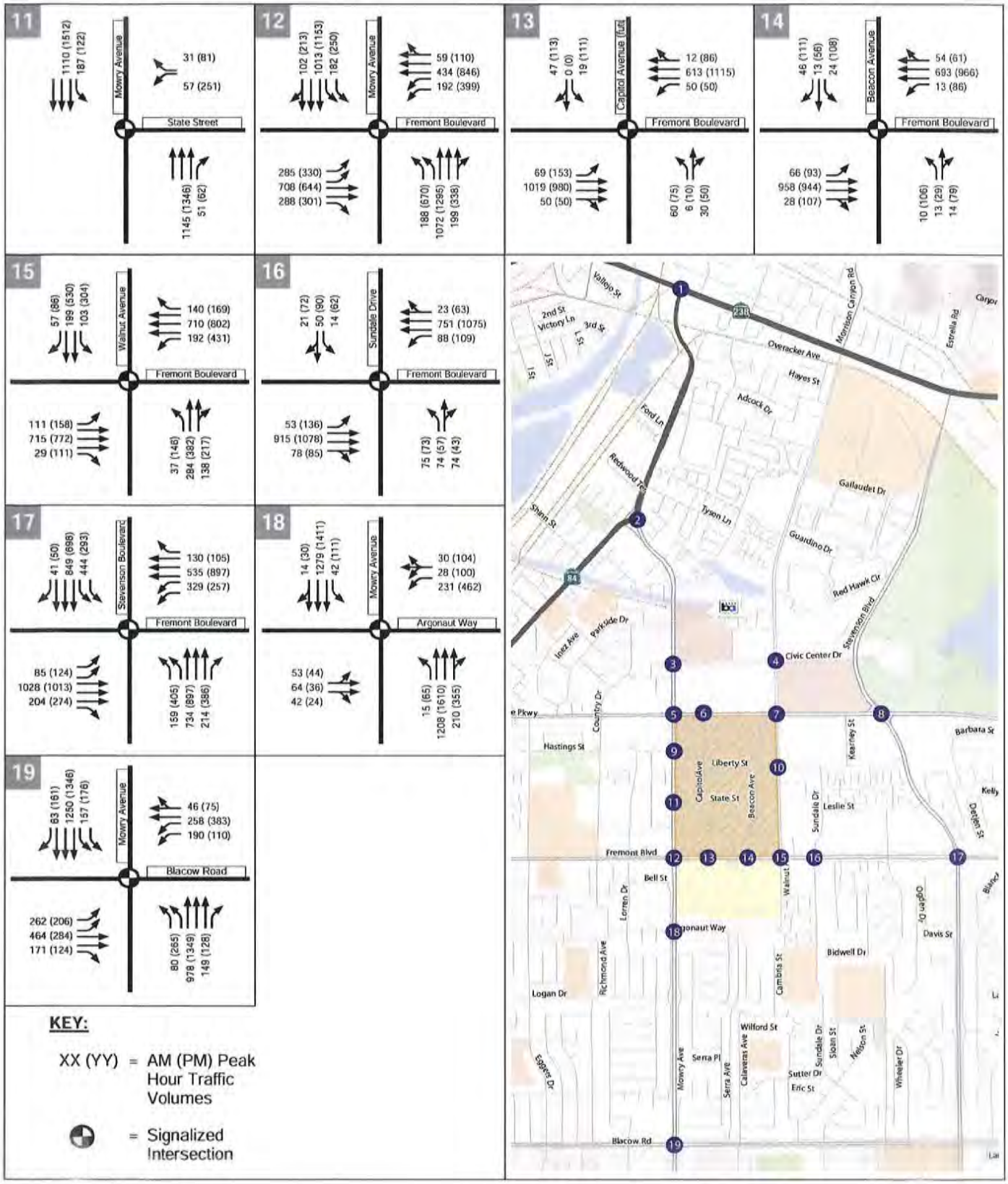


Figure 4.8: Background Intersection Peak-Hour Volumes, Lane Geometrics, and Signal Controls (continued)



Background Roadway Improvements

Based on information provided by the City of Fremont, there are no funded transportation improvement projects in the vicinity of the Downtown District. Therefore, existing intersection lane configurations were used for the Background Conditions analysis.

Background Intersection Levels of Service

Table 4-9 presents the LOS calculation results for the study intersections under Background Conditions. Existing individual peak-hour factors were also applied under this scenario. The LOS calculation sheets are contained in **Technical Appendix (B)**. Under Background Conditions, all intersections are operating at LOS D or better with the exception of Mission Boulevard and Mowry Avenue, which operates at LOS E during the morning peak hour.

Regulatory Setting

City of Fremont

The City of Fremont's 1990 General Plan defines the minimum acceptable LOS for the operations of the City's intersections and roadway segments. For the identified signalized study intersections in the City's jurisdiction the minimum acceptable AM/PM peak hour level of service is LOS D. Locations with a worse LOS than these standards are considered to operate unacceptably. All of the study intersections are under City of Fremont jurisdiction, and, therefore, are analyzed based on the City's LOS standard.

The City of Fremont has adopted the General Plan 2035, and the plans, policies, programs, and descriptive contents of the General Plan 2035 indicate the general framework and direction the City intends to pursue.

Alameda County Transportation Commission

The ACTC developed LOS standards for roadways on the designated CMP network. The CMP facilities in the study area are Mowry Avenue, Fremont Boulevard, Paseo Padre Parkway, Stevenson Boulevard, Thornton Avenue, Peralta Boulevard, Mission Boulevard, I-880, and I-680. The CMP service level standard is LOS E, except at locations that were operating at F the standards were being set, in which case the standard is LOS F. In the study area, all roadway segments have an LOS E standard, with the exception of the following segments that have an LOS F standard:

- Northbound I-880 between Dixon Landing and Mission Boulevard (SR 262)
- Westbound Fremont Boulevard (SR 84) between Peralta Boulevard and Thornton Avenue
- Eastbound Mowry Avenue between I-880 and Farwell Drive

TABLE 4-9: BACKGROUND SIGNALIZED PEAK HOUR INTERSECTION LEVELS OF SERVICE

Intersection	Peak Hour	Delay (sec/veh)[1]	LOS[2]
Mission Boulevard/Mowry Avenue	AM	**65.8**	**E**
	PM	34.5	C
Mowry Avenue/Peralta Boulevard	AM	14.1	B
	PM	16.3	B
Mowry Avenue/Civic Center Drive	AM	25.1	C
	PM	26.2	C
Walnut Avenue/Civic Center Drive	AM	26.1	C
	PM	30.8	C
Paseo Padre Parkway/Mowry Avenue	AM	39.7	D
	PM	37.7	D
Paseo Padre Parkway/Capitol Avenue	AM	12.1	B
	PM	23.3	C
Paseo Padre Parkway/Walnut Avenue	AM	33.5	C
	PM	39.7	D
Paseo Padre Parkway/Stevenson Boulevard	AM	39.9	D
	PM	39.0	D
Mowry Avenue/Hastings Street	AM	14.3	B
	PM	11.9	B
Walnut Avenue/Liberty Street	AM	21.9	C
	PM	23.3	C
Mowry Avenue/State Street	AM	11.1	B
	PM	18.7	B
Mowry Avenue/Fremont Boulevard	AM	34.7	C
	PM	48.7	D
Fremont Boulevard/Fremont Hub Driveway	AM	14.7	B
	PM	22.0	C
Fremont Boulevard/Beacon Avenue	AM	10.2	B
	PM	21.6	C
Fremont Boulevard/Walnut Avenue	AM	33.3	C
	PM	48.2	D
Fremont Boulevard/Sundale Drive	AM	21.3	C
	PM	23.1	C
Fremont Boulevard/Stevenson Boulevard	AM	35.9	D
	PM	37.8	D
Mowry Avenue/Argonaut Way	AM	22.7	C
	PM	37.3	D
Blacow Road/ Mowry Avenue	AM	30.5	C
	PM	31.7	C

Note:
1. Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections.
2. LOS calculations performed using the *2000 Highway Capacity Manual (HCM)* method using the TRAFFIX analysis software package.
Results in **bold** represent unacceptable levels of service.
Source: Fehr & Peers, February 2011.

Caltrans

Caltrans recommends a target LOS at the threshold between LOS C and LOS D for their facilities. If the location under existing conditions operates worse than the appropriate target LOS, then the existing LOS should be maintained. For purposes of this analysis, LOS will not be evaluated. In 2010, Caltrans' Smart Mobility Framework was adopted and serves as a planning framework that helps to guide and assess how well plans, programs, and projects meet a definition of "smart mobility". It is applicable to various levels of plans, programs, or projects (e.g., Regional Transportation and Blueprint Plans, General Plans, corridor plans, specific development proposals, etc.) in all parts of the state (i.e., urban, suburban, and rural). Caltrans facilities in the Study area include a partial segment of State Route 84 that includes Peralta Drive and Mowry Avenue through the intersection with Mission Boulevard State Route 238. The City has applied its variable level of service policy to evaluation of these arterial roadways.

IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA Criteria for Determining Impact

The following thresholds for measuring a Project's environmental impacts are based on CEQA Guidelines and other performance standards recognized by City of Fremont. For the purposes of this EIR, a significant impact would occur if implementation of the Downtown Community Plan were to:

1) Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume-to-capacity ratio on roads, or congestion at intersections);

2) Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;

3) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;

4) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);

5) Result in inadequate emergency access;

6) Result in inadequate parking capacity; or

7) Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

The criteria used to determine whether impacts associated with implementation of the Downtown Community Plan rise to the level of significance are described below.

Signalized Intersections

The City of Fremont has a variable level of service (LOS) policy applied in a contextual manner to the type and location of transportation facility. General Plan Mobility Element Goal 3-4 Balancing Mobility and Neighborhood Quality and its implementing policies describe the City's TOD neighborhoods, including the City Center Priority Development Area (PDA), and regional facilities as allowing for LOS "E" and for "LOS D" in most other areas of the City. The Downtown Community Plan area is within the City Center PDA and primarily accessed by regional routes.

Therefore, based on currently adopted LOS criteria in the City, implementation of the Downtown Community Plan would create a potentially significant traffic impact if one or more of the following criteria are met or exceeded:

- The addition of project traffic causes a signalized intersection operating at acceptable service levels (LOS A, B, C, or D) during the peak hour to operate at unacceptable levels (LOS E or F); or
- The addition of project traffic increases the average delay a signalized intersection operating at unacceptable service levels (LOS E or F) during the peak hour under baseline conditions (Background Conditions or Cumulative without Project Conditions) to increase by four (4) seconds or more.

Transit System

Implementation of the Downtown Community Plan would create a significant impact related to transit service if either of the following criteria are met or exceeded:

- The project generates a substantial increase in transit riders that cannot be adequately served by existing transit services; or,
- The project conflicts with existing or planned transit facilities

Pedestrian System

Implementation of the Downtown Community Plan would create a significant impact related to the pedestrian system if any of the following criteria are met or exceeded:

- The project design would not provide or would eliminate pedestrian facilities to connect to the area circulation system, or
- The project design would create overcrowding on public sidewalks, or

- The project design would create hazardous conditions for pedestrians.

Bicycle System

Implementation of the Downtown Community Plan would create a significant impact related to the bicycle system if any of the following criteria are met or exceeded:

- The project design would not provide or would eliminate bicycle facilities that connect to the area circulation system, or
- The project design would create hazardous conditions for bicyclists.

GENERAL PLAN 2035 POLICIES

The General Plan 2035 policies and implementation programs listed below are relevant to the transportation and circulation implications of the Downtown Community Plan:

- *Policy 3-1.1: Complete Streets.*
- *Policy 3-1.2: Contextual Street Design.*
- *Policy 3-1.3: Transit-Friendly Street Design.*
- *Policy 3-1.5: Improving Pedestrian and Bicycle Circulation.*
- *Policy 3-1.7: Sidewalks.*
- *Policy 3-2.1: Coordinating Land Use and Transportation.*
- *Policy 3-2.2: Reducing Vehicle Trips through Land Use Choices.*
- *Policy 3-2.3: Pedestrian Networks.*
- *Policy 3-2.4: Improving Bicycle Circulation.*
- *Policy 3-2.5: Pedestrian and Bicycle Master Plans.*
- *Policy 3-2.6: Bus Service Improvements.*
- *Policy 3-2.7: Transit Provisions in New Development.*
- *Policy 3-2.8: Transfers Between Transit Modes.*
- *Policy 3-2.10: Employer-Based Trip Reduction Programs.*
- *Policy 3-2.11: Car-Sharing.*

- *Policy 3-2.12: Shuttle Buses and Circulators.*
- *Policy 3-3.2: Street Connectivity.*
- *Policy 3-3.4: Transportation Systems Management.*
- *Policy 3-3.6: Road Hazards.*
- *Policy 3-3.7: Traffic Safety Monitoring.*
- *Policy 3-3.8: Access Limitations along Parkways and Arterials.*
- *Policy 3-3.10: Transportation for Persons with Special Needs.*
- *Policy 3-4.1: Relating Vehicle Speed to Reflect Land Use and Community Character.*
- *Policy 3-4.2: Variable Level of Service Standards.*
- *Policy 3-4.3: Allowing Decreased Levels of Vehicle Speed and Convenience*
- *Policy 3-4.4: Mitigating Development Impacts.*
- *Policy 3-4.5: Traffic Calming.*
- *Policy 3-4.6: Off-Site Impacts of Traffic Calming.*
- *Policy 3-4.7: Transportation and the Environment.*
- *Policy 3-6.2: Truck Routes.*
- *Policy 3-7.1: Parking Management.*
- *Policy 3-7.2: Parking Requirements.*
- *Policy 3-7.3: Shared Parking.*
- *Policy 3-7.4: Bicycle Parking and Storage Facilities.*

DOWNTOWN COMMUNITY PLAN TRANSPORTATION IMPROVEMENTS

Roadway System Modifications

Part of the vision statement for the Downtown Community Plan is to create a transit-oriented, pedestrian-friendly community. The existing roadway network is viewed to have a limited number of entry/through roads, inadequate pedestrian and bicyclist

amenities, and less than desirable transportation circulation and visibility. To accommodate the growth associated with the Downtown Community Plan and achieve its vision, the *DRAFT Fremont Downtown Community Plan + Design Guidelines* identified a new framework that includes several new streets and extensions. These improvements include:

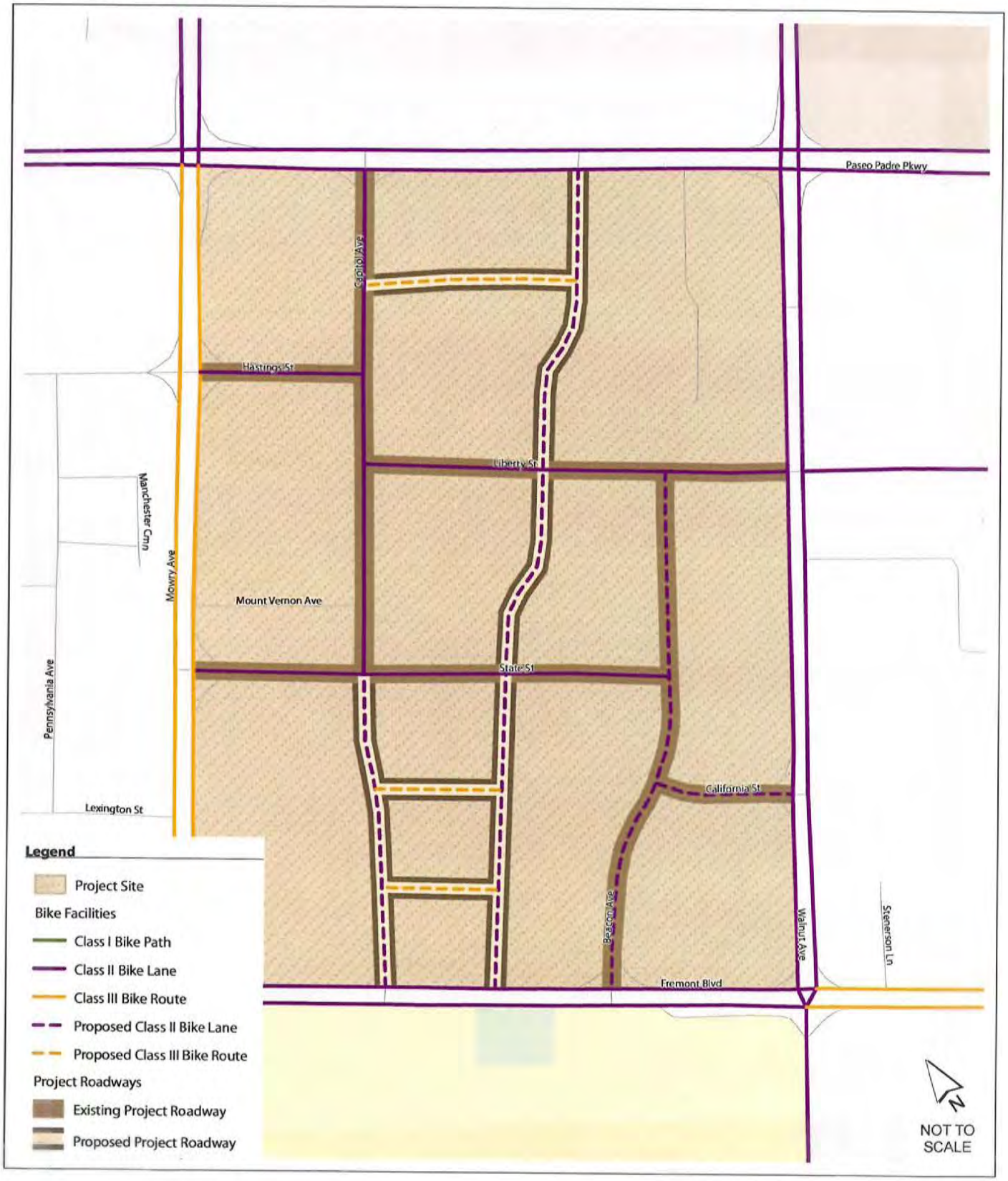
- Capitol Avenue extension from State Street to Fremont Boulevard (north-south)
- New North Street between Capitol and New Middle Road (east-west)
- New California Street between Capitol Avenue and New Middle Road (east-west)
- New South Street between Capitol Avenue and New Middle Road (east-west)
- New Middle Road between Paseo Padre Parkway and Fremont Boulevard (north-south)

Figure 4.9 illustrates the existing and planned roadway network within the Downtown District.

Bicycle Improvements

To provide a more encouraging, safe, and convenient bicycling environment for cyclists, the Downtown Community Plan contains several new bicycle facilities in addition to those in the 2012 *Fremont Bicycle Master Plan*. These facilities will improve bicycle circulation between the complementary land uses within the Downtown District. They will also provide connectivity to bicycle facilities immediately surrounding the Downtown District and offer alternative bicycle routes.

Figure 4.9: Downtown Community Plan Proposed Roadway and Bicycle Improvements



The new bicycle facilities based on the *DRAFT Fremont Downtown Community Plan + Design Guidelines* are:

Bicycle Lanes

- Paseo Padre Parkway between Mowry Avenue and Walnut Avenue (east-west)
- Hastings Street between Mowry Avenue and Capitol Avenue (east-west)
- State Street between Mowry Avenue and Beacon Avenue (east-west)
- California Street between Beacon Avenue and Walnut Avenue (east-west)
- Fremont Boulevard between Mowry Avenue and Walnut Avenue (east-west)
- Capitol Avenue between Paseo Padre Parkway and Fremont Boulevard (north-south)
- New Middle Road between Paseo Padre Parkway and Fremont Boulevard (north-south)
- Beacon Avenue between Liberty Street and Fremont Boulevard (north-south)
- Liberty Street between Capitol Avenue and Walnut Avenue (east-west)

Bike Routes

- New North Street between Capitol Avenue and New Middle Road (east-west)
- New California Street between Capitol Avenue and New Middle Road (east-west)
- New South Street between Capitol Avenue and New Middle Road (east-west)

Figure 4.9, above, depicts the existing and planned project bicycle facilities.

Pedestrian Improvements

With an expected increase in pedestrian activities generated by development under the Downtown Community Plan, one of its goals is to facilitate pedestrian access and

comfort through pedestrian enhancements, including the provision of enhanced crosswalks at all intersections and wider sidewalks and pedestrian amenities within the project site.

Based on the *DRAFT Fremont Downtown Community Plan + Design Guidelines*, new proposed pedestrian facility enhancements include:

Pedestrian Network

- 15-foot sidewalks on Capitol Avenue, Liberty Street, State Street, Hasting Street and Beacon Street to provide better pedestrian circulation and comfort.
- 10-foot sidewalks on New Middle Road, New California Street, New North Street and New South Street to provide adequate capacity.

Pedestrian Amenities

- Tighter curb radii at all intersections as necessary and feasible to slow down turning vehicles.
- "Bulb-outs" (Curb Extensions) at all intersections as necessary and feasible to reduce crossing distance and wait time.
- "Ladder-style" or other distinctive pavement markings in crosswalks to improve visibility and delineate pedestrian crossing areas.
- "Table Speed Bump" at intersections or crosswalks to slow and caution vehicles of crossing pedestrians.
- Increased signal timing at major intersections where feasible to accommodate 2.8-feet/second travel speed from the existing 4-feet/second existing crossing speed.
- Allow "Scramble Intersection Phasing" at the intersection of Capitol Avenue and State Street to separate high volume vehicular and pedestrian traffic completely.

In addition to the above improvements, those implementing the Downtown Community Plan may also consider adding new crosswalks to legs of intersections where pedestrian crossings are currently prohibited. This may include:

- Mowry Avenue / Mission Boulevard – west leg
- Mowry Avenue / Peralta Boulevard – north leg

- Mowry Avenue / Civic Center Drive – south leg
- Mowry Avenue / Hastings Street – north leg
- Mowry Avenue / State Street – south leg
- Fremont Boulevard / Capitol Avenue – west leg
- Fremont Boulevard / Beacon Avenue – east leg
- Fremont Boulevard / Sundale Drive – east leg
- Mowry Avenue / Argonaut Way – west leg

Transit Improvements

Providing adequate connections from the Downtown District and the existing transit network is a critical step toward achieving a "transit-oriented" downtown. Currently, fixed-route bus service is provided by AC Transit. Paratransit service is also available to seniors and people with disabilities who are not able to use standard transit service. With the Downtown District's proximity to passenger rail services such as BART and ACE trains, and the mixed-use nature of the proposed development, the *DRAFT Fremont Downtown Community Plan + Design Guidelines* supports future transit improvements to better accommodate and improve future transit services:

Transit Network

- A proposed Downtown circulator shuttle and/or rail trolley at high frequencies
- A proposed Fremont Boulevard rail trolley
- Bus bulbs, transit-priority signals, queue-jump lanes

Transit Amenities

- Upgraded transit shelters
- Real-time service information
- Improved signage

Transportation Demand Management Strategies

A Transportation Demand Management (TDM) Plan is a set of strategies, measures and incentives to encourage people to walk, bicycle, use public transportation, carpool or use

other alternatives to driving alone. TDM measures can reduce the amount of traffic generated by a land use development and its associated impacts. In an effort to reduced vehicle traffic and parking demand, the Downtown Community Plan recommends the establishment of a Transportation Management Association (TMA) by the City to institute and implement district-wide strategies. The list below presents some of the potential TDM measures:

- Subsidized transit passes
- Car sharing / Van pool program
- Guaranteed Ride Home via taxi vouchers
- Free trolley bus shuttle
- Preferential carpool parking
- Parking cash-out programs

According to the California Air Pollution Control Officers Association (CAPCOA)'s newest greenhouse gas document titled *Quantifying Greenhouse Gas Mitigation Measures*, a subsidized or discount transit program provides the maximum potential to reduce up to 30 percent of commute vehicle trips. A ride-share program could reduce the commute vehicle trips up to 15 percent. A program to limit the parking supply or to charge work place parking could reduce up to 12 percent of commute vehicle trip. Providing trip end facilities or a cash-out program could likely reduce the commute vehicle trip up to 5 and 6 percent, respectively. Although the reductions are not additive, a combination of measures would have a global maximum cap likely ranging from 20 to 40 percent.

Because TDM measured are not required as part of the Downtown Community Plan, and in order to evaluate a reasonable worst-case scenario consistent with CEQA, this analysis does not take into account a reduction in automobile trips that would be attributable to establishment of a TMA in the Downtown District that would be responsible for instituting and implementing TDM strategies.

IMPACTS AND MITIGATION MEASURES

Downtown Community Plan Travel Demand Characteristics

Implementation of the Downtown Community Plan will affect travel characteristics in the City of Fremont in two general ways: (1) it will increase travel demand due to new development that will occur as part of the Plan, particularly automobile traffic which is the primary travel mode in the City of Fremont, and (2) it will modify the transportation network in the Downtown District which may in turn result in minor mode shifts and

traffic diversions. The increases in travel demand due to the new land uses and the associated amount of added traffic to the study locations on surrounding roadway system are addressed first, followed by a discussion on mode shift and traffic diversion.

Land Use Travel Demand and Traffic Projections

The Downtown Community Plan's land use program includes both new development and redevelopment, which replaces existing land uses with, in some cases, different land uses or larger amounts of the same land use. The land uses include residential, commercial/retail, general office, medical office, and civic office. **Table 4-10** summarizes the land use assumptions for the Existing, Minimum (alternative), and Maximum Project Buildout Conditions as provided by the City of Fremont. Overall, development patterns of use will be flexible to meet market demand and urban design goals for the project area.

TABLE 4.10: EXISTING, MINIMUM AND MAXIMUM PROJECT BUILDOUT LAND USE ASSUMPTIONS

Land Use (Unit) [ITE Land Use Code]	Existing	Minimum Project Buildout		Maximum Project Buildout	
		Gross	Net New	Gross	Net New
Residential (du) [ITE 230]	10	1,200	1,190	2,500	2,490
Commercial/Retail (sf) [ITE 820]	497,980	443,100	(54,880)	443,100	(54,880)
Office (sf) [ITE 710 & 720]	470,880[1]	940,000[2]	469,120	1,988,800[2]	1,517,920
Civic Office (emp) [ITE 733]	500	550	50	550	50

Note: Planning Estimate of Reasonable Building Pattern:
Existing Office Split: 10% Medical Office, 90% General Office.
Future Office Split: 60% Medical Office, 40% General Office.
Source: City of Fremont, February 2011.

Trip Generation Methodology

There are few methodologies available to estimate the unique trip generation characteristics of mixed-use and infill developments. One of the most commonly used methods is to use trip generation rates or equations from the Institute of Transportation Engineers (ITE) *Trip Generation* and apply reductions from the mixed-use internalization spreadsheet from the ITE *Trip Generation Handbook*. The ITE rates are derived from surveys of stand-alone uses in suburban locations with little to no transit access or opportunity for trips to be made between nearby uses via walking, bicycling, or very

short vehicle trips. The internalization reduction method has some shortcomings in that it is based on a limited sample size of three mixed-use sites in Florida, limited to three land use types (residential, retail, and office), and it does not take into account the influence of nearby land uses.

The development anticipated under the Downtown Community Plan is not typical suburban development in that it includes a mix of uses with higher development densities. It is also located in an area with local bus service and is within walking distance of the Fremont BART Station.

A more comprehensive analysis of mixed-use and infill trip generation was developed and is presented in the paper, *Traffic Generated by Mixed-Use Developments – A Six-Region Study Using Consistent Built Environmental Measures* (Reid Ewing et al., September 2008). The study gathered data from 240 sites/data sources, developed a trip internalization methodology (MXD model), and validated the methodology at 16 sites. Among the validation sites, use of the MXD model produced superior statistical performance of estimated versus observed external vehicle trips when compared to applications of the ITE rates alone or application of the ITE rates with the ITE trip internalization technique.

The MXD trip generation model consists of three steps to estimate external automobile trips generated by a mixed-use development. The three steps are:

- Compute daily trip estimates using the equations from ITE's *Trip Generation* (these are referred to as "Raw ITE Trips"). These estimates assume no internalization, and only minimal trips made by walking and/or transit modes.
- Compute the probability of a trip staying internal to the mixed-use development.
- Compute the probability an external trip will be made by transit.

The MXD trip generation model was used to estimate the amount of traffic the Downtown Community Plan would add to the surrounding roadway system. MXD trip generation reflects the unique attributes of the project, its location, and the nearby transit services to more accurately predict its trip generation over standard approaches.

Further discussion of the MXD methodology, validation process and project-specific input data can be found in **Technical Appendix (D)**.

Internal Capture

Internalization of trips in the study area is primarily related to four variables: resident population, employment, job-population balance, and intersection density within the project area. The first two are measures of *development scale*, the third a measure of

diversity, and the fourth a measure of *design*. All four are positively related to the likelihood of internal trips through a balance of employment and resident population and short blocks and highly connected streets. A high job-housing balance index suggests relatively high trip internalization for not only work trips but also retail shopping since employment values include individuals working in the retail and service sectors.

Many internal trips within the site Downtown District can be made on foot. The strongest influences on walking are intersection density and jobs within one mile of the area boundary. The former is a measure of *design*, and the latter is a measure of *destination accessibility*. High intersection density within the area makes walking to/from activities outside the area that much faster and easier. High employment totals within a mile of the area affords trip attractions within walking distance. Activity *density* within the area is also positively related to walking for external trips.

Transit Mode Share

In the MXD model, transit use is modeled independently because it depends on slightly different environmental factors than internalized trips. Downtown Community Plan-related development will benefit from the proximity of bus and rail services. BART provides connectivity from Alameda County (Fremont BART station) to San Francisco and Contra Costa County.

The MXD model was developed to account for external transit (buses and rail) reductions by tallying the total employment within a 30-minute transit trip. However, the applied transit reductions to automobile trip generation estimates were instead based on more extensive local surveys provided by Census data and the Metropolitan Transportation Commission (MTC). The transit reductions were applied to the three conventional trip purposes: Home Based Work, Home Based Other, and Non Home Based trips. **Table 4-11** identifies the reduction source per trip type and the overall transit ridership reduction percentages for the two general land use types (residential and non-residential).

TABLE 4-11: TRANSIT REDUCTION SOURCES AND ASSUMPTIONS

Land Use Type	Home Based Work Trips	Home Based Other Trips	Non Home Based Trips	**Overall Transit Reduction**
Residential	BATS 2000	BATS 2000	BATS 2000	10.0%
Non-Residential	CTTP Journey-to-Work	BATS 2000	BATS 2000	4.0%

Sources: MTC *Bay Area Travel Survey* 2000 (BATS 2000) and Census Transportation Planning Package (CTTP)

The resulting MXD trip estimates and corresponding rates are presented in **Table 4-12**. This table also identifies the ITE land use associated with the trip estimates. The rates were selected to reflect that this is an analysis of a land use plan and does not include specific land use developments. Using more specific rates at this time was deemed overly speculative.

Starting with ITE rates, trip reductions were applied to account for the infill and mixed-use nature of the Downtown Community Plan and to account for transit trips due to the close proximity to local bus service and the Fremont BART station (via MXD model). Because the assumed Downtown Community Plan-related development includes retail development, pass-by trip reductions were applied to account for traffic accessing the project site that is already on the roadway network. The average pass-by trip rates presented in ITE's *Trip Generation Handbook* (8th Edition) for a shopping center land use is 34 percent. To present a conservative analysis, Fehr & Peers applied a 25 percent pass-by trip reduction to the net new retail peak-hour trip generation estimates. **Figure 4.10** illustrates the passby volumes assigned to the applicable study intersections. An additional two percent reduction was applied to the net new office peak-hour trip generation to account for the mode shift to bicycle trips due to the availability of bicycle amenities such as shower rooms, changing rooms, and bike lockers provided with new development.

As shown in **Table 4-12**, the minimum Downtown Community Plan development scenario is estimated to generate 15,017 daily trips, 1,178 AM peak-hour trips (742 inbound and 436 outbound) and 1,377 PM peak-hour automobile trips (468 inbound and 909 outbound). The maximum Downtown Community Plan development scenario is estimated to generate 37,642 daily trips, 2,997 AM peak-hour trips (2,068 inbound and 929 outbound) and 3,647 PM peak-hour automobile trips (1,167 inbound and 2,480 outbound).

Trip Distribution and Assignment

The traffic generated by the development anticipated under the Downtown Community Plan will be distributed onto the roadway system based on the locations of complementary land uses, prevailing travel patterns, and surrounding population densities. The major directions of approach and departure that form the trip distribution pattern for the Downtown District are illustrated on **Figure 4.11**. Approximately 20 percent of the trips are estimated to approach/depart the Downtown District to/from the north, 25 to/from the south, 27 percent to/from the west and 28 percent to/from the east. The AM and PM peak hour minimum Plan-related trips are assigned to the study intersections and presented on **Figure 4.12,** while the maximum Plan-related trips are presented on **Figure 4.13.**

TABLE 4-12: TRIP GENERATION ESTIMATES

Land Use	Size[1]	Daily		AM Peak Hour				PM Peak Hour			
		Rate[2]	Trips	Rate[2]	In	Out	Total	Rate[2]	In	Out	Total
Existing Conditions											
Condo (230)	10 d.u.	8.70	87	0.80	1	7	8	0.90	6	3	9
General Office (710)	409.292 ksf	9.65	3,949	1.41	510	69	579	1.31	91	446	537
Medical/Dental Office (720)	61.588 ksf	36.13	2,225	2.30	112	30	142	3.46	58	155	213
Government Office Complex (733)	500 emp	7,75	3,875	0.61	271	34	305	0.79	122	273	395
Retail (820)	497.980 ksf	38.72	19,281	0.80	242	155	397	3.75	914	951	1,865
Total Raw Existing Trip Generation			29,417		1,136	295	1,431		1,191	1,828	3,019
MXD Internalization and Transit Reduction			-2,613		-75	-20	-95		-104	-160	-264
Total Net Existing Trip Generation			**26,804**		**1,061**	**275**	**1,336**		**1,087**	**1,668**	**2,755**
Minimum Project Buildout Conditions											
Condo (230)	1200 d.u.	4.66	5,588	0.31	64	313	377	0.38	309	152	461
General Office (710)	376.000 ksf	9.84	3,699	1.44	476	65	541	1.33	85	415	500
Medical/Dental Office (720)	564.000 ksf	36.13	20,377	2.30	1,025	272	1,297	3.46	527	1,424	1,951
Government Office Complex (733)	550 emp	7,75	4,263	0.61	299	37	336	0.79	135	300	435
Retail (820)	443.100 ksf	40.33	17,872	0.84	226	145	371	3.89	845	880	1,725
Total Raw Minimum Buildout Trip Generation			51,799		2,090	832	2,922		1,901	3,171	5,072
MXD Internalization and Transit Reduction			-8,361		-251	-100	-351		-298	-496	-794
Total Net Minimum Buildout Trip Generation			**43,438**		**1,839**	**732**	**2,571**		**1,603**	**2,675**	**4,278**
Total Net Minimum – Total Net Existing			16,634		778	457	1,235		516	1,007	1,523
Retail Passby Reduction (25%)[3]			-1,435		-25	-14	-39		-42	-87	-129
Office Reduction (2%)[4]			-182		-11	-7	-18		-6	-11	-17
Net Minimum Project Buildout Trips			**15,017**		**742**	**436**	**1,178**		**468**	**909**	**1,377**
Maximum Project Buildout Conditions											
Condo (230)	2500 d.u.	4.23	10,582	0.27	115	563	678	0.34	564	278	842
General Office (710)	795.520 ksf	8.28	6,587	1.24	868	118	986	1.22	165	805	970
Medical/Dental Office (720)	1193.280 ksf	36.13	43,113	2.30	2,169	576	2,745	3.46	1,115	3,014	4,129

TABLE 4-12: TRIP GENERATION ESTIMATES (CONTINUED)

Government Office Complex (733)	550 emp	7.75	4,263	0.61	299	37	336	0.79	135	300	435
Retail (820)	443.100 ksf	40.33	17,872	0.84	226	145	371	3.89	845	880	1,725
Total Raw Maximum Buildout Trip Generation			82,417		3,677	1,439	5,116		2,824	5,277	8,101
MXD Internalization and Transit Reduction			-15,254		-487	-191	-678		-501	-937	-1,438
Total Net Maximum Buildout Trip Generation			**67,163**		**3,190**	**1,248**	**4,438**		**2,323**	**4,340**	**6,663**
Total Net Maximum – Total Net Existing			40,359		2,129	973	3,102		1,236	2,672	3,908
Retail Passby Reduction (25%)			-2188		-33	-23	-56		-55	-153	-208
Office Reduction (2%)			-529		-28	-21	-49		-14	-39	-53
Net Maximum Project Buildout Trips			**37,642**		**2,068**	**929**	**2,997**		**1,167**	**2,480**	**3,647**

Notes:
1. d.u. = dwelling unit, ksf = kilo square foot, emp = employees
2. *Trip Generation*, 8th Edition, Institute of Transportation Engineers.
3. 25 Percent Passby reduction applied to net new retail trips based on ITE average.
4. 2 Percent reduction applied to net new office trips to reflect mode shift to bicycle based on amenities requirements from the MCP.

Source: Fehr & Peers, February 2011.

Figure 4.10: Minimum and Maximum Project Buildout Passby Volume Assignment

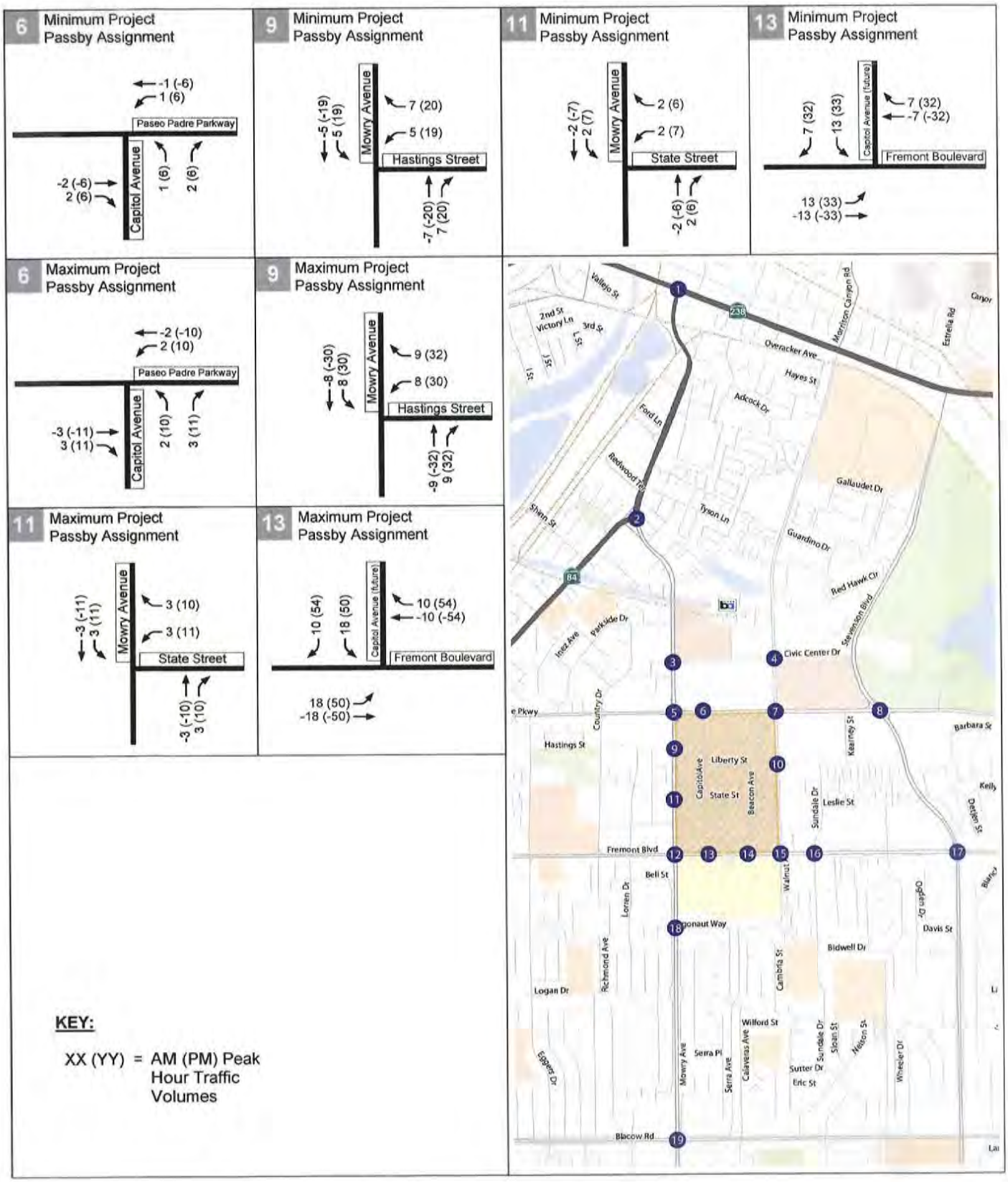


Figure 4.11: Project Trip Distribution

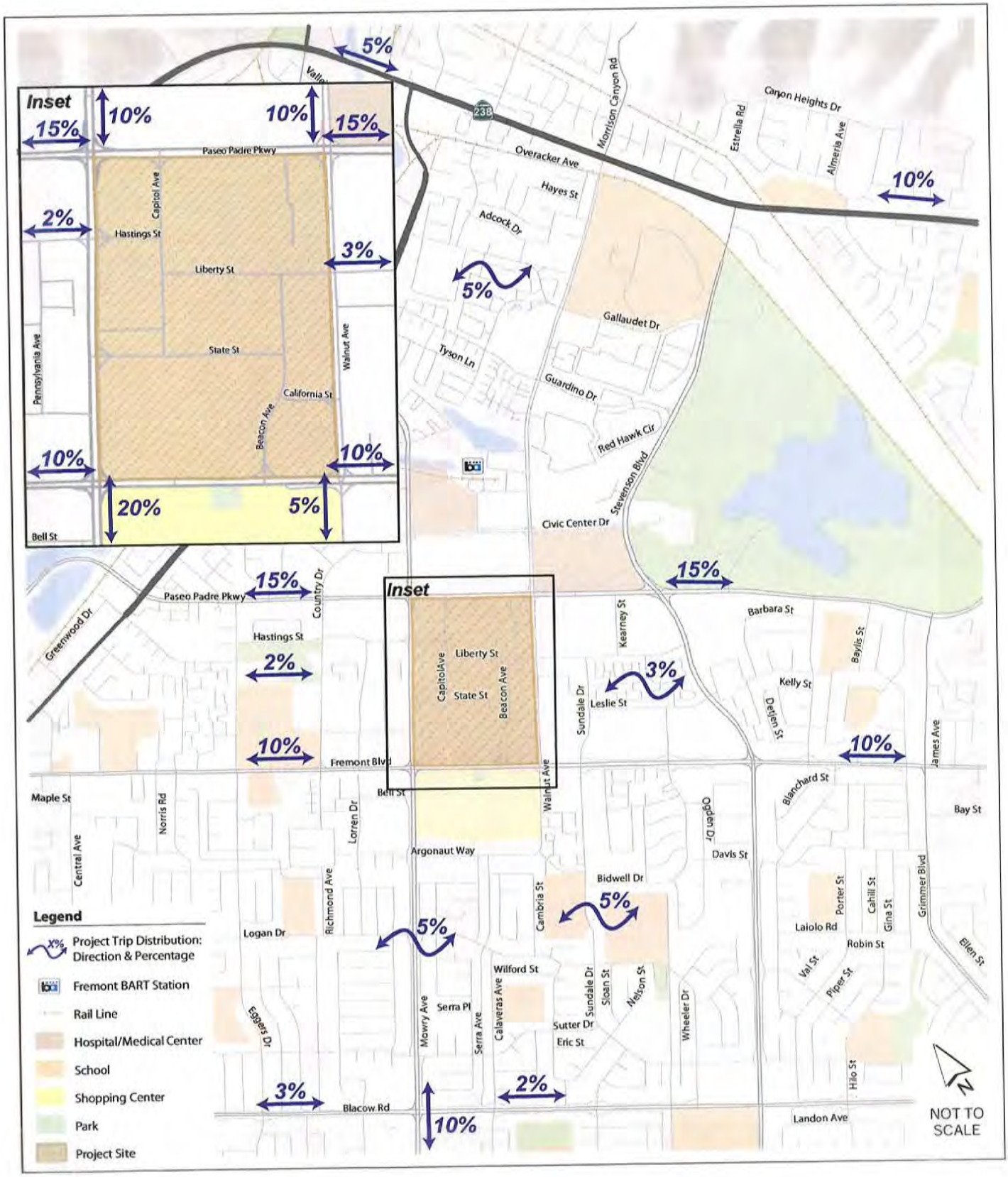


Figure 4.12: Minimum Project Buildout Trip Assignment

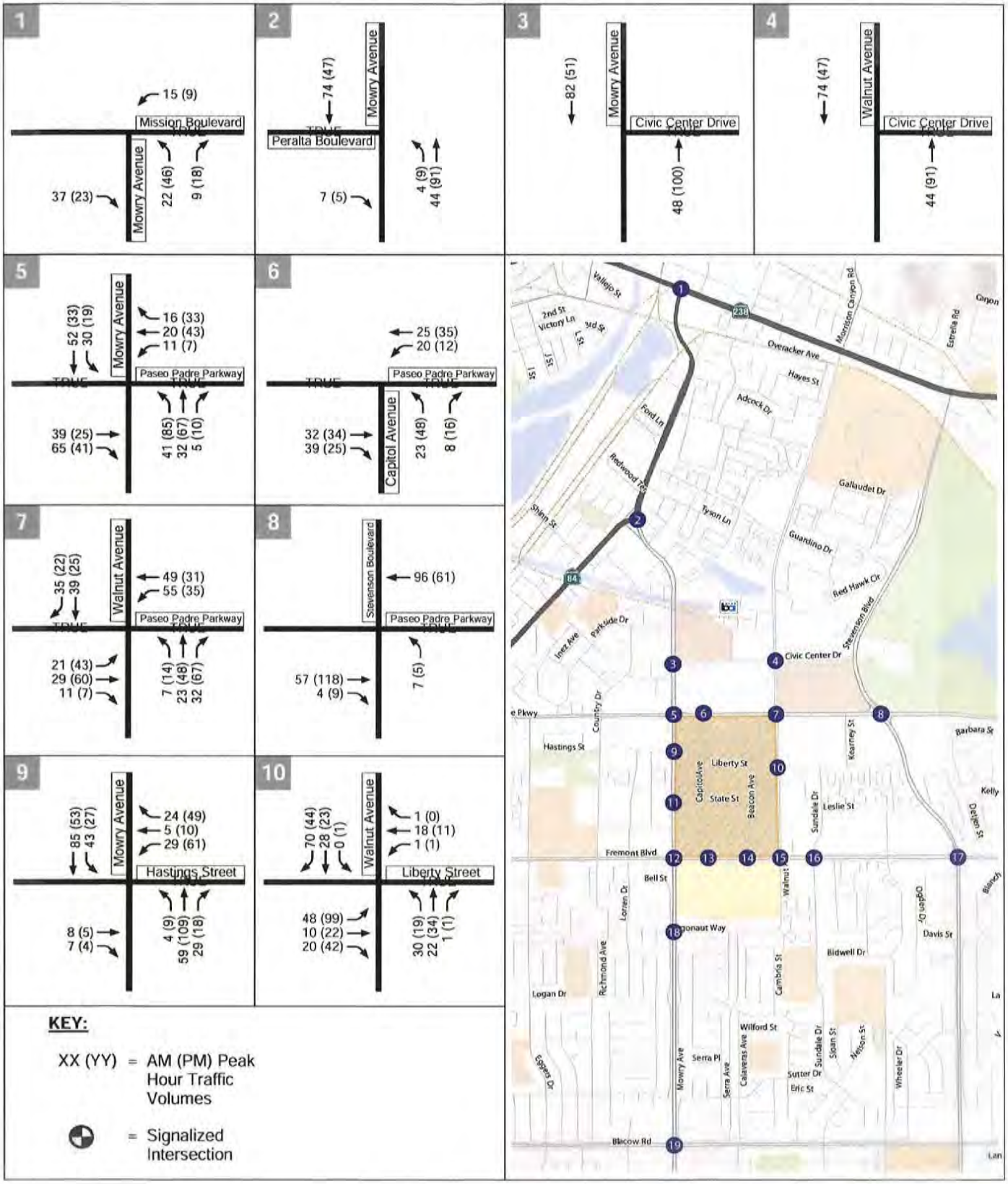


Figure 4.12: Minimum Project Buildout Trip Assignment (continued)

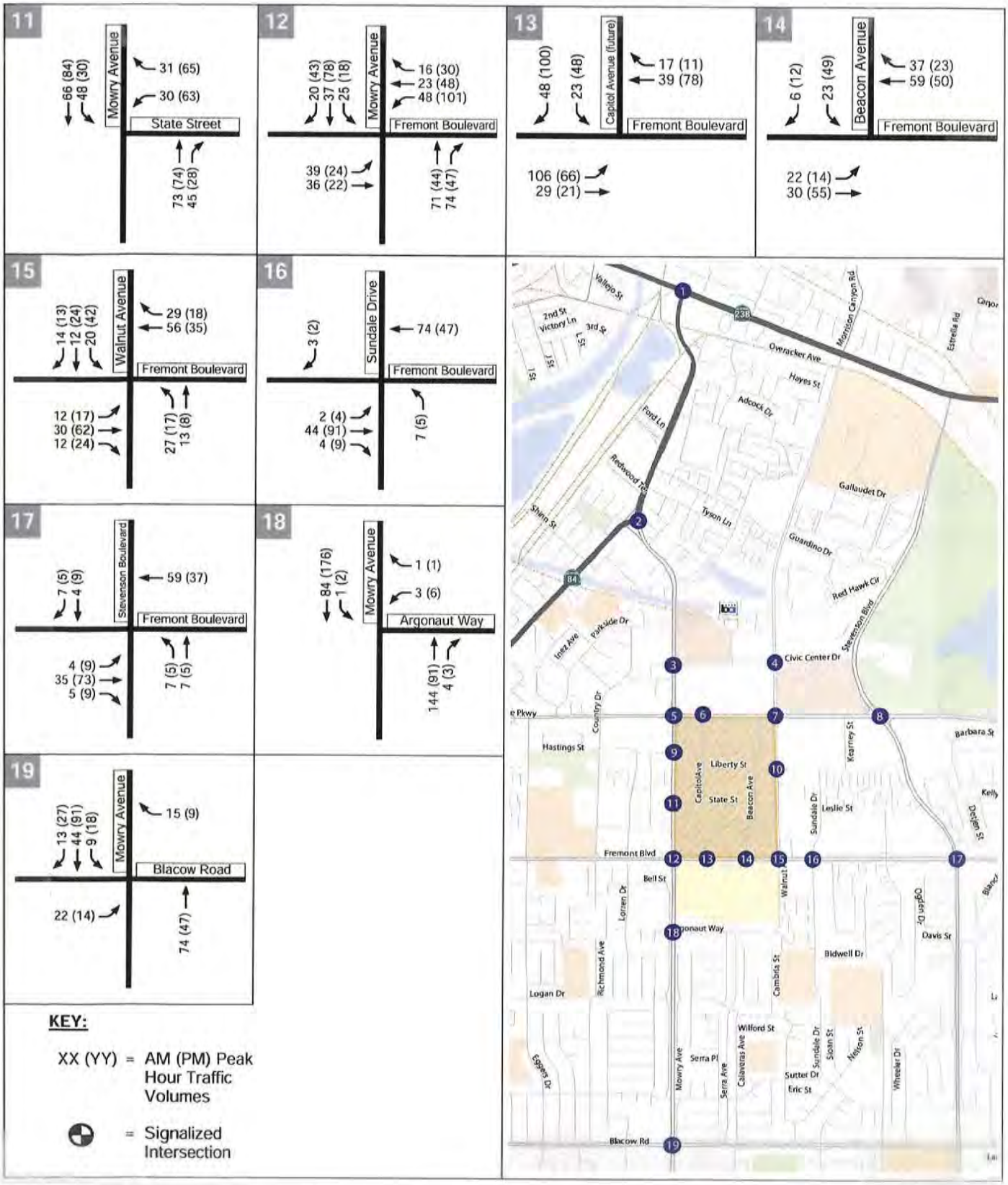


Figure 4.13: Maximum Project Buildout Trip Assignment

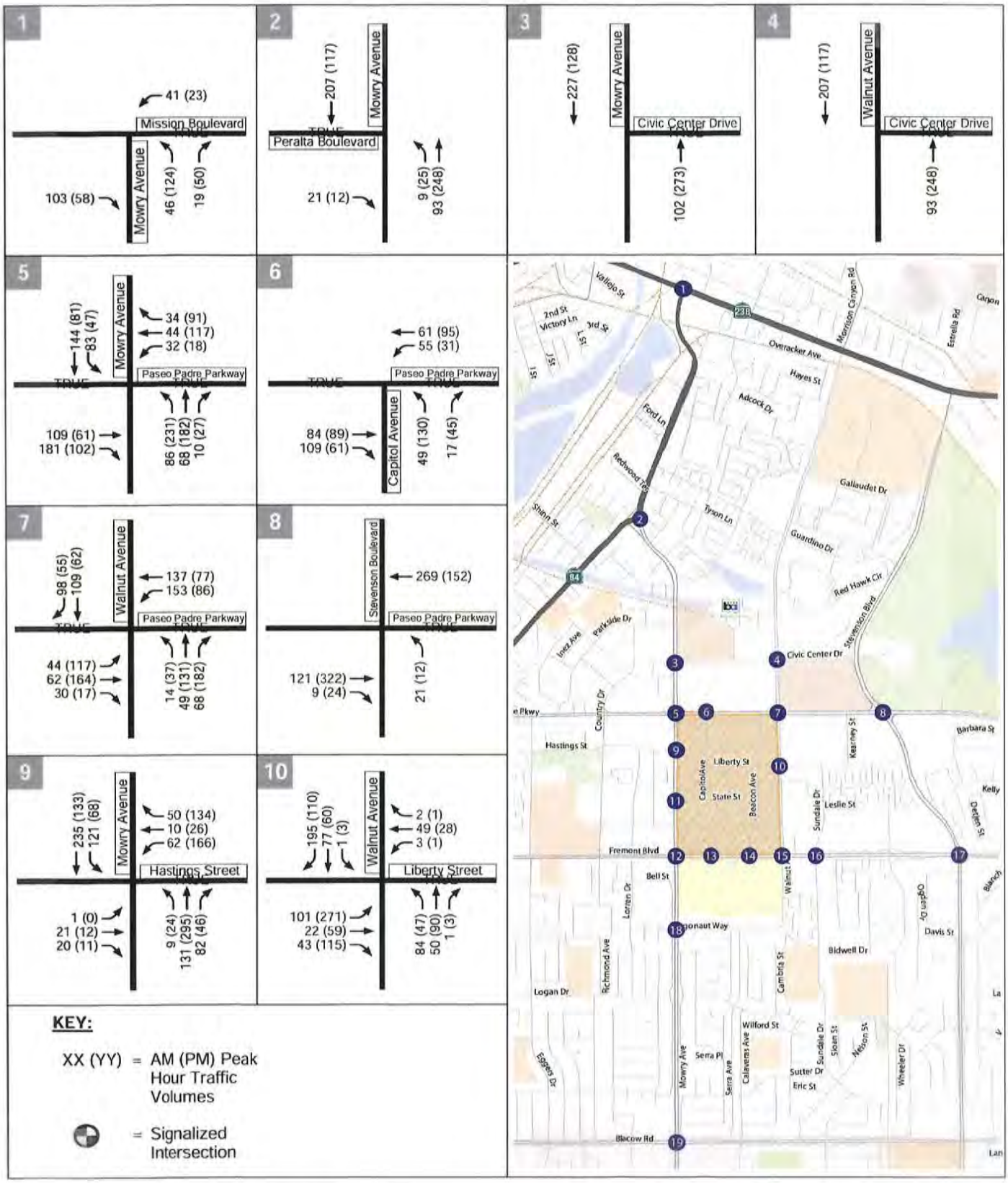
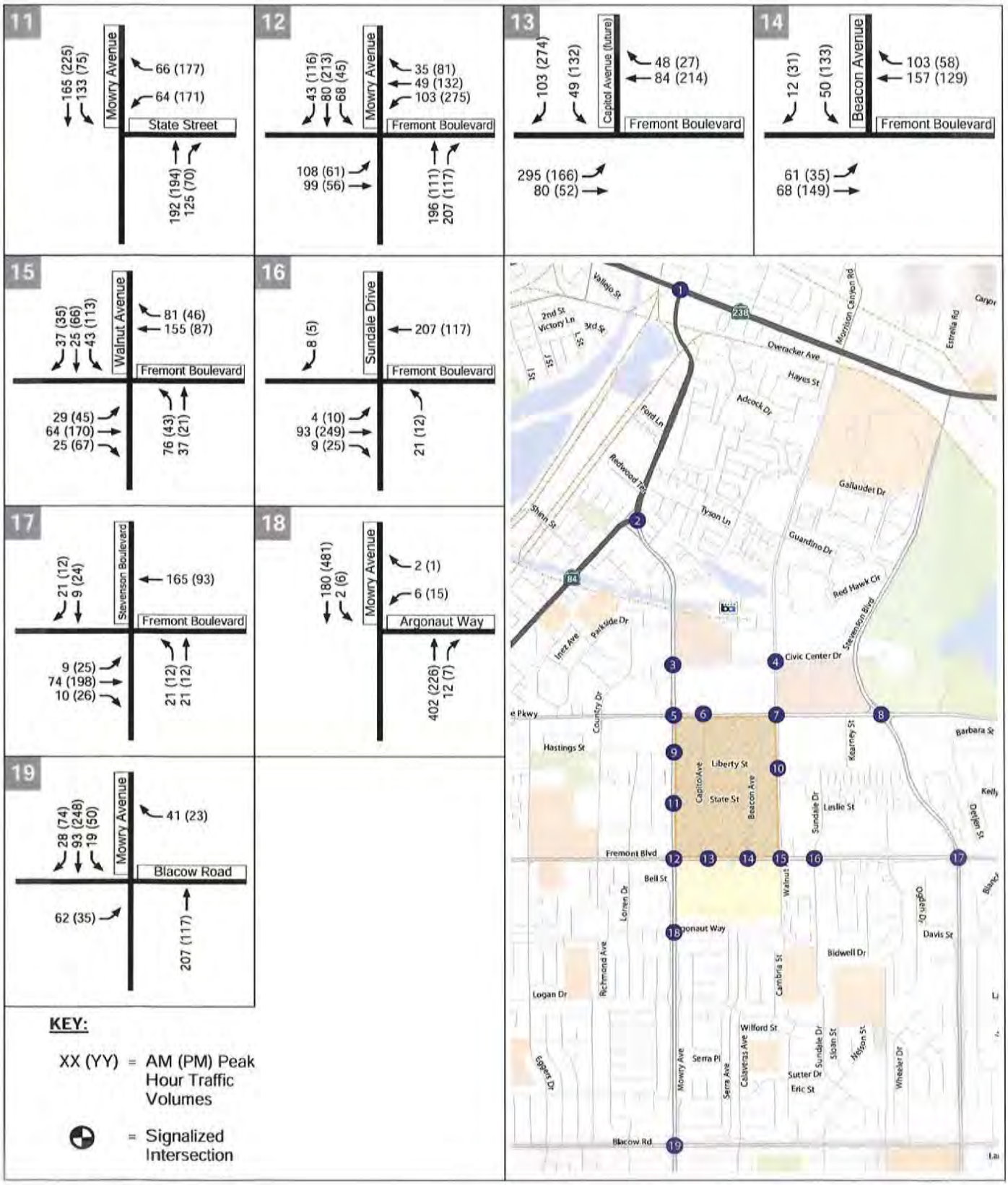


Figure 4.13: Maximum Project Buildout Trip Assignment (continued)



Conditions Under the Downtown Community Plan

Transportation Improvements

Based on the *Draft Fremont Downtown Community Plan + Design Guidelines* and subsequently confirmed by the City of Fremont, the north approach of the Fremont Boulevard and Capitol Avenue (future extension) intersection will be re-configured from a separate left-turn lane and a shared through/right-turn lane to a shared left/through/right lane. This is a roadway change associated with the Downtown Community Plan.

All remaining study intersections will maintain the background (existing) lane configurations.

Intersection Levels of Service

Intersection levels of service were calculated with the net traffic added by each of the Downtown Community Plan scenarios to evaluate the operating conditions of the intersections and to identify potential impacts. The resulting Minimum Buildout traffic volumes and lane configurations are presented on **Figure 4.14**. The resulting Maximum Buildout traffic volumes and lane configurations are presented on **Figure 4.15**.

The results of the LOS calculations for Background and the two project scenarios are presented in **Table 4-13**. The corresponding LOS calculation sheets are included in **Technical Appendix (B)**.

Some intersections show a reduction in average delay with the addition of Plan-related traffic, which may seem counter-intuitive. The average delay values in the table are weighted averages. Weighted average delays will be reduced when traffic is added to a movement with a low delay, such as the through movements in the non-peak direction on Mowry Avenue.[3] Conversely, relatively small volume increases to movements with high delays can substantially increase the weighted average delay.

[3] For example, if you have one movement with 10 vehicles with a delay of 100 seconds and another movement with 400 vehicles and 10 seconds of delay, the weighted average delay is calculated as (100 seconds X 10 vehicles + 10 seconds X 400 vehicles) / 410 vehicles = 12.2 seconds per vehicle. Now if you add 100 vehicles to the movement with 10 seconds of delay, the weight average is calculated as (100 seconds X 10 vehicles + 10 seconds X 500 vehicles) / 510 vehicles = 11.8 seconds per vehicle. The weighted average delay improves, even though more vehicles are added.

TABLE 4-13: PROJECT SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE

Intersection	Peak Hour	Background		Minimum Project Buildout				Maximum Project Buildout			
		Delay (sec/veh)[1]	LOS[2]	Delay (sec/veh)[1]	LOS[2]	Δ in Delay[3]	Mit Delay	Delay (sec/veh)[1]	LOS[2]	Δ in Delay[3]	Mit Delay
1. Mission Boulevard/Mowry Avenue	AM	65.8	E	74.8	E	9.0	52.1	**>80**	**F**	**26.9**	65.5
	PM	34.5	C	37.0	D	2.5	N/A	42.6	D	8.1	N/A
2. Mowry Avenue/Peralta Boulevard	AM	14.1	B	13.9	B	-0.2		13.8	B	-0.3	
	PM	16.3	B	16.6	B	0.3		17.6	B	1.3	
3. Mowry Avenue/Civic Center Drive	AM	25.1	C	24.9	C	-0.2		24.6	C	-0.5	
	PM	26.2	C	25.8	C	-0.4		25.2	C	-1.0	
4. Walnut Avenue/Civic Center Drive	AM	26.1	C	25.7	C	-0.4		24.9	C	-1.2	
	PM	30.8	C	31.1	C	0.3		32.0	C	1.2	
5. Paseo Padre Parkway/Mowry Avenue	AM	39.7	D	40.7	D	1.0		42.9	D	3.2	
	PM	37.7	D	38.9	D	1.2		41.2	D	3.5	
6. Paseo Padre Parkway/Capitol Avenue	AM	12.1	B	15.3	B	3.2		18.4	B	6.3	
	PM	23.3	C	32.2	C	8.9		37.4	D	14.1	
7. Paseo Padre Parkway/Walnut Avenue	AM	33.5	C	35.2	D	1.7		37.5	D	4.0	
	PM	39.7	D	41.6	D	1.9		45.3	D	5.6	
8. Paseo Padre Parkway/Stevenson Boulevard	AM	39.9	D	39.6	D	-0.3		39.1	D	-0.8	
	PM	39.0	D	39.0	D	0.0		38.8	D	-0.2	
9. Mowry Avenue/Hastings Street	AM	14.3	B	15.5	B	1.2		18.2	B	3.9	
	PM	11.9	B	20.7	C	8.8		29.5	C	17.6	
10. Walnut Avenue/Liberty Street	AM	21.9	C	22.0	C	0.1		22.5	C	0.6	
	PM	23.3	C	25.2	C	1.9		29.1	C	5.8	
11. Mowry Avenue/State Street	AM	11.1	B	13.3	B	2.2		16.2	B	5.1	
	PM	18.7	B	22.1	C	3.4		26.9	C	8.2	
12. Mowry Avenue/Fremont Boulevard	AM	34.7	C	36.5	D	1.8		40.8	D	6.1	
	PM	48.7	D	56.1	E	7.4		78.2	E	29.5	

TABLE 4-13: PROJECT SIGNALIZED INTERSECTION PEAK HOUR LEVELS OF SERVICE (CONTINUED)

Intersection	Peak Hour	Background		Minimum Project Buildout				Maximum Project Buildout			
		Delay (sec/veh)[1]	LOS[2]	Delay (sec/veh)[1]	LOS[2]	Δ in Delay[3]	Mit Delay	Delay (sec/veh)[1]	LOS[2]	Δ in Delay[3]	Mit Delay
13. Fremont Boulevard/Capitol Avenue (future)	AM PM	14.7 22.0	B C	22.7 37.9	C D	8.0 15.9		28.7 **>80**	C **F**	14.0 **75.5**	N/A 41.9
14. Fremont Boulevard/Beacon Avenue	AM PM	10.2 21.6	B C	11.9 24.0	B C	1.7 2.4		16.2 27.2	B C	6.0 5.6	
15. Fremont Boulevard/Walnut Avenue	AM PM	33.3 48.2	C D	33.9 52.2	C D	0.6 4.0		34.6 62.2	C E	1.3 14.0	
16. Fremont Boulevard/Sundale Drive	AM PM	21.3 23.1	C C	20.7 22.8	C C	-0.6 -0.3		20.1 22.3	C C	-1.2 -0.8	
17. Fremont Boulevard/Stevenson Boulevard	AM PM	35.9 37.8	D D	35.9 37.9	D D	0.0 0.1		35.8 38.2	D D	-0.1 0.4	
18. Mowry Avenue/Argonaut Way	AM PM	22.7 37.3	C D	22.0 38.0	C D	-0.7 0.7		21.5 40.0	C D	-1.2 2.7	
19. Blacow Road/ Mowry Avenue	AM PM	30.5 31.7	C C	30.5 31.9	C C	0.0 0.2		30.9 32.5	C C	0.4 0.8	

Note:

1. Whole intersection weighted average stopped delay expressed in seconds per vehicle for signalized intersections.
2. LOS calculations performed using the *2000 Highway Capacity Manual (HCM)* method using the TRAFFIX analysis software package.
3. Change in average delay between Background and Project Conditions.

Results in **bold** represent unacceptable levels of service. Highlighted text represents a potentially significant project impact.

Source: Fehr & Peers, February 2011.

Figure 4.14: Minimum Project Buildout Intersection Peak-Hour Volumes, Lane Geometries, and Signal Controls

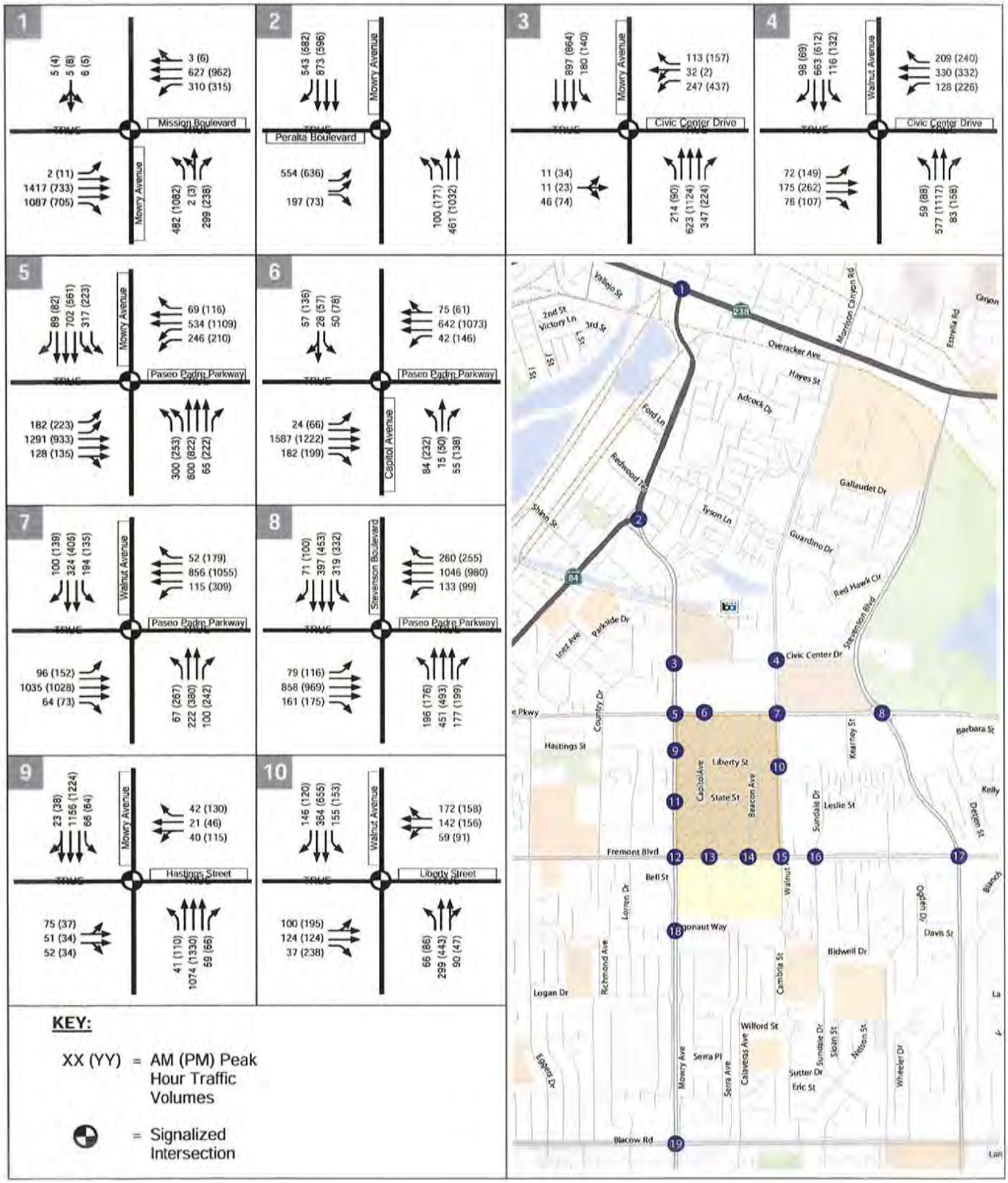


Figure 4.14: Minimum Project Buildout Intersection Peak-Hour Volumes, Lane Geometries, and Signal Controls (Continued)

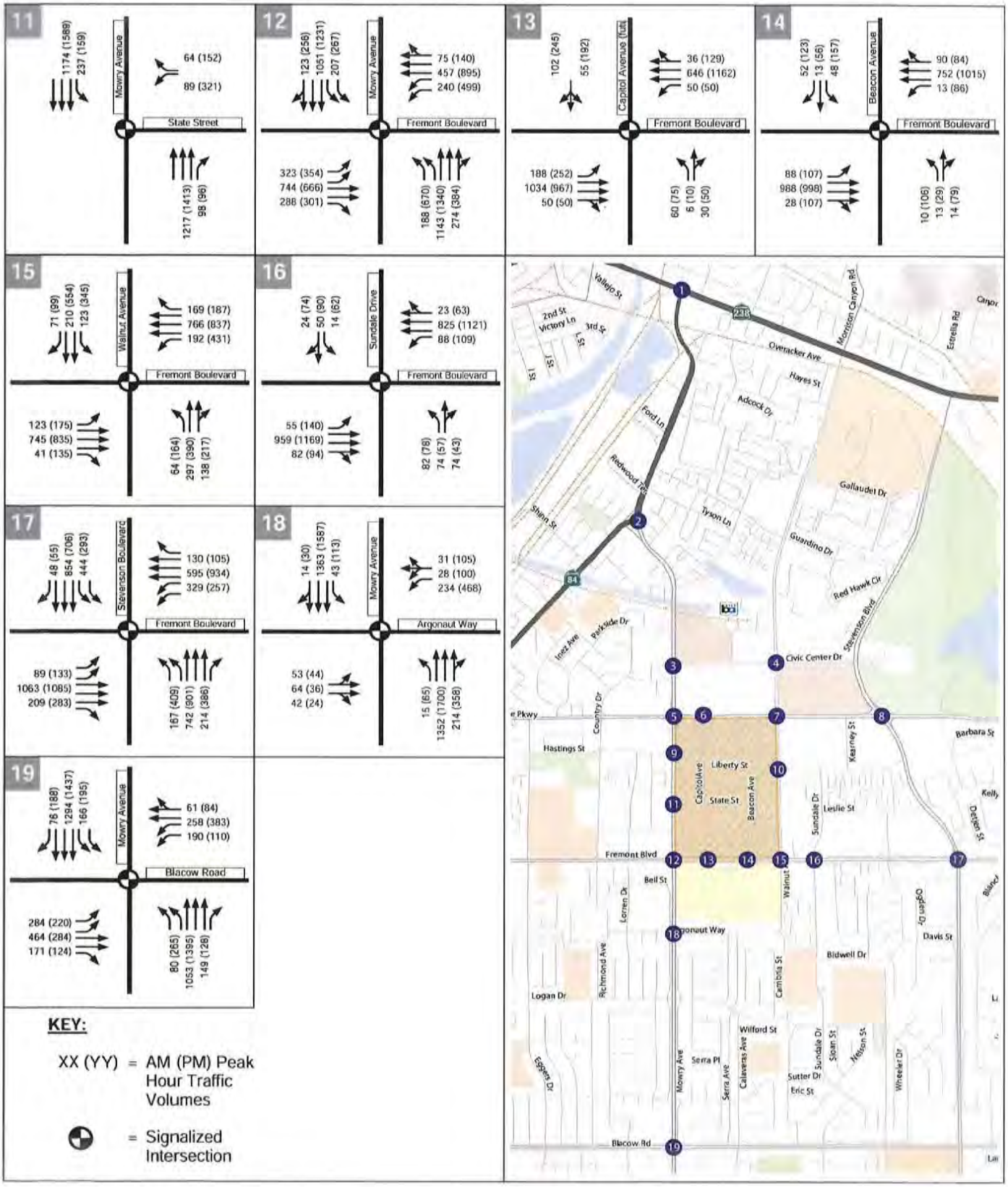


Figure 4.15: Maximum Project Buildout Intersection Peak-Hour Volumes, Lane Geometries, and Signal Controls

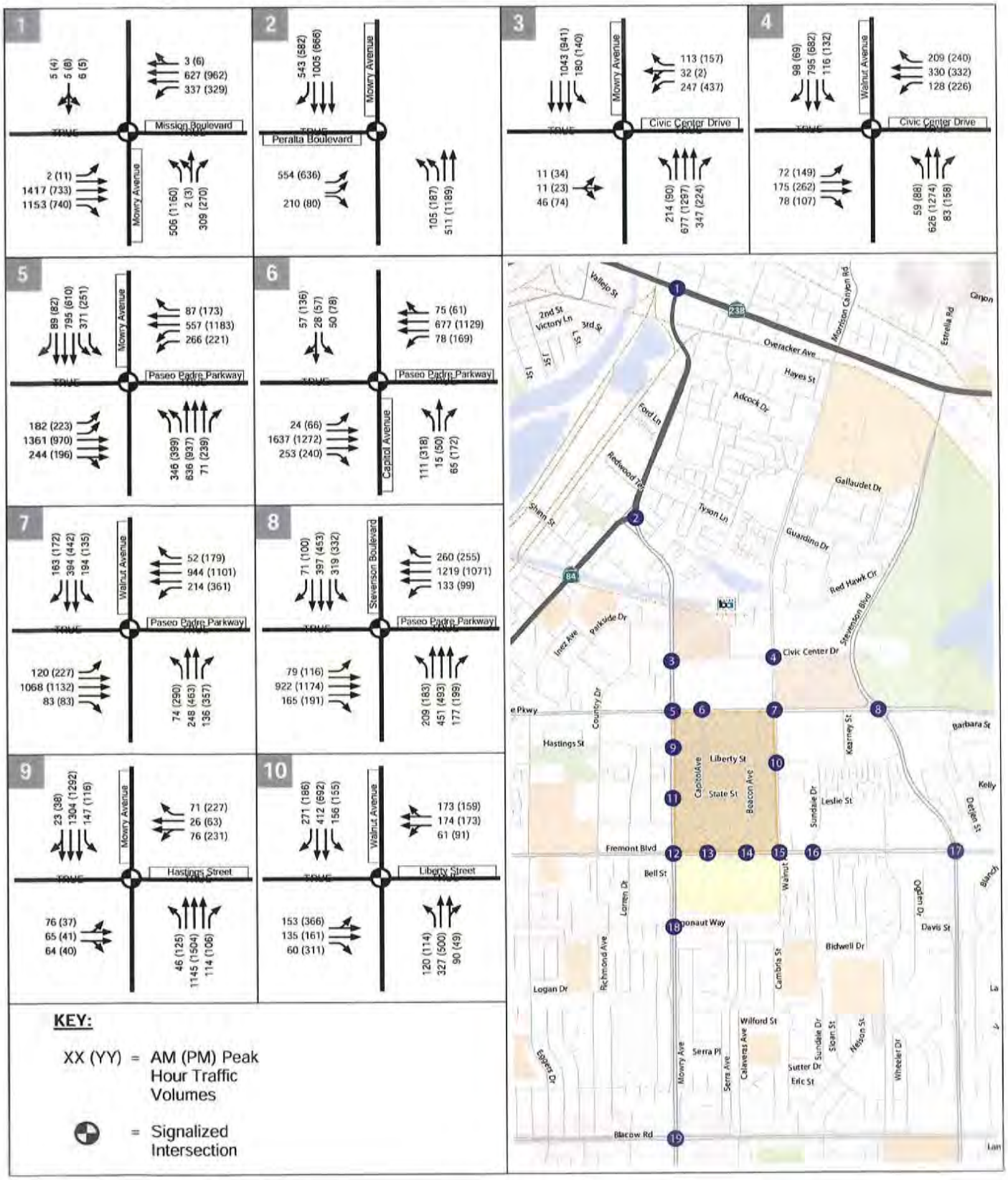
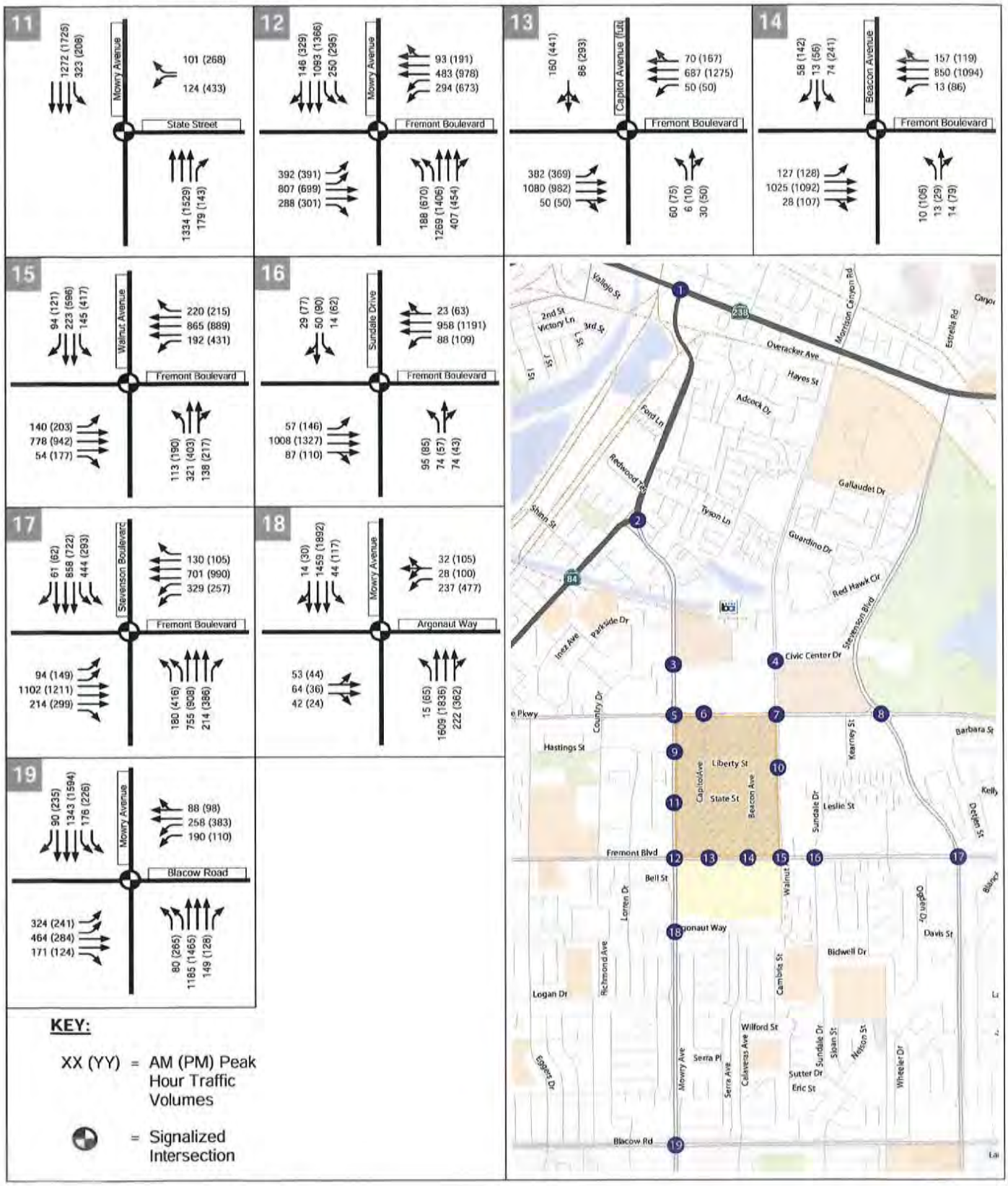


Figure 4.15: Maximum Project Buildout Intersection Peak-Hour Volumes, Lane Geometries, and Signal Controls (Continued)



Intersection Impacts

The results in **Table 4-13**, above, indicate that under the Maximum Buildout assumptions, implementation of the Downtown Community Plan will result in significant intersection impacts at the following locations:

- Mission Boulevard and Mowry Avenue (AM peak hour, from LOS E to LOS F with >4 seconds additional delay)
- Fremont Boulevard and Capitol Avenue (PM peak hour, from LOS C to LOS F)

Impact TRA-1: Unacceptable Level of Service at Mission Boulevard/Mowry Avenue Intersection. Maximum development anticipated under the Downtown Community Plan would be expected to result in the LOS at the intersection of Mission Boulevard and Mowry Avenue declining from LOS E to LOS F in the AM peak hour, with a >4 seconds delta delay. This would represent a ***significant*** impact.

Mitigation TRA-1: Add Second West-Bound Right-Turn Lane at Mission Boulevard/Mowry Avenue Intersection. Adding a second westbound right-turn lane would improve overall vehicular operations of the intersection. However, this mitigation does not reduce the average intersection delay to an acceptable level, although delays are expected to improve over the "without project" scenarios. The additional westbound right-turn lane will increase the crosswalk distance and duration of pedestrian and bicyclist exposure to motor vehicle traffic. This is a secondary impact.

This lane addition would require right-of-way (ROW) acquisition on Mission Boulevard, plus ROW acquisition on Mowry Avenue to add a second receiving lane at the southern leg of the intersection. This intersection is under the jurisdiction of Caltrans as the intersection of State Routes 84 and 238. The City includes intersection improvements for this intersection in its existing Citywide Transportation Impact Fee program, however it does not include the proposed lane modifications as described in **Mitigation TRA-1**. Since the City cannot guarantee that the measure would be implemented as at this time it is not a funded project or under the complete jurisdictional control of the City, the impact would remain ***significant and unavoidable***.

Impact TRA-2: Unacceptable Level of Service at Fremont Boulevard/Capitol Avenue Intersection. Maximum development anticipated under the Downtown Community Plan would be expected to result in the LOS at the intersection of Fremont Boulevard and Capitol Avenue declining

from LOS C to LOS F in the PM peak hour. This would represent a ***potentially significant*** impact.

Mitigation TRA-2: Modify Southbound Shared Left/Through/Right Lane at Fremont Boulevard/Capitol Avenue Intersection. Modifying the southbound shared left/through/right lane to provide separate left and shared through/right-turn lanes would improve the overall vehicular operations of the intersection. This mitigation reduces the average intersection delay to an acceptable level.

This lane addition would require ROW modification to the Capitol Avenue Extension near the intersection as part of the Downtown Community Plan. With the identified improvement, impacts at this intersection would be considered ***less than significant***.

Impact TRA-3: Unacceptable Level of Service at Fremont Boulevard/Walnut Avenue Intersection. Maximum development anticipated under the Downtown Community Plan would be expected to result in the LOS at the intersection of Fremont Boulevard and Walnut Avenue declining from LOS D to LOS E in the PM peak hour. This would represent a ***potentially significant*** impact.

Mitigation TRA-3: Add Second Southbound Left-Turn Lane at Fremont Boulevard/Walnut Avenue Intersection. Adding a second southbound left-turn lane would improve overall vehicular operations of the intersection. This mitigation reduces the average intersection delay to an acceptable level.

This lane addition is identified under the City CIP list as part of an overall improvement of the intersection. With the identified improvement, the Plan-related impacts at this intersection would be reduced to a level considered ***less than significant***.

CMP Analysis

The Alameda County Transportation Commission (ACTC) requires analysis of General Plan Amendments and significant projects requiring environmental impact reports when there is a net increase in forecasted trip generation of 100 peak hour trips. However, subsequent to the Notice of Preparation for the Downtown Community Plan when the project was proposed as a General Plan Amendment intensifying use, the City has already completed its General Plan Update and include development of the Downtown Community Plan in its analysis. As a supplement to the General Plan EIR, this project is consistent with its description and analysis performed previously and would not necessitate individual CMP analysis. The following CMP analysis provides a description of Downtown project effects consistent with the prior NOP description and does not

include the full consideration of the General Plan buildout that was already completed. MTS roadways included in this analysis are listed below:

Freeway Segments

- I-880 Eastbound and Westbound from Thornton Avenue to Mowry Avenue and from Mowry Avenue to Stevenson Boulevard,
- SR 84 (Thornton Avenue) Northbound & Southbound from I-880 to Fremont Boulevard,
- SR 84 (Peralta Boulevard) Northbound & Southbound from Fremont Boulevard to Mowry Avenue, and
- SR 238 (Mission Boulevard) Eastbound and Westbound from I-680 to Mowry Avenue.

Arterial Segments

- Fremont Eastbound and Westbound from I-880 to Thornton Avenue and from Thornton Avenue to Washington Boulevard,
- Mowry Avenue from I-880 to Fremont Boulevard and from Fremont Boulevard to Peralta Boulevard,
- Stevenson Boulevard from I-880 to Fremont Boulevard and from Fremont Boulevard to Mission Boulevard, and
- Paseo Padre Parkway from Thornton Avenue to Stevenson Boulevard

The ACTC provided the Countywide Transportation Demand Model for Year 2015 and 2035 to forecast AM and PM peak-hour roadway segment (link) volumes on the MTS network. The Countywide Model uses the Association of Bay Area Governments (ABAG) *Projections' 2007* land use data. The Plan-related trips were added to the model forecasts. Link volume-to-capacity (v/c) ratios were calculated based on the model forecasts and summarized in **Technical Appendix (F)**. The link capacities were taken from the City of Fremont General Plan 2035 existing summary of roadway segments.

Based on the CMP analysis, the following roadway segments are expected to experience significant Plan-related impacts:

- Eastbound I-800 from Mowry Avenue to Stevenson Boulevard with Maximum Buildout scenario (2015 & 2035 PM)

- Eastbound Fremont Boulevard from I-880 to Thornton Avenue with Maximum Buildout scenario (2035 AM/PM)
- Southbound Mowry Avenue from Fremont Boulevard to I-880 with Minimum and Maximum Buildout scenarios (2035 AM)
- Eastbound Paseo Padre Parkway from Thornton Avenue to Stevenson Boulevard with Minimum and Maximum Buildout scenarios (2035 AM)
- Westbound Fremont Boulevard from Thornton Avenue to I-880 with Minimum and Maximum Buildout scenario (2035 PM)
- Northbound Mowry Avenue from I-880 to Fremont Boulevard with Minimum and Maximum Buildout scenarios (2035 PM)
- Northbound Mowry Avenue from Fremont Boulevard to Peralta Boulevard with Maximum Buildout scenarios (2035 PM)

Impact TRA-4: Unacceptable Plan-Related Congestion Impacts on Eastbound I-880 from Mowry Avenue to Stevenson Boulevard. Maximum development anticipated under the Downtown Community Plan could be expected to result in unacceptable levels of congestion along eastbound I-880 from Mowry Avenue to Stevenson Boulevard, a ***significant*** impact.

Mitigations for CMA roadway segment impacts would require adding travel lanes and widening roadways throughout the City of Fremont. As the City is built out, there is little opportunity to widen roadways within the available right-of-way. Therefore, roadway widenings would require property acquisition. Wider roadways could also result in secondary impacts to bicyclists and pedestrians by creating longer crossing distances and creating a less comfortable environment for walking or bicycling. Due to the number of affected properties, financial implications and potential secondary impacts, roadway segment impacts are considered ***significant and unavoidable***.

Impact TRA-5: Unacceptable Plan-Related Congestion Impacts on Eastbound Fremont Boulevard from I-880 to Thornton Avenue. Maximum development anticipated under the Downtown Community Plan could be expected to result in unacceptable levels of congestion along eastbound Fremont Boulevard from I-880 to Thornton Avenue, a ***significant*** impact.

Mitigations for CMA roadway segment impacts would require adding travel lanes and widening roadways throughout the City of Fremont. As the City is built out, there is little opportunity to widen roadways within the available right-of-way. Therefore, roadway

widenings would require property acquisition. Wider roadways could also result in secondary impacts to bicyclists and pedestrians by creating longer crossing distances and creating a less comfortable environment for walking or bicycling. Due to the number of affected properties, financial implications and potential secondary impacts, roadway segment impacts are considered ***significant and unavoidable***.

Impact TRA-6: Unacceptable Plan-Related Congestion Impacts on Southbound Mowry Avenue from Fremont Boulevard to I-880. Maximum development anticipated under the Downtown Community Plan could be expected to result in unacceptable levels of congestion along southbound Mowry Avenue from Fremont Boulevard to I-880, a ***significant*** impact.

Mitigations for CMA roadway segment impacts would require adding travel lanes and widening roadways throughout the City of Fremont. As the City is built out, there is little opportunity to widen roadways within the available right-of-way. Therefore, roadway widenings would require property acquisition. Wider roadways could also result in secondary impacts to bicyclists and pedestrians by creating longer crossing distances and creating a less comfortable environment for walking or bicycling. Due to the number of affected properties, financial implications and potential secondary impacts, roadway segment impacts are considered ***significant and unavoidable***.

Impact TRA-7: Unacceptable Plan-Related Congestion Impacts on Eastbound Paseo Padre Parkway from Thornton Avenue to Stevenson Boulevard. Maximum development anticipated under the Downtown Community Plan could be expected to result in unacceptable levels of congestion along eastbound Paseo Padre Parkway from Thornton Avenue to Stevenson Boulevard, a ***significant*** impact.

Mitigations for CMA roadway segment impacts would require adding travel lanes and widening roadways throughout the City of Fremont. As the City is built out, there is little opportunity to widen roadways within the available right-of-way. Therefore, roadway widenings would require property acquisition. Wider roadways could also result in secondary impacts to bicyclists and pedestrians by creating longer crossing distances and creating a less comfortable environment for walking or bicycling. Due to the number of affected properties, financial implications and potential secondary impacts, roadway segment impacts are considered ***significant and unavoidable***.

Impact TRA-8: Unacceptable Plan-Related Congestion Impacts on Westbound Fremont Boulevard from Thornton Avenue to I-880. Maximum development anticipated under the Downtown Community Plan could be expected to result in unacceptable levels of congestion along

westbound Fremont Boulevard from Thornton Avenue to I-880, a ***significant*** impact.

Mitigations for CMA roadway segment impacts would require adding travel lanes and widening roadways throughout the City of Fremont. As the City is built out, there is little opportunity to widen roadways within the available right-of-way. Therefore, roadway widenings would require property acquisition. Wider roadways could also result in secondary impacts to bicyclists and pedestrians by creating longer crossing distances and creating a less comfortable environment for walking or bicycling. Due to the number of affected properties, financial implications and potential secondary impacts, roadway segment impacts are considered ***significant and unavoidable***.

Impact TRA-9: Unacceptable Plan-Related Congestion Impacts on Northbound Mowry Avenue from I-880 to Fremont Boulevard. Maximum development anticipated under the Downtown Community Plan could be expected to result in unacceptable levels of congestion along northbound Mowry Avenue from I-880 to Fremont Boulevard, a ***significant*** impact.

Mitigations for CMA roadway segment impacts would require adding travel lanes and widening roadways throughout the City of Fremont. As the City is built out, there is little opportunity to widen roadways within the available right-of-way. Therefore, roadway widenings would require property acquisition. Wider roadways could also result in secondary impacts to bicyclists and pedestrians by creating longer crossing distances and creating a less comfortable environment for walking or bicycling. Due to the number of affected properties, financial implications and potential secondary impacts, roadway segment impacts are considered ***significant and unavoidable***.

Impact TRA-10: Unacceptable Plan-Related Congestion Impacts on Northbound Mowry Avenue from Fremont Boulevard to Peralta Boulevard. Maximum development anticipated under the Downtown Community Plan could be expected to result in unacceptable levels of congestion along northbound Mowry Avenue from Fremont Boulevard to Peralta Boulevard, a ***significant*** impact.

Mitigations for CMA roadway segment impacts would require adding travel lanes and widening roadways throughout the City of Fremont. As the City is built out, there is little opportunity to widen roadways within the available right-of-way. Therefore, roadway widenings would require property acquisition. Wider roadways could also result in secondary impacts to bicyclists and pedestrians by creating longer crossing distances and creating a less comfortable environment for walking or bicycling. Due to the number of affected properties, financial implications and potential secondary impacts, roadway segment impacts are considered ***significant and unavoidable***.

Cumulative Traffic Impacts

Development under the Downtown Community Plan would be expected to contribute a portion of the cumulative traffic anticipated on local roadways in 2035, and would, therefore, make a cumulatively considerable contribution to traffic congestion at numerous intersections (see Fremont DRAFT General Plan Update DRAFT EIR, pages 4-69 through 4-105, particularly Table 4-20 on pages 4-85 through 4-86 and Figure 4.3 on page 4-87). As indicated in the DRAFT EIR on the Fremont DRAFT General Plan Update, in some instances these impacts could be reduced to a level of less than significant through effective implementation of the Mitigations identified in that document, but in most instances, these measures will be unlikely to be feasible due to constraints, and not all intersections have identified mitigation measures. As a result, traffic congestion at impacted intersections would represent a ***significant and unavoidable*** cumulative impact associated with implementation of the Downtown Community Plan as was previously identified in the General Plan Update EIR.

Transit Impacts

BART Ridership Projections

Rail ridership is traditionally forecast with region-wide travel demand models, which often represent transportation networks and land use at an aggregate scale. Such models are relatively unresponsive to changes in station-level land use and transit service characteristics. Direct Ridership Models are directly and quantitatively responsive to land use and transit service characteristics within the immediate vicinity and within the catchment area of existing transit stations. Therefore, a Direct Ridership Model developed by Fehr & Peers was used to estimate the BART patronage associated with the two development scenarios of the Downtown Community Plan.

Direct Ridership Models use multivariate regression and other statistical models based on local data to determine the station characteristics that most influence rail transit patronage. They respond directly to factors such as parking, feeder bus service levels, station-area households and employment, and the effects of transit-oriented development (TOD).

The Direct Ridership Models used for this study predict changes in ridership at individual BART stations for four access and three egress modes during nine different times of the day (as shown in **Table 4-14**, below), based on empirical relationships found through statistical analysis of BART system ridership data and the 2008 Passenger Profile Survey. Direct Ridership Models provide a predictive method based on existing rail transit service and with demonstrated ability to match ridership relationships measured on those services. In addition, the models have demonstrated the ability to match total station alightings in most times of the day for a "backcast" year of 2000, based on the station area demographics and transit service characteristics at that time.

TABLE 4-14: TIME PERIODS MODELED

Period	Boardings Time Period	Alightings Time Period
AM Early	3:30 AM – 6:29 AM	4:00 AM – 6:59 AM
AM Pre-Peak Shoulder	6:30 AM – 7:29 AM	7:00 AM – 7:59 AM
AM Peak	7:30 AM – 8:29 AM	8:00 AM – 8:59 AM
AM Post-Peak Shoulder	8:30 AM – 9:29 AM	9:00 AM – 9:59 AM
Midday	9:30 AM – 3:59 PM	10:00 AM – 4:29 PM
PM Pre-Peak Shoulder	4:00 PM – 4:59 PM	4:30 PM – 5:29 PM
PM Peak	5:00 PM – 5:59 PM	5:30 PM – 6:29 PM
PM Post-Peak Shoulder	6:00 PM – 6:59 PM	6:30 PM – 7:29 PM
Evening	7:00 PM – 1:59 AM	7:30 PM – 1:59 AM

Source: Fehr & Peers, February 2011.

Some of the primary input factors required for this model include residential population and jobs that are within a ½ mile radius to the Fremont BART station. For the purpose of this study, two-thirds of the net new Downtown Community Plan development is included within the ½ mile radius. Through the model, the Minimum Buildout scenario is expected to generate a total of 725 boardings and 725 alightings at the Fremont BART Station over the nine different time periods of the day. The Maximum Buildout scenario is expected to generate a total of 1,618 boardings and 1,618 alightings at the Fremont BART Station. It should be noted that the model is design to project the changes in ridership at individual BART stations but does not predict system-wide impacts. As a result, the net new BART ridership generated by development associated with the Downtown Community Plan remains the same regardless of the analysis year. Since the total BART system ridership is projected to be the highest under the 2030 conditions, the Cumulative Base Year was chosen for this analysis to present a more conservative approach. A summary of the results for each of the time periods for both scenarios are shown in **Table 4-15**.

TABLE 4-15: DIRECT RIDERSHIP MODEL OUTPUTS AND BART RIDERSHIP PROJECTIONS

Period	Boardings					Alightings				
	2030 Base	+ Min Proj	Net New	+ Max Proj	Net New	2030 Base	+ Min Proj	Net New	+ Max Proj	Net New
AM Early	793	801	8	809	16	236	267	31	310	74
AM Pre-Peak Shoulder	1,366	1,403	37	1,443	77	298	330	32	382	84
AM Peak	1,748	1,898	150	2,061	313	343	370	27	418	75
AM Post-Peak Shoulder	1,005	1,100	95	1,203	198	209	237	28	280	71
Midday	1,804	2,051	247	2,354	550	1,814	2,041	227	2,320	506
PM Pre-Peak Shoulder	362	401	39	460	98	1,008	1,096	88	1,194	186
PM Peak	444	495	51	576	132	1,700	1,796	96	1,906	206
PM Post-Peak Shoulder	323	359	36	410	87	1,311	1,379	68	1,455	144
Evening	477	541	64	623	146	1,403	1,533	130	1,676	273
Total	8,322	9,047	725	9,940	1,618	8,322	9,047	725	9,940	1,618

Source: Fehr & Peers, February 2011.

The significance criteria for transit-related impacts are:

- The project would generate a substantial increase in transit riders that cannot be adequately served by existing transit services; or,
- The project conflicts with existing or planned transit facilities

All future developments anticipated in the Downtown District are within ¼ mile of a transit stop or the BART station. The number of added transit riders was estimated based

on the method described in the discussion of travel demand characteristics, above. The net new daily transit ridership is approximately 2,500 under Minimum Buildout scenario, and 4,100 under Maximum Buildout scenario.

According to the VTA Short-Range Transit Plan (January 2009), all Express Routes (Routes 120, 140, 180, and 181) that serve the Fremont BART station performed below the Peak Load Factor of 50 percent. Based on the AC Transit Short Range-Transit Plan (2010), Route 99, 210, 217 and U performed at a Peak Load Factor range of 63 to 90 percent, and all remaining identified routes performed below the Peak Load Factor of 50 percent.

In 2010, the Fremont BART Station recorded just over 6,900 average weekday riders. With a combined 52 daily lines between Fremont and Daly City and 76 daily lines between Fremont and Richmond, the Fremont BART Station and lines serving it would operate under capacity.

All transit services are expected to have available capacity to accommodate these additional riders. Implementation of the Downtown Community Plan, therefore, is expected to have a ***less than significant*** transit impact.

Bicycle System Impacts

The Downtown Community Plan would create a significant impact to the bicycle system if any of the following criteria are met or exceeded:

- The project design would not provide or eliminate bicycle facilities that connect to the area circulation system, or
- The project design would create hazardous conditions for bicyclists.

Implementation of the Downtown Community Plan would provide new bicycle facilities (bike routes and bike lanes) and bicycle amenities, and does not contain design aspects that would cause an increased potential for bicycle/vehicle conflicts. Additionally, the Downtown Community Plan does not conflict with existing or planned bicycle facilities. Therefore, implementation of the Downtown Community Plan is expected to have a ***less than significant*** bicycle-related impact.

Pedestrian System Impacts

Implementation of the Downtown Community Plan would create a significant impact to the pedestrian facilities if any of the following criteria are met or exceeded:

- The project design would not provide or eliminate pedestrian facilities to connect to the area circulation system, or

- The project design would create overcrowding on public sidewalks, or
- The project design would create hazardous conditions for pedestrians.

As indicated above, implementation of the Downtown Community Plan would provide enhanced pedestrian facilities. In addition, many other pedestrian safety amenities are proposed to avoid pedestrian/vehicle conflicts as part of the Downtown Community Plan. Therefore, implementation of the Downtown Community Plan is expected to have a ***less than significant*** impact related to pedestrian activity.

Signal Warrant and Roundabout Analysis

Signal Warrant Analysis

Signal warrant analyses are intended to examine the general correlation between the projected traffic volumes and the need to install new traffic signals. It estimates future development-generated traffic compared against a sub-set of the standard traffic signal warrants recommended in the Federal Highway Administration *Manual on Uniform Traffic Control Devices* (MUTCD) and associated State guidelines. This analysis should not serve as the only basis for deciding whether and when to install a signal. To reach such a decision, the full set of warrants should be investigated based on field-measured, rather than forecast, traffic data and a thorough study of traffic and roadway conditions by an experienced engineer. Furthermore, the decision to install a signal should not be based solely upon the warrants, since the installation of signals can lead to certain types of collisions. The responsible State or local agency should undertake regular monitoring of actual traffic conditions and accident data, and timely re-evaluation of the full set of warrants in order to prioritize and program intersections for signalization.

The 3B peak-hour volume signal warrant from the MUTCD was evaluated under the Existing, Project, and Cumulative with Project conditions traffic volumes for the following nine unsignalized intersections:

- Capitol Avenue/Hastings Street
- Capitol Avenue/Liberty Street
- Beacon Avenue/Liberty Street
- Liberty Street/Sundale Drive
- Capitol Avenue/State Street
- Beacon Avenue/State Street
- Beacon Avenue/California Street

- Walnut Avenue/California Street
- Walnut Avenue/Argonaut Way

The signal warrant results are summarized in **Table 4-16,** while **Figure 4.16, Figure 4.17, Figure 4.18, Figure 4.19,** and **Figure 4.20** illustrate the assumed intersection turning movement volumes, lane geometries and graphical representation of the results. **Technical Appendix (G)** contains the corresponding signal warrant analysis sheets.

Under Existing Conditions, the analysis indicates that the Walnut Avenue/Argonaut Way intersection is the only intersection to satisfy the peak hour signal warrant.

Under both the Minimum and Maximum Project Buildout Conditions, all but the following two intersections satisfy the peak hour signal warrant during one or both peak periods:

- Beacon Avenue/State Street
- Beacon Avenue/California Street

Under the Cumulative with Minimum Project Buildout Conditions, Beacon Avenue/California Street is the only intersection that does not satisfy the peak hour signal warrant during either peak period.

All intersections under Cumulative with Maximum Project Buildout Conditions satisfy the peak hour signal warrant during one or both peak periods.

Decisions to signalize intersection will occur over time on an as needed basis as the Downtown Area develops.

TABLE 4-16: PEAK HOUR VOLUME SIGNAL WARRANT RESULTS

Intersection	Peak Hour	Existing Conditions	Minimum Project Buildout Conditions	Maximum Project Buildout Conditions	**Cumulative W/ Minimum Project Buildout Conditions**	**Cumulative W/ Maximum Project Buildout Conditions**
Capitol Avenue/Hastings Street	AM	Not Met	Not Met	**Met**	**Met**	**Met**
	PM	Not Met	**Met**	**Met**	**Met**	**Met**
Capitol Avenue/Liberty Street	AM	Not Met	Not Met	**Met**	**Met**	**Met**
	PM	Not Met	**Met**	**Met**	**Met**	**Met**
Beacon Avenue/Liberty Street	AM	Not Met	Not Met	**Met**	**Met**	**Met**
	PM	Not Met	**Met**	**Met**	**Met**	**Met**
Liberty Street/Sundale Drive	AM	Not Met	**Met**	**Met**	**Met**	**Met**
	PM	Not Met	Not Met	**Met**	**Met**	**Met**
Capitol Avenue/State Street	AM	Not Met	Not Met	**Met**	**Met**	**Met**
	PM	Not Met	**Met**	**Met**	**Met**	**Met**
Beacon Avenue/State Street	AM	Not Met	Not Met	Not Met	Not Met	Not Met
	PM	Not Met	Not Met	Not Met	Met	**Met**
Beacon Avenue/California Street	AM	Not Met	Not Met	Not Met	Not Met	Not Met
	PM	Not Met	Not Met	Not Met	Not Met	**Met**
Walnut Avenue/California Street	AM	Not Met	Not Met	Not Met	**Met**	**Met**
	PM	Not Met	**Met**	**Met**	**Met**	**Met**
Walnut Avenue/Argonaut Way	AM	Not Met	Not Met	**Met**	**Met**	**Met**
	PM	**Met**	**Met**	**Met**	**Met**	**Met**

Sources: Fehr & Peers, February 2011.

Figure 4.16: Existing Signal Warrant Results

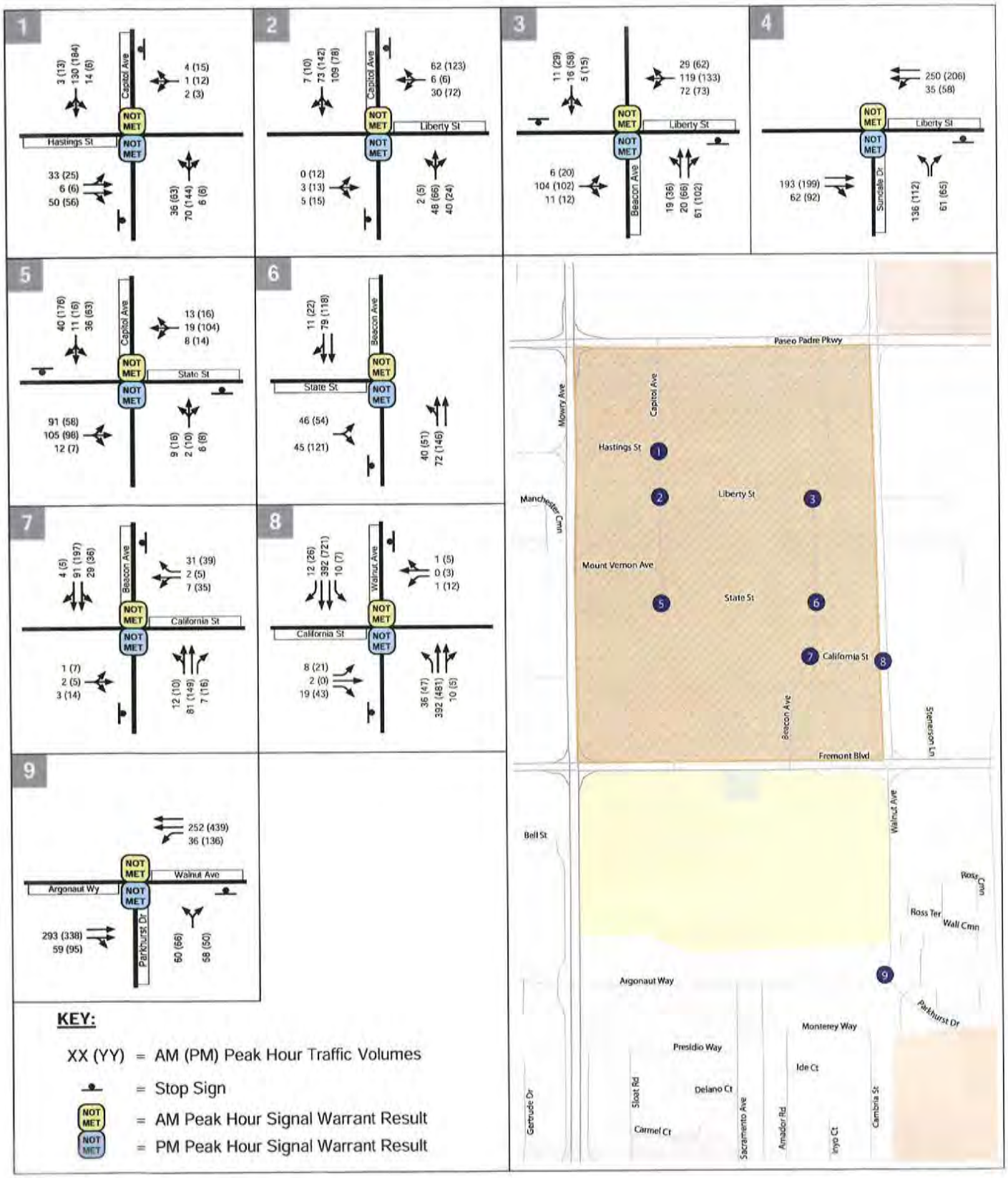


Figure 4.17: Minimum Project Buildout Signal Warrant Results

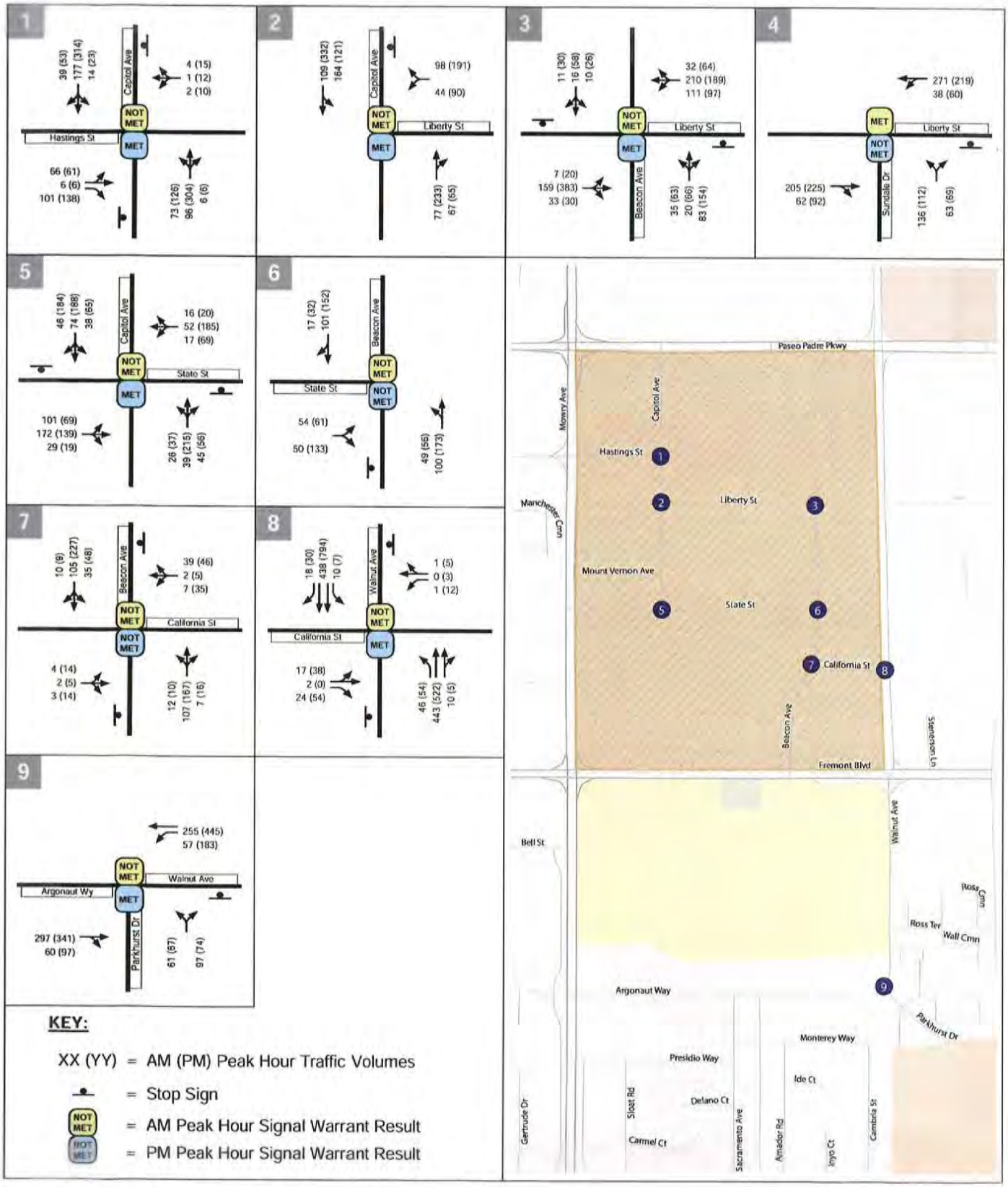


Figure 4.18: Maximum Project Buildout Signal Warrant Results

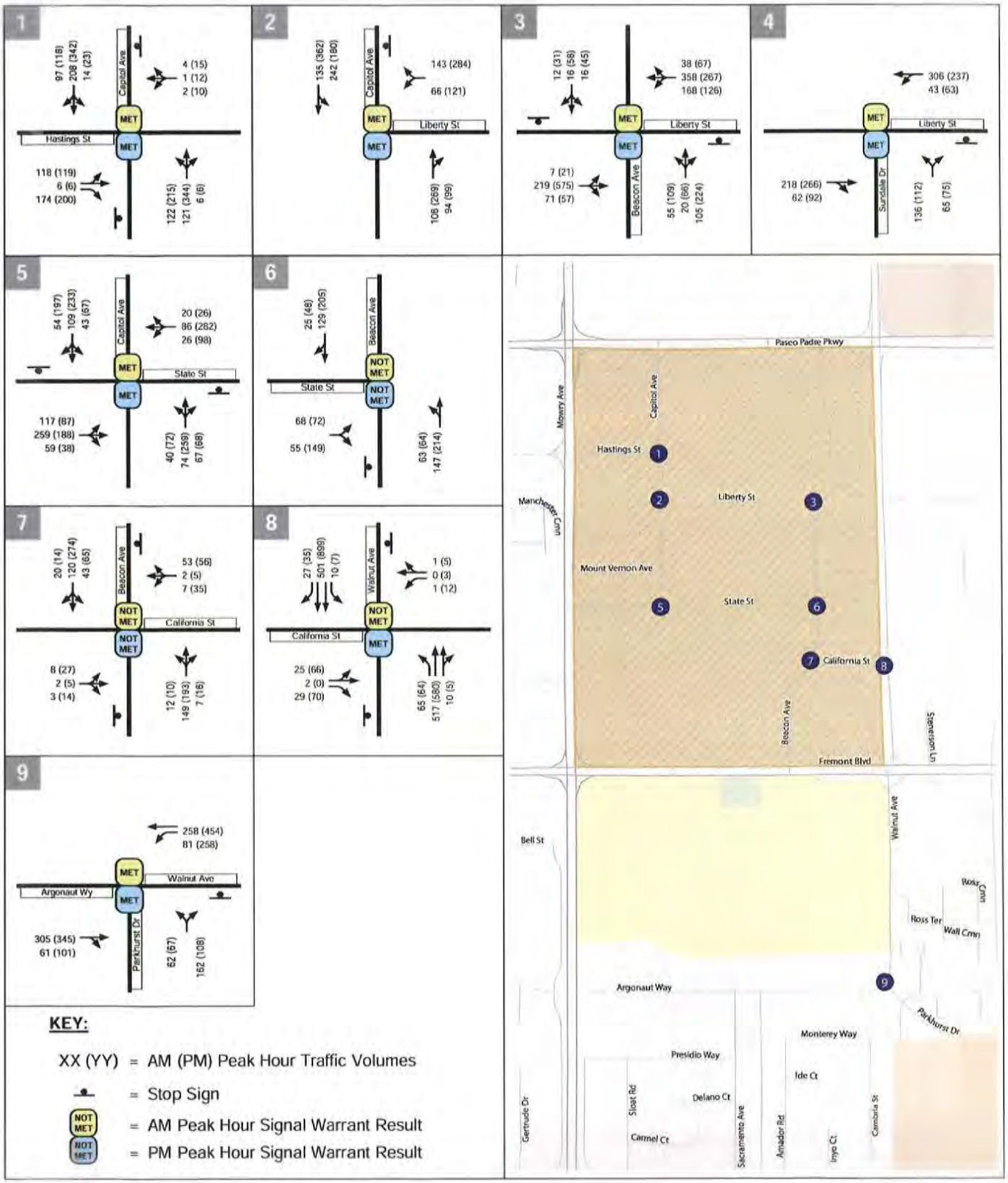


Figure 4.19: Cumulative With Minimum Project Buildout Signal Warrant Results

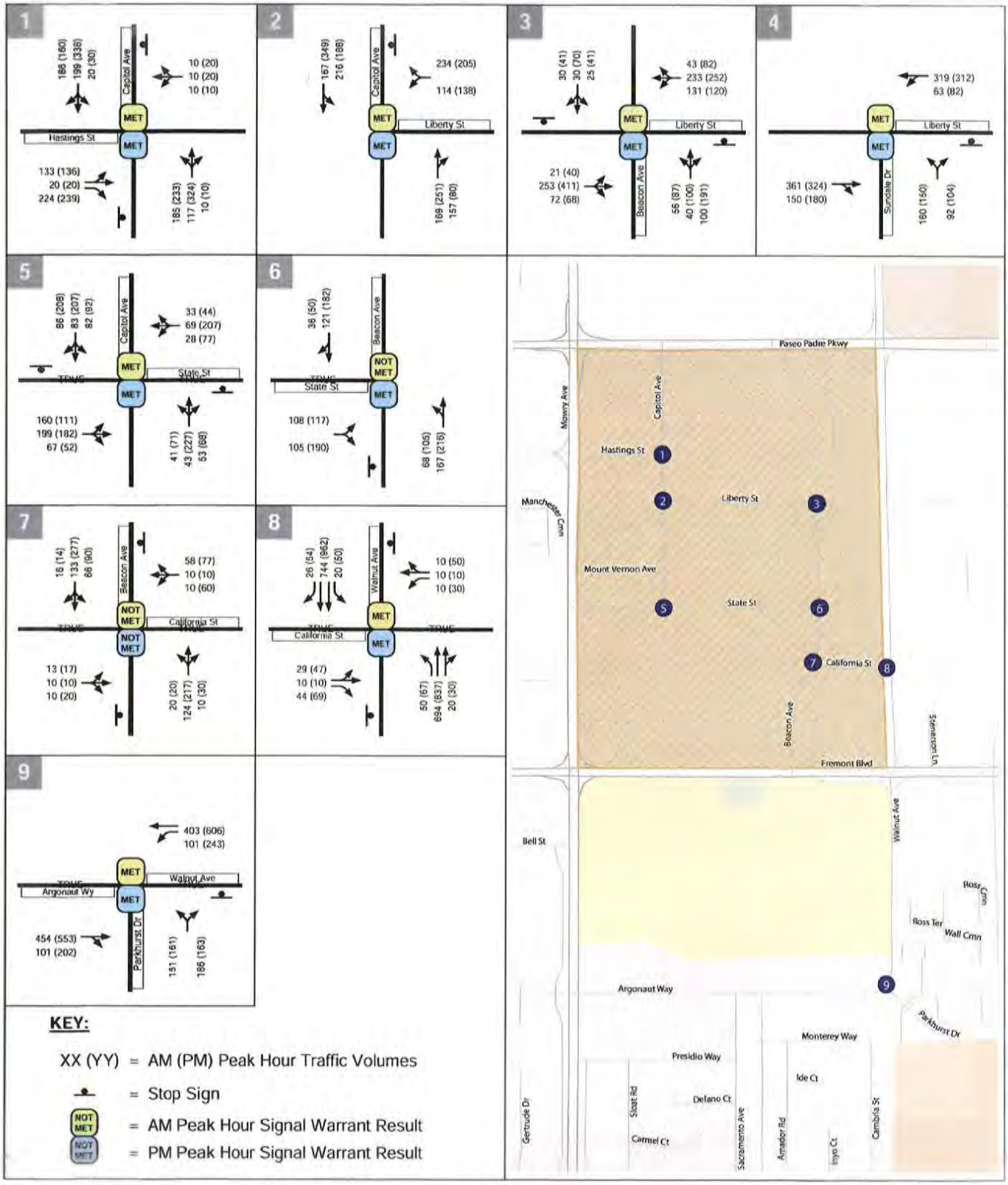
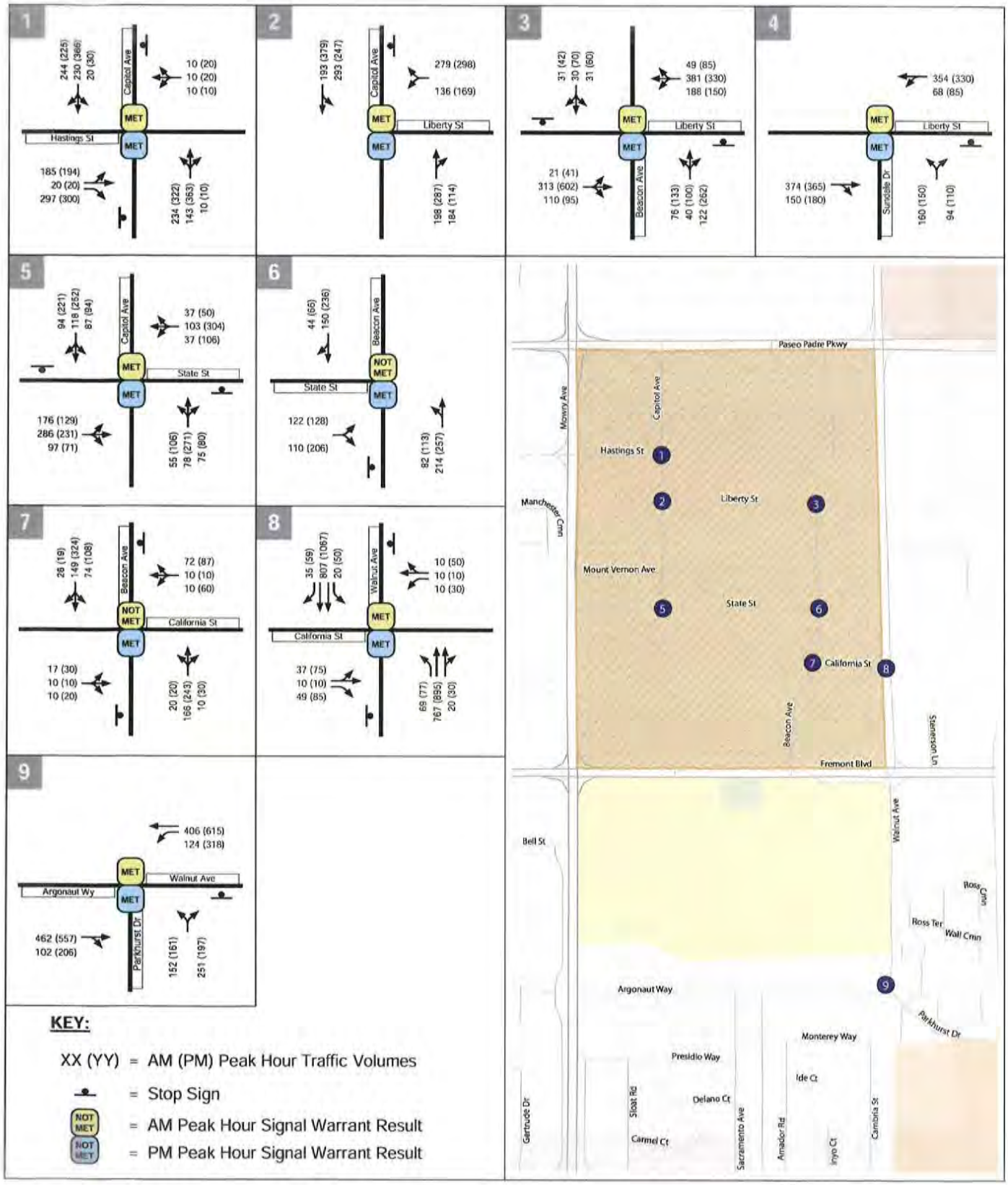


Figure 4.20: Cumulative With Maximum Project Buildout Signal Warrant Results



Roundabout Analysis

A roundabout is a circular intersection with yield control on entry points with splitter islands to direct traffic through the intersection. Roundabouts provide several key safety benefits such as fewer conflict/collision points (nationally resulting in a 39 percent reduction of collisions) and slower intersection speeds that improve safety for pedestrians and bicyclists. Roundabouts also result in lower average delays than stop or signal control intersections for locations with less than 20,000 daily vehicles. This in turn results in environmental benefits, since less idling time and delay equates to lower emission of air pollution, greenhouse gases, and reduced fuel consumption. One potential drawback to roundabouts is that they typically require more land area at the intersection than conventional intersections. However with the added area in the center of the roundabout they can have the benefit of serving as a gateway feature with the provision of sculptures, signs, or landscaping.

Roundabouts are typically designed as one-lane or two-lane roundabouts. One-lane roundabouts provide one lane for internal circulation and typically have a diameter between 100 and 150 feet, while two-lane roundabouts with two internal circulation lanes are typically between 150 and 230 feet.

The City has a funded CIP project for the intersection at Walnut Avenue–Argonaut Way/Parkhurst Drive, with a roundabout as the preferred control. As a result, roundabout analysis was conducted at this location using the volumes developed for the Project and Cumulative with Project Conditions.

Table 4-17 summarizes the future one-lane roundabout analysis under the identified scenarios using the 2000 Federal Highway Administration (FHWA) roundabout analysis method. Under the Plan-related development scenarios, the implementation of a roundabout is expected to operate at LOS A in both peak hour periods. Under the Cumulative with Project Scenarios, the roundabout is expected to operate at LOS A during the morning peak hour and Los B during the evening peak hour. Individual calculation spreadsheets for each scenario can be found in **Technical Appendix (H)**.

TABLE 4-17: ROUNDABOUT ANALYSIS RESULTS

Intersection	Peak Hour	Minimum Project Buildout Condition		Maximum Project Buildout Condition		**Cumulative with Minimum Project Buildout Condition**		**Cumulative with Maximum Project Buildout Condition**	
		Delay	LOS[1]	Delay	LOS[1]	Delay	LOS[1]	Delay	LOS[1]
Walnut Avenue / Argonaut Way	AM	4.0	A	5.0	A	6.0	A	8.0	A
	PM	6.0	A	7.0	A	11.0	B	13.0	B

Note:

1. LOS criteria from the Highway Capacity Manual 2000.

Sources: Fehr & Peers, February 2011.

Vehicle Miles of Travel

Transportation is a major contributor to greenhouse gas emissions. According to the U.S. Environmental Protection Agency (EPA), the transportation sector was responsible for nearly 28 percent of all greenhouse gas (GHG) emissions in the United States in 2006[4] and in California transportation is responsible for about 38 percent of GHG emissions in 2004.[5] Transportation is the direct result of population and employment growth, which generates vehicle trips to move goods, provide public services, and connect people with work, school, shopping, and other activities.

While a number of factors influence daily trip making, the following variables are some of the most influential when it comes to how individuals travel:

- Income
- Age

[4] Inventory of U.S. Greenhouse Gas Emissions And Sinks: 1990-2006, Unites States Environmental Protection Agency, #430-R-08-005, April 2008.
[5] California Air Resources Board (CCARB). http://www.climatechange.ca.gov/inventory/index.html. September 2008.

- Household size
- Workers per household
- Autos available
- Access to transit
- Comfort and convenience of travel modes

Growth in travel (especially vehicle travel) is due in large part to urban development patterns (i.e., the built environment). Over the last half century, homes have been built further from workplaces, schools have been located further from neighborhoods they serve, and other destinations, including shopping, have been isolated from where people live and work. A significant portion of new development since World War II has been planned and built in a pattern that is dependent on the use of cars as the primary mode of travel. As a larger share of the built environment has become automobile dependent, vehicle trips and distances have increased, and walking and public transit use have declined. Population growth has been responsible for only a quarter of the increase in vehicle travel over the last couple of decades. A larger share of the increase can be traced to the effects of a changing built environment, namely to longer trips and people driving alone.[6]

A performance measure used to quantify the amount of travel is vehicle miles traveled (VMT). VMT is a useful performance measure, since the amount of travel and conditions under which the travel occurs directly relate to how much fuel vehicles burn.[7] One combusted gallon of gas from a vehicle is equal to approximately 24 pounds of carbon dioxide. Given today's average fuel mileage of vehicles (i.e., approximately 22 miles per gallon), one mile of travel equates to about one pound of carbon dioxide. As a result, increases in VMT directly cause increases in greenhouse gas emissions and air pollution.

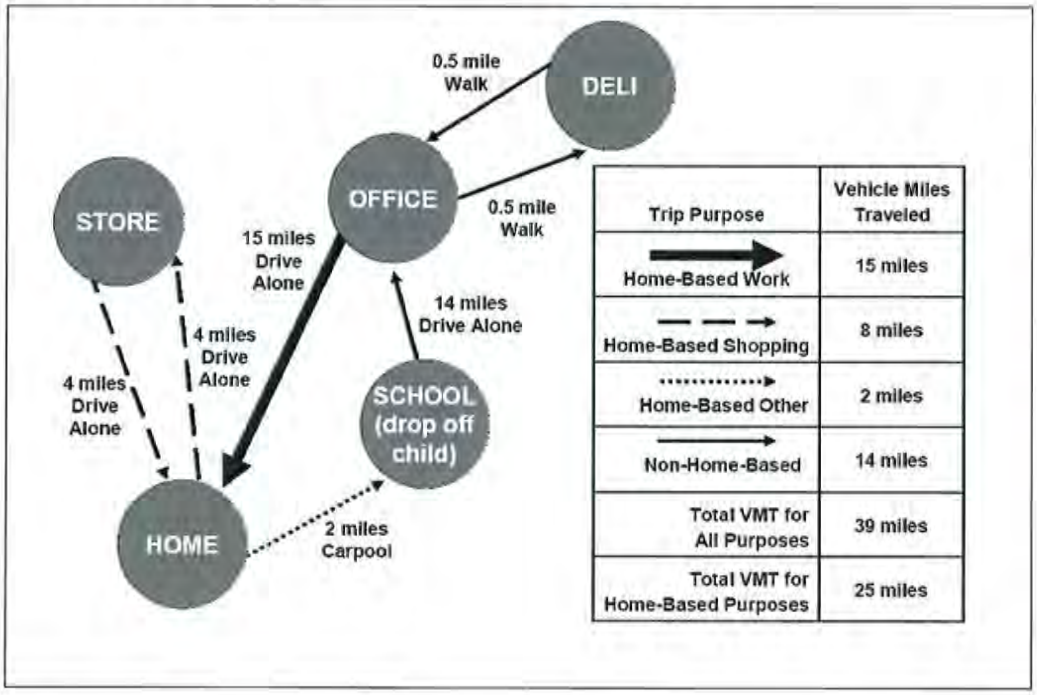
VMT measurement has one primary limitation: it is not directly observed. Methods do not exist that can measure the trip distances of all vehicles on a given day. VMT is typically an output from travel demand models and is calculated based on the number of cars multiplied by the estimated distance traveled by each car. As such, the VMT estimate is dependent on the level of detail in the network and other variables related to vehicle movement through the network. The volume and distance of traffic depends on land use types, density/intensity, and patterns as well as the supporting transportation

[6] "Growing Cooler: The Evidence on Urban Development and Climate Change" published by the Urban Land Institute, 2008.

[7] Conditions influencing the amount of fuel consumed per VMT include the speed of travel, congestion stops and starts, length of trip, layover between trips, and the vehicle type and fuel economy.

system. **Figure 4.21** shows the basic relationship between land use, trips, and their length.

Figure 4.21: VMT Relationships



Downtown Community Plan VMT

The change in VMT due to implementation of the Downtown Community Plan was estimated as the VMT generated by the net added trips. The numbers of net added trips are presented in **Table 4-12**, above. These trips were stratified by trip purpose and the average trip lengths for each purpose were based on Alameda County data from the *2000-2001 California Statewide Travel Survey* (California Department of Transportation, June 2002) and average trip lengths for destinations within the Downtown District or other areas within the City of Fremont. VMT per service-population, an efficiency measure that is often associated with VMT calculations, was also calculated with the following assumptions were made:

- Average Household Size: 2.5
- Employees per 1,000 square feet of retail: 2.0
- Employees per 1,000 square feet of office: 3.0

It is estimated that the minimum Downtown Community Plan development will generate approximately 114,280 VMT, with an estimated net new service-population of 4,320.

The maximum Downtown Community Plan development will generate approximately 288,000 VMT with a 10,720 service population. Both development scenarios would generate approximately 26-27 VMT/service-population. For the purposes of comparison, there is currently an estimated service population of 2,934 within the Downtown area, who generate an estimated 167,565 VMT (see **Table 4-18**, below).

Changes in Air Traffic Patterns

Implementation of the Downtown Community Plan would not be expected to affect current air traffic patterns in any way (***no impact***).

Potential Hazards Associated with Design Features

Implementation of General Plan 2035 Policy 3-3.6 would minimize road hazards associated with overgrown vegetation, structures blocking sight lines, and other visual obstructions, and requires that new development is reviewed to ensure that ingress and egress locations, driveways, crosswalks, and other circulation features, are sited to minimize accident hazards, reducing potential design hazards to a level considered ***less than significant.***

Emergency Access

The area has multiple routes of access due to its grid pattern of streets. All development proposed following adoption of the Downtown Community Plan would be subject to review by the City of Fremont (including the Fremont Fire Department and the Fremont Police Department) prior to approval to ensure that individual development projects do not impede emergency access, reducing potential impacts to a level considered ***less than significant.***

Parking Capacity

The Downtown Community Plan incorporates development controls intended to manage on-street parking to ensure the efficient use of curbside space, to provide adequate customer parking for local businesses, and to encourage shared parking. Effective implementation of these standards would reduce potential impacts associated with increased demand for adequate parking capacity to a level considered ***less than significant.***

Conflicts with Policies Supporting Alternative Transportation

Implementation of the Downtown Community Plan would promote the use of alternative modes of transportation, and would not conflict with any existing policies which support the use of alternative transportation (***no impact***).

E. AIR QUALITY

INTRODUCTION

This analysis evaluates the air quality impacts of the Fremont Downtown Community Plan. The impacts associated with implementation of the Fremont Downtown Community Plan were evaluated in terms of construction and operational impacts to air quality. The primary focus of the air quality analysis was to evaluate future Fremont Downtown Community Plan-related emissions on regional air quality, as well as existing sources of air pollution near the areas subject to the proposed zoning modifications that could affect new sensitive receptors. This analysis was conducted following guidance provided by the Bay Area Air Quality Management District (BAAQMD)[8].

SETTING

The Downtown area is in Fremont, which is located in the southern portion of the San Francisco Bay Area Air Basin. The basin includes the counties of San Francisco, Santa Clara, San Mateo, Marin, Napa, Contra Costa, and Alameda, along with the southeast portion of Sonoma County and the southwest portion of Solano County. The local air quality regulatory agency responsible for this basin is the Bay Area Air Quality Management District (BAAQMD). The air quality setting, including current air quality regulations and standards, a discussion of criteria air pollutants, odors and toxic air contaminants, and existing air quality in the area, is presented on pages 4-107 through 4-122 of the Fremont General Plan Update DRAFT EIR and in response to comments on the Final EIR.

Sensitive Receptors

"Sensitive receptors" are defined as facilities where sensitive population groups, such as children, the elderly, the acutely ill and the chronically ill, are likely to be located. These land uses include residences, schools, playgrounds, childcare centers, retirement homes, convalescent homes, hospitals and medical clinics. Residences proposed within the Downtown area are considered potentially "sensitive" receptors.

IMPACTS AND MITIGATION MEASURES

Thresholds of Significance

Appendix G of the CEQA Guidelines (Environmental Checklist) contains a list of air quality effects that may be considered significant. Implementation of the Downtown Community Plan would have a significant effect on the environment if it were to:

- 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 CEQA Guidelines state that, where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. BAAQMD has updated their thresholds and Guidelines on June 2, 2010. Significance determinations are from the BAAQMD guidelines for evaluating air quality impacts from plans. The standards established by these guidelines address the California Environmental Quality Act (CEQA) thresholds identified in Appendix G of the state CEQA Guidelines.

Significance determinations in this SEIR are from the BAAQMD guidelines for evaluating air quality impacts from plans. The significance thresholds are as follows:

Regional Air Quality

A plan would have a significant impact with respect to regional air quality (i.e., violations of ozone, PM_{10} and $PM_{2.5}$ air quality standards) if it would conflict with regional air quality planning efforts. In assessing impacts of plans on regional air quality, proposed plans would have a significant impact if:

- The increase in projected vehicle miles traveled (VMT) or vehicle trips (either measure may be used) would be greater than the plan's projected population increase and
- They would be inconsistent with current air quality plan (i.e., Bay Area 2010 Clean Air Plan) control measures.

This DSEIR compares the rate of vehicle travel and service population growth within the Downtown area under the Downtown Community Plan. A VMT growth rate that exceeds the service population growth rate would be considered significant. With respect to

[8] BAAQMD CEQA Guidelines for Assessing Air Quality Impacts from Projects and Plans, 1996, revised 1999.

implementing control measures, the Fremont General Plan 2035 includes numerous policies and implementing measures that would directly or indirectly implement control measures contained in the Bay Area 2010 Clean Air Plan (CAP). The Fremont General Plan Update DRAFT EIR (pages 4-124 through 4-125) found a conflict in the General Plan Update 2035 with respect to CAP assumptions and considered those to be ***significant and unavoidable***, because the rate of vehicle travel in Fremont is projected to increase at a greater rate than population growth. No feasible measures that would reduce this impact to a level considered less than significant could be identified for the Fremont General Plan 2035. However, General Plan 2035 control measures consistent with the CAP were identified. These would apply to the Downtown Community Plan. In addition, one key strategy in reducing VMT in the General Plan is development of TOD neighborhoods and focusing growth in PDAs that have lower VMT attributes compared to the City overall. The Downtown Community Plan is one of the plans for implementing the General Plan strategy for minimizing VMT over time. The issue regarding implementation of control measures contained in the CAP was addressed in the Fremont General Plan Update DRAFT EIR, and is not addressed further in this DSEIR.

Local Carbon Monoxide Concentrations

A plan would have a significant impact if it would cause a violation of any air quality standard or contribute substantially to an existing or projected air quality violation. For plans, a significant impact on local air quality is defined as increased carbon monoxide concentrations at the closest sensitive receptors that would cause a violation of the most stringent ambient state standard for carbon monoxide (20 parts per million [ppm] for the one-hour averaging period, or 9.0 ppm for the eight-hour averaging period). Changes in carbon monoxide concentrations were addressed in the Fremont General Plan Update DRAFT EIR (pages 4-139 and 4-140) for cumulative conditions that include the Downtown Community Plan. This impact was found to be ***less than significant***, and no further analysis is conducted in this DSEIR.

Community Risk and Hazards

The Downtown Community Plan could cause significant community risk and hazard impacts if it does not follow the General Plan Conservation Element Policy to reduce and minimize exposure to toxic air contaminants (Policy 7-7-3):

- Incorporate controls within 1,000 feet of freeways and other major sources; and
- Limit new TAC sources within close proximity of sensitive receptors.

This DSEIR identifies sources of TACs that could adversely affect the Downtown Community Plan.

Odors

Significant odor impacts would occur if odor sources could result in complaints and if the Downtown Community Plan does not identify goals, policies, and objectives to minimize potentially adverse impacts. Odor impacts are addressed in the DSEIR.

GENERAL PLAN 2035 POLICIES

The City of Fremont's General Plan 2035 includes a goal of improving air quality over current conditions that meets or exceeds State and regional standards. Air Quality Policies, contained in the Conservation Element of the General Plan 2035 include:

- *Policy 7-7.1: Cooperation to Improve Regional Air Quality.*
- *Policy 7-7.2: Reduce Air Pollution Levels.*
- *Policy 7-7.3: Land Use Planning to Minimize Health Impacts from Toxic Air Contaminants.*
- *Policy 7-7.4: Air Quality Impact of Industry.*

These are the General Plan 2035 Policies that are directly aimed at improving air quality in Fremont and the region. The General Plan 2035 includes other elements, including policies and implementation measures that would directly or indirectly improve air quality. The Mobility Element has additional policies related to reducing emissions from transportation through enhanced public transit, enhanced pedestrian and bicycling amenities, and transportation demand programs. The Public Facilities Element includes policies related to reducing emissions from the City's vehicle fleet and coordinating with the School District to reduce vehicle trips related to school transportation. The Land Use, Mobility and Housing Elements include policies related to Transit Oriented Development aimed at reducing vehicle trips.

2010 Clean Air Plan (CAP) Consistency

According to the BAAQMD CEQA Air Quality Guidelines, the following criteria must be satisfied for a local plan to be determined to be consistent with the CAP and not have a significant air quality impact:

1. The local plan should be consistent with the CAP population and Vehicle Miles Traveled (VMT) or Vehicle Trip assumptions. This is demonstrated if the population growth over the planning period will not exceed the growth rate included in the current CAP and the projected rate of vehicle miles traveled or vehicle trips is less than or equal to the population increase; and
2. The local plan demonstrates reasonable efforts to implement the appropriate Air Quality Plan Transportation Control Measures (TCMs) included in the CAP.

In addition, the plans should not lead to development that would lead to violations of ambient air quality standards, which would include projected vehicle miles traveled or vehicle trip increases greater than projected population increases.

A key element in air quality planning is to make reasonably accurate projections of future human activities that are related to air pollutant emissions. When the 1991 CAP was updated (Bay Area 2010 Clean Air Plan), it utilized the most recent projections developed by ABAG and vehicle activity projected by the Metropolitan Transportation Commission (MTC). These projections were based on the most recent projections at the time using land use designators developed by cities and counties through the General Plan process. Planning assumptions are constantly being updated, so the 2010 BAAQMD CEQA Air Quality Guidelines recommend that growth be planned such that vehicle travel does not increase at a rate greater than the increase in population growth.

Traffic modeling conducted in support of the Downtown Community Plan forecasts VMT in Fremont for the minimum Downtown Community Plan development and the maximum Downtown Community Plan development. According to the SEIR Transportation impact analysis, both Downtown project scenarios would generate approximately 26-27 vehicle miles traveled per service population. Based on existing land uses, VMT estimates are 167,565 miles. Under the minimum project build-out condition, VMT would increase 68% to 281,845 miles (an increase of 114,280 miles). Under maximum build-out conditions, VMT would increase by 170% to 455,565 miles (an increase of 288,000 miles).

Service population is the sum of residents plus workers. According to the traffic study, the service population for existing conditions would be 2,435. Under the Downtown Community Plan, the service population is projected to increase by 4,320 under minimum development assumptions and by 10,720 under maximum build-out assumptions. The current computed VMT per service population is about 69 miles per capita (daily VMT/service population). Both project scenarios would generate approximately 26-27 VMT/service population. Equally important when comparing the VMT generated by the different project scenarios is how each influences the VMT per service-population on a citywide basis. Taken by itself, new development enables new population and employment growth that generates additional VMT, which may result in increased air pollutant and greenhouses gas emissions. However, certain mixed-use, infill projects can also complement the surrounding land uses and promote shorter trip lengths, thus reducing citywide VMT per service population. The Downtown Community Plan includes provisions that are expected to further reduce the growth of VMT generated by encouraging a job/housing match emphasizing mixed-use development within Downtown, specifying mode split goals, and mitigating traffic impacts from the new development. These provisions would not necessarily eliminate the growth in total VMT in the City of Fremont because regional land use patterns and travel characteristics extend beyond the City's control, but they would likely contribute to a lower citywide VMT per

service population. As a result, the Downtown Community Plan is anticipated to increase VMT, but at a rate lower than the service population increase. **Table 4-18** shows the effect of the Downtown Community Plan on anticipated VMT and service population growth.

TABLE 4-18: VEHICLE MILES TRAVELED AND SERVICE POPULATION GROWTH IN DOWNTOWN COMMUNITY PLAN

Scenario	Service Population	VMT Associated with Service Population	VMT per Capita
Existing	2,934	167,565 miles	69 miles
Minimum DCP Build Out	+4,320 to 7,254	+114,280 miles to 281,845	27 miles for DCP increase and 39 miles for total buildout
Maximum DCP Build Out	+10,720 to 13,654	+288,000 miles to 455,565	27 miles for DCP increase and 33 miles for total buildout

The Downtown Community Plan is not expected to conflict with the Bay Area 2010 Clean Air Plan, since the rate of vehicle travel would be less than the rate of population growth. In addition, the Fremont General Plan 2035 includes policies, measures or effects that are consistent with control measures included in the recent Bay Area 2010 Clean Air Plan. This would be considered a ***less than significant*** impact.

Exposure of Sensitive Receptors to Toxic Air Contaminants (TACs)

For projects, the BAAQMD CEQA Air Quality Guidelines consider exposure of sensitive receptors to air pollutant levels that result in an unacceptable cancer risk or hazard to be significant. For cancer risk, which is a concern with diesel particulate matter and other mobile-source TACs, BAAQMD considers an increased risk of contracting cancer that is 10 in one million chances or greater to be significant. The BAAQMD CEQA Guidelines also consider exposure to annual $PM_{2.5}$ concentrations that exceed 0.3 micrograms per cubic meter ($\mu g/m^3$) to be significant.

New sources of TACs that could adversely affect existing or future sensitive receptors are not identified in the Downtown Community Plan. Any new stationary sources of TACs

would be subject to BAAQMD rules and regulations. BAAQMD Regulation 2, Rule 5 requires that new stationary sources meet emission standards and the BAAQMD would be required to ensure that health risks associated with TAC emissions would be acceptable.[9] Sources of air pollutant emissions complying with all applicable BAAQMD regulations generally will not be considered to have an individual significant air quality impact. Stationary sources that are exempt from BAAQMD permit requirements due to low emission thresholds would not be considered to have a significant air quality impact.

When siting new sensitive receptors, the BAAQMD Guidelines advise that lead agencies examine existing or future proposed sources of TAC and/or $PM_{2.5}$ emissions that would adversely affect individuals within the planned project. The proposed Downtown Community Plan land use map shows residential development near large arterial roadways including Mowry Avenue, Fremont Boulevard, and Walnut Avenue. In addition, new residences could be located near stationary sources of TACs such as gasoline dispensing stations and dry cleaners. **Table 4-19** lists screening roadway and stationary source and TAC impacts upon the Downtown area.

Cancer risk, hazards and $PM_{2.5}$ concentrations were assessed from screening tables published by BAAQMD for Alameda County[10]. Roadways with an annual average daily traffic volume of 30,000 vehicles and a setback of 10 feet were used to identify impacts. According to these tables, cancer risk and $PM_{2.5}$ concentrations for sensitive receptor development along these roadways would be below the single-source thresholds. Chronic hazards from these types of roadways are considered to be well below the thresholds.

BAAQMD was contacted to identify permitted stationary sources in and around the Downtown area. A list of sources (including address), screening cancer risk, hazard index and $PM_{2.5}$ concentrations were provided. The source address and location of the actual sources with respect to the nearest Downtown Community Plan boundaries were checked and adjusted using Google Earth. Impacts from diesel engines were adjusted using the cancer risk and chronic hazard index distance adjustment multiplier for diesel internal combustion engines provided by BAAQMD. After applying adjustments for distance, two sources have potentially significant impacts upon the Downtown area. These include a dry cleaning operation and a generator operated by Wells Fargo. The significance of these impacts is assessed at the closest part of Downtown area with respect to the source. Only a potentially significant impact has been identified, since sensitive receptors associated with development under the Downtown Community Plan

[9] BAAQMD risk policy requires that these sources have a cancer risk of less than 10 in one million, which is the same as BAAQMD's recommended CEQA threshold.

[10] See http://www.baaqmd.gov/Divisions/Planning-and-Research/CEQA-GUIDELINES/Tools-and-Methodology.aspx

may not be located within the distance that a significant impact would occur. The next step in the process described by BAAQMD would be to use more refined methods to analyze the impacts. This method would involve using source-specific emission rates and dispersion modeling to predict actual impacts, which would be less than the screening levels. However, the impact is considered potentially significant. Without proper setbacks or mitigation measures, these sources could result in TAC levels that would be significant for new sensitive receptors. As shown in **Table 4-19**, the impact of cumulative TAC and $PM_{2.5}$ sources would be below the BAAQMD threshold for cumulative sources.

TABLE 4-19: SCREENING IMPACTS FROM TAC SOURCES NEAR THE DOWNTOWN AREA

Source	Maximum Cancer Risk (per million)	Maximum Hazard Index	Maximum Annual $PM_{2.5}$ Concentration ($\mu g/m^3$)
Local North-South Roadways (at 10 feet – ADT = 30,000)	6.6	<<1.0	0.28
Local East-West Roadways (at 10 feet – ADT = 30,000)	6.2	<<1.0	0.25
Plant No. 17777 (at 870 feet) - Fresenius Medical Care North America Diesel Generator at 39505 Paseo Pkwy	0.7	<<1.0	0.00
Plant No. 792 (at 750 feet) - Washington Hospital at 2000 Mowry Ave	0.6	<<1.0	0.00
Plant No. 14964 (at 640 feet) - Wells Fargo Bank Diesel Generator at 3440 Walnut Ave	**14.7**	<<1.0	0.00
Plant No. 4342 (at 320 feet) - Walnut Cleaners at 3367 Walnut Ave	**30.0**	<<1.0	0.00
Plant No. 9653 (at 700 feet) - Kaiser Permanente Medical Center Diesel Generator at 39400 Paseo Parkway	7.2	<<1.0	0.00
Maximum Single Source	30.0	<<1.0	0.27
Cumulative Sources	<66.0	<1.0	<0.53
City Threshold	***100***	***10.0***	***0.8***

Based on the evaluation of existing conditions, the development of the Downtown Community Plan would result in a ***less than significant*** exposure to toxic air contaminants for new sensitive receptors.

Objectionable Odors

Major sources of odor in Fremont are located well outside of the Downtown Community Plan area as described in the General Plan Update DRAFT EIR. Localized sources of odors recognized to occur in the project area would likely emanate from restaurants. The interaction of restaurant operations and residential uses and mixed uses is common throughout the Bay Area and the City, and is a ***less than significant*** impact of development of the Downtown Community Plan.

Construction-Related Impacts

Construction-related impacts associated with implementation of the Downtown Community Plan would be identical to those identified in the Fremont General Plan Update DRAFT EIR (see **Impact AIR-3** and following discussion on pages 4-140 through 4-143). As indicated on page 4-143 of the DRAFT EIR, implementation of **Mitigation AIR-3** would be sufficient to reduce exhaust emissions from most construction projects to a level considered ***less than significant***, but larger projects, due to their size and construction schedule, might have exhaust emissions that exceed the BAAQMD significance thresholds for construction exhaust emissions. Therefore, it is possible that in some circumstances, the impact would remain ***significant and unavoidable***.

F. NOISE AND VIBRATION

SETTING

Background Information on Noise

Background information on noise is presented on pages 4-145 through 4-148 of the DRAFT EIR on the Fremont General Plan Update.

Effects of Noise

The effects of noise are addressed on pages 4-148 through 4-149 of the DRAFT EIR on the Fremont General Plan Update.

Background Information on Vibration

Background information on vibration is provided on pages 4-149 through 4-150 of the DRAFT EIR on the Fremont General Plan Update.

Construction Vibration

The effects associated with construction vibration are addressed on pages 4-150 through 4-151 of the DRAFT EIR on the Fremont General Plan Update.

Heavy Trucks and Buses

Vibration effects associated with heavy truck and buses are addressed on page 4-153 of the DRAFT EIR on the Fremont General Plan Update.

Regulatory Background

Regulatory background information related to noise and vibration is presented on pages 4-153 through 4-160 of the DRAFT EIR on the Fremont General Plan Update.

Existing Noise and Vibration Environment

The Downtown area is bordered by Mowry Avenue to the northwest, Paseo Padre Parkway to the northeast, Walnut Avenue to the southeast, and Fremont Boulevard to the southwest. The primary sources of noise affecting the area are vehicular traffic along major roadways. Illingworth & Rodkin, Inc. files were reviewed for recent projects, and a comprehensive noise monitoring survey was made for the update to the Noise Element of the City of Fremont General Plan 2035 during the months of February and March 2008. One short-term measurement and two long-term measurements were made in the vicinity of the Downtown area and were found to be appropriate for inclusion into this analysis.

Standard measuring practices were followed; sound level meters were calibrated before and after each survey, microphones were fitted with windscreens, and data were gathered during good weather when it was not raining or too windy. **Figure 4.22** shows the approximate locations of noise measurements made during the noise monitoring survey. **Table 4-20** summarizes the long-term noise measurement results. **Table 4-21** summarizes the short-term noise measurement results. **Figure 4.23** and **Figure 4.24** present the daily trend in noise levels for the long-term noise measurements. There are no known significant ground vibration sources in the Downtown area.

Figure 4.22: Noise Measurement Locations

TABLE 4-20: LONG-TERM NOISE MEASUREMENT RESULTS

Site	Location	Noise Levels (L_{dn}, dBA)	Adjacent Roadway
12	130 feet from the centerline of Paseo Padre Parkway	66	Paseo Padre Parkway
13	Approximately 80 feet from the centerline of Mowry Avenue	71-72	Mowry Avenue

TABLE 4-21: SHORT-TERM NOISE MEASUREMENT RESULTS

Noise Measurement Location (Date/Time)	L_{max}	$L_{(1)}$	$L_{(10)}$	$L_{(50)}$	$L_{(90)}$	L_{eq}
ST-7: 63 feet from the centerline of Paseo Padre Parkway (3/6/2008, 15:10-15:20)	77	76	73	67	59	69

Figure 4.23: Daily Trend in Noise Levels at LT-12

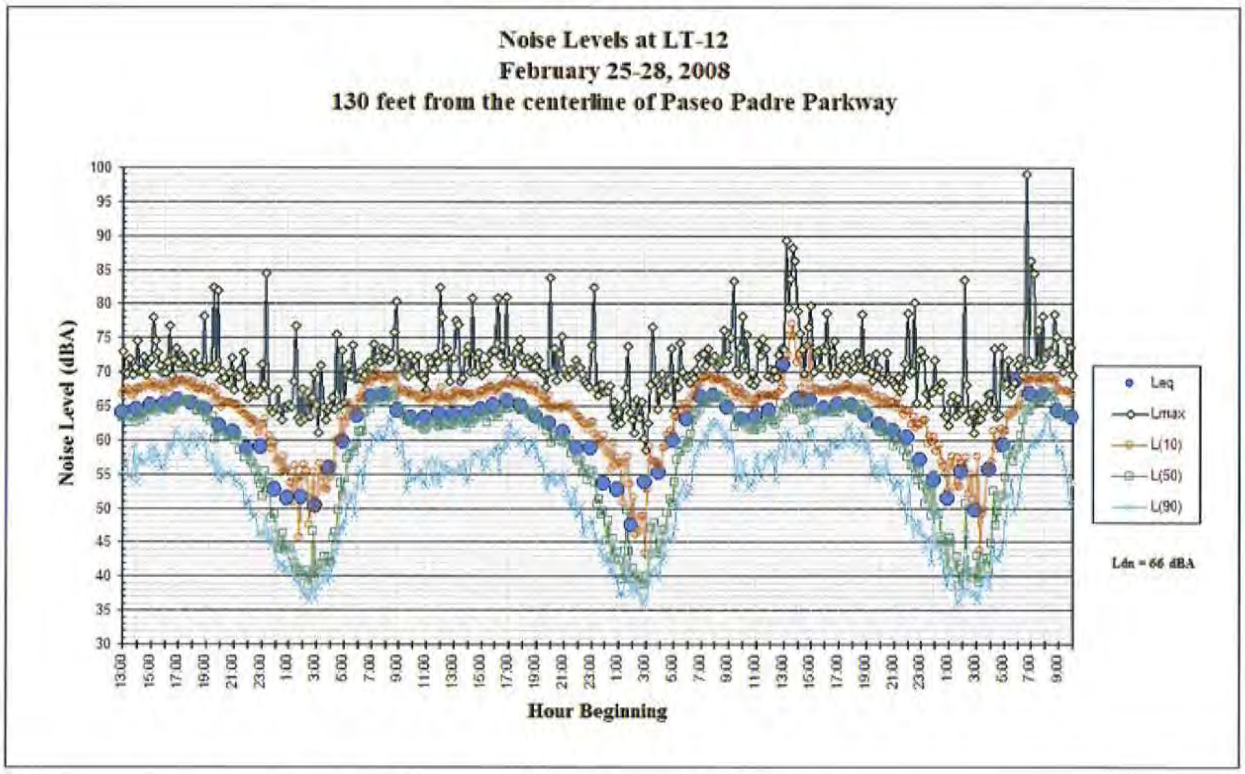
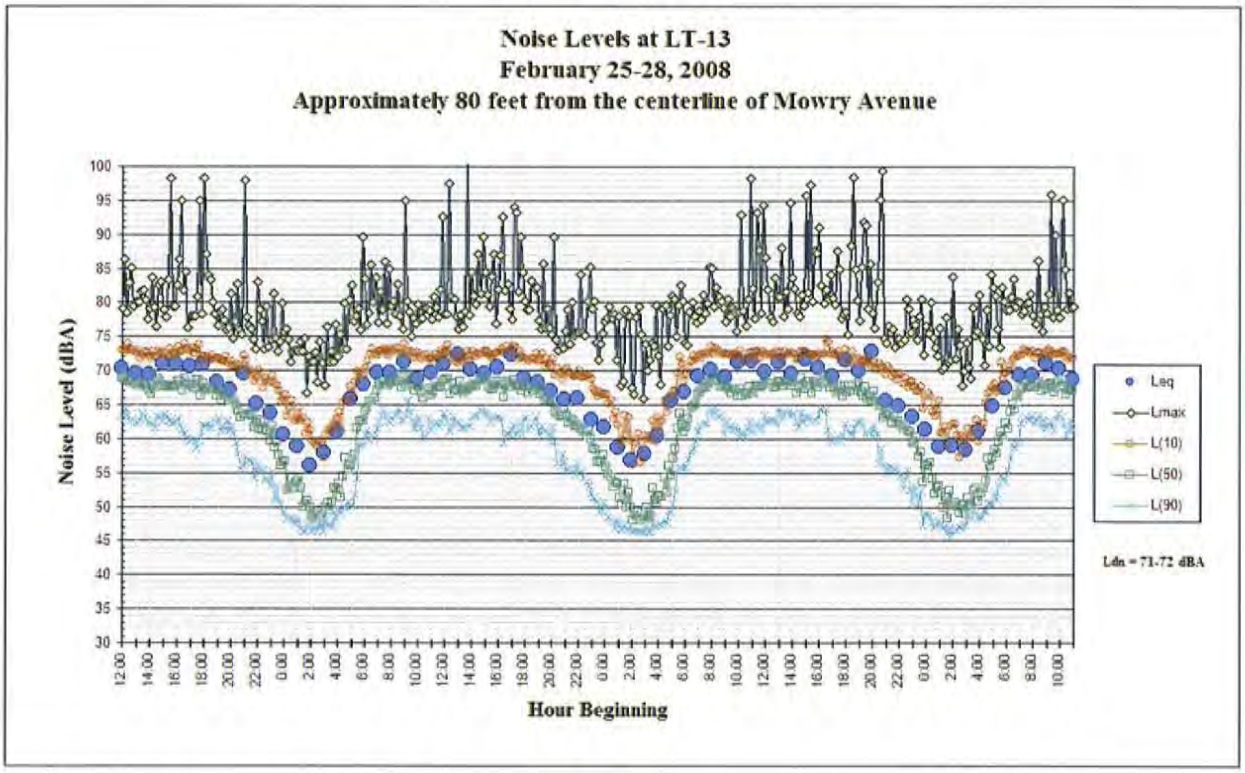


Figure 4.24: Daily Trend in Noise Levels at LT-13



IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA Criteria for Determining Impact

Implementation of the Downtown Community Plan would have a significant noise or vibration impact if:

1) New land uses implemented by the Downtown Community Plan would be exposed to noise levels above acceptable levels defined in the General Plan or the Zoning Ordinance

2) New land uses implemented by the Downtown Community Plan would be exposed to excessive ground-borne vibration levels, as defined by the Federal Transit Agency, from passenger or freight trains, or BART trains

3) Permanent noise level increases above existing levels, resulting from transportation sources such as increased traffic implemented by the Plan, would exceed 3 dBA L_{dn} in residential or other noise sensitive areas

4) Permanent noise level increases above existing levels, resulting from new stationary noise sources implemented by the Plan, would exceed 3 dBA L_{dn} in residential or other noise sensitive areas, or exceed daytime or nighttime noise thresholds appropriate for stationary sources

5) Construction or demolition activities necessary to implement the Plan cause a substantial temporary increase in noise in residential or other noise sensitive areas

6) Groundborne vibration generated by construction activities exceeds 0.5 inches/sec, ppv, for buildings structurally sound and designed to modern engineering standards, 0.2 inches/sec, ppv, for buildings that are found to be structurally sound but structural damage is a major concern, or 0.08 inches/sec, ppv, for historic buildings or buildings that are documented to be structurally weakened.

GENERAL PLAN 2035 POLICIES

Implementation of the following General Plan 2035 Policies are intended to reduce potentially adverse effects related to noise and vibration that may be associated with future development in the Downtown area:

- *Policy 10-8.1: Site Development Acceptable Noise Environment.*
- *Policy 10-8.2: Acceptable Noise Environment.*
- *Policy 10-8.3: Noise Environment Protection.*

- *Policy 10-8.4: Commercial and Industrial Noise Sources.*
- *Policy 10-8.5: Construction Noise Levels.*
- *Policy 10-8.6: Sensitive Uses.*
- *Policy 10-8.7: Street Design.*
- *Policy 10-8.9: Unnecessary Noise Sources.*
- *Policy 10-8.10: Vibration Environment.*

IMPACTS AND MITIGATION MEASURES

Traffic-Related Noise

Impact NOI-1: **Exposure to Traffic-Related Noise.** Those living and working in new development anticipated in the Downtown area under the Downtown Community Plan, particularly residential uses adjacent to principal streets, could be exposed to excessive traffic-related noise levels. This would represent a ***potentially significant*** impact.

A computer model was used to calculate traffic noise levels for the Downtown Community Plan noise assessment. The predicted noise levels were compared to measured noise levels for calibration purposes, and adjustments were made as necessary to ensure accurate results. The noise exposure levels for the future "cumulative with Maximum Project Buildout" traffic data, used to assess the compatibility of development anticipated under the Downtown Community Plan, are shown in **Table 4-22**.

TABLE 4-22: FUTURE CUMULATIVE TRAFFIC NOISE LEVELS IN DOWNTOWN AREA WITH MAXIMUM PROJECT BUILDOUT

Roadway Segment	DNL (dBA) 75 ft. From Roadway Centerline
Paseo Padre Parkway	70
Mowry Avenue	72
Walnut Avenue	65
Fremont Boulevard	69
Capitol Avenue	60
Beacon Avenue	59
Hastings Street	61
Liberty Street	62
State Street	60

The Downtown Community Plan includes both Minimum and Maximum Project Buildout scenarios that will redevelop existing residential, commercial, and office land uses with a higher density, mixed-use, transit-oriented downtown. The higher density uses include residential development. Vehicular traffic along the major arterials is the dominant noise source in the Downtown area. Noise levels along these roadways exceed noise levels considered acceptable for residential development. Noise levels in close proximity to roadways bordering the Downtown area would also exceed acceptable levels for less sensitive developments, such as professional offices. Residential outdoor common use areas and other outdoor spaces where quiet would be a benefit which would be located in noise environments exceeding 60 dBA L_{dn} would require noise mitigation, such as proper site planning, utilizing building massing, or sound barriers, to achieve a compatible noise environment.

Where exterior noise levels exceed 60 dBA L_{dn}, interior noise levels may also exceed the interior 45 dBA L_{dn} residential standard established in the City's Noise Element and the State Building Code. Typical California construction provides approximately 15 dBA of noise reduction from exterior noise sources with windows partially open and approximately 25 dBA of noise reduction with windows kept closed. Where exterior noise levels do not exceed 70 dBA L_{dn}, interior noise can be mitigated with standard wall and window construction and the inclusion of mechanical forced-air ventilation, acceptable to the City of Fremont, to allow occupants the option of maintaining windows closed to control noise. Where exterior noise levels exceed 70 dBA L_{dn}, residential units would not normally be able to meet the 45 dBA L_{dn} interior standard simply through typical construction methods. This would be a potentially significant impact.

Commercial uses such as offices developed under the Downtown Community Plan along roadways within the Downtown area would meet the exterior commercial land use

compatibility guideline of 65 dBA L_{dn} established in the Noise Element. However, exterior noise levels would exceed 65 dBA L_{dn} along roadways that border the Downtown area. This would be a potentially significant impact.

Mitigation NOI-1: **Site-Specific Noise Studies/Site Planning.** Utilize site planning to minimize noise in residential outdoor activity areas (backyards of single family homes and shared outdoor space in multi-family developments) by locating the areas behind noise barriers, the buildings, in courtyards, or orienting the terraces to alleyways rather than streets, whenever possible. The design goal is an exposure that does not exceed a noise level of 60 dBA Ldn from roadway traffic. Exceeding 60 dBA Ldn may occur per subsequent development review approval in accordance with City Safety Element Policies.

The California Building Code and the City of Fremont require project-specific acoustical analyses to achieve interior noise levels of 45 dBA L_{dn} or lower in residential units exposed to exterior noise levels greater than 60 dBA L_{dn}. Building sound insulation requirements would need to include the provision of forced-air mechanical ventilation in noise environments exceeding 60 dBA L_{dn} so that windows could be kept closed at the occupant's discretion to control noise. Special building construction techniques (e.g., sound-rated windows and building facade treatments) may be required where exterior noise levels exceed 65 dBA L_{dn}. These treatments include, but are not limited to, sound rated windows and doors, sound rated exterior wall assemblies, acoustical caulking, etc. The specific determination of what treatments are necessary will be conducted on a unit-by-unit basis during project design. Results of the analysis, including the description of the necessary noise control treatments, will be submitted to the City along with the building plans and approved prior to issuance of a building permit. Feasible construction techniques such as these would adequately reduce interior noise levels to 45 dBA L_{dn} or lower.

Noise insulation features shall be considered on a case by case basis at the time of building permit review for noise sensitive offices and commercial uses proposed where noise levels exceed 65 dBA Ldn.

The implementation of the above measures would reduce the impact to a level considered ***less than significant.***

Impact NOI-2: Traffic-Related Noise Increase Above Existing Levels. Development anticipated under the Downtown Community Plan would increase traffic noise levels substantially above existing noise levels along some roadway segments, a ***significant*** impact.

Development anticipated under the Downtown Community Plan would increase traffic on area roadways. Projected changes to traffic noise levels from existing levels were calculated by comparing SoundPlan model runs utilizing existing and future traffic scenarios for the Maximum and Minimum Project Buildout. A substantial noise level increase is considered to be 3 dBA L_{dn} since noise levels were modeled along major roadways where existing levels approach or exceed "Acceptable" levels. Along all roadway sections bordering or outside the Downtown area noise level changes would be less than 3 dBA L_{dn}. The changes in noise levels along roadway sections within the Downtown area that would experience traffic noise increases of at least 3 dBA Ldn are shown in **Table 4-23**. Existing residences located along State Street and the Capitol Avenue extension would experience substantial noise increases. This is a significant impact.

TABLE 4-23: SUBSTANTIAL TRAFFIC NOISE INCREASES ABOVE EXISTING LEVELS

Roadway Section	Maximum Project Buildout Noise Increase (Ldn, dBA)	Minimum Project Buildout Noise Increase (Ldn, dBA)
Capitol Avenue Paseo Padre Parkway to Hastings Street	5	4
Hastings Street Capitol Ave. to Mowry Avenue	7	4
Liberty Street Walnut Avenue to Beacon Avenue	4	3
State Street Capitol Avenue to Mowry Avenue	4	2
Beacon Avenue Fremont Boulevard to State Street	3	2

Mitigation NOI-2: Site-Specific Noise Reduction. Methods available to mitigate project generated noise level increases would need to be studied on a case-by-case basis at receivers that would be considered noise impacted. Noise reduction methods could include the following:

- New or larger noise barriers or other noise reduction techniques could be constructed to protect sensitive outdoor use areas at existing residential land uses where reasonable and feasible. Final design of such barriers should be completed during project level review on a parcel-by-parcel basis.

- Alternative noise reduction techniques could be implemented, such as re-paving streets with "quieter" pavement types such as Open-Grade or Rubberized Asphalt Concrete. The use of "quiet" pavement can reduce noise levels by 2 to 5 dBA depending on the existing pavement type, traffic speed, traffic volumes, and other factors.

- Affected residences could be provided building sound insulation such as sound rated windows and doors on a case-by-case basis as a method of reducing noise levels in interior spaces.

Given the scope of the Downtown Community Plan and expected noise level increases resulting from project traffic, if affected residences remain in the Downtown area it may not be reasonable or feasible to reduce project-generated traffic noise at all affected receivers. The most likely measure for implementation is City implementation of "quiet paving" techniques during road paving projects as described in the City's Safety Element of the General Plan. Measures available to reduce the project noise level increases would not likely be reasonable or feasible in all areas or in specific time frames, therefore, the impact would be considered ***significant and unavoidable***.

Noise Effects Associated with Land Use Incompatibility

Impact NOI-3: Increased Noise Exposure Associated with Land Use Incompatibility. Development anticipated under the Downtown Community Plan would introduce commercial uses adjacent to residential land uses. Specific tenants for the commercial uses have not been identified, but uses would probably include retail stores, grocery stores, restaurants, or cafes. New commercial development proposed along with, or next to, residential development could result in noise levels exceeding City standards. Typical noise levels generated by loading and unloading would be similar to noise levels generated by truck movements on local roadways. Mechanical equipment would also have the potential to generate noise, and would be a potential noise impact. These would be considered ***potentially significant*** impacts.

New commercial, office, or other non-residential development could produce noise (HVAC, loading docks, etc.) that could affect existing residences or other noise-sensitive land uses. New projects developed under the Downtown Community Plan would be subject to the City's General Plan 2035 and Municipal Code, which set limits for permissible noise levels during the day and night, and in terms of Ldn according to the land use zoning of the area. Under the General Plan 2035, "New residential development

shall not be allowed where the ambient noise level due to commercial or industrial noise sources will exceed the noise level standards…" These would be the City's tool to ensure that existing and future residences and other noise-sensitive land uses would not be exposed to excessive noise from these types of noise sources.

Mitigation NOI-3: **Incorporate Practical Limitations for Loading/Unloading/ Maintenance Activities.** New commercial development proposed in the same building as or adjacent to residential development could result in noise levels exceeding City standards.

- Noise levels at residential property lines from commercial development should be maintained not in excess of the Fremont General Plan 2035 limits provided in Table 10-1 or the Ldn noise limits set forth in the Municipal Code. The approvals of the commercial development should require a noise study demonstrating how the business, including loading docks, refuse areas, and ventilation systems, would meet these standards and would be consistent with the City's noise standards.

- Ensure that noise-generating activities, such as maintenance activities and loading and unloading activities are minimized during the hours of 7:00 AM to 9:00 PM.

The implementation of the above measures would reduce the impact to a level considered ***less than significant.***

Cumulative Noise Effects

Impact NOI-4: **Contribution to a Cumulative Increase in Noise Levels.** Development anticipated under the Downtown Community Plan would make a "cumulatively considerable" contribution to noise levels that would be substantially increased as a result of cumulative growth in the area. This Plan-related contribution to increased traffic noise levels would be regarded as a ***significant cumulative*** impact.

Traffic noise levels would be substantially increased over existing conditions assuming cumulative traffic projections with Maximum and Minimum Project Buildout. Development anticipated under the Downtown Community Plan would contribute at least 1 dBA L_{dn} to these cumulative noise level increases, and would be "cumulatively considerable". **Table 4-24** summarizes the cumulative traffic noise level increases including those associated with implementation of the Downtown Community Plan.

Existing residences located along State Street and the Capitol Avenue extension would experience substantial noise increases. This is a significant impact.

Mitigation NOI-4: Implement Mitigation NOI-2 (Site-Specific Noise Reduction).

Given the scope of the Downtown Community Plan and expected noise level increases resulting from Plan-related traffic (see also **Mitigation NOI-2**, above), if these residences remain in the Downtown area it may not be reasonable or feasible to reduce project-generated traffic noise at all affected receivers. Measures available to reduce the project noise level increases would not likely be reasonable or feasible in all areas, therefore, the impact would be considered ***significant and unavoidable***.

TABLE 4-24: SUBSTANTIAL CUMULATIVE TRAFFIC NOISE INCREASES ABOVE EXISTING LEVELS

Roadway Section	Cumulative plus Maximum Project Buildout Noise Increase (L_{dn}, dBA)	Cumulative plus Minimum Project Buildout Noise Increase (L_{dn}, dBA)
Capitol Avenue Paseo Padre Parkway to Hastings Street	5	4
Hastings Street Mowry Avenue to Capitol Avenue	10	9
Liberty Street Beacon Avenue to Walnut Avenue	6	4
Walnut Avenue Paseo Padre Parkway to Liberty Street	3	3
State Street Mowry Avenue to Capitol Avenue	5	3
Beacon Avenue State Street to Fremont Boulevard	5	4

Construction Noise

Impact NOI-5: Temporary Exposure to Construction Noise. Businesses and residences would be intermittently exposed to high levels of noise throughout the planning period. Construction would elevate noise levels at adjacent businesses and residences by 15 to 20 dBA or more, a ***potentially significant*** impact.

Residences and businesses would be affected by construction noise. Construction noise impacts primarily result when construction activities occur during noise-sensitive times of the day (early morning, evening, or nighttime hours), the construction occurs in areas immediately adjoining noise sensitive land uses, or when construction durations last over extended periods of time. Major noise-generating construction activities would include

removal of existing pavement and structures, site grading and excavation, building erections, paving and landscaping. In some cases, residences would be directly adjacent or in close proximity to construction activities.

The highest construction noise levels would be generated during grading and excavation, with lower noise levels occurring during building construction. Large pieces of earth-moving equipment, such as graders, scrapers, and bulldozers, generate maximum noise levels of 85 to 90 dBA at a distance of 50 feet. Typical hourly average construction-generated noise levels are about 80 to 85 dBA measured at a distance of 50 feet from the site during busy construction periods. In addition, pile-driving may occur at some of the project sites. This type of construction activity can produce very high noise levels of approximately 105 dBA at 50 feet, which are difficult to control. These noise levels drop off at a rate of about 6 dBA per doubling of distance between the noise source and receptor. Intervening structures or terrain would result in lower noise levels.

Although construction noise would be localized to the individual site location, businesses and residences would be intermittently exposed to high levels of noise throughout the planning period. Construction would elevate noise levels at adjacent businesses and residences by 15 to 20 dBA or higher. Such a large increase in the noise level, although short-term in duration, would be a potentially significant impact over a long period of time. The principal mitigation for reducing construction noise impacts is the City's construction hours ordinance and in some instances additional noise controls may be necessary for unique and long-term projects.

Mitigation NOI-5: **Prepare a Noise Control Plan addressing Modification, Placement and Operation of Construction Equipment.** Construction equipment should be well maintained and used judiciously to be as quiet as practical. Feasible means of reducing noise at a project level may include:

- Equip all internal combustion engine-driven equipment with mufflers, which are in good condition and appropriate for the equipment.
- Utilize "quiet" models of air compressors and other stationary noise sources where technology exists.
- Locate stationary noise-generating equipment as far as feasible from sensitive receptors when sensitive receptors adjoin or are near a construction project area.
- Prohibit unnecessary idling of internal combustion engine.

- Pre-drill foundation pile holes to minimize the number of impacts required to seat the pile.

- Place solid plywood fences around construction sites adjacent to operational business, residences or noise-sensitive land uses.

- A temporary noise control blanket barrier could be erected, if necessary, along building facades facing construction sites. This mitigation would only be necessary if conflicts occurred which were irresolvable by proper scheduling. Noise control blanket barriers can be rented and quickly erected.

- Route construction related traffic along major roadways and as far as feasible from sensitive receptors.

- Ensure that construction activities (including the loading and unloading of materials and truck movements) are limited to the hours of 7:00 am to 7:00 pm on weekdays and between the hours of 9:00 am and 8:00 pm on weekends or holidays.

- Ensure that excavating, grading and filling activities (including warming of equipment motors) are limited to between the hours of 7:00 am to 7:00 pm on weekdays and between the hours of 9:00 am and 8:00 pm on weekends or holidays.

- Notify businesses, residences or noise-sensitive land uses adjacent to construction sites of the construction schedule in writing. Designate a "construction liaison" that would be responsible for responding to any local complaints about construction noise. The liaison would determine the cause of the noise complaints (e.g., starting too early, bad muffler, etc.) and institute reasonable measures to correct the problem. Conspicuously post a telephone number for the liaison at the construction site.

Although incorporating some of the above measures would reduce noise generated by the construction of individual development projects, the impact would remain ***significant and unavoidable*** as a result of the extended period of time that adjacent receivers would be exposed to construction noise and a full reduction to noise exposure limits would not be feasible.

Impact NOI-6: **Construction-Related Vibration.** Residences, businesses, and historic structures could be exposed to construction-related vibration during the excavation and foundation work associated with

construction anticipated under the Downtown Community Plan, a ***potentially significant*** impact.

Construction of projects within the Downtown area may, in some cases, be located directly adjacent to existing structures, including weakened structures. Construction activities may include demolition of existing structures, site preparation work, excavation of below grade levels, foundation work, pile driving, and new building erection. Demolition for an individual site may last several weeks and at times may produce substantial vibration. Excavation for underground levels would also occur on some project sites and vibratory pile-driving could be used to stabilize the walls of the excavated area. Piles or drilled caissons may also be used to support building foundations.

Pile-driving has the potential of generating the highest ground vibration levels and is of primary concern to architectural damage, particularly when it occurs within 100 to 200 feet of structures. Vibration levels generated by pile-driving activities would vary depending on project conditions such as soil conditions, construction methods, and equipment used but could exceed the recommended PPV thresholds to avoid architectural damage. Other project construction activities, such as caisson drilling, the use of jackhammers, rock drills and other high-power or vibratory tools, and rolling stock equipment (tracked vehicles, compactors, etc.) may also potentially generate substantial vibration in the immediate vicinity.

Depending on the proximity of existing structures to each construction site, the structural soundness of the existing buildings, and the methods of construction used, vibration levels may be high enough to damage existing structures. Given the scope of the Downtown Community Plan and the proximity of many existing structures, groundborne vibration impacts would be potentially significant.

As with any type of construction, vibration levels may at times be perceptible. However, construction phases that have the highest potential of producing vibration (pile-driving and use of jackhammers and other high power tools) would be intermittent and would only occur for short periods of time for any individual project site. By use of administrative controls such as notifying neighbors of scheduled construction activities and scheduling construction activities with the highest potential to produce perceptible vibration to hours with least potential to affect nearby businesses, perceptible vibration can be kept to a minimum and as such would not result in a significant impact with respect to perception. The principal mitigation for reducing construction impacts is the City's construction hours ordinance and in some instances additional controls may be necessary for unique and long-term projects.

Mitigation NOI-6: Prepare a Construction Control Plan Addressing Effects of Construction Activities Generating Excessive Vibration.

Feasible means of reducing substantial vibration effects at a project level may include:

- Avoid impact pile driving where possible. Drilled piles causes lower vibration levels where geological conditions permit their use.

- Avoid using vibratory rollers and tampers near sensitive areas.

- In areas where project construction is anticipated to include vibration-generating activities, such as pile driving, in close proximity to existing structures, site-specific vibration studies should be conducted to determine the area of impact and to present appropriate mitigation measures that may include the following:

- Identification of sites that would include vibration compaction activities such as pile driving and have the potential to generate groundborne vibration, and the sensitivity of nearby structures to groundborne vibration. Vibration limits should be applied to all vibration-sensitive structures located within 200 feet of the project. A qualified structural engineer should conduct this task.

- Development of a vibration monitoring and construction contingency plan to identify structures where monitoring would be conducted, set up a vibration monitoring schedule, define structure-specific vibration limits, and address the need to conduct photo, elevation, and crack surveys to document before and after construction conditions.

- Construction contingencies would be identified for when vibration levels approached the limits.

- At a minimum, vibration monitoring should be conducted during initial demolition activities and during pile driving activities. Monitoring results may indicate the need for more or less intensive measurements.

- When vibration levels approach limits, suspend construction and implement contingencies to either lower vibration levels or secure the affected structures.

- Conduct post-survey on structures where either monitoring has indicated high levels or complaints of damage has been made. Make appropriate repairs or compensation where damage has occurred as a result of construction activities.

It may not be possible to avoid using pile-drivers, vibratory rollers and tampers entirely during construction associated with implementation of the Downtown Community Plan. Due to the density of development in the area, some of these activities may take place near sensitive areas. In these cases, the mitigation measures listed above may not be sufficient to reduce groundborne vibrations below a level of significance. Therefore, this impact would be considered ***significant and unavoidable***.

Rail Vibration

The Downtown area is not located within the potential vibration impact area of BART or heavy rail corridors (***no impact***).

Aircraft Noise

There are no public or private airports currently (or planned) in the vicinity of the City of Fremont, so aircraft noise causes ***no impact***.

G. HYDROLOGY AND WATER QUALITY

This section presents a discussion of existing hydrologic features, including surface waters, groundwater resources, current flooding conditions, and impacts that pertain to implementation of the City of Fremont's Downtown Community Plan. Included are discussions of the current applicable federal, state, and local regulations and analysis of the hydrological, water quality, and flooding conditions as they affect development under the Downtown Community Plan development. The topics discussed in this section overlap those discussed in other sections of this EIR, including the erosion and ground water quality discussion in Section H, **Geology, Soils, and Seismicity**, below.

Development and land use activities contemplated by the Downtown Community Plan would likely result in specific impacts on water resources. Projected near- and long-term construction activities and post-construction conditions associated with implementation of the Downtown Community Plan could result in stormwater drainage, water quality, and flooding impacts, including increased nonpoint stormwater pollutant discharges, and alterations to drainage and runoff patterns by increasing impervious surface areas, development, site grading, and alteration of drainage courses.

SETTING

Topography and Climate

Fremont's topography and climate are addressed on page 4-188 of the DRAFT EIR on the Fremont General Plan Update.

Drainage Conditions

The watersheds of Fremont flow generally from east to west, from the hills through the floodplains to the freshwater wetlands and tidal marshes and sloughs of San Francisco Bay. Prior to urban development, streams with rich riparian vegetation ran from their headwaters in the hills and meandered their way over the floodplains to the Bay. Most of the creeks west of foothills in Fremont have been realigned, straightened, and in some cases culverted, leveed or lined with concrete or rip-rap.

The Downtown area lies within the Mowry Slough watershed that drains into the Santa Clara Basin of the lower San Francisco Bay. Mowry Slough lies south of Newark Slough and north of Coyote Slough. No open channels flow through the area.

Currently, the area is served by storm drain inlets and mains in the existing streets. These storm drain mains vary in size from 15 inches to 60 inches, and serve Mowry Avenue, Paseo Padre Parkway, Walnut Avenue, Fremont Boulevard, and portions of their tributary areas. The City of Fremont owns the storm drains smaller than 36 inches in

diameter. The Alameda County Flood Control and Water Conservation District owns and maintains Line D traversing the Downtown area from Paseo Padre Parkway to Fremont Boulevard (Line D ranges in size from 36 inches and 60 inches).Storm drains through the District ultimately outflow to the existing 7-foot by 6-foot concrete box culvert in Fremont Boulevard at Beacon Avenue. The drainage area for the Downtown area into this box culvert is approximately 260 acres. The box culvert continues below the Fremont Hub Shopping Center and outlets downstream of Argonaut Way into an Alameda County Flood Control and Water Conservation District (ACFCWCD) flood control channel (Zone 5, Line D), which flows to the San Francisco Bay via Mowry Slough.

Under existing conditions, the Downtown area consists primarily of commercial/retail, office space, and associated parking; thus, much of the area is impervious. However, two parcels that are currently undeveloped consist of open fields and exposed soils. The larger pervious parcel is approximately 6.5 acres and lies on the east border of the area, bounded by Liberty Street, Beacon Avenue, California Street, and Walnut Avenue. The second pervious parcel is approximately 0.8 acres and lies along Hastings Street at Capitol Avenue. Together, these pervious parcels comprise roughly 3 percent of the drainage area to the Fremont Boulevard box culvert.

Water Quality

Water quality in the Fremont area is addressed on pages 4-193 through 4-194 of the DRAFT EIR on the Fremont General Plan Update.

Groundwater

Groundwater resources in the Fremont area are addressed on pages 4-194 through 4-196 of the DRAFT EIR on the Fremont General Plan Update.

Flooding

Flood risk in communities is identified by the community Flood Insurance Study (FIS) and Flood Insurance Rate Maps (FIRM) issued by the Federal Emergency Management Agency (FEMA). The last and most recent revision to the City of Fremont FIS and FIRM was in February 2000. This revision incorporated detailed flood hazard information from several ACFCWCD channels, including Toroges Creek, Laguna Creek, and Aqua Caliente Creek. The 2000 revision increased the special flood hazard area in the Irvington District along Laguna Creek, between Lake Elizabeth and Auto Mall Parkway. As part of the FEMA Flood Map Modernization project, the paper maps revised in 2000 were converted to digital maps in 2009.

The Downtown area is outside of the 100-year floodplain (City of Fremont FIRM, 06001C0461G, August 3, 2009). All runoff is conveyed via storm drain pipes to the

Fremont Boulevard box culvert that outfalls to the ACFCWCD Zone 5 Line D channel. The FIRM shows that Line D has the capacity to contain the 100-year peak flow.

Dam Failure

The potential effects related to possible dam failures in the Fremont area are addressed on pages 4-199 through 4-200 of the DRAFT EIR on the Fremont General Plan Update.

Regulatory Framework

The regulatory framework associated with hydrology and water quality is presented on pages 4-202 through 4-215 of the DRAFT EIR on the Fremont General Plan Update.

IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

Under the State CEQA guidelines and general practice, implementation of the Downtown Community Plan would have significant impacts if it would:

- Violate any water quality standards or waste discharge requirements.
- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted).
- Substantially alter the existing drainage pattern of the area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation within or outside of the planning area.
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding within or outside of the planning area.
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff.
- Otherwise substantially degrade water quality.
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map.

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

- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam.

- Expose people or structures to a significant risk of inundation by seiche, tsunami, or mudflow.

Issues Not Discussed Further

- *Placement of Housing or Structures within a 100-year Flood Hazard Area.* The Downtown area is outside of the 100-year floodplain (City of Fremont FIRM, 06001C0461G, August 3, 2009). Thus, no proposed housing or structures will be placed within a 100-year flood hazard area as mapped on the City of Fremont FIRM.

- *Inundation by Seiche, Tsunami, or Mudflow.* According to tsunami evacuation zone maps published by the Association of Bay Area Governments (ABAG), the Downtown area would not be subject to inundation by tsunami. It is not located adjacent to any large body of fresh water that could be expected to overtop its banks during an earthquake, so it is not subject to inundation due to seiche. The area is nearly flat, and would not be subject to mudflows.

- *Flooding Risk.* The Downtown Community Plan does not incorporate any levee or dam; so, the implementation of the Plan would not expose people or structures to significant risk of flooding as a result of the failure of a levee or dam.

GENERAL PLAN 2035 POLICIES

Implementation of the following General Plan 2035 policies are intended to reduce potentially adverse effects related to hydrology and water quality that may be associated with future development in the Downtown area:

- *Policy 7-2.1: Preservation of Water Resources.*

- *Policy 7-2.2: Low-Impact Hill Area Development.*

- *Policy 7-2.3: Niles Cone Groundwater Basin Maintenance.*

- *Policy 7-3.1: Protect and Improve Water Quality.*

- *Policy 7-3.2: Groundwater Resources.*

- *Policy 7-3.3: Enforce Water Quality Requirements.*
- *Policy 7-4.1: Water Conservation.*
- *Policy 7-4.2: Reclaimed Water.*
- *Policy 7-6.2: Minimize Soil Erosion.*
- *Policy 10-3.1: Limit Construction in Floodplain.*
- *Policy 10-3.2: Design to Minimize Flooding.*
- *Policy 10-3.3: Public Facility Operation.*
- *Policy 10-3.4: Mitigate Flood Hazards.*
- *Policy 10-3.5: Critical Facilities Locations.*
- *Policy 10-3.6: Flood Impacts from Sea-Level Rise.*

IMPACTS AND MITIGATION MEASURES

The Downtown Community Plan outlines a network of new storm drains to be installed along proposed streets to provide drainage for new rights-of-way and the adjacent properties (Exhibit 2.37, pg. 43). The new storm drain pipes will range in size from 12 inches to 24 inches, and will connect to existing storm drain lines. No improvements to the existing storm drain system are currently proposed. New storm drain inlets and laterals may be required at locations where existing drainage patterns are disrupted by street modifications, including the addition of bulb-outs at intersections and mid-block pedestrian crosswalks.

Construction-Related Impacts

Development associated with implementation of the Downtown Community Plan would include construction activities, such as building demolition, clearing and grubbing, pavement removal and replacement, excavation and trenching for foundations and utilities, soil compaction, cut and fill activities, and grading, all of which would temporarily disturb soils. Disturbed soils are susceptible to high rates of erosion from wind and rain, resulting in sediment transport from the Downtown area. Erosion and sedimentation affect water quality through interference with photosynthesis, oxygen exchange, and the respiration, growth, and reproduction of aquatic species. Other pollutants, such as nutrients, trace metals, and hydrocarbons, can attach to sediment and be transported with sediment to downstream locations. Sediment-associated pollutants could also cause or contribute to degradation of water quality.

The delivery, handling, and storage of construction materials and wastes, as well as the use of construction equipment, could also introduce a risk for stormwater contamination that could impact water quality. Spills or leaks from heavy equipment and machinery can result in oil and grease contamination, and some hydrocarbon compound pollution associated with oil and grease can be toxic to aquatic organisms at low concentrations. Staging areas or building sites can be sources of pollution because of the use of paints, solvents, cleaning agents, and metals during construction. Impacts associated with metals in stormwater include toxicity to aquatic organisms, such as bioaccumulation, and the potential contamination of drinking supplies. Pesticide use (including herbicides, fungicides) associated with site preparation work (as opposed to pesticide use for landscaping) is another potential construction activities source of stormwater contamination. Pesticide impacts to water quality include toxicity to aquatic species and bioaccumulation in larger species. Larger pollutants, such as trash, debris, and organic matter, are additional pollutants that could be associated with construction activities. Impacts include health hazards and aquatic ecosystem damage associated with bacteria, viruses, and vectors and physical changes to the aquatic ecosystem.

Impact HYD-1: Short-Term Construction-Related Water Quality Impacts. Construction impacts on water quality are ***potentially significant***, and could lead to exceedance of water quality objectives or criteria.

Mitigation HYD-1: Compliance with City Water Quality Requirements and State NPDES Construction General Permit. All construction activities, including installation and realignment of utilities, would be subject to existing regulatory requirements, including the SWRCB statewide NPDES General Permit for Storm Water Discharges Associated with Construction Activity (Construction General Permit) (Order No. 2009 0009-DWQ, NPDES No. CAR000002). The NPDES Construction General Permit requires the development and implementation of a Storm Water Pollution Prevention Plan (SWPPP). The SWPPP must list BMPs that the discharger will use to protect stormwater runoff, including the placement and timing of those BMPs. Additionally, the SWPPP must contain a visual monitoring program; and a chemical monitoring program for "non-visible" pollutants to be implemented if there is a failure of BMPs.

There are three levels of risk: Risk Level 1 projects are subject to minimum BMP and visual monitoring requirements; Risk Level 2 projects are subject to NALs and some additional monitoring requirements; and Risk Level 3 projects are subject to NELs and more rigorous monitoring requirements, such as receiving water monitoring and in some cases bioassessment.

Risk levels are based on a matrix of project sediment risk and receiving water risk. Sediment risk is based on estimated soil loss, as calculated by the Revised Universal Soil Loss Equation (RUSLE). Receiving water risk is based on whether a project drains to a sediment-sensitive waterbody. A sediment-sensitive waterbody is either on the most recent 303(d) list for waterbodies impaired for sediment; has an EPA-approved TMDL implementation plan for sediment; or has the beneficial uses of cold freshwater habitat, fish spawning, and fish migration. Discharge to a sediment-sensitive waterbody is automatically a Risk Level 2 or greater.

Though the storm drain systems proposed under the Downtown Community Plan do not discharge to any waterbodies listed on the 2006 303(d) list as impaired by sediment, San Francisco Bay South is shown as having the designated beneficial uses of fish spawning and fish migration. Therefore, depending upon the erosivity of project site soils, near- and long-term development projects under the Downtown Community Plan would be categorized as Risk Level 2 or 3 projects.

Runoff discharges from construction sites may become contaminated with sediment and alkaline materials as a result of the construction activities. The Construction General Permit requires effluent monitoring and sets action levels and effluent limitations to assess BMP performance and determine permit compliance.

The SWPPP would include, but would not necessarily be limited to, many of the following erosion control methods:

- Keep disturbed areas (areas of grading and related activities) to the minimum necessary for demolition or construction of the project;
- Keep runoff away from disturbed areas during grading and related activities;
- Stabilize disturbed areas as quickly as possible, either by vegetative, mechanical and/or physical methods;
- Trap sediment before it leaves the site with such techniques as check dams, sediment ponds, or straw wattles including perimeter protection;
- Use dirt and sediment tracking BMPs, including stabilized construction entrances and wheel washes;
- Implement routine street sweeping;
- Cover exposed soils and material stockpiles to prevent wind erosion;

- Use interceptor ditches, drainage swales, or detention basins to prevent storm runoff from transporting sediment into drainage ways and to prevent sediment-laden runoff from leaving any disturbed areas;

- Use landscaping and grading methods that lower the potential for down-stream sedimentation;

- Modified drainage patterns, longer flow paths, encouraging infiltration into the ground, and slower storm-water conveyance velocities are examples of effective methods;

- Control landscaping activities carefully with regard to the application of fertilizers, herbicides, pesticides or other hazardous substances. Provide proper instruction to all landscaping personnel on the construction team;

- During the installation of the erosion and sediment transport control structures, the erosion control professional must be on the site to supervise the implementation of the designs, and the maintenance of the facilities throughout the grading and construction period; and

- Routine monitoring of erosion control facilities during construction and during/after rain events.

The City's Municipal Code and permit review process would also require preparation and approval of a SWPPP and Grading and Drainage Plan.

Implementation of **Mitigation HYD-1**, above, would reduce potential short-term construction-related water quality impacts to a level of ***less than significant***. Compliance with all City and State water quality requirements, including the Construction General Permit, would reduce these potential impacts to less than significant. Preparation of an approved SWPPP and Grading and Drainage Plan, as required by the City, would ensure that the Construction General Permit WDR is not violated. The SWRCB has identified compliance with the Construction General Permit requirements as protective of water quality during construction activities. Therefore, development projects proposed under the Downtown Community Plan would not violate water quality standards.

Long-Term Operational Water Quality Impacts

Currently, the Downtown area is primarily developed with commercial uses, including service retail, offices and the City's administrative facilities, and nearly half of the area is dedicated to surface parking lots. Near- and long-term development anticipated under the Downtown Community Plan would decrease the commercial and retail areas, and increase the density of development with office and residential uses. New roads through the District are also proposed to encourage more frequent access and better circulation

flow. High density land-use, increased residential use and traffic would all contribute to potentially significant increases in discharge of polluted runoff.

Direct or indirect contact of surface water with potentially harmful or hazardous materials could result in water quality degradation. Stormwater runoff from the long-term development of the Downtown area would be typical of urban watersheds with similar land uses and may contain constituents such as landscaping chemicals (e.g., nitrates, phosphates, herbicides, and pesticides), automobile and traffic pollutants (e.g., oil, grease, metal brake dust, metal wear), trash and debris, pathogens (e.g., wildlife and pet waste), sediment with associated attached pollutants from soil erosion or aerial deposition of dust, and chemicals leaching from structures (e.g., metals from metal roofs and architectural features, calcium from limestone). These materials could contaminate surface water through direct contact with water in a stream channel or through runoff to local streams.

Stormwater runoff in the public right of way will be treated with City standard tree well filters sized and spaced to accommodate the impervious area within the right of way. Grass medians and other planted areas in the public right of way may also be used to provide storm water treatment of the public streets. Storm water on private lots will be treated in conformance with the Regional Water Quality Control Boards requirements for Low Impact Development. Treatment measures may include infiltration, vegetated swales, bio-retention, rain water gardens, green roofs, or other treatment measures that provide the required level of treatment.

Impact HYD-2: **Long-Term Operational Water Quality Impacts.** Operational impacts associated with increased development under Downtown Community Plan could adversely affect water quality, which would represent a ***potentially significant*** impact associated with Plan implementation.

Mitigation HYD-2: **Compliance with NPDES Permit Requirements, City Ordinances and ACCWP Guidelines.** All future near- and long-term development must comply with the California Regional Water Quality Control Board San Francisco Bay Region Municipal Regional Stormwater NPDES Permit (MS4 Permit), City of Fremont Storm Water Management and Discharge Control ordinances, and ACCWP Guidelines.

Regulated Projects, as defined in the Construction General Permit (Provision C.3.b.), are required to implement certain construction and post-construction stormwater quality BMPs. Regulated Projects include redevelopment projects that create or replace 10,000 square feet and greater of impervious surfaces. Regulated Projects must provide permanent/post-construction treatment controls for stormwater according to specific

calculations. If the redevelopment results in an alteration of more than 50 percent of the existing impervious surfaces, permanent BMPs must be implemented to treat runoff from the entire project site. The Downtown Community Plan is a Regulated Project that alters more than 50 percent of the existing impervious surfaces, and, Provision C.3.b.ii. states "the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included in the treatment system design (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from the entire redevelopment project)."

As a Regulated Project, implementation of the Downtown Community Plan shall comply with all pertinent provisions of the MS4 Permit, including:

- Low Impact Development (C.3.c) provisions, which require each Regulated Project to treat 100 percent of the amount of runoff identified in Provision C.3.d for the Regulated Project's drainage area with LID treatment measures onsite or with LID treatment measures at a joint stormwater treatment facility.

  (i) LID treatment measures are harvesting and re-use, infiltration, evapotranspiration, or biotreatment.

  (ii) A properly engineered and maintained biotreatment system may be considered only if it is infeasible to implement harvesting and re-use, infiltration, or evapotranspiration at a project site.

- Numeric Sizing Criteria for Stormwater Treatment Systems (C.3.d) provisions, which require that stormwater treatment systems constructed for Regulated Projects meet at least one of the following hydraulic sizing design criteria:

  (1) Volume Hydraulic Design Basis – Treatment systems whose primary mode of action depends on volume capacity shall be designed to treat stormwater runoff equal to: (a) The maximized stormwater capture volume for the area, on the basis of historical rainfall records, determined using the formula and volume capture coefficients set forth in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998), pages 175–178 (e.g., approximately the 85th percentile 24-hour storm runoff event); or (b) The volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology set forth in Section 5 of the California Stormwater Quality Association's Stormwater Best Management Practice Handbook, New Development and Redevelopment (2003), using local rainfall data.

  (2) Flow Hydraulic Design Basis – Treatment systems whose primary mode of action depends on flow capacity shall be sized to treat: (a) 10 percent of the 50-year peak flowrate; (b) The flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area,

based on historical records of hourly rainfall depths; or (c) The flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity.

(3) Combination Flow and Volume Design Basis – Treatment systems that use a combination of flow and volume capacity shall be sized to treat at least 80 percent of the total runoff over the life of the project, using local rainfall data.

A project sponsor would be required to submit the ACCWP checklist to show compliance with the NPDES Permit requirements. This submittal would include identification of site design measures to minimize impervious areas; source control measures to minimize the potential introduction of pollutants into stormwater runoff; and stormwater treatment control measures to removed pollutants from stormwater runoff.

Implementation of the BMPs below would assure compliance with potential NPDES permit regulations.

- Site Planning BMPs
    - Minimize directly connected impervious surfaces using site lot design, such as alternative pavement materials, providing landscaping, etc. Pervious paving materials may also be incorporated to further decrease impervious surface area. These BMPs apply to development in the entire project area.
    - Provide source controls for stormwater pollutants, such as roofed trash areas, covered material storage, etc.
- Post-Construction BMPs
    - The project sponsor or developer shall distribute educational materials to the first and all subsequent tenants of all commercial properties included in the project. These materials shall address good housekeeping practices relating to stormwater quality, prohibited discharges, and proper disposal of hazardous materials.
    - Any entity responsible for any common landscaped areas shall implement a program of efficient irrigation and proper maintenance including minimizing use of fertilizer, herbicides and pesticides.
    - Any entity responsible for maintaining common areas shall implement a trash management, recycling, and litter control program to mitigate the impacts of gross pollutants on stormwater quality. This program shall include litter patrol, emptying trash receptacles in common areas, and reporting and investigating and trash disposal violations.

- Any new storm drain inlets shall be labeled with the phrase "No dumping – flows to Bay," or a similar phrase to mitigate the impact of potential for discharges of pollutants to the storm drain system.

- Measures shall be incorporated into drainage projects (storm drains, conduits, collection points, and outlets) to maximize infiltration, permeability, trapping of pollutants and sediment from stormwater runoff.

- Properly designed vegetated filter strips shall be installed wherever feasible in the project to mitigate sediment and pollutant transport from stormwater sheetflow.

- Restaurants shall be designed with contained areas for cleaning mats, containers, and sinks connected to the sanitary sewers. Grease shall be collected and stored in a contained area and will be removed regularly by a disposal recycling service. This BMP would mitigate potential impacts due to oil and grease.

- Streets in the project area shall be swept immediately prior to and once during the storm season. If the City of Fremont does not agree to accept responsibility for street sweeping, the developer would arrange for this service within the project area for developed portions of the project.

- A pesticide reduction plan shall be developed and implemented. This plan will include recommendations for landscape planting to minimize pesticide use.

The SFBRWQCB has incorporated requirements in the Municipal Stormwater NPDES Permit to be protective of water quality and approved the ACCWP as being in compliance with the Municipal Stormwater NPDES Permit.

Compliance with all City and State water quality requirements, including the Municipal Regional Permit for the ACCWP, would reduce the potential operational impacts of anticipated development under the Downtown Community Plan to a level of ***less than significant***.

Groundwater Quality

Local and imported water is percolated into the Niles Cone Groundwater Basin through percolation both in Alameda Creek and the adjacent recharge ponds in the Quarry Lake Regional Recreational Area. The water is subsequently recovered through ACWD's groundwater production wells and provided as a potable supply to a population of over 330,000 in the cities of Fremont, Newark, and Union City.

ACWD installed monitoring wells on the corner of Hastings Street and Capitol Avenue and on Beacon Avenue as part of ACWD's groundwater management effort. Abandoned wells may exist in the Downtown area.[11]

Impact HYD-3: Development-Related Impacts to Groundwater Quality. Construction anticipated under the Downtown Community Plan could adversely affect groundwater quality via interference with active monitoring wells and abandoned groundwater wells, or subsurface drilling activities, a ***potentially significant*** impact.

Mitigation HYD-3: Implement Measures to Protect Groundwater Quality. To ensure the protection of groundwater quality, the following mitigations should be conducted in coordination with ACWD:

- Well Protection/Destruction: In order to protect the groundwater basin, all wells must be identified within the Downtown District, and each well must be either protected or properly destroyed prior to construction activities. If the well(s) are to remain, a letter so indicating must be sent to ACWD. If the well(s) are: 1) no longer required by any regulatory agency; 2) no longer monitored on a regular basis; or 3) damaged, lost, or the surface seal is jeopardized in any way during the construction process, the wells must be destroyed in compliance with the City of Fremont Well Ordinance. In addition, any abandoned wells located within the Downtown area must be properly destroyed prior to construction activities.

- Drilling Permit Requirement: Prior to the start of any subsurface drilling activities, a drilling permit from ACWD must be obtained. Application for a permit may be obtained from ACWD's Engineering Department, at 43885 South Grimmer Boulevard, Fremont or via ACWD's website at http://www.acwd.org/engineering/drilling,.permit.php5.

  Before a permit is issued, the applicant is required to deposit with ACWD, cash or check in a sufficient sum to cover the fee for issuance of the permit or charges for field investigation and inspection. All permitted work requires scheduling for

[11] Alameda County Water District Comment Letter to Midtown Community Plan DEIR Notice of Preparation, July 28, 2010.

inspection; therefore, all drilling activities must be coordinated with ACWD prior to the start of any field work.

- Access to ACWD Facilities: Safe access must be maintained to any ACWD installed monitoring wells in the Downtown area.

Coordination with ACWD for well identification, well protection or destruction, subsurface drilling permits, and access to monitoring facilities would reduce potential impacts to groundwater quality in the Downtown area to a level of ***less than significant***.

Groundwater Recharge

Because no open-channel surface waters run through the Downtown area, development under the Downtown Community Plan cannot interfere with surface water recharge of groundwater aquifers. Also, the Downtown Community Plan is not proposing to drill new water wells or to directly access groundwater in the Downtown area through any existing active wells. Furthermore, the Downtown Community Plan does not anticipate any construction requiring deep excavation (e.g. subterranean parking garage), and monitoring wells at 39080 Fremont Boulevard sampled in 2006 show minimum depth to groundwater to be over 30 feet.[12]

Any temporary and permanent dewatering activities associated with individual development projects should be coordinated with ACWD:

- Groundwater losses due to dewatering should be measured and may be subject to a replenishment assessment fee.
- Any significant losses of ACWD's water supplies shall be replaced.
- ACWD permits are required for dewatering well installations and destructions within the City.

Implementation of the Downtown Community Plan would not directly deplete groundwater resources to the extent that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level, and any potential impact in groundwater recharge would be considered ***less than significant***.

Alteration of Existing Drainage Patterns

Under current conditions, surface drainage from the Downtown area collects in roadways and is conveyed via drain inlets to storm drain mains running along existing streets. The

[12] State Water Resources Control Board, GeoTracker Global ID T0600180915, case closed 06/09/2006.

Downtown Community Plan proposes extending Capitol Avenue, creating a new road extending the entire north-south length of the Downtown area, and creating several new east-west connector streets between existing and proposed roads. Thus, the existing drainage pattern will be altered by the changes in road layout. However, no substantial erosion or siltation would occur as a result because surface flow would occur along hardened surfaces (i.e. sidewalks, curb and gutters, and paved roadways), and the potential impact associated with the alteration of existing drainage patterns within the area would be considered ***less than significant.***

Stormwater Runoff

Conversion of undeveloped land to urban uses (residential, commercial, industrial, etc) would increase the amount of ground surface covered by impervious material, such as roads, buildings and parking lots. Impervious ground surfaces cannot absorb rainfall and, therefore, increase the quantity of surface runoff. Implementation of the Downtown Community Plan would not alter the course of an existing stream or river, because there are no natural drainage features onsite. Currently, all the surface runoff from the Downtown area flows to one outlet point, the box culvert below Fremont Boulevard at Beacon Avenue. Approximately 97 percent of the larger drainage area that flows to the box culvert is impervious under existing conditions. The Downtown Community Plan proposes two community parks (to be adjacent to the proposed New Middle Road) and a large open space within the Civic Center as green open space within the new Downtown area. The Downtown Community Plan indicates that "It is anticipated that new green space proposed in the Community Plan in combination with implementation of storm water quality measures will result in no net increase in storm water runoff from the community plan area." However, without specific area development plans and more detailed storm runoff analysis, increased runoff from development anticipated under the Downtown Community Plan could have a potentially significant impact on stormwater runoff.

Impact HYD-4: Increased Stormwater Runoff. Development anticipated under the Downtown Community Plan could result in increased stormwater runoff. In the absence of detailed development plans and site-specific stormwater runoff analysis for individual projects, increased runoff from development anticipated under the Downtown Community Plan could be considered a ***potentially significant*** impact.

Mitigation HYD-4: Developer Compliance with State NPDES Municipal Regional (MS4) Permit and City Urban Runoff Standard Conditions of Approval and City Development Design Requirements[13].

The ACCWP is designed to prevent violation of water quality standards through mitigation and control of pollutant transport in stormwater runoff and infiltrating waters. Under NPDES Permit C.3 provisions dischargers must:

- Incorporate treatment measures and other appropriate source control measures (such as pesticide reduction strategies) and site design measures to manage increases in runoff flows to the maximum extent practicable;

- Implement site design/landscape characteristics to maximize infiltration (where appropriate), provide retention or detention, slow runoff, and minimize impervious land coverage to reduce post-development pollutant loads to the maximum extent practicable;

- For new and redevelopment projects that discharge directly to water bodies listed as impaired by pollutants pursuant to CWA Section 303(d), ensure that post-project runoff does not exceed pre-project levels for such pollutants, through implementation of the control measures addressed in this provision; and

- Prevent a net increase in flow where such an increase would increase erosion or otherwise degrade stream habitat (this is not required where increased flows would not cause degradation).

Hydromodification Management (HM) Projects are Regulated Projects that create and/or replace one acre or more of impervious surface. A project that does not increase impervious surface area over the pre-project condition is not an HM Project. Short- and long-term development components identified in the Downtown Community Plan have the potential to qualify as HM Projects, and shall meet the Hydromodification Management Standard of Provision C.3.g.ii.

---

[13] City of Fremont, Municipal Code, Chapter 11, Storm Water Management and Discharge Control. Sec. 8-11206.

Stormwater discharges from HM Projects shall not cause an increase in the erosion potential of the receiving stream over the pre-project (existing) condition. Increases in runoff flow and volume shall be managed so that post-project runoff shall not exceed estimated pre-project rates and durations, where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force. The demonstration that post-project stormwater runoff does not exceed estimated pre-project runoff rates and durations shall include the following, as well as prescribed Goodness of Fit Flow Criteria, Precipitation Data, and Calculations of Post-Project Runoff:

- For Alameda Permittees, HM controls shall be designed such that post-project stormwater discharge rates and durations match pre-project discharge rates and durations from 10 percent of the pre-project 2-year peak flow up to the pre-project 10-year peak flow.

- Existing HM Control Requirements for Alameda Permittees

Implementation of **Mitigation HYD-4** would reduce the potential for increased stormwater runoff within the Downtown District as a result of implementation of the Downtown Community Plan to a level of ***less than significant.***

Storm Drainage System Capacity

The City of Fremont has not identified any significant existing storm drain capacity issues in the Downtown area,[14] and does not propose any improvements to the existing storm drain system as part of the Downtown Community Plan.

[14] DRAFT Fremont Downtown Community Plan, Chapter 2, page 43.

H. GEOLOGY, SOILS AND SEISMICITY

This section presents a discussion of geologic, soils and seismic hazards and impacts to development that pertain to implementation of the Downtown Community Plan. The topics discussed in this section overlap those discussed in other sections of this EIR, including the erosion and ground water quality discussion in **Section G, Hydrology and Water Quality**, above.

SETTING

Regional Geology

The Downtown area is located within the north-central portion of the city of Fremont, California, which lies along the southeastern margin of San Francisco Bay. San Francisco Bay lies within the California Coast Ranges geomorphic and physiographic province, a region dominated by active tectonics astride the margin between the Pacific and North American tectonic plates. Regional tectonic forces generate an estimated relative motion between the North American and Pacific plates of approximately two inches per year. Over time, these forces have created the varied mountainous, valley, and fault-bound blocks seen in the San Francisco Bay Area today.

In general, Tertiary and younger materials in the San Francisco Bay Area lie atop two highly deformed Mesozoic basement rock complexes, one of which is the Coast Range Ophiolite and overlying Great Valley sequence. The Coast Range Ophiolite consists of serpentinite, gabbro, diabase, basalt, and chert, while the overlying Great Valley sequence consists of sedimentary rocks including sandstone, shale, and conglomerate. Portions of both the Coast Range Ophiolite and the Great Valley Sequence outcrop in the Hamilton Diablo range along the eastern side of San Francisco Bay.

The other main basement rock complex in the San Francisco Bay Area is the Franciscan Complex, a subduction zone complex formed over one hundred million years ago when plate motions were largely convergent and the Farallon Plate was being subducted beneath the North American Plate. Portions of the subducted oceanic crustal material was scraped off the subducting plate and metamorphosed under low temperature and low to high pressure. This material has been extensively folded, faulted and deformed to create what is referred to as "mélange", which includes generally coherent blocks of greywacke sandstone, greenstone, blueschist, and eclogite in a matrix of highly sheared shale. Rocks of the Franciscan Complex outcrop in the Hamilton Diablo range along the eastern side of the San Francisco Bay as well as the Coyote Hills in the western portion of the City of Fremont.

Tertiary rocks lie atop the Mesozoic basement complexes and consist largely of sedimentary rocks, including sandstone, shale, chert and conglomerate. However, in

addition to the Tertiary sedimentary assemblages there are igneous rocks including basalt flows as well as intrusions of rhyolite, dacite and quartz diorite. Surficial deposits along valley floors and the east bay plain consist of Quaternary to Holocene alluvium.

Regional Faulting and Seismicity

Regional faulting and seismicity are addressed on pages 4-230 through 4-235 of the DRAFT EIR on the Fremont General Plan Update.

Local Geology

The Downtown area is located upon the East Bay Plain, which consists of overlapping alluvial fans emanating from the base of the East Bay Hills (including the Hamilton-Diablo range), which run along the east-northeastern side of San Francisco Bay and continue north through the Berkeley Hills to San Pablo Bay. The East Bay Plain covers the area between the hills and the San Francisco Bay. Rocks of the Hamilton-Diablo range east and northeast of the community plan area include sandstone, siltstone and conglomerate of the Tertiary Briones formation, chert and shale of the Tertiary Claremont formation, sandstones of the Tertiary Oursan formation, and Cretaceous sandstone and shale of the Great Valley Sequence. The Coyote Hills in the western portion of Fremont include sandstones, shale, greenstone, and chert of the Jurassic Franciscan Complex[15]. Central Fremont (the area between the Hamilton-Diablo Range and the Coyote Hills) is filled with as much as 600 vertical feet of alluvium which consists of loose to weakly consolidated silt, clay, sand and gravel, generally less than 1 million years old and derived from rocks found in the hills. According to a recent quaternary geologic map of the area[16] the site is underlain by Holocene age alluvial fan and fluvial deposits, as described below.

Qhaf –Alluvial and Fluvial deposits (Holocene)

Alluvial fan deposits are brown or tan, medium dense to dense, gravelly sand or sandy gravel that generally grades upward, to sandy or sitly clay. Near the distal fan edges, the fluvial deposits are typically brown, never reddish, medium dense sand that fines upward to sandy or silty clay.

[15] Graymer, R.W., Jones, D.L, Brabb, E.E., Preliminary Geologic Map Emphasizing Bedrock Formations in Alameda County, California, USGS Open-File 96-252.

[16] Helley, E.J., Graymer, R.W., Quaternary Geology of Alameda County and Surrounding Areas, California: Derived from the Digital Database 97-97, USGS.

Geological Hazards

Geological hazards in the Fremont area are addressed on pages 4-236 through 4-249 of the DRAFT EIR on the Fremont General Plan Update.

Regulatory Setting

The regulatory setting associated with geology, soils and seismicity is presented on pages 4-249 through 4-254 of the DRAFT EIR on the Fremont General Plan Update.

IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

According to CEQA Guidelines, exposure of people or structures to major geological hazards is considered a significant adverse impact. The analysis of geological hazards is based on the degree to which local geology could produce hazards to people or structures from earthquakes, ground shaking, ground movement, fault rupture, or other geologic hazards, features or events. According to CEQA Guidelines, implementation of the Downtown Community Plan would have a significant environmental impact if it were to result in:

1) Exposure of people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:

    i) Rupture of a known 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 known fault.

    ii) Strong Seismic Ground Shaking

    iii) Seismic-related ground failure, including liquefaction.

    iv) Inundation by seiche, tsunami, or mudflow.

    v) Landslides

    vi) Flooding, including flooding as a result of the failure of a levee or dam.

2) Substantial erosion or loss of topsoil.

3) The loss of a unique geological feature.

4) Soil or a geologic unit that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landsliding, lateral spreading, subsidence, liquefaction, or collapse.

5) Location on expansive soil, creating substantial risks to life or property.

6) Soil incapable of supporting the use of septic tanks or other alternative wastewater disposal systems where sewers are not available.

GENERAL PLAN 2035 POLICIES

Implementation of the following General Plan 2035 policies and actions are intended to reduce potentially adverse effects related to geologic hazards that may be associated with future development in the Downtown area:

Policy 10-1.1: Location of Buildings and Structures.

- *Implementation 10-1.1.C: Owner Notification of Land Failure.*
- *Implementation 10-1.1.D: Mitigation Hazards to Acceptable Levels.*

Policy 10-1.2: Mitigation of Hazards.

- *Implementation 10-1.2.A: Site Specific Geologic Studies.*
- *Implementation 10-1.2.B: Peer review of Site Specific Geologic Studies.*

Policy 10-1.3: Limits on Grading.

- *Implementation 10-1.3.A: Grading Ordinance Consistency.*
- *Implementation 10-1.3.B: Grading Plan Review.*

Policy 10-2.1: Locations of Buildings and Structures.

- *Implementation 10-2.1.A: Consistency with Seismic Safety Criteria.*
- *Implementation 10-2.1.B: Mitigate Seismic Impacts.*

Policy 10-2.3: Soil Engineering Standards.

- *Implementation 10-2.3.A: Seismic Mitigation.*

Policy 10-2.4: Location of Critical Facilities.

- *Implementation 10-2.4.A: Retrofit Existing Facilities.*
- *Implementation 10-2.4.C: Critical Facility Locations.*

Policy 10-2.5: Removal of Susceptible Structures.

- *Implementation 10-2.5.A: Seismic Retrofit Programs.*

Policy 10-3.1: Limit Construction in Floodplain.

- *Implementation 10-3.1.J: Critical Facilities.*

Policy 10-3.3 Public Facility Operation.

- *Implementation 10-3.3.A: Location of Public Facilities.*
- *Implementation 10-3.3.B: Evacuation Plan for Inundation.*
- *Implementation 10-3.3.C: Levee Certification.*

Policy 10-3.4: Mitigate Flood Hazards.

- *Implementation 10-3.4.A: Water Storage Facilities.*
- *Implementation 10-3.4.B: Water Storage Inventory.*

IMPACTS AND MITIGATION MEASURES

Seismic Hazards

Surface Fault Rupture

There are no faults zoned as active according to the Alquist-Priolo Earthquake Fault Zoning Act crossing the Downtown area. Therefore, the hazard of surface fault rupture is ***less than significant***.

Seismic Ground Shaking

There is a long history of strong seismic ground shaking in the greater Bay Area, including the city of Fremont. According to earthquake shaking maps produced by ABAG, a rupture of the Hayward Fault could result in a Modified Mercalli Intensity (MMI) of up to X – Very Violent in the Downtown area. Ruptures of other regional faults, including the San Andreas Fault, San Gregorio Fault and Calaveras Fault, would result in MMI values of VI to IX, moderate to violent.

Impact GEO-1: **Potential Exposure of Structures to Strong Seismic Ground Shaking.** Property damage, personal injury, and loss of life may result from poorly constructed buildings subject to strong to violent seismic ground shaking. This would represent a ***potentially significant*** impact associated with implementation of the Downtown Community Plan.

Mitigation GEO-1: **Compliance with California Building Code Requirements.** Any structures built in the Downtown Community Plan District following adoption of the Downtown Community Plan shall meet requirements of the 2010 California Green Building Code published by the International Conference of Building Officials, and as modified by the amendments, additions and deletions as adopted by the City of Fremont, California.

The 2010 California Green Building Code, which was adopted by the City of Fremont through Ordinance No. 23-2010, includes seismic design standards to minimize damage resulting from seismic shaking. Additionally, any development implemented under the Downtown Community Plan would have to be in accordance with the General Plan 2035, which identifies additional policies and actions designed to minimize the impacts of strong to very violent seismic shaking.

Incorporation of seismic construction standards would reduce the potential for catastrophic effects of ground shaking, such as complete structural failure, but will not completely eliminate the potential hazard of seismically-induced ground shaking. Application of General Plan 2035 implementation measures, , identified above, in conjunction with **Mitigation GEO-1** would reduce the potential impact of strong to very violent seismic ground shaking to a level of ***less than significant.***

Seismically-Related Ground Failure

Seismic hazard zone maps produced by California State Geologist show the Downtown District as not located within a liquefaction seismic hazard zone. Application of General Plan 2035 implementation measures, identified above, will reduce the potential impact associated with seismically-related ground failure to a level of ***less than significant.***

Landslides (including seismically-induced)

The Downtown area is located in a very gently sloping area of the City of Fremont, and potential landslides are considered a ***less than significant impact.***

Flooding (including as a result of the failure of a levee or dam)

As stated in the DRAFT EIR on the Fremont General Plan Update (page 4-242), failure of either of the dams (Del Valle or Turner) in the hills east of the Downtown area would result in inundation of the area (as well as most of the City of Fremont). However, it is anticipated that inundation resulting from dam failure is unlikely, and a relatively low risk due to the structural engineering of the dams and compliance with federal and state laws enacted to enhance dam safety. Furthermore, in compliance with Federal requirements, the Association of Bay Area Governments (of which Fremont is a member) has developed a Local Hazard Mitigation Plan. The Plan is a comprehensive approach to emergency preparedness, addressing possible hazards which may result from an emergency such as a natural disaster, technological incident, nuclear defense, and civil disorder or terrorism. The Plan is designed to not only consider the effects of a single natural catastrophe (such as an earthquake), but emergency problems that often result from major disasters such as the failure of an upstream dam. The Plan includes critical facilities within the City that can be used as shelter and emergency evacuation routes. Therefore, this Plan, in conjunction with federal and state laws related to dam safety, would minimize the risk of exposing people and structures in the Downtown area to the failure of dams in the vicinity, and this potential impact would be considered ***less than significant.***

Soil Erosion and Loss of Topsoil

The Downtown Community Plan guides development within the Downtown area. Construction activities for development associated with the Plan are likely to disturb topsoil, which, if not properly mitigated, can be mobilized by stormwater runoff, increasing erosion and loss of topsoil.

Impact GEO-2: Potential Construction-Related Soil Erosion. Construction activity associated with development under the Downtown Community Plan could result in disturbance of topsoil, which may be subject to erosion by stormwater runoff. This would represent a ***potentially significant*** impact associated with implementation of the Downtown Community Plan.

Mitigation GEO-2: Implementation of Storm Water Pollution Prevention Plan (SWPPP). In accordance with the Clean Water Act and the State Water Resources Control Board (SWRCB), the applicant for any construction projects that disturb more than one acre shall file a Storm Water Pollution Prevention Plan (SWPPP) prior to the start of construction. The SWPPP shall include specific best management practices to reduce soil erosion. This is required to obtain coverage under the General Permit for Discharges of Storm

Water Associated with Construction Activity (Construction General Permit, 99-08-DWQ). Additionally, any construction activities planned as a result of the implementation of the community plan shall require an Erosion Control Plan to be submitted to the City in conjunction with the Grading Permit Application. The Plan shall include winterization, dust, erosion and pollution control measures conforming to the ABAG Manual of Standards for Erosion and Sediment Control Measures, with sediment basin design calculations. The Erosion Control Plan shall describe the "best management practices" (BMPs) to be used during and after construction to control pollution resulting from both storm and construction water runoff. The Plan shall include locations of vehicle and equipment staging, portable restrooms, mobilization areas, and planned access routes. Recommended soil stabilization techniques include placement of straw wattles, silt fences, berms, and gravel construction entrance areas or other control to prevent tracking sediment onto city streets and into storm drains. Public works staff or representatives shall visit the site during grading and construction to ensure compliance with the grading ordinance and plans, and note any violations, which shall be corrected immediately.

Any construction activities in the Downtown area following adoption of the Downtown Community Plan shall apply for a grading permit from the City of Fremont, and grading done is required to be in accordance with the Fremont Grading Ordinance (Title VIII, Chapter 4, of the Municipal Code), which, in conjunction with **Mitigation GEO-2** would reduce the potential impact of soil erosion and loss of topsoil to a level of ***less than significant.***

Unstable Geologic Unit

Portions of the Downtown area may be underlain by expansive or liquefiable soils, which could be unstable and result in damaged foundations, personal injury or other property damage. Some areas within the City of Fremont are located on geologic units subject to landsliding, liquefaction, and other seismically related ground failure. Expansive soils may also be encountered within areas planned for development.

Impact GEO-3: Construction on Unstable Geologic Units. Property damage, personal injury, and loss of life may result from building in areas which may be characterized as unstable geologic units. This would represent a ***potentially significant*** impact associated with implementation of the Downtown Community Plan.

Mitigation GEO-3: Compliance with California Building Code Requirements (Mitigation GEO-1).

Compliance with **Mitigation GEO-3** will reduce the potential impacts associated with construction on an unstable geologic unit to a level of ***less than significant***.

Expansive Soils

Implementation of the Downtown Community Plan would potentially entail development on expansive soil subject to shrinking and swelling in response to changes in moisture content. Expansive soils are a major cause of foundation-related property damage in California, and according to the USDA Soil Survey for Alameda County are found underlying the Downtown District. The 2010 California Green Building Code, which was adopted by the City of Fremont through Ordinance No. 23-2010, requires a preliminary soil report to identify and mitigate potential geologic and soil related constraints to development, including expansive soils. As all development taking place within the Downtown area following adoption of the Downtown Community Plan would be required to comply with the 2010 California Green Building Code, potential impacts associated with expansive soils would be ***less than significant***.

I. HAZARDS AND HAZARDOUS MATERIALS

This section of the environmental impact report provides information on hazards and hazardous materials within the Downtown area, including environmental hazards associated with fire, air traffic, emergency preparedness, and hazardous waste disposal.

Hazards addressed in this section include natural hazards as well as hazards from human activity (including hazardous material and waste). Hazardous material and waste is generated in a multitude of manners, including manufacturing and service industries, small businesses, agriculture, hospitals, schools and households. A hazardous material is a substance or combination of substances which, because of its quantity, concentration, chemical or infectious characteristics, may either 1) cause, or significantly contribute to, an increase in mortality or an increase in serious, irreversible, or incapacitating reversible illness; or 2) pose a substantial present or potential hazards to the environment or human health and safety when improperly stored, transported, disposed of or otherwise managed. Hazardous materials are generally used to produce products that enable society to enjoy a higher standard of living. Examples of these products include household cleaners, paint, television sets, computers and plastic products. Hazardous waste (a subset of hazardous material) refers to hazardous material that is to be abandoned, discarded, or recycled.

SETTING

Area History

Prior to the post-WWII suburbanization boom, the Fremont area was largely dedicated to agriculture, serving to provide the rapidly growing San Francisco Bay Area with fresh, local produce. However, once Fremont was incorporated in 1956, heavy industry began to play a larger part in the city's economy. In this more industrialized economy, hazardous materials were used with more regularity, and businesses began producing much larger quantities of hazardous waste. Today, industries from manufacturing to software to the service industry do business in Fremont. However, development within the Downtown area consists largely of commercial land uses, with a small residential area. The bulk of industries using large quantities of hazardous material are concentrated in the southern and western portions of the City of Fremont.

Site Use History

Historical use information for the Downtown area was compiled from a number of sources including: aerial photographs, historical topographical maps, fire insurance maps, and street directories, including:

> 1906 - Historical topographic map shows some development in the Niles, Irvington, and Mission San Jose areas of Fremont. Fremont Boulevard and

Mowry Avenue (formerly Santos Avenue) are in place, with buildings shown along them.

1939 - An aerial photograph shows the site with orchards and other farming land uses. Scattered small buildings are visible.

1946 - An aerial photograph shows the site looking quite similar to the 1939 photograph, but with fewer orchards, more of what appear to be row crops.

1947 - Historical topographic map shows roads in the area very similar to the 1906 map.

1959 - An aerial photograph shows more of the orchards as replaced by cleared land, and a small development of approximately a dozen buildings is visible along Mount Vernon Avenue.

1965 - There appears to be a construction site at the northeast corner of Mowry Avenue and Fremont Boulevard. Otherwise little change from 1959.

1968 - The historical topographic map shows the current street alignments in place and a few large buildings in the southwest corner of the Downtown area.

1974 - An aerial photograph shows the Downtown area as significantly built out from the view a decade previous. The current shopping center at the corner of Fremont Boulevard and Mowry Avenue is in place, and there are a number of large buildings in the center of the area (between Capital Avenue and Beacon Avenue). The northeast corner of the area still contains open fields.

1982 - An aerial photograph shows the Downtown area as very closely resembling the current layout, excepting the area adjacent to California Street.

1993 - An aerial photograph shows the site developed as it is today.

Current Area Land Uses

The Downtown area is zoned as Central Business District in City of Fremont Zoning Maps. Currently, the area is primarily developed with commercial properties representing over 85 percent of the land use in the area, the remainder consists of city offices and a very small number of single parcel residential units. The area includes 1.1 million square feet of development, which corresponds to a Floor-Area Ratio (FAR) of 0.26.

Current Contamination Levels and Health Risks

The California State Water Resource Control Board (SWRCB) has identified many sites within the City of Fremont that have the potential to impact drinking water. These sites

include leaking underground fuel tank (LUFT) sites, Spills, Leaks, Investigations and Clean-up (SLIC) sites, Department of Defense (DOD) sites, Land Disposal Sites, and California Hazardous Material Incident Report System Sites (CHMIRS). Information on the location and nature of certain sites listed on SWRCB databases are available online through GeoTracker. GeoTracker is a geographic information system (GIS) that provides online access to environmental data. GeoTracker is the interface to the Geographic Environmental Informational Management System, a data warehouse which tracks regulatory data about underground fuel tanks, fuel pipelines, and public drinking water supplies[17]. GeoTracker is accessible to the public at http://geotracker.swrcb.ca.gov/.

Additionally the Department of Toxic Substances Control (DTSC) has recently launched the EnviroStor data management system. EnviroStor provides online access to detailed information on hazardous waste permitted and corrective action facilities, as well as existing site clean-up information. EnviroStor allows the public to search for information on investigation, clean-up, permitting, and/or corrective actions that are planned, being conducted or have been completed under DTSC oversight.[18] EnviroStor can be accessed at http://www.envirostor.dtsc.ca.gov/public/.

The primary concerns associated with a hazardous material release are the short- and long-term effects on the local population and environment. To minimize potential impacts, hazardous materials are governed by regulations that require proper storage and handling, business/environmental management plans, spill contingency plans, employee and public noticing, and other emergency preventative and response measures necessary to minimize the risk of accidental releases and associated environmental impacts.

Listed Hazardous Material Sites in the Downtown Area

Properties within the Downtown area are listed on the following environmental databases: FINDS, RCRA –SQG, HAZNET, LUST, Cortese, RCRA non-gen, SWEEPS, EMI, DryCleaners, SLIC, Envirostor, and Hazardous Materials Business Plan. The chemicals of concern within the Downtown area include halogenated and non-halogenated solvents, petroleum products, alcohols, bio-medical waste, and metals including silver and lead. Montgomery Ward, formerly located at 39210 Fremont Boulevard, is on a number of environmental databases related to a leaking underground storage tank (LUST), which released gasoline, motor oil, hydraulic oil, and waste oil. This site was previously on the Cortese list, but has been closed. Former Shell Oil, located at 39080 Fremont Boulevard, was listed for a LUST that released non-petroleum

[17] California State Water Resource Control Board's GeoTracker website http://geotracker.swrcb.ca.gov/about.htm

[18] EnviroStor fact sheet at Department of Toxic Substance Control's website http://www.envirostor.dtsc.ca.gov/public/EnviroStor%20Fact%20Sheet.pdf

solvents. The case has been closed. Walnut Cleaners (located at 3367 Walnut Avenue), Fremont Plaza Norge Cleaners (located at 39067 State Street), and Gateway Cleaners (located at 39250 Paseo Padre Parkway) are listed as dry cleaning facilities that handle halogenated solvents. The First Interstate Bank, located at 3440 Walnut Avenue, was listed for a LUST that released diesel, although the case has been closed. The Edward and Zumilda Lewis Property, located at 3200 Mowry Avenue, was historically listed for a LUST that released kerosene, although the case has been closed.

All sites using, storing, or disposing of hazardous material in excess of 55 gallons of liquids, 200 cubic feet of gasses, or 500 pounds of solids are required to submit a Hazardous Materials Business Plan to the Certified Unified Program Agency (CUPA). The Fremont Fire Department is the CUPA for the City of Fremont and handles the Hazardous Materials Business Program. The responsibilities of the CUPA are discussed further in the Regulatory Setting section, below.

Household and Small Business Hazardous Waste

Many common household items used regularly contain hazardous materials and cannot be collected with regular garbage destined for a landfill. These items include, but are not limited to: batteries, fluorescent light bulbs, televisions and electronic waste such as computers. Household hazardous waste disposal in the City of Fremont is through the Alameda County Department of Environmental Health. The County Board of Supervisors established the household and small business hazardous waste collection program in 1989. In 1996, the County completed its third and final permanent waste collection facility. These disposal facilities within Alameda County are located at 2091 West Winton Avenue in Hayward, 2100 East 7th Street in Oakland, and 5584 La Ribera Street in Livermore. These locations for hazardous waste disposal are available to residents and Conditionally Exempt Small Quantity Generators (CESQG), as defined in California Health and Safety Code, section 25218.1, and the Code of Federal Regulations 40, section 261.5. CESQG businesses are those that generate less than 220 pounds or 27 gallons of hazardous waste of any kind, and less than 2.2 pounds of extremely hazardous waste per month. Small businesses that qualify as CESQG must register as such by filling out a CESQG self-certification form and returning to the Alameda County Household Hazardous Waste CESQG department.[19]

Transportation Corridors

Transportation corridors occupied by vehicles or railcars containing hazardous materials are also potential sources of an accidental hazardous material release. Transportation of hazardous material to, from, and through the Downtown area would primarily be along

[19] Alameda County Household Hazardous Waste webpage at http://stopwaste.org/home/index.asp?page=583

the local arterial roads, freeways and railroads. Local arterial roads likely to be utilized include Mowry Avenue, Stevenson Boulevard, Fremont Boulevard and Paseo Padre Parkway. Regionally, Interstate 880 (I-880), Interstate 680 (I-680), State Route 84 (SR 84), and the Union Pacific Railroad would be used for transport of hazardous materials. I-880, also known as the Nimitz Freeway, roughly bisects the city in a northwest-southeasterly manner, with the southwestern side of the freeway occupied mostly by industrial land use and tidal wetlands, and the northeastern side occupied mainly by residential and commercial land uses. I-680 connects Fremont to inland Alameda County to the north and San Jose to the south. The California Department of Transportation (CALTRANS) regulates transportation of hazardous material on California highways.

Regulatory Setting

The regulatory setting related to hazards and hazardous materials is presented on pages 4-264 through 4-266 of the DRAFT EIR on the Fremont General Plan Update.

IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA Criteria for Determining Impact

The following thresholds for measuring a Project's environmental impacts are based on CEQA Guidelines and other performance standards recognized by City of Fremont. For the purposes of this EIR, a significant impact would occur if the Project were to:

1) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials.

2) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment.

3) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school.

4) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would create a significant hazard to the public or the environment.

5) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the Project result in a safety hazard for people residing or working in the Project Area.

6) For a project within the vicinity of a private airstrip, would the Project result in a safety hazard for people residing or working in the Project Area.

7) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan.

8) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

GENERAL PLAN 2035 POLICIES

Implementation of the following General Plan 2035 policies and actions are intended to reduce potentially adverse effects related to hazards and hazardous materials that may be associated with future development in the Downtown area:

Policy 10-6.1: Hazardous Material Regulation.

- *Implementation 10-6.1.A: Land Use Evaluation.*

Policy 10-6.2: Sensitive Receptors.

- *Implementation 10-6.2.A: Proximity to Hazardous Materials Users.*

Policy 10-6.3: Remediation.

- *Implementation 10-6.3.A: Environmental Site Assessments.*
- *Implementation 10-6.3.B: Regulatory Agency Coordination.*
- *Implementation 10-6.3.C: Existing Hazard Remediation.*

Policy 10-6.4: Hazardous Waste Management Plan.

- *Implementation 10-6.4.A: County Plan as City Plan.*

Policy 10-6.5: Hazardous Material Oversight.

- *Implementation 10-6.5.A: Hazardous Material Enforcement.*
- *Implementation 10-6.5.B: Hazardous Material Monitoring on SR 84.*
- *Implementation 10-6.5.C: Truck Route Review.*

Policy 10-6.6: Hazardous Material Disclosure.

- *Implementation 10-6.6.A: Disclosure and Emergency Action Plans.*

Policy 10-6.7: Emergency Action Plan.

- *Implementation 10-6.7.A: Hazardous Materials Emergency Response.*
- *Implementation 10-6.7.B: Hazardous Material Emergency Training.*

IMPACTS AND MITIGATION MEASURES

Proposed Area Land Uses

The proposed Downtown Community Plan would intensify land use by increasing the amount of development in the Downtown area to a total of nearly 3 million square feet of development in the near term for an FAR of 0.8 (which is the threshold for USGBC-LEED-ND status). This would be accomplished through bringing between 705,500 and 1,943,500 square feet of office space to the area, increasing the residential uses from 11,200 square feet to between 404,500 and 1,642,500, and decreasing the commercial/retail use to 355,200 square feet.

Routine Use, Transport, or Disposal of Hazardous Materials

Implementation of the proposed Downtown Community Plan would likely result in an increase in the number of businesses storing, using, transporting, and/or disposing of hazardous material within the Downtown area. However, the General Plan 2035 identifies goals, policies and actions designed to reduce the impact of businesses routinely using, storing, and transporting hazardous material. These actions, identified above, in combination with California Department of Transportation, California Department of Toxic Substance Control, and California State Water Resource Control Board regulations, would reduce the impact of the routine use, transport, or disposal of hazardous material to a level considered ***less than significant.***

Reasonably Foreseeable Accidental Release of Hazardous Material

No reasonably foreseeable hazardous material release would likely happen as a result of implementation of the proposed Downtown Community Plan. However, implementation of the proposed Plan would result in an increase in the number of people exposed to any potential release of hazardous materials. Some sites within the Downtown area have a history of hazardous material use, and residual amounts may be present. Construction activities could expose any potential hazardous materials and release them to the environment.

Impact HAZ-1: Increased Exposure to Hazardous Materials. With increased population and construction activity anticipated in the Downtown area under the Downtown Community Plan, the number of residents and workers who could potentially be exposed to hazardous materials which may already be present at some sites would increase. This would represent a ***potentially significant*** impact associated with implementation of the Downtown Community Plan.

Mitigation HAZ-1: Require Phase 1 Environmental Site Assessments for (Re)development Projects. Prior to development/re-development of properties located within the Downtown area, a Phase I Environmental Site Assessment shall be performed to assess any potential risks of hazardous material release to the property or the environment due to any previous land uses. This Phase I environmental site assessment will determine the likelihood of the presence of hazards and/or hazardous materials and determine whether construction activities on the building site will lead to a release of hazardous material.

The General Plan 2035 identifies objectives and policies designed to reduce the hazard to the population due to a hazardous material release. These actions, identified above, in combination with **Mitigation HAZ-1**, would reduce the impact of a reasonably foreseeable hazardous material release to a level considered ***less than significant***.

Potential Hazardous Material Release Within 0.25 Miles of an Existing or Proposed School

Implementation of the proposed Downtown Community Plan would include development in the vicinity of existing and/or planned schools. However, state regulations on siting of hazardous materials facilities and schools limit the facilities' proximity to schools. Additionally, new construction within the Downtown area would be implemented under the General Plan 2035. Construction in accordance with the General Plan 2035 would reduce the impact to a level considered ***less than significant***.

Listed Hazardous Material Sites

There are no sites within the Downtown area that are currently listed on a government database complied pursuant to Government Code Section 65962.5 (Cortese List). Therefore, this is a ***less than significant*** impact.

Airport Land Use Plan

There are no airports within two miles of the Downtown area, therefore, ***no impact***.

Private Airstrip Hazards

There are no private airstrips in the vicinity of the Downtown area, therefore, ***no impact***.

Interference with an Adopted Emergency Response or Emergency Evacuation Plan

Development under the Downtown Community Plan would not interfere with an adopted emergency response or emergency evacuation plan. The Plan will improve emergency access by extending Capitol Avenue across the entire Downtown area. This is considered a ***less than significant*** impact.

Exposure of People and/or Structures to Wildland Fire Risk

The Downtown area is located on nearly flat land within the urbanized core of the City of Fremont. Wildland fires are not anticipated to impact the area. This is a ***less than significant*** impact.

J. CULTURAL AND PALEONTOLOGICAL RESOURCES

SETTING

Archaeological Resources

Background information on archaeological resources in the Fremont area is presented on page 4-272 of the DRAFT EIR on the Fremont General Plan Update. The closest known discovery of cultural resources occurred ½ mile northeast of the area in the "Tule Ponds" open space near the Fremont BART Station. Between this location and the project area is urbanized development in the City's City Center. An archaeological survey report per Caltrans per NEPA requirements was completed in 2011 for the Midtown Catalyst street improvement project on California Avenue, and determined that there was a very low potential for archaeological resources to occur in this area.[20]

Historical Resources

Background information on historical resources in the Fremont area is presented on pages 4-273 through 4-277 of the DRAFT EIR on the Fremont General Plan Update.

Historic Buildings and Sites in Fremont

Currently, four Fremont resources are listed on the National Register (none within the Downtown area):

- California Nursery Co. Guest House
- Mission San Jose
- George W. Patterson House – Ardenwood
- Washington Union High School

Currently, two Fremont resources are listed on the California Register of Historic Resources, in addition to the aforementioned National Register resources (none within the Downtown District):

- Vallejo Flour Mill
- Leland Stanford Winery

[20] Archeo-Tec, Archaeological Survey Report for the Midtown Catalyst Project, Fremont, Alameda County, California, 04-ALA-0-FMT, STPL-5322 (044), March 15, 2011.

The Fremont Register lists 153 historic resources that have been officially adopted by the City Council. The Fremont Register does not currently list any post-1950 resources.

There are no identified Fremont Register or Potential Register Resources in the project area.

Structures in the Central Business District are all relatively modern, with few exceptions where buildings are greater than 50 years of age. The Mount Vernon Avenue homes, accessed off of Mowry Avenue, were constructed in the mid-1940s. Some commercial buildings along Fremont Boulevard were constructed during the 1950s. The City completed a citywide historic resource survey in 2001 and determined that the homes along Mount Vernon did not appear to be individually significant as historic resources or as an historic district of homes due to the somewhat common nature of the homes and the deteriorating setting from intrusion of modern commercial buildings within and along the periphery of the area.

Historical Overlay Districts

The City has also established two Historical Overlay Districts (HODs), in Niles and Mission San Jose (none within the Downtown area).

Historic Parks

The W. Burdette Williams Historical Park is located within the City's Central Business District adjacent to the Downtown area, and includes the historic carriage house.

Regulatory Setting

The regulatory setting related to cultural resources is presented on pages 4-278 through 4-280 of the DRAFT EIR on the Fremont General Plan Update.

IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA Criteria for Determining Impact

The following thresholds for measuring a Project's environmental impacts are based on CEQA Guidelines. For the purposes of this EIR, a significant impact would occur if the Project were to:

1) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5;

2) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5;

3) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature; or

4) Disturb any human remains, including those interred outside of formal cemeteries.

GENERAL PLAN 2035 POLICIES

Implementation of the following General Plan 2035 Policies are intended to reduce potentially adverse effects on cultural resources that may be associated with future development in the Downtown area:

- *Policy 4-6.1: Protection of Historic Resources.*
- *Policy 4-6.2: Construction and Alterations within Historic Areas.*
- *Policy 4-6.3: Resource Documentation and Funding.*
- *Policy 4-6.4: Historic Settings and Landscapes.*
- *Policy 4-6.5: Design Compatibility.*
- *Policy 4-6.6: Historic Preservation Regulations.*
- *Policy 4-6.7: Infrastructure Improvements within Historic Districts.*
- *Policy 4-6.8: Historic Resource Education and Awareness.*
- *Policy 4-6.9: Adaptive Use of Historic Properties.*
- *Policy 4-6.10: Protection of Native American Remains.*

IMPACTS AND MITIGATION MEASURES

Historical Resources

Demolition and Alteration of Historic Resources

Although there are no currently identified resources in the project area, buildings in the area will age and exceed the applicable 1955 threshold of the General Plan and the 50-year threshold for possible evaluation. In this instance, the Downtown Community Plan provides for and encourages the redevelopment of all properties in the subject area, including possible Fremont Register Resources that will age to 50 years or older during the implementation of the Plan. The Plan does not intend for or require preservation of structures or sites. While maintaining historic resources may be encouraged, it will not prevent substantial alteration or demolition of possible resources in the future. If such a

demolition of a historic resource were to take place, this would represent a significant environmental impact.

The Downtown Community Plan identifies various sites where new construction or alterations to existing buildings may take place to achieve Downtown Community Plan objectives. Such construction may alter the characteristics that justify a resource's historical significance, and may change the architectural context of nearby historical architectural resources.

Existing City regulations and proposed Downtown Community Plan policies are designed to identify and discourage incompatible new construction and inappropriate building alterations. The Historical Architectural Review Board (HARB) is empowered by the Historic Resources Ordinance to conduct design review for new construction involving historic resources listed on the Fremont Register. For properties over 50 years of age that are not listed on the Fremont Register, the City provides pre-development screening and advisory comments under Fremont Municipal Code Section 8-219115. In considering the appropriateness of modifications or new construction related to Potential and Register Resources, the HARB assesses a full range of construction and design variables for the subject property (e.g., architectural style, appearance, arrangement, height, texture, materials, color, appurtenances, etc.), as well as the suitability of the proposed work for the subject property's setting.

Section 15065 of the *CEQA Guidelines* mandates a finding of a significant impact if a project would eliminate important examples of major periods of California history or prehistory. In addition, pursuant to Section 15064.5 of the *CEQA Guidelines*, a project could have a significant effect on the environment if it "may cause a substantial adverse change in the significance of an historical resource". A "substantial adverse change" means "physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource is impaired." Material impairment means altering "In an adverse manner" those characteristics of an historical resources that convey its historical significance and eligibility for inclusion in the California Register of Historical Resources.

Impacts to historical resources not determined to be significant according to any of the significance criteria described above are not considered significant for the purposes of CEQA. Generally, under CEQA, a project that follows the Secretary of the Interior's Standards for the Treatment of Historic Properties is considered to have mitigated impacts to a historical resource to a level of less than significant (*CEQA Guidelines* 15064.5). Section 15126.4 (b) (2) of the *CEQA Guidelines* notes that in some circumstances, documentation of a historical resource may not mitigate the effects to a level of less than significant.

If and when the policies identified in the Downtown Community Plan are implemented, and development anticipated under the Downtown Community Plan occurs, some of the effects on historical resources associated with implementation of the Downtown Community Plan may be mitigated to a level of less than significant, and others may require further environmental review at the project level.

Impact CUL-1: **Demolition of, or Substantial Adverse Changes in, Historical Resources.** Implementation of the Downtown Community Plan may result in the demolition of historic resources or cause substantial adverse changes in the significance of one or more identified potential historic resources if future individual development projects do not incorporate measures that ensure project-related changes are in accordance with either of the following publications:

- *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 the Treatment of Historic Properties with Guidelines for the Treatment of Cultural Landscapes*

Substantial adverse changes that may occur include demolition, destruction, relocation, or alteration of one or more resources, such that the resource is "materially impaired". The significance of a historic resource is considered to be "materially impaired" when a project demolishes or materially alters the physical characteristics that justify the determination of a historic resource's significance (*CEQA Guidelines* Section 15064.5 ([b]). Such an adverse change to the CEQA-defined historic resource would constitute a ***potentially significant*** impact.

Mitigation CUL-1: **Review Development Projects on a Case-by-Case Basis under the City's Historic Resources Ordinance.** As individual development projects are proposed, those with potential adverse effects on historic resources will be evaluated under the Historic Resources Ordinance.

Although project-specific review may identify measures that could reduce potential adverse development-related effects on historic resources, there may be instances when feasible mitigation measures prove insufficient to provide adequate protection for historic

resources or to reduce potential impacts to a level considered less than significant. In such instances, demolition or substantial alteration of historic resources in the Downtown area would represent a ***significant and unavoidable*** environmental impact.

Archaeological Resources

Impact CUL-2: **Possible Disturbance of Unidentified Subsurface Archaeological Resources.** Although no archaeological resources are currently known to exist in portions of the City where the Downtown Community Plan is anticipating development, substantial ground-disturbing activities associated with new construction and related underground utility installation could result in the destruction or disturbance of unidentified subsurface archaeological resources, which would represent a ***potentially significant*** impact.

Mitigation CUL-2: **Halt Work/Archaeological Evaluation/Site-Specific Mitigation.** If archaeological resources are uncovered during construction activities, all work within 50 feet of the discovery shall be redirected until a qualified archaeologist can be contacted to evaluate the situation, determine if the deposit qualifies as an archaeological resource, and provide recommendations. If the deposit does not qualify as an archaeological resource, then no further protection or study is necessary. If the deposit does qualify as an archaeological resource, then the impacts to the deposit shall be avoided by project activities. If the deposit cannot be avoided, adverse impacts to the deposit must be mitigated. Mitigation may include, but is not limited to, archaeological data recovery. Upon completion of the archaeologist's assessment, a report should be prepared documenting the methods, findings and recommendations. The report should be submitted to the City, the project proponent and the NWIC.

Implementation of this mitigation measure would reduce the impact to a level of ***less than significant.***

Paleontological Resources/Unique Geological Resources

Impact CUL-3: **Possible Disturbance of Unidentified Subsurface Paleontological Resources.** Although no paleontological resources are currently known to exist in those portions of the City where development would be anticipated under the Downtown Community Plan, ground-disturbing activities associated with new construction and related underground utility installation could result in the destruction of

unidentified subsurface paleontological resources, which would represent a ***potentially significant*** impact.

Mitigation CUL-3: **Halt Work/Paleontological Evaluation/Site-Specific Mitigation.** Should paleontological resources be encountered during construction or site preparation activities, such works shall be halted in the vicinity of the find. A qualified paleontologist shall be contacted to evaluate the nature of the find and determine if mitigation is necessary. All feasible recommendations of the paleontologist shall be implemented. Mitigation may include, but is not limited to, in-field documentation and recovery of specimen(s), laboratory analysis, the preparation of a report detailing the methods and findings of the investigation, and curation at an appropriate paleontological collection facility.

Implementation of this mitigation measure would reduce the impact to a level of ***less than significant.***

Human Remains

Impact CUL-4: **Possible Disturbance of Unidentified Human Remains.** Substantial ground-disturbing activities associated with new construction and related underground utility installation could result in the disturbance of unidentified subsurface human remains, which would represent a ***potentially significant*** impact.

Mitigation CUL-4: **Halt Work/Coroner's Evaluation/Native American Heritage Consultation/Compliance with Most Likely Descendent Recommendations.** If human remains are encountered during construction activities, all work within 50 feet of the remains should be redirected and the County Coroner notified immediately. At the same time, an archaeologist shall be contacted to assess the situation. If the human remains are of Native American origin, the Coroner must notify the Native American Heritage Commission within 24 hours of this identification. The Native American Heritage Commission will identify a Native American Most Likely Descendant (MLD) to inspect the site and provide recommendations for the proper treatment of the remains and any associated grave goods. The archaeologist shall recover scientifically-valuable information, as appropriate and in accordance with the recommendations of the MLD. Upon completion of the archaeologist's assessment, a report should be prepared documenting methods and results, as well as recommendations regarding the treatment of the human remains and any associated

archaeological materials. The report should be submitted to the City, the project proponent and the NWIC.

Implementation of this mitigation measure would reduce the impact to a level of ***less than significant.***

K. PUBLIC SERVICES

SETTING

Fire and Emergency Response Services

Current fire and emergency response services in Fremont are addressed on pages 4-317 through 4-319 of the DRAFT EIR on the Fremont General Plan Update.

Police Protection Services

Current police protection services in Fremont are addressed on page 4-319 of the DRAFT EIR on the Fremont General Plan Update.

Schools

Public schools in Fremont are addressed on pages 4-319 and 4-320 of the DRAFT EIR on the Fremont General Plan Update.

Parks

There are currently no public parks or other recreational facilities located within the Downtown area.

Library Services

Library services in Fremont are addressed on pages 4-322 and 4-333 of the DRAFT EIR on the Fremont General Plan Update.

Child Care

Child care services in Fremont are addressed on page 4-323 of the DRAFT EIR on the Fremont General Plan Update.

Regulatory Setting

Fire Protection and Emergency Response Services

The regulatory setting related public services is presented on pages 4-323 through 4-324 of the DRAFT EIR on the Fremont General Plan Update.

IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA Criteria for Determining Impact

The following thresholds for measuring a Project's environmental impacts are based on CEQA Guidelines and other performance standards recognized by City of Fremont. For the purposes of this EIR, a significant impact would occur if the Project were to:

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

    i) Fire Protection

    ii) Police Protection

    iii) Schools

    iv) Parks

    v) Other Public Facilities.

GENERAL PLAN 2035 POLICIES

Implementation of the following General Plan 2035 Policies are intended to reduce potentially adverse effects related to public services that may be associated with future development in the Downtown area:

- *Policy 8-1.1: Parks and Recreational Facility Guidelines.*
- *Policy 8-1.2: Acreage Standards for Park Acquisition and Development.*
- *Policy 8-1.3: Standards for New Parks and Recreational Facilities.*
- *Policy 8-1.4: Interesting Urban Spaces.*
- *Policy 8-1.5: Linear Parks.*
- *Policy 8-2.1: Parks Maintenance.*
- *Policy 8-5.1: Resource Consumption in Park Operations.*
- *Policy 9-1.2: Public Safety Facilities.*

- *Policy 9-1.3: Provide Library, Cultural, and Community Facilities.*
- *Policy 9-9.1: Inform FUSD of Development Plans.*
- *Policy 9-9.2: Impact Fees.*
- *Policy 9-10.1: Addressing Circulation, Traffic and Parking Issues at Schools.*
- *Policy 9-11.1: Collaboration on Sustainability.*
- *Policy 9-12.1: Funding for Local Service Providers.*
- *Policy 9-12.2: Direct Services.*
- *Policy 9-12.3: Health and Human Services Collaboration.*
- *Policy 9-13.1: Non-Profit Agencies.*
- *Policy 9-13.2: A Range of Child Care Facilities.*
- *Policy 10-3.5: Critical Facilities Locations.*
- *Policy 10-4.1: Fire Safety and Prevention.*
- *Policy 10-4.2: Development Standards.*
- *Policy 10-4.3: Access and Clearance.*
- *Policy 10-4.4: Supplemental Fire Mitigation.*
- *Policy 10-5.1: Standard of Cover.*
- *Policy 10-5.2: 6 minute 40 second Response Time.*
- *Policy 10-9.1: Crime Preventive Design.*
- *Policy 10-9.2: Lighting.*
- *Policy 10-9.3: Project Design.*

IMPACTS AND MITIGATION MEASURES

Fire Protection and Emergency Medical Response

The nearest fire station (Station 1) is located at the intersection of Mowry Avenue and Argonaut Way, approximately ¼ mile from the project area. The station includes a full

company with a ladder truck. The proposed street sections and circulation routes comply with access requirements of the Fire Marshall needed to support mid-rise construction. Project-specific review to assess compliance with regulations and standards will continue to be especially important with high rise and high density commercial or residential development.

Implementation of the Downtown Community Plan would not require the provision of new or physically altered fire stations (the construction of which could cause significant environmental impacts), in order to maintain acceptable response times (***less than significant***).

Police Protection

With the development anticipated under the Downtown Community Plan, there would be considerably more people living and working in the Downtown area than at present, creating an increased demand for police protection in the area. While this may require an increase in police staffing and support equipment, it would not be expected to require the construction of a new police station or the expansion of the existing police station, and the impact would be considered ***less than significant***. An expansion of the existing Department Headquarters building to 80,000 square feet may be anticipated during the twenty-five-year planning period, with or without implementation of the Downtown Community Plan.

Schools

The Downtown Community Plan anticipates the development of up to 2,500 new residential units in the Downtown area during the twenty-year planning period. With its focus on relatively high density TOD, the Downtown Community Plan does not include a designated site for the development of a school in the future. Given the character of the new residential units anticipated within the Downtown area (i.e., relatively high-density, multi-family structures), it is likely that student generation rates from such residences may be less than would be anticipated with more conventional single-family suburban housing units, although it is likely that some new residents within the Downtown area will be public school students.

The Fremont Unified School District has indicated that the student load at elementary schools in the vicinity of the Downtown area is presently at or near capacity, and is expected to remain so in the foreseeable future. The student loads at these schools may, in the long term, reach a typical maturation period of decline. Therefore, based on the timing of when the residential component of development anticipated under the Downtown Community Plan is actually completed, the Fremont Unified School District may or may not be able to absorb new students into the existing classrooms of the nearest schools, but may need to assign new students to other nearby schools in the District. The Fremont Unified School District has indicated that in the absence of a site to enable the

development of a new elementary school within the Downtown area (and the absence of adequate funds to enable construction of a new school were an appropriate site to be identified), it is likely that students generated from anticipated residential development within the Downtown area will be enrolled at schools that have room, based on a case-by-case and grade level assessment of each student. Accordingly, the Fremont Unified School District cannot guarantee that future students residing in new residences within the Downtown area will be assigned to schools in proximity to the center of Fremont, but located at any school site(s) with available space, which may be located anywhere in Fremont. At the current time, all home-to-school transportation is supported by fees charged to parents to offset the cost of services. With the current budgetary issues confronting education in this economic downturn, certainty of fee-supported home-to-school transportation cannot be provided.

Under California law, the payment by a developer of all current school impact fees associated with a proposed development effectively mitigates any impact that such development may have on the facilities of the local school district. Under the Downtown Community Plan, all developers would continue to be required to make such payments to the Fremont Unified School District prior to the City's issuance of any certificate of occupancy, in effect reducing all development-related impacts to local schools to a level of ***less than significant.***

Parks

The Downtown Community Plan identifies two locations for proposed urban Civic Parks, both situated on city-owned property and adjacent to the proposed New Middle Road that services pedestrians and bicyclists to the Fremont BART station. These modest parks are intended to provide the neighborhood with landscaped passive park amenities. Given the current absence of any public parks or recreational facilities within the Downtown area, the development of the two proposed community parks would enhance recreational opportunities for local residents. The development of these two community parks could be expected to entail construction-related impacts similar to those associated with other development projects (e.g., temporary air quality and noise effects during the actual construction activity at the two sites), but with implementation of the applicable mitigation measures identified in the corresponding sections of the DRAFT Supplemental EIR, above, these temporary impacts could be reduced to a level of ***less than significant.***

Other Public Facilities

Development anticipated under the Downtown Community Plan would be expected to increase the number of residents and workers within the Downtown area, which could be expected to place an increase demand on the public library system, result in increased use of existing community and senior centers, and expand demand for child care. However, these increased demands are unlikely to necessitate expansion of existing library facilities

or child care facilities, or the construction of new facilities and centers that are not already contemplated, and the impact would be considered ***less than significant***.

L. INFRASTRUCTURE AND UTILITIES

SETTING

Water Supply

Background information on the water supply in Fremont is presented on pages 4-331 through 4-332 of the DRAFT EIR on the Fremont General Plan Update. Additionally, a Water Supply Assessment (**Appendix B**) was prepared for the Downtown Community Plan prior to the adoption of the General Plan 2035 and the most recent Urban Water Management Plan.

Storm Drainage and Flood Control

Background information on the storm drainage and flood control infrastructure serving Fremont is presented on pages 4-332 through 4-333 of the DRAFT EIR on the Fremont General Plan Update.

Sanitary Sewers

Background information of the sanitary sewer infrastructure serving Fremont is presented on page 4-333 of the DRAFT EIR on the Fremont General Plan Update. The Downtown area is served by sanitary sewer mains ranging in size from 6 inches to 10 inches, which connect to existing mains in Mowry Avenue (8-inch), Paseo Padre Parkway (8-inch), Walnut Avenue (24-inch) and Fremont Boulevard (6-inch) at several locations.

Solid Waste

Background information of solid waste collection and disposal services in Fremont is presented on page 4-334 of the DRAFT EIR on the Fremont General Plan Update.

Gas, Electricity and Telecommunications Service

Background information of the provision of gas, electricity and telecommunications services in Fremont is presented on pages 4-334 through 4-335 of the DRAFT EIR on the Fremont General Plan Update.

Regulatory Setting

Regulations related to storm drainage and flood control are discussed at length in the **Hydrology and Water Quality** section of the DRAFT EIR on the Fremont General Plan Update (pages 4-202 through 4-215).

California's Title 24 was established in 1978 to improve energy efficiency in new structures, and the current standards respond to the AB 32 in order to reduce energy consumption and greenhouse gas emissions.

The City of Fremont has adopted the 2010 California Green Building Standards Code, which applies to most new building design and construction from January 1, 2011. This code was established to reduce construction waste, make buildings more efficient in the use of materials and energy, and reduce environmental impacts during and after construction.

IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

CEQA Criteria for Determining Impact

The following thresholds for measuring a Project's environmental impacts are based on CEQA Guidelines and other performance standards recognized by City of Fremont. For the purposes of this EIR, a significant impact would occur if the Project were to:

1) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board.

2) 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.

3) 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.

4) Have insufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements necessary.

5) Result in a determination by the wastewater treatment provider which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments.

6) Be served by a landfill with sufficient permitted capacity to accommodate the project's solid waste disposal needs.

7) Comply with federal, state, and local statutes and regulations related to solid waste.

GENERAL PLAN 2035 POLICIES

Implementation of the following General Plan 2035 Policies are intended to reduce potentially adverse effects related to utilities and other service providers that may be associated with future development in the Downtown area:

- *Policy 7-4.1: Water Conservation.*
- *Policy 7-4.2: Reclaimed Water.*
- *Policy 7-4.3: Water Conservation in City Operations.*
- *Policy 9-2.1: Reduce Greenhouse Gas Emissions from City Facilities.*
- *Policy 9-2.2: Sustainable City Buildings.*
- *Policy 9-3.1: Long Range Planning.*
- *Policy 9-4.1: Planning Consistency.*
- *Policy 9-5.1: Free Wireless Internet (Wi_Fi).*
- *Policy 9-5.2: Enhanced Fiber Optic Network.*
- *Policy 9-5.3: Pre-Wiring for Communications.*
- *Policy 9-6.1: Increase Waste Diversion.*
- *Policy 9-6.2: Protect Public Health and Safety.*
- *Policy 9-6.3: Prioritize Waste Diversion Strategies.*
- *Policy 9-6.4: Consider Environmental Benefits and Impacts.*
- *Policy 9-6.5: Support Regional Public and Private Waste Diversion.*
- *Policy 9-7.1: Develop/Utilize Infrastructure and Processing Facilities.*
- *Policy 9-7.2: Require Development Projects to Provide for Waste Handling.*
- *Policy 9-7.3: Utilize Innovative Technologies.*
- *Policy 9-8.1: Public Education.*
- *Policy 9-8.2: Promote Purchasing Decisions that Reduce Waste and Litter.*

- *Policy 9-8.3: Promote Discard Decisions that Reduce Waste and Pollution.*

IMPACTS AND MITIGATION MEASURES

Water Supply

The Water Supply Assessment conducted for the project (**Appendix B**) indicated that water demand associated with development under the Downtown Community Plan was estimated at 870 acre-feet per year, of which 705 acre-feet per year would represent new demand (see **Table 4-25**, below). This assessment indicated that under normal year conditions, Alameda County Water District supplies are projected to be sufficient to meet the future demands in the service area, including the demands associated with development under the Downtown Community Plan (see **Appendix B**, page 18, #7).

TABLE 4-25: WATER DEMAND FOR DOWNTOWN COMMUNITY PLAN PROJECT

Element	Planning units		GPD/ Unit [1]	Demand estimate (AF/yr)
Office	1,988,800	Building Area	0.1035	231
Retail / Commercial	443,100	Building Area	0.282	140
Residential	2,500	Dwelling units	150	420
Open space	2.3	Acres	4,630	12
Civic	278,000	Building Area	*Included in the "open space" figure*	
Estimated Total Project Demand *(including 8.4% unaccounted or water and rounded to nearest 100 AF)*				870
Less Existing Demands [2]				-165
Total New Demand				705
Approximate peak day demand in mgd *(1.6x peaking factor)*				1.00

[1] Demand units from the 2009 Water Demand Forecast.
[2] Existing on-site demand included in the base demand for the 2009 Forecast
[3] Figures provided by City of Fremont

Source: Alameda County Water District, Water Supply Assessment for Midtown Community Plan Project, Table 5, page 24, September 2010.

Under the Downtown Community Plan, new 8-inch water mains would be installed in new streets to provide water service and fire protection along the new public rights-of-way and properties served by them. Fire hydrants would be nominally spaced at 300 feet along the new streets, No improvements to the existing water distribution system would be made, although as redevelopment occurs, some water mains which cross private parcels may need to be reconfigured to accommodate development. The installation of new water mains could be expected to entail construction-related impacts similar to those

associated with other development projects (e.g., temporary air quality and noise effects during the actual installation), but with implementation of the applicable mitigation measures identified in the corresponding sections of the DRAFT Supplemental EIR above, these temporary impacts could be reduced to a level of ***less than significant.***

Storm Drainage

New storm drains ranging in size from 12 inches to 24 inches would be installed in new streets to provide drainage to the new rights-of-way and the adjacent properties. No improvements to the existing storm drainage system would be anticipated, although new storm drain inlets and laterals may be necessary at locations where existing drainage patterns are disrupted by street modifications, including the addition of bulb-outs at the intersections and mid-block pedestrian crosswalks. Infiltration may be considered as a stormwater management option at some development sites.

Stormwater runoff in the public right-of-way will be treated with City-specified standard tree well filters sized and space to accommodate the impervious areas within the right-of-way. Grass medians and other planted areas in the public right-of-way may also be used to provide storm water treatment of the public streets so long as the street's drainage flow allows for them.

The installation of new storm drainage infrastructure could be expected to entail construction-related impacts similar to those associated with other development projects (e.g., temporary air quality and noise effects during the actual installation), but with implementation of the applicable mitigation measures identified in the corresponding sections of the DRAFT Supplemental EIR above, these temporary impacts could be reduced to a level of ***less than significant.***

Sanitary Sewers

New 8-inch sanitary sewer mains would be installed in new streets to provide sanitary sewer service to the properties fronting the new public rights-of-way, and it is likely that the 6-inch sanitary sewer main in Fremont Boulevard will need to be replaced to support development under this alternative. The installation of new sanitary sewer infrastructure could be expected to entail construction-related impacts similar to those associated with other development projects (e.g., temporary air quality and noise effects during the actual installation), but with implementation of the applicable mitigation measures identified in the corresponding sections of the DRAFT Supplemental EIR above, these temporary impacts could be reduced to a level of ***less than significant.***

Solid Waste

Additional development within the Downtown District would increase the demand for solid waste collection and disposal. However, programs are in place to increase waste

diversion rates by expanding recycling programs, including mandatory single-family and multi-family residential recycling, drop-off disposal sites for items such as motor oil, electronic waste, batteries and household hazardous waste, and a commercial food waste recycling program. The City has implemented a Construction and Demolition Debris Ordinance that requires minimum levels of recycling of construction and demolition debris, further increasing the City's diversion rate, and is part of the State-sponsored Recycled Market Development Zone Program which encourages recycling based business to locate in Fremont. Taken together, these measures would be expected to reduce the increased demand for solid waste collection and disposal associated with increased development under the Downtown Community Plan to a level considered ***less than significant.***

Gas, Electricity and Telecommunications Service

New facilities including transformers, switch gear and junction boxes, would be installed in new streets to provide service along all of the new public rights-of-way. Where new streets are installed, communications facilities will be extended along those streets so that service will be available for new public rights-of-way. The installation of new utility facilities could be expected to entail construction-related impacts similar to those associated with other development projects (e.g., temporary air quality and noise effects during the actual installation), but with implementation of the applicable mitigation measures identified in the corresponding sections of the DRAFT Supplemental EIR above, these temporary impacts could be reduced to a level of ***less than significant.***

M. GLOBAL CLIMATE CHANGE

Climate Science Overview

A climate science overview is presented on pages 4-343 through 4-344 of the DRAFT EIR on the Fremont General Plan Update.

California Emissions Inventory

The California Emissions Inventory is addressed on pages 4-344 through 4-345 of the DRAFT EIR on the Fremont General Plan Update.

Effects of Climate Change

The effects of climate change are addressed on pages 4-345 through 4-346 of the DRAFT EIR on the Fremont General Plan Update.

Regulatory Setting

The regulatory setting related to global climate change is presented on pages 4-346 through 4-352 of the DRAFT EIR on the Fremont General Plan Update.

IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

Significance Criteria

The City of Fremont has determined that a project may have a significant adverse effect on the environment related to greenhouse gas emissions if it would:

- Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or
- Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases

The City considers consistency with AB32 and with the BAAQMD CEQA Guidelines for the Year 2020 as the threshold to determine significance of GHG impacts. The City considers consistency with the BAAQMD threshold to be a service population ratio of no more than 6.6 metric tons (mtons) of CO2e per year as the appropriate measure for determining the significance of greenhouse gas emission at the plan level[21]. The service population definition is the combination of residents plus employees within the plan boundaries.

GENERAL PLAN 2035 POLICIES

Implementation of the following General Plan 2035 Policies are intended to reduce potentially adverse effects related to global climate change that may be associated with future development in the Downtown area:

- *Policy 2-1.7: Becoming a More Transit-Oriented City.*
- *Policy 2-2.2: Integrating Land Use and Transportation Choices.*
- *Policy 2-3.4: Infill Development.*
- *Policy 2-3.6: Connectivity.*
- *Policy 2-3.7: Green Neighborhoods.*
- *Policy 2-5.12: Transportation Demand Management.*
- *Policy 3-1.3: Transit-Friendly Street Design.*
- *Policy 3-1.5: Improving Pedestrian and Bicycle Circulation.*
- *Policy 3-1.7: Sidewalks.*
- *Policy 3-2.1: Coordinating Land Use and Transportation.*
- *Policy 3-2.2: Reducing Vehicle Trips through Land Use Choices.*
- *Policy 3-2.3: Pedestrian Networks.*
- *Policy 3-3.4: Improving Bicycle Circulation.*
- *Policy 3-2.5: Pedestrian and Bicycle Master Plans.*

[21] BAAQMD CEQA Air Quality Guidelines May 2011

- *Policy 3-2.6: Bus Service Improvements.*
- *Policy 3-2.7: Transit Provisions in New Development.*
- *Policy 3-2.8: Transfers Between Transit Modes.*
- *Policy 3-2.9: Reducing Single Occupancy Vehicle Commuting.*
- *Policy 3-2.10: Employer-Based Trip Reduction Programs.*
- *Policy 3-2.11: Car-Sharing.*
- *Policy 3-2.12: Shuttle Buses and Circulators.*
- *Policy 9-2.1: Reduce Greenhouse Gas Emissions from City Facilities.*
- *Policy 9-2.2: Sustainable City Buildings.*
- *Policy 9-6.4: Consider Environmental Benefits and Impacts.*
- *Policy 11-4.13: Sustainable Design.*

IMPACTS AND MITIGATION MEASURES

GHG Emissions Associated with Implementation of the Downtown Community Plan

As indicated in the DRAFT EIR on the Fremont General Plan Update (pages 4-354 through 4-357), development under the General Plan Update has the potential to increase the number of future residents and jobs within the City of Fremont, which may both directly and indirectly result in the increase of GHG emissions.

The Downtown Community Plan is consistent with the growth described in the General Plan and has the potential to increase the number of future residents and jobs within the City of Fremont, which may both directly and indirectly result in the increase of GHG emissions. In fact, implementation of the Downtown Community Plan to provide for new development in the City Center Priority Development Area is a key strategy of the General Plan to provide for long-term sustainability and reduce per capita emissions. The expected maximum emissions of the estimated 6,250 new residents and 7,403 new jobs will equate to 5.9 mtons of CO2e per service population, which is below the citywide average emissions and the threshold established by the BAAQMD of 6.6 mtons of CO2e per service population (see **Appendix C**). This increase in GHG emissions associated with implementation of the Downtown Community Plan would be considered ***less than significant.***

The analysis uses BAAQMD approved modeling tools of the URBEMIS 2007 v 9.2.4. and the spreadsheet program BGM Calculator 1.1.9. The modeling assumes the 2020 model year information for travel and fleet estimates and uses water, energy and solid waste information contained in the BGM model. Modifications of usage inputs included: adjustments to trip generation and corresponding vehicle miles traveled related to local circumstances and travel forecast modeling results; incorporation of city data on solid waste generation; and accounting for existing regulations in place for Title 24 and current CalGreen building code and Tier I CalGreen residential building requirements. Emission factors for electricity generation were adjusted to reflect PG&E's forecasted 2020 emission rate of 209 pounds per megawatt of electricity produced.[22]

Table 4-26 includes estimates for 2010 baseline, the baseline condition occurring in 2020, and Downtown Community Plan minimum and maximum buildout conditions in the 2020 benchmark year. Although 2020 is an interim year, the full buildout conditions were assumed. Emissions would decrease in future years as mobile sources have lower emission rates in response to recent State vehicle requirements.

TABLE 4-26: DOWNTOWN COMMUNITY PLAN GHG EMISSIONS

Source Category	Existing in 2011	Existing in 2020	Minimum Plan Buildout 2020	Maximum Plan Buildout 2020
Transportation:	27,636	21,798	33,419	54,703
Area Source:	6	6	623	1,297
Electricity:	3,889	3,889	3,200	5,600
Natural Gas:	1,220	1,220	4,550	9,168
Water & Wastewater:	75	75	112	211
Solid Waste:	2,884	2,883	5,343	9,482
Total:	35,710	29,870	47,248	80,461
Service Population	2,934	2,934	7,256	13,653
Build-Out CO_2e Rate per capita	12.2	10.2	6.5	5.9
CO_2e rate per capita due to Specific Plan Growth			2.7	4.2

[22] The BGM model uses a State default rate of 805 pounds per megawatt of electricity produced, which is not representative of electricity usage in Fremont.

Conflicts with Plans, Policies or Regulations Adopted to Reduce Greenhouse Gas Emissions

The Downtown Community Plan does not conflict with existing plans, polices or regulations to reduce GHG emissions. The General Plan 2035 expressly states the intent of promoting sustainability, and includes an aspirational goal of reducing greenhouse gas emissions by 25 percent below 2005 levels by 2020. Goal 7.8 and Policy 7.8.1 of the Conservation Element to strive to reduce greenhouse gas emissions and include a measure to update and review the City's greenhouse gas emission inventory and reduction measures every five years. The overall vision of the General Plan 2035 to create a more strategically urban city also supports regional efforts related to SB 375 for Sustainable Community Strategies that will reduce emissions related to transportation. Overall, the Downtown Community Plan promotes consistency with both state- and regional-level initiatives related to greenhouse gas emission reductions. In terms of potential conflicts with plans, policies or regulations adopted to reduce GHG emissions, implementation of the Downtown Community Plan would have a ***less than significant*** impact.

N. PLANNING POLICY ANALYSIS

This section of the DRAFT Supplemental EIR summarizes the Downtown Community Plan's consistency with federal, state, regional and City of Fremont plans and policies relevant to the Downtown area, including consistency with the current General Plan 2035.

FEDERAL PLANS AND POLICIES

There are no federal plans or policies that directly relate specifically to future development within the Downtown area. There are no federally-protected wetlands or special species habitats found within the area, no federal ownership of any property within the area, and no U.S. highways which pass through or adjacent to the area. All development taking place within the area under the Downtown Community Plan would be required to comply with all federal regulations which apply to all development projects anywhere in the U.S. (e.g., compliance with NPDES permit conditions to reduce the potential for stormwater-related pollution, compliance with all regulations related to the use, storage, transportation and disposal of hazardous materials, etc.).

CALIFORNIA PLANS AND POLICIES

As indicated in the discussion of Global Climate Change (see pages 4-343 through 4-352 of the DRAFT EIR on the Fremont General Plan Update), the State of California has adopted legislation intended to reduce greenhouse gas emissions statewide. This legislation includes **Assembly Bill 32 (AB 32),** the California Global Warming Solutions Act of 2006, which commits California to reduce GHG emissions to 1990 levels, and **Senate Bill 375 (SB 375)**, which would require a significantly increased focus on higher-intensity transit-oriented development in order to accommodate increased population and meet the mandates of AB 32. The Downtown Community Plan is intended to promote sustainable mixed-use, higher-intensity transit-oriented development in the Downtown area, consistent with the objectives of AB 32 and SB 375.

REGIONAL PLANS AND POLICIES

The Association of Bay Area Governments (ABAG) has compiled a listing of locally-identified Priority Development Areas (PDAs) within the nine-county San Francisco Bay region which are intended to support pedestrian-friendly, transit-oriented infill development in the future. The City Center in Fremont has been identified as a PDA, and the 110-acre Downtown area is located within the boundaries of this 900-acre PDA. The Downtown Community Plan would promote pedestrian-friendly, transit-oriented development within the Downtown area, consistent with ABAG objectives for PDAs.

CITY OF FREMONT PLANS AND POLICIES

The Downtown Community Plan is consistent with the General Plan 2035 policies supporting high intensity, pedestrian-friendly, transit-oriented development in a portion of the CBD relatively close to the Fremont BART station, and designates areas for public open spaces and plazas. It would also permit higher density residential development within the District, in addition to the mixed-use development and non-residential uses anticipated in the General Plan 2035.