Appendix 4.7A Potrero HOPE Transportation Study. CDM Smith. October 11, 2012. Case NO. 2010.0515E

POTRERO HOPE TRANSPORTATION STUDY

Draft #4
Case No. 2010.0515!

Prepared for:

City and County of San Francisco
Planning Department

Prepared by:

CDM Smith

October 11, 2012

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Chapter 1: Introduction

A discussion of the existing transportation conditions and an assessment of the effect on circulation network operations associated with the proposed Potrero Annex and Terraces HOPE SF Development project in San Francisco (herein referred to as the Proposed Project) are included in this transportation report. The following transportation operations were evaluated in the study for the Proposed Project and project alternatives:

- Traffic conditions
- Transit operations
- Pedestrian circulation operations
- Bicycle circulation conditions
- Loading operations
- Construction-related conditions
- Parking conditions, for informational purposes

The scope of work for this transportation study is included in **Appendix A**.

1.1 Project Location

The Proposed Project is located at 1095 Connecticut Street in the Potrero Hill neighborhood of San Francisco, California. It is roughly bounded by 22nd Street to the north, Pennsylvania Avenue to the east, 26th Street to the south, and Wisconsin Street to the west. Regionally, the project site is located between the Interstate 280 (I-280) and United States Highway 101 (US 101) freeways, one-half block west of I-280 and four blocks east of US 101. The project site is 33 acres in size (38 acres including public streets) and is located on multiple Assessor's Blocks within San Francisco. The project site consists of Blocks 4220, 4220A, 4222A, 4223, and 4285B, portions of Blocks 4167 (Lots 004 and 004A), and portions of Block 4287 (Lots 001A, 007, 027, 028, 030, 031, and 032). Block 4287 is located at the southeast corner of 25th Street and Connecticut Street, and for purposes of this transportation study, it is included as part of the Proposed Project. The project site lies in a Residential, Mixed-Use - Moderate Density (RM-2) zoning district and a 40-X height and bulk district.

The project site is located at the existing Potrero Terrace and Potrero Annex housing developments, owned by the San Francisco Housing Authority. These housing developments are anticipated to be completely rebuilt as part of the Proposed Project. Currently, there are 23 residential buildings on the Potrero Annex parcel and 38 residential buildings on the Potrero Terrace parcel, with building heights ranging from 30 to 40 feet at the project site. At full occupancy, a total of 620 affordable housing units (40 studio and one-bedroom units, 433 two-bedroom units, 110 three-bedroom units, 18 four-bedroom units, and 5 five-bedroom units) are present at the site, with 151 units located within the Potrero Annex parcel and 469 units located within the Potrero Terrace parcel. Of these 620 units, 16 units are currently occupied by 1,300-square foot day care and 2,200-square foot preschool facilities. The existing site has a total of 592,000 gross square feet of development, with approximately 256 off-street parking spaces, 100 on-street parking spaces, and no loading spaces.

The project site is surrounded by residential uses to the north, west and east; small commercial uses to the east and within nearby residential neighborhoods; various open spaces such as the Starr King Open Space to the west and Potrero Hill Recreation Center to the north; and industrial facilities to the east and south. Starr King Elementary School is also located in the neighborhood, immediately to the west of the project site. The Proposed Project was identified as a HOPE SF redevelopment location by the Showplace Square/Potrero Hill Area Plan, which is part of the greater Eastern Neighborhoods Area Plan.

The Proposed Project is located within Superdistrict 3, in the southeast quadrant of San Francisco. The project location is shown in **Figure 1-1**, while the project site is exhibited in **Figure 1-2**.

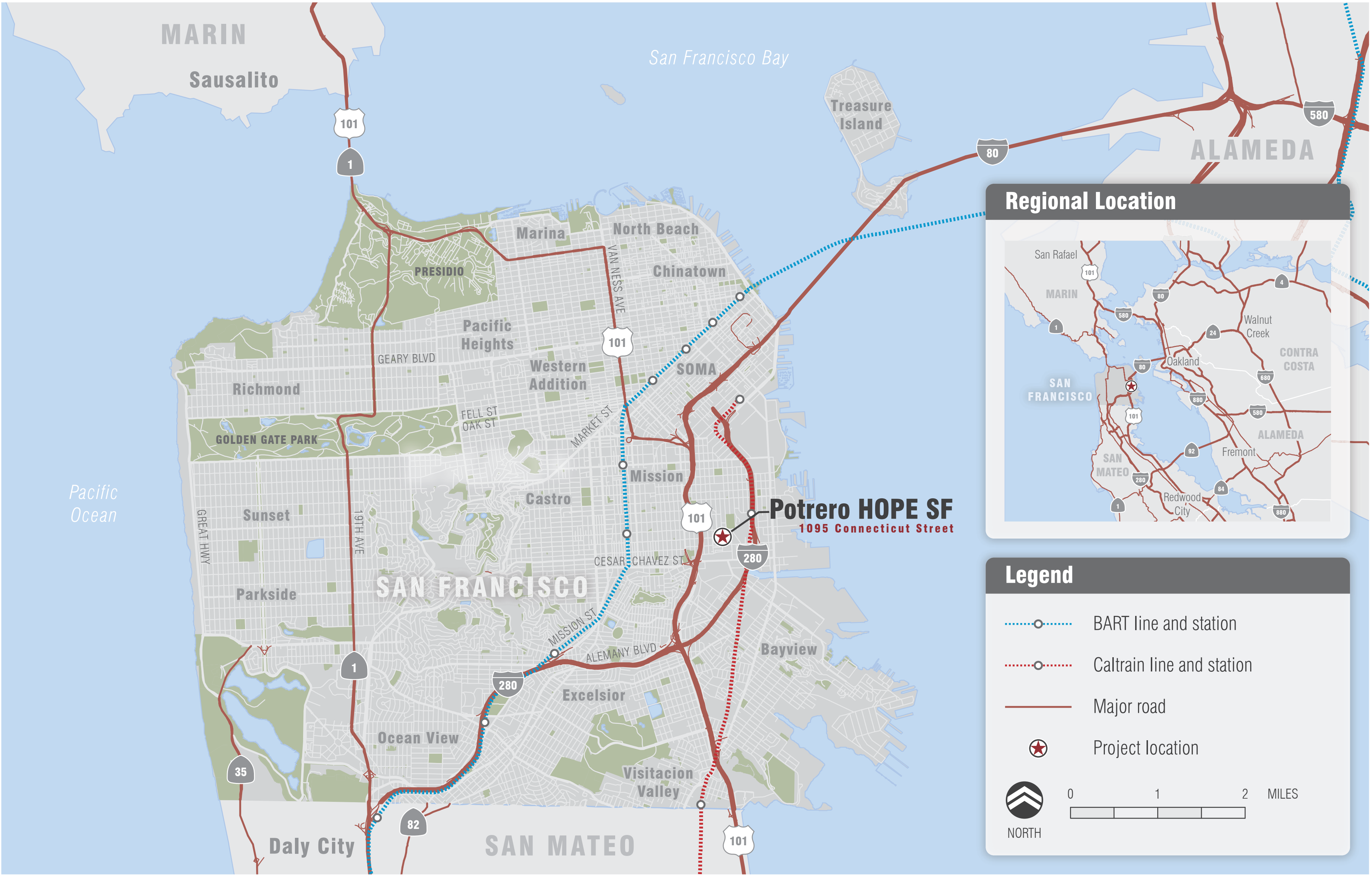
1.2 Project Description

The Proposed Project includes a complete redevelopment of the project site. The Proposed Project would demolish the existing 620 affordable housing units and construct up to 1,700 mixed-income housing units (up to 970 affordable, 630 market rate, and 100 senior units) along with two retail facilities (5,500 square feet and 9,500 square feet in size), a 35,000 square feet community center (including daycare and preschool facilities), several small parks and open spaces, and associated residential parking facilities. A summary of existing land uses and those proposed as part of the Proposed Project are provided in **Table 1-1.**

Table 1-1: Summary of Existing and Proposed Project Land Uses

Type of Use	Existing	Proposed Project
Residential	577,000 sf	up to 2,000,000 sf
Retail	0	15,000 sf
Community Center	0	up to 35,000 sf
Off-Street Parking	0	up to 420,000 sf
Open space	0	3.4 acres
Day Care	1,300 sf (approx.)	7,500 sf (approx.)[1]
Preschool	2,200 sf (approx.)	3,500 sf (approx.)[1]
Housing Units	620 units[2]	up to 1,700 units
Senior Studio/1 Bedroom Units	0	up to 98 units
Senior 2+ Bedroom Units	0	up to 2 units
Affordable Studio/1 Bedroom Units	53 units	up to 148 units
Affordable 2+ Bedroom Units	567 units	up to 822 units
Market Rate Studio/1 Bedroom Units	0	up to 348 units
Market Rate 2+ Bedroom Units	0	up to 282 units
Off-street Parking Spaces	340 (uncovered)	1,055 spaces
On-street Parking Spaces	180-200 spaces (approx.)	600 spaces
Off-street Loading Spaces	0	0
On-street Loading Spaces	0	At least 18 spaces, at one per block
Bicycle Spaces	0	450

Source: BRIDGE Housing, 2011.
Notes:
[1]Provided as part of the community center.
[2]At full occupancy.



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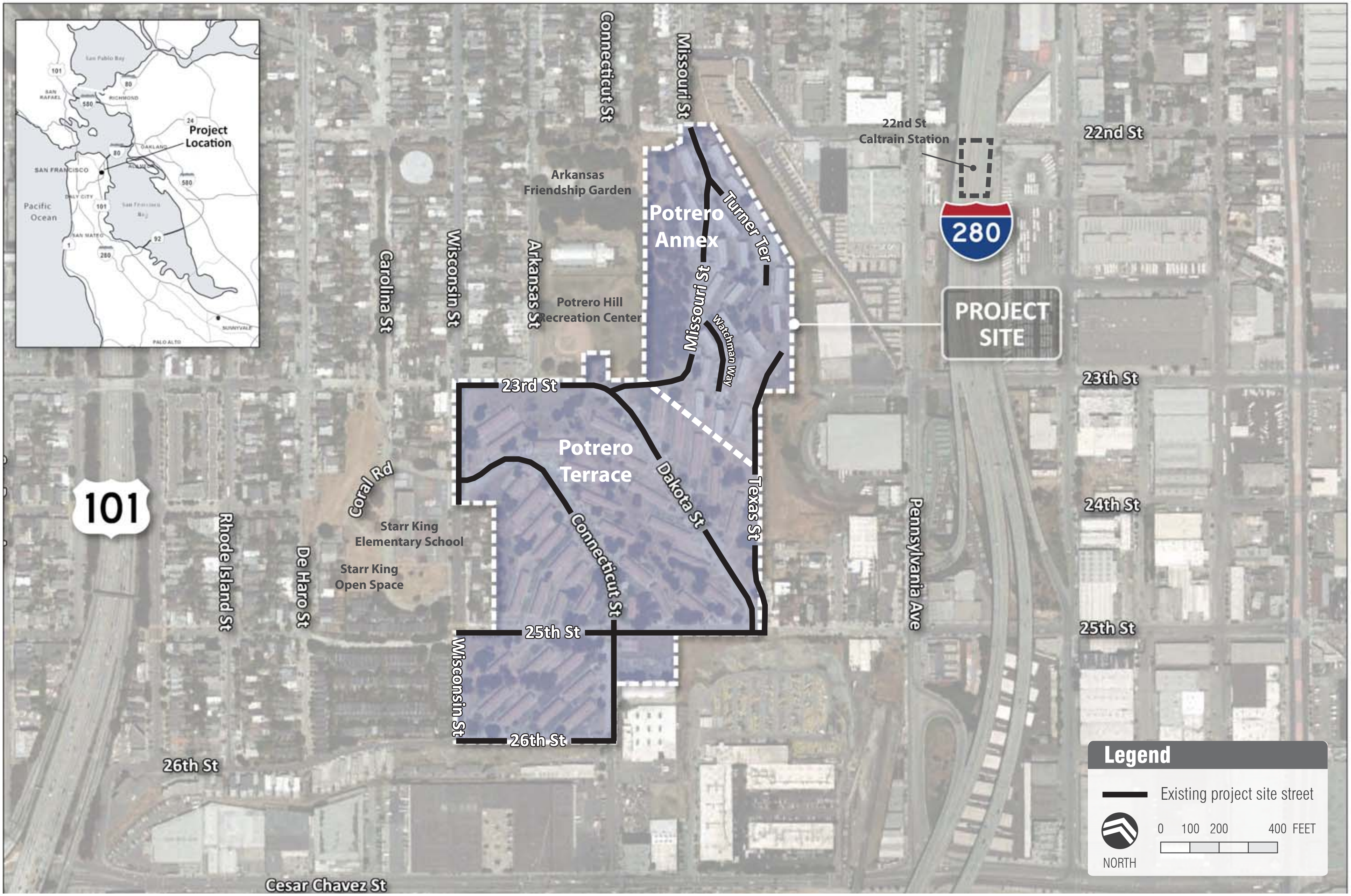
PROJECT LOCATION
Figure 1-1



SOURCE: POTRERO HOPE SF MASTER PLAN ADMIN DRAFT I

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PROJECT SITE

Figure 1-2

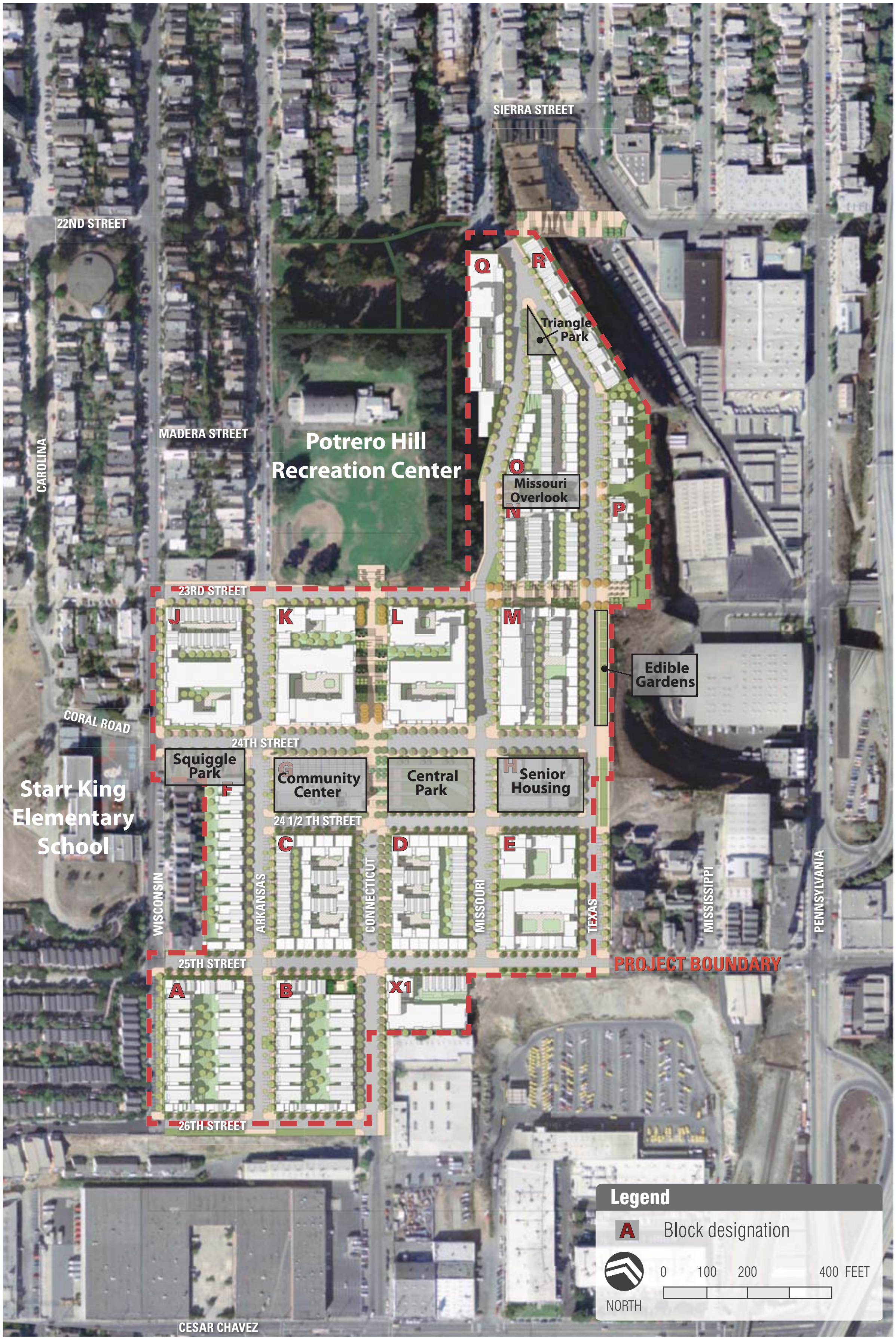
The site and land use plans detailing the Proposed Project are included in **Figures 1-3 to 1-5**.

The Proposed Project would substantially alter the existing street layout (**Figure 1-2**) within the project site by significantly regrading and reconstructing the existing street configuration so they are more consistent with the surrounding neighborhood grid pattern. These streets would also provide additional circulation to the project site. A detailed discussion on the modified roadway layout is provided later in **Section 1.4.2 – Vehicular Access**. The new residential units would be distributed across 16 newly defined street blocks (Blocks A to F, H to Q, and X1) created due to the modified roadway layout within the project site. These new blocks are shown in **Figure 1-3**. These buildings would be from three (3) to eight (8) stories in height. The proposed residential units would consist of a mix of townhouses and apartment flats, spread out around the project blocks. These units would comprise of 496 studio and one-bedroom units, 1,104 two or more bedroom units, and 100 senior housing units. The 1,700 residential units (970 affordable, 630 market-rate, and 100 senior units) would replace the existing 620 affordable housing units on site and provide an additional 1,080 units. A distribution of the housing units across various blocks within the project site for the Proposed Project is provided in **Table 1-2**.

Table 1-2: Distribution of Housing Units by Block – Proposed Project

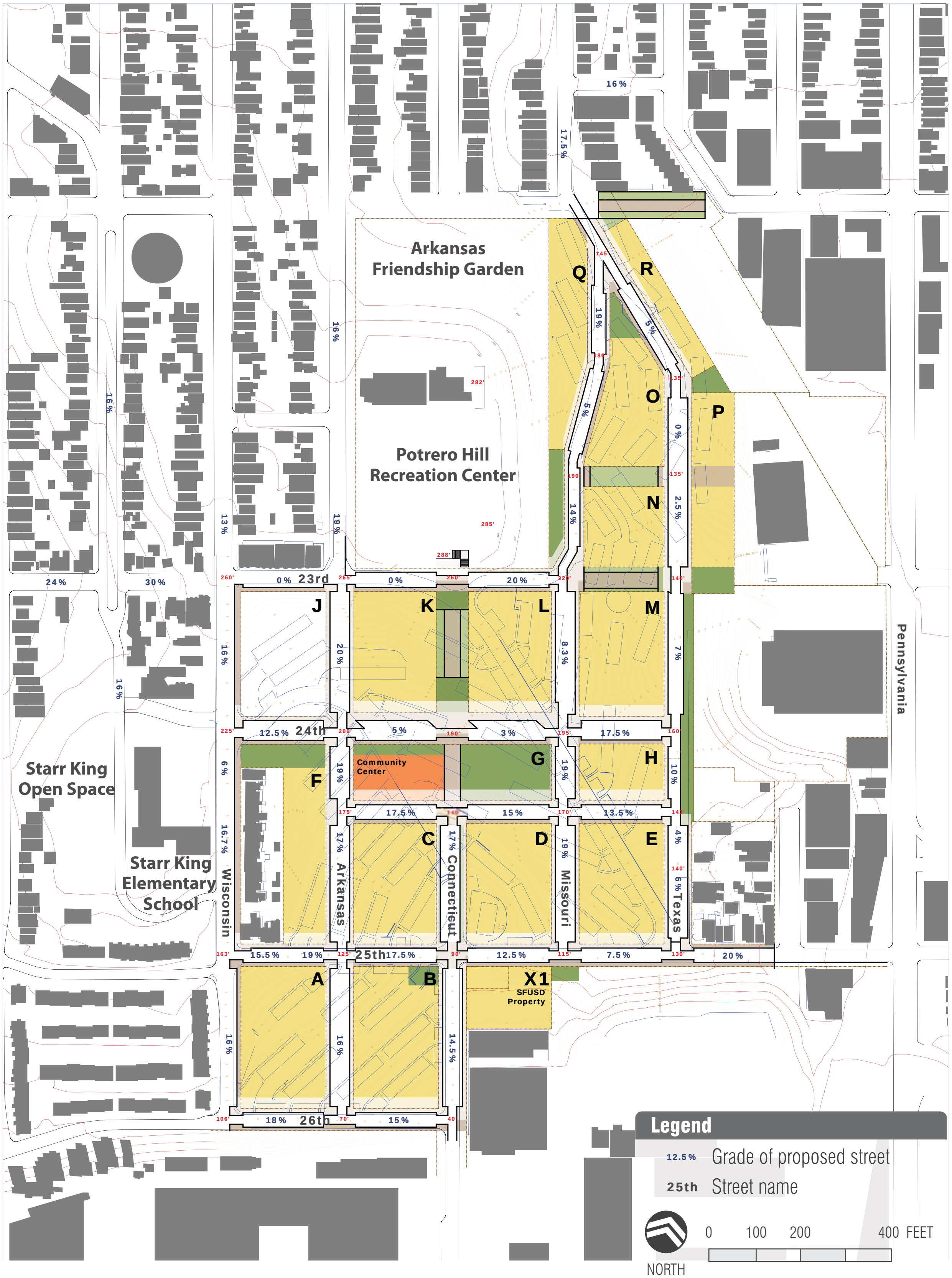
Block	Number of Units	Residential Square Footage (in 1,000s of sf)
A	90-105	85.5 to 110
B	86-105	81.7 to 110
C	95-120	90 to 125
D	95-120	90 to 125
E	98-140	105 to 150
F	55-75	50 to 80
H	80-100 Senior Housing	50 to 90
J	100-140	95 to 150
K	100-160	95 to 170
L	100-170	95 to 180
M	105-140	95 to 150
N	55-70	40 to 95
O	55-70	40 to 95
P	40-70	44 to 90
Q	60-100	50 to 115
R	35-45	30 to 70

Source: Van Meter Williams Pollack LLP – January 2012.
Note:
No housing units are proposed for Blocks G and X1.



SOURCE: VAN METER WILLIAMS POLLACK LLP, 2010

PROJECT SITE PLAN
Figure 1-3



SOURCE: VAN METER WILLIAMS POLLACK LLP, 2010

PROJECT SITE PLAN OVER EXISTING SITE

Figure 1-4

SOURCE: VAN METER WILLIAMS POLLACK LLP, 2010

PROPOSED PROJECT LAND USE PLAN

Figure 1-5

The Proposed Project would also include approximately 15,000 square feet of neighborhood retail space spread along two blocks of the project site, located along the north side of 24th Street between Arkansas Street and Missouri Street (Blocks K and L). The retail space at Block L would be 9,500 square feet in size and at Block K would be 5,500 square feet in size. Retail facilities would be accessed from 24th Street.

The proposed community center would be located on 24th Street between Arkansas Street and Missouri Street, on Block G of the project site plan. This community center would be approximately 35,000 square feet in size and could include infant/toddler childcare facilities, a preschool, gymnasium/recreation space, and a community kitchen, in addition to management offices, a conference room, recreation and meeting rooms, one music room/recording studio, dance studio, club rooms, game room, technology center, computer room/business center, arts room, library/learning center, storage room, and restrooms. Day care (7,500 square feet) and preschool (3,500 square feet) facilities provided within the community center would be bigger in size than the present facilities (1,300 and 2,200 square feet, respectively). The community center would be accessed from 24th Street with a possible connection on 24½th Street[1].

The Proposed Project would also develop private and public open space. Public open space would consist of a large 35,100-square-foot "Central Park" located on 24th Street between Connecticut Street and Missouri Street, a 5,300-square-foot mini park located in the southwest are of the project site adjacent to the 25th Street/Connecticut Street intersection, a 15,600-square-foot community garden along Texas Street between 23rd Street and 24½th Street, a 10,600-square-foot "Squiggle Park" located along 24th Street between Wisconsin Street and Arkansas Street, a 3,600-square-foot "Triangle Park" at the confluence of Missouri Street and Texas Street, and a 9,400-square-foot "Missouri Overlook" pocket park at the intersection of Missouri Street and 23rd Street. Public and private open spaces would total approximately 3.4 acres (about 148,000 square feet). Per San Francisco Planning Code (herein referred to as the Planning Code) requirement, a minimum usable open space of eighty (80) square feet would be included within each residential unit. Open space may be provided as private or common usable open space. The 24th Street "Central Park" is envisioned to serve as terraced open space with a flat area at 24th Street and would include public seating areas. Children play areas may be provided at the 24th Street "Central Park" and the mini park planned at the 25th Street/Connecticut Street intersection. All parks and open spaces would be unfenced, open to the public, and would operate 24 hours a day, seven days a week, except for the Missouri Overlook, and the edible community garden, which would be fenced off and/or have reduced operational hours, such as from Monday to Saturday between 8 AM and 6 PM. All parks would be accessed from the adjoining sidewalks.

1.3 Project Alternatives or Variants

In addition to the Proposed Project, the following two development options are being considered for this project to comply with the National Environmental Policy Act (NEPA) requirements:

- Alternative 1 – This alternative would involve a reduced-scale of development, reducing the maximum height of the proposed buildings at the project site from 80 feet to 40 feet.
- Alternative 2 – This alternative would involve rebuilding the land uses that are present at the project site under existing conditions.

A description of the project alternatives is provided below.

[1] For purposes of this report, this roadway is named as 24½th Street, but it would likely be named by the community or SFMTA.

1.3.1 Alternative 1

The only difference between the Proposed Project and Alternative 1 would be in the size of proposed land uses and associated parking as well as loading spaces. All other project descriptions, including the type and location of land uses, number and location of proposed internal blocks, new vehicle as well as pedestrian connections, and other planned circulation network modifications within the project site would remain the same.

Alternative 1 would be similar in layout as the Proposed Project, but the maximum building heights in this alternative would not exceed 40 feet in height. As a result, compared to the Proposed Project, fewer housing units would be constructed as part of Alternative 1. This alternative would construct up to 1,280 mixed-income housing units (up to 796 affordable units, 404 market rate units, and 80 senior units), as compared to 1,700 total units under the Proposed Project, the same amount of retail facilities (5,500 square feet and 9,500 square feet in size), a smaller community center (25,000 square feet in size), several small parks and open spaces, and associated residential parking facilities. A summary of existing land uses and those proposed as part of Alternative 1 are provided in **Table 1-3,** while the land use plan for Alternative 1 is shown in **Figure 1-6**.

Table 1-3: Summary of Existing and Alternative 1 Land Uses

Type of Use	Existing	Proposed Project	Alternative 1
Residential	577,000 sf	up to 2,000,000 sf	up to 1,450,000 sf
Retail	0	15,000 sf	15,000 sf
Community Center	0	up to 35,000 sf	up to 25,000 sf
Off-Street Parking	0	up to 420,000 sf	up to 300,000 sf
Open space	0	3.4 acres	3.4 acres
Day Care	1,300 sf (approx.)[1]	7,500 sf (approx.)[1]	7,500 sf (approx.)[1]
Preschool	2,200 sf (approx.)[1]	3,500 sf (approx.)[1]	3,500 sf (approx.)[1]
Housing Units	620 units[2]	up to 1,700 units	up to 1,280 units
Senior Studio/1 Bedroom Units	0	up to 98 units	up to 78 units
Senior 2+ Bedroom Units	0	up to 2 units	up to 2 units
Affordable Studio/1 Bedroom Units	53 units	up to 148 units	up to 122 units
Affordable 2+ Bedroom Units	567 units	up to 822 units	up to 674 units
Market Rate Studio/1 Bedroom Units	0	up to 348 units	up to 224 units
Market Rate 2+ Bedroom Units	0	up to 282 units	up to 180 units
Off-street Parking Spaces	340 (uncovered)	1,055 spaces	773 spaces
On-street Parking Spaces	180-200 spaces (approx.)	600 spaces	600 spaces
Off-street Loading Spaces	0	0	0
On-street Loading Spaces	0	At least 18 spaces, at one per block	At least 18 spaces, at one per block
Bicycle Spaces	0	450	328

Source: BRIDGE Housing, 2011.
Notes:
[1]Provided as part of the community center.
[2]At full occupancy.

SOURCE: VAN METER WILLIAMS POLLACK LLP, 2010

ALTERNATIVE 1 LAND USE PLAN
Figure 1-6

Similar to the Proposed Project, Alternative 1 would substantially alter the existing street layout within the project site. A detailed discussion on the modified roadway layout is provided later in **Section 1.4.2 – Vehicular Access**. The new residential units would be distributed across 16 newly defined street blocks (Blocks A to F, H to Q, and X1) created due to the modified roadway layout within the project site. The new blocks created as part of Alternative 1 and Proposed Project are the same and are shown in **Figure 1-3**. Alternative 1 would consist of a mix of townhouses and apartment flats, spread out around the project blocks. These units would comprise of 424 studio and one-bedroom units, 856 two or more bedroom units, and 80 senior housing units. The 1,200 residential units (796 affordable, 404 market-rate, and 80 senior units) would replace the existing 620 affordable housing units on site and provide an additional 580 units. A distribution of the housing units across various blocks within the project site for Alternative 1 is provided in **Table 1-4**.

Table 1-4: Distribution of Housing Units by Block – Alternative 1

Block	Number of Units	Residential Square Footage (in 1,000s of sf)
A	90	85.5
B	86	81.7
C	105	100
D	105	100
E	98	93.5
F	60	55
H	80 Senior Housing	50
J	100	95
K	100	95
L	100	95
M	105	97
N	45	41
O	64	41
P	46	44
Q	60	58
R	36	30

Source: Van Meter Williams Pollack LLP – January 2012.
Notes:
No housing units are proposed for Blocks G and X1.

The size and location of retail facilities provided for Alternative 1 would be the same as for the Proposed Project, i.e., a retail facility of 9,500 square feet would be provided at Block L and another of 5,500 square feet would be provided at Block K. In addition, a community center with the same land uses as planned for the Proposed Project would be placed at Block G for Alternative 1; however, the size of the community center is proposed to be 25,000 square feet for Alternative 1. Day care (7,500 square feet) and preschool (3,500 square feet) facilities provided within the community center would be the same as under the proposed project. All parks, open spaces, stairways, and gardens planned as part of the

Proposed Project would also be provided as part of Alternative 1. No additional parks and open space would be provided as part of this alternative.

1.3.2 Alternative 2

Under Alternative 2, all existing housing units at the project site would be demolished and rebuilt using the same building pattern currently in place. For Alternative 2, the existing project site plan and street pattern would remain the same as under existing conditions. Therefore, this alternative would reconstruct 620 affordable housing units, a 1,300 square feet preschool center, a 2,200 square feet child day care center, and associated residential parking facilities. As such, no additional housing units would be developed as part of Alternative 2. Other amenities such as additional parks, retail facilities, and community center would also not be provided as part of Alternative 2.

1.4 Project Transportation Characteristics

1.4.1 Pedestrian Access

Proposed Project and Alternative 1 – As part of the Proposed Project and Alternative 1, sidewalks with a width of 5 feet to 14 feet would be provided along all blocks of the project site for pedestrian safety, walking comfort, and convenience. New sidewalks would be constructed along with a five-foot-wide minimum planting or permeable paving strip. Along blocks with retail facilities, such as along 24th Street (Blocks K and L), wider sidewalks in the range of 9.5 feet to 14 feet would be provided. Planned cross-sections of streets within the project site for the Proposed Project are included in **Appendix B**. These cross-sections are the same for the Proposed Project and Alternative 1. To ensure the visibility of pedestrians and stop signs, the placement of street trees would be prohibited on the last 25 feet on the approach to an intersection. Design of all streets within the project site would be consistent with the Planning Department's Better Streets Plan.

In addition, pedestrian bulb-outs and at least six-foot-wide crosswalks would be provided at intersections to improve the walking experience. Six-foot wide crosswalks would be provided throughout the project site; however, pedestrian bulb-outs would be provided at most intersections, but not all, depending on San Francisco Municipal Transportation Authority (SFMTA) and San Francisco Department of Public Works (SFDPW) recommendations when final intersection configurations are designed. At intersections where transit operations are proposed to occur, such as Arkansas Street/25th Street, Missouri Street/25th Street, Wisconsin Street/24th Street, Arkansas Street/24th Street, and Missouri Street/Texas Street, bus bulb-outs that accommodate a 40-foot coach could be installed, pending SFMTA review and approval, to provide adequate loading and passenger shelter space for transit access. Pedestrian and transit bulb-out designs have not been developed; as such, their dimensions and curb radii cannot be provided in this report. However, bulb-out designs would be consistent with guidelines recommended by the Planning Department's Better Streets Plan, and would be subject to review and approval by the interagency Transportation Advisory Staff Committee (TASC), which includes city representatives from the SFMTA, SFDPW, San Francisco Police Department (SFPD), and San Francisco Fire Department (SFFD). Bulb-outs would similarly be designed such that large vehicles would be able to make right turns where needed. These pedestrian and transit amenities would be an improvement over existing conditions at the project site, as many portions of the project site currently do not have any sidewalk facilities, continuous pedestrian sidewalks, or transit amenities. Other small parks and open spaces, plazas, and pedestrian-only stairs would be provided around the project site to improve neighborhood connections and establish several public gathering areas.

Due to steep grades (greater than 15 percent); currently there are no accessible zones (zones with grades lower than 8.33 percent) within the project site. However, the Proposed Project and Alternative 1 are planned such that grades along Texas, 24th, and 23rd Streets would be less than 8.33 percent for the most part. These lower grades would create three accessible zones within the project site and two new access points to the project site – along 24th and Texas Streets. These new access points improve neighborhood connectivity of the project site. The three accessible zones created as part of the Proposed Project and Alternative 1 are shown in the Street Slope Diagram, included in **Appendix B**. The provision of less steep zones along Texas, 24th, and 23rd Streets would make the project site more accessible to everyone. Also, the Proposed Project and Alternative 1 maximize accessibility by locating the neighborhood core at the center of the development on streets (24th Street) with less than five (5) percent slope, while providing an accessible path to important neighborhood amenities, such as Starr King Elementary School to the west and the Potrero Hill Health Center at 1050 Wisconsin Street.

Additionally, the following new pedestrian connections would be provided to link new and existing neighborhood amenities:

- Connecticut Street would be transformed into a grand series of stairways between the new 24½th Street and 23rd Street linking residents to the Potrero Hill Recreation Center;
- A new stairway, the 23rd Street Stairway, would be provided between Missouri Street and Texas Street. This stairway would be aligned with 23rd Street and would extend east of Texas Street as well and terminate into the Texas Street Overlook, an elevated platform or small plaza that is marked by a grove of trees; and
- A new stairway along 22nd Street would be provided between Missouri Street and Texas Street. It is anticipated that this new facility would offer a pedestrian connection to the 22nd Street Caltrain Station, the 23rd Street T Third Street Station, and 22nd Street mixed-use district. Even though the Project Sponsor is interested in providing this pedestrian route, it is located on private land and is not approved and is preliminary in nature. The Project Sponsor would continue to work with the City and surrounding private property owners to encourage the construction of this pathway; however, it may or may not be provided.

Planned key pedestrian connections and accessible paths are provided in the Mobility and Circulation Concept Plan, included in **Appendix B**.

Since atypical steepness within the project site would cause a major concern about access for disabled citizens, the Project Sponsor is working with the San Francisco Mayor's Office of Disability (MOD) and SFDPW to prepare an accessibility circulation plan to ensure a circulation strategy for disabled citizens. The goals of this plan are as follows:

- Create more pedestrian paths which would be accessible in the future;
- Concentrate accessible units along Texas and 24th Streets, which are relatively less steeper than other streets within the project site;
- Concentrate accessible units that would have accessible parking in buildings with the most community amenities; and
- Keep Texas Street relatively flat throughout the project site.

Alternative 2 – For Alternative 2, pedestrian facilities would remain the same as under existing conditions. No improvements to pedestrian facilities would be provided as part of this alternative.

1.4.2 Vehicular Access

Roadway Network

Proposed Project and Alternative 1 – As part of the Proposed Project and Alternative 1, the existing street layout would also be modified to closely match the neighboring street layout, resulting in substantial changes to on-site traffic circulation. The planned grid street pattern would improve local access and assist pedestrian movement within the project site. Additionally, the modified street network would improve connections with the surrounding neighborhood and provide a continuous route for through traffic, especially in the north-south direction. Changes to the roadway layout, as shown in **Figure 1-4 – Project Site Plan over Existing Site**, include the following:

- Arkansas Street would be extended between 23rd Street and 26th Street;
- Missouri Street would be extended between 23rd Street and 26th Street;
- A continuous Texas Street would be constructed between Missouri Street and 25th Street;
- 24th Street would be constructed between Wisconsin Street and Texas Street;
- A new roadway, 24½th Street would be constructed between Arkansas Street and Texas Street;
- Connecticut Street located north of 25th Street would be reconfigured to extend until 24½th Street. This segment would also be converted from a one-way street to a two-way street; and
- Dakota Street, Watchman Way, and Turner Terrace would be eliminated.

Even though Texas Street would be converted into north-south connected roadway, the curb bulb-out extensions and crosswalks provided at each intersection within the project site, and possible pavement material changes provided at the 23rd Street Stairway should act as traffic calming devices and help slow down speeding traffic.

All new streets constructed within the project site would be owned and maintained by the City of San Francisco. In general, all north-south and east-west streets within the project site would, subject to City approval, be designed with a right-of-way of 69 feet and 56 feet, respectively. Exceptions include 25th Street between Wisconsin and Connecticut Streets where a 60-foot right-of-way would be provided, Connecticut Street between 25th and 24½th Streets where a 75-foot right-of-way would be provided, 24th Street between Arkansas and Missouri Streets where a84-foot right-of-way would be provided, 24th Street from Texas Street to Missouri Street and from Arkansas Street to Wisconsin Street where a 61.5-foot right-of-way would be provided, 23rd Street between Arkansas and Missouri Street where a 41.5-foot right-of-way would be provided, Missouri Street from 23rd Street to one block north of it where a 41.5-foot right-of-way would be provided, Texas Street between 23rd Street and 24th Street where a 48-foot right-of-way would be provided, and Texas Street from 23rd Street to one and a half blocks north of it where a 69-foot right-of-way would be provided. Planned cross-sections of streets within the project site for the Proposed Project are shown in Roadway Cross-Sections, included in **Appendix B**. These cross-sections would be the same for Alternative 1 as well.

Modification of the roadway layout would result in two new T-intersections along Texas Street (with 24th Street, and 24½th Street) and three new intersections along Arkansas Street (four-way intersections with 24th Street and 25th Street, and a T-intersection with 24½th Street). All new intersections would have one mixed-flow lane in each direction and all of them are proposed to be stop-controlled intersections, either one-way, two-way, or four-way stop-controlled intersections. Final design of the new intersections would be developed in coordination with the SFMTA. Additionally, the modification of roadway layout would alter two study intersections as follows:

- 25th Street/Dakota Street/Texas Street intersection would be reconfigured and renamed to 25th Street/Texas Street; and
- 23rd Street/Dakota Street intersection would be renamed to 23rd Street/Missouri Street.

The roadway layout reconfiguration planned as part of the Proposed Project and Alternative 1 is anticipated to cause changes to the traffic circulation patterns in the study area as follows:

- Approximately 25 percent of traffic traveling along Pennsylvania Avenue is anticipated to shift to Texas Street; and
- Approximately 25 percent of traffic traveling along Dakota Street is anticipated to shift to Arkansas Street.

Changes to bordering streets outside of the Project site, namely Wisconsin Street and 23rd Street, would be limited to new connections to internal streets, with new intersections added, such as on 25th and 26th Street. A complete set of project design site plans, including the proposed circulation concept is included in **Appendix B**. Designs for circulation within the residential buildings have not been developed and were not included in this report.

Currently, streets within the project site have steep grades (greater than 15 percent), especially along Dakota Street, Connecticut Street, and parts of Missouri Street. However, accessibility within the project site would be improved as part of the Proposed Project and Alternative 1 by providing less steep grades along Texas, 24th, and 23rd Streets. For the most part, grades along these three streets would be less than 8.33 percent. Grades along other streets would however remain similar as under existing conditions. These lower grades would create three accessible zones within the project site. Grades of streets planned as part of the Proposed Project and Alternative 1 are shown in the Street Slope Diagram, included in **Appendix B**.

Alternative 2 – For Alternative 2, the roadway network would remain the same as under existing conditions. No improvements to the roadway network would be provided as part of this alternative.

Bicycle Network and Facilities

Proposed Project and Alternative 1 – The Proposed Project and its alternatives would not provide any dedicated bicycle facilities within the project site. However, street and landscape design is expected to encourage bicycling opportunities as a part of roadway accommodations, with wider sidewalks, better internal connections, and more public pathways to promote multimodal use of the street network. These amenities would offer a more inviting environment for bicycle riders to utilize these lower speed roadways. In addition, the redesign of the street layout as part of the Proposed Project and Alternative 1 would provide accessible zones (zones with grades less than 8.33 percent) within the project site along Texas, 24th, and 23rd Streets. While no bicycle routes currently traverse the project site, opportunities for bicycle connections are envisioned along those accessible zones. Opportunities for bicycle connections would be created along Texas Street in the north-south direction and 24th Street in the east-west direction. 24th Street would also connect Texas Street to the Starr King Open Space. The planned opportunities for key bicycle connections are provided in the Mobility and Circulation Concept Plan, included in **Appendix B**.

The Proposed Project and Alternative 1 would include more on-street and off-street bicycle parking than what is available at the existing facilities.

Alternative 2 – For Alternative 2, bicycle facilities would remain the same as under existing conditions. No improvements to the bicycle network would be provided as part of this alternative.

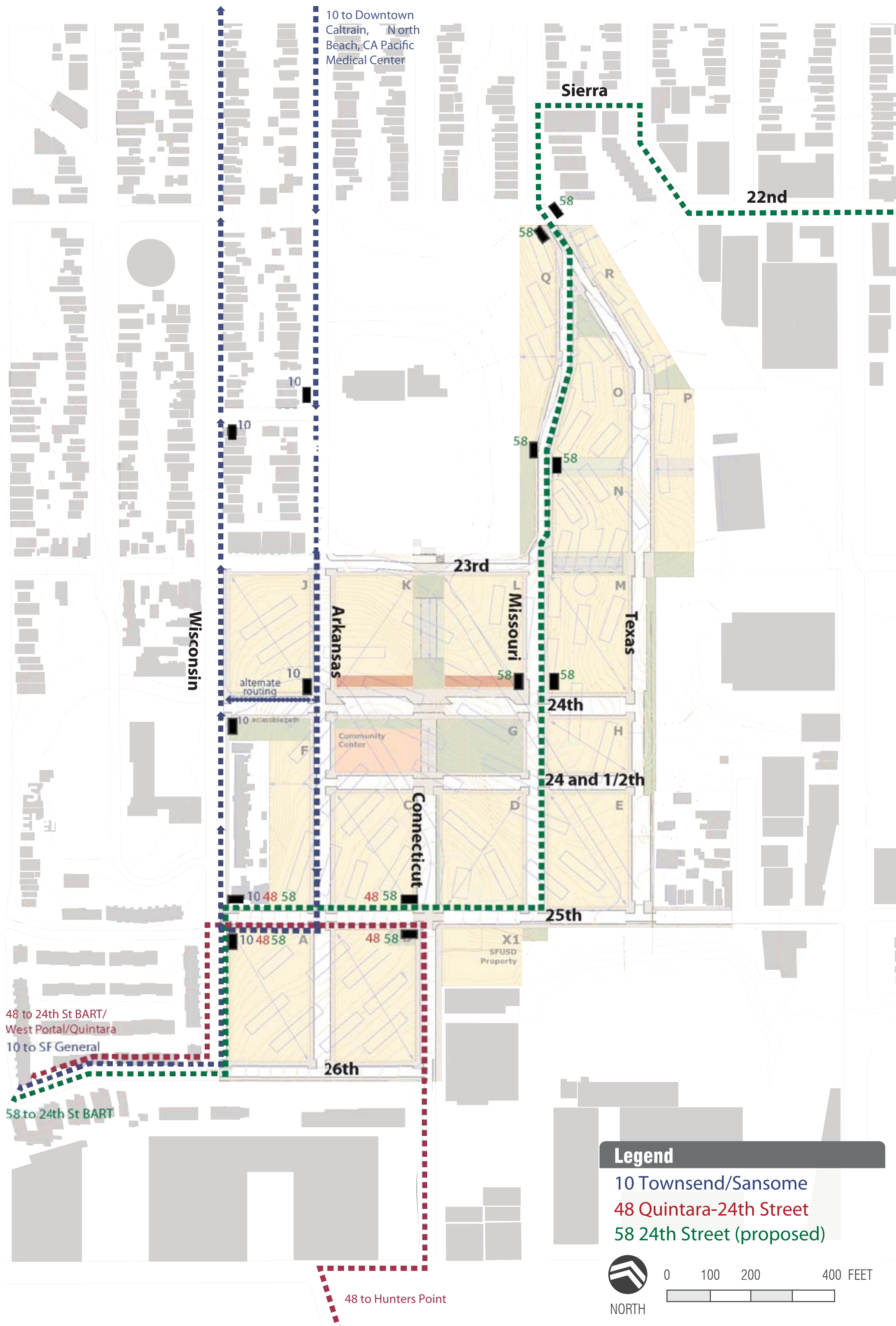
Transit Network and Facilities

Proposed Project and Alternative 1 – Due to the proposed modification of the roadway network, the Proposed Project and Alternative 1 would reroute the San Francisco Municipal Railway (Muni) route 10 Townsend within the project site – Between 23rd and 25th Streets, the outbound 10 Townsend would be rerouted from Dakota Street to Arkansas Street, while the inbound 10 Townsend would be rerouted from Dakota Street to Wisconsin Street. Additionally, a new planned Muni line, the 58 24th Street, would traverse through the project site along Wisconsin Street, 25th Street, and Missouri Street. Muni routes planned as part of the Proposed Project are exhibited in **Figure 1-7,** while existing routes are shown in **Figure 2-2.**

The Proposed Project and Alternative 1 would relocate/consolidate existing bus stops and create new ones as follows:

- Bus stops serving the 19 Polk and located along northbound Connecticut Street (between 25th and Wisconsin Streets), southbound Connecticut Street (north of 26th Street), and southbound Wisconsin Street (south of Coral Street) would be eliminated, since the 19 Polk would not travel through the project site in the near future;
- Bus stop serving the outbound 10 Townsend and located along westbound 25th Street (east of Connecticut Street) would be relocated to southbound Arkansas Street (north of 24th Street);
- Bus stops serving the inbound 10 Townsend and located along northbound Dakota Street (between 25th and 23rd Streets, and south of 23rd Street) and westbound 23rd Street (east of Wisconsin Street) would be relocated and consolidated at northbound Wisconsin Street (south of 24th Street);
- Bus stop serving the 48 Quintara-24th Street and located along eastbound 25th Street (west of Dakota Street) would be relocated to eastbound 25th Street (west of Connecticut Street);
- Bus stops serving the 10 Polk and 48 Quintara-24th Street located at northbound Wisconsin Street (north of 26th Street and south of 25th Street) would be consolidated at northbound Wisconsin Street (south of 25th Street); and
- New bus stops would be created along westbound 25th Street (east of Wisconsin Street), westbound 25th Street (west of Connecticut Street), and various locations along Missouri Street in both the directions, including north of 24th Street, between 23rd and Texas Streets, and north of Texas Street. These new bus stops are planned to serve the new 58 24th Street line and other Muni routes.

In total, 12 bus stops would be provided as part of the Proposed Project and Alternative 1. Pole type bus stops, potentially with bus bulb-outs, would be provided for the Proposed Project and Alternative 1. The Project Sponsor would work with the SFMTA to develop bus stop and passenger shelter designs at appropriate stops. Muni stops planned as part of the Proposed Project are exhibited in **Figure 1-7**. These planned Muni routes are the same for Alternative 1 as well.



SOURCE: VAN METER WILLIAMS POLLACK LLP, 2010

PLANNED MUNI ROUTES

Figure 1-7

Alternative 2 – For Alternative 2, the transit network within the project site would remain the same as under existing conditions. No improvements to the transit network would be provided as part of this alternative.

1.4.3 Freight Loading and Unloading

Proposed Project and Alternative 1 – The Proposed Project and Alternative 1 would provide off-street loading spaces at least equal in number to those required per the Planning Code. According to the Planning Code requirements (§152), one (1) off-street freight loading space would be required for retail stores ranging from 10,001 to 60,000 square feet in size. The Proposed Project and Alternative 1 would provide two retail facilities in Blocks K and L, each less than 10,000 square feet in size. Therefore, the Proposed Project and Alternative 1 would not be required to provide any loading space for retail. Residential buildings and other facilities (under which the community center would be categorized) are expected to provide loading spaces if they exceed 100,000 square feet in gross floor area (i.e., 1 space from 100,001 to 200,000 square feet, 2 spaces from 200,001 square feet to 500,000 square feet, etc.). Residential buildings around the project site would total 2,000,000 square feet in size across 16 blocks, with some blocks having multiple residential buildings (as shown in **Tables 1-2 and 1-4**). It is not anticipated that any of the residential buildings would individually exceed 100,000 square feet. Also, the community center would be less than 100,000 square feet in gross floor area. Hence, no freight loading spaces are required for residential or community center land uses. In total, according to the Planning Code, no off-street freight loading spaces are required for the Proposed Project and Alternative 1. Since no off-street loading spaces are required per the Planning Code, no off-street loading spaces would be provided for the Proposed Project and Alternative 1. However, the project sponsor would seek to provide at least one on-street loading space per block for a total of approximately 18 loading spaces throughout the project site. The loading spaces would be subject to the review and approval by SFMTA to designate as yellow-curb zones for on-street loading activities. The on-street loading spaces would be provided close to retail and community center facilities, and where appropriate, such as at the senior housing facility, near residential lobbies. The exact location of on-street commercial loading areas would be subject to SFMTA review and approval. Per leasing agreements, loading and delivery for the proposed retail uses would take place during non-peak hours along 24th Street. These on-street loading spaces would also be used for passenger pick-up/drop-off activities within the project site. Details of these spaces would be determined during the building design phase and in collaboration with the SFMTA.

Alternative 2 – For Alternative 2, five on-street freight loading spaces and no off-street spaces would be provided. Details of these spaces would be determined during the building design phase and in collaboration with the SFMTA.

1.4.4 Emergency Vehicle Access

The closest fire station in the vicinity of the project site is Fire Station #37, located to the northwest of the project site at 798 Wisconsin Street, at the intersection with 22nd Street. The closest police station is the Mission Police Station, located to the northwest of the project site at 630 Valencia Street, at the intersection with 17th Street.

Proposed Project and Alternative 1 – The existing roadway layout allows for minimal cross-site connections for emergency vehicles and includes two cul-de-sacs within the Potrero Annex site. The Potrero Annex site can only be accessed using Missouri Street via 23rd Street and Dakota Street from the south. The southern portion of the Potrero Annex is accessible using Texas Street, which near the project site is a narrow path that is barely wide enough for one car.

The Proposed Project and Alternative 1 would create a grid of streets with easier cross-site access. All new streets would provide emergency vehicle access to adjacent land uses and meet the San Francisco Fire Department's access requirements. As mentioned in **Section 1.4.2 – Vehicular Access**, new street connections include extending Arkansas Street from 23rd Street to 26th Street, extending Missouri Street directly south from 23rd Street to 25th Street, formalizing Texas Street and connecting it to Missouri Street at the northern edge of the site, and new east/west streets connecting Wisconsin Street to Texas Street. Also, as mentioned earlier, the Proposed Project and Alternative 1 would provide less steep grades along Texas, 24th, and 23rd Streets. For the most part, grades along these three streets would be less than 8.33 percent, while grades along other streets would remain similar as under existing conditions. These lower grades would improve accessibility to/from and within the project site. All of the buildings would be required to meet all applicable building and safety regulations.

Alternative 2 – Emergency vehicle access for Alternative 2 would remain the same as under Existing Conditions.

1.4.5 Project Parking

Proposed Project and Alternative 1 – Parking facilities would be spread out around the project site, and would include new on-street and off-street facilities. The Proposed Project would provide approximately 1,055 off-street parking spaces, primarily as underground or structured parking garages with residential units placed above them. Ten (10) of these spaces would be designated for retail use, while five (5) spaces would be set aside for the community center. Forty-two (42) of these off-street spaces would be designated for use by the disabled and handicapped. Off-street parking for the retail and community center facilities is proposed to be provided on the lower level of Block G and accessed from Arkansas Street. Below-grade residential parking could also be provided, with driveway access generally from major north-south streets. Garage access driveway locations have yet to be determined, however, access points to underground garages for various blocks are anticipated to be located on the following streets:

- Blocks A and J – Wisconsin and Arkansas Streets
- Blocks F and K – Arkansas Street
- Block G – Arkansas and 24½th Streets
- Blocks C and B – Arkansas, Connecticut, and 25th Streets
- Block D – Connecticut, Missouri, 25th, and 24½th Streets
- Block X – Connecticut and 25th Streets
- Block L – Missouri and 23rd Streets
- Block E – Texas and 24½th Streets
- Block H – Missouri, Texas, 24th, and 24½th Streets
- Block M – Missouri and 24th Streets
- Block N – Missouri and Texas Streets
- Block Q – Missouri Street
- Blocks O, P and R – Texas Street

Potential access points to underground garages for various blocks are shown in the Potential Garage Entries Plan, included in **Appendix B**. Depending on the final building designs, fewer entries may be required than those shown in the plan. No garage entries would be located on 24th Street between Wisconsin and Missouri Streets. Garage entries would not conflict with Muni bus stops.

For Alternative 1, 773 off-street parking spaces would be provided, of which ten (10) spaces would be designated for retail uses and five (5) spaces would be designated for community center. There would be 30 off-street spaces for disabled and handicapped use. As required by the City of San Francisco, all parking spaces for housing units would be unbundled and sold separately from the housing unit itself. Garage entrances for off-street parking spaces would be designed so as to minimize impact on pedestrian safety and the general streetscape, and would be no wider than 16 feet wide. Curb cuts would be kept to a minimum to allow maximum number of on-street parking spaces and to enhance pedestrian safety. Care would also be taken to avoid locating garage access directly across from building lobbies of adjacent properties.

In addition, approximately 600 unmetered on-street parking spaces would also be provided for the Proposed Project and Alternative 1. The Proposed Project would also provide nine (9) car-share spaces, while Alternative 1 would provide seven (7) car-share spaces within the project site. Locations of the car-share parking spaces and passenger drop-off spaces would be determined when building designs would be developed. All streets located within the project site would provide on-street parking either as perpendicular, angled, or parallel parking. On-street parking provided along 24th Street between Missouri Street and Arkansas Street would be time-limited. On-street parking facilities planned within the project site for the Proposed Project and Alternative 1 are shown in Roadway Cross-Sections, included in **Appendix B**.

Alternative 2 – For Alternative 2, on-street and off-street parking facilities would remain the same as under existing conditions; i.e. approximately 256 off-street and 100 on-street parking spaces. No improvements to parking facilities would be provided as part of this alternative.

1.4.6 Trash Access

Garbage collection would be a combination of centralized and decentralized garbage, recycling, and compost collection areas to maximize efficiency depending on the type of building. For residential uses, retail facilities, and the community center, garbage bins and dumpsters would be located internally within each building including in the parking garage where present and would be taken to the street and returned to the garages by maintenance personnel on pick-up days. The exact locations of each collection area would be determined following the building design phase, but generally internal to each building, near maintenance, loading, or parking facilities.

The same trash access provisions within the project site, as discussed above, would be provided for the Proposed Project and its alternatives.

1.4.7 Bicycle Parking

Proposed Project and Alternative 1 – The Proposed Project and Alternative 1 would provide more bicycle parking facilities in the buildings than under existing conditions (zero spaces). Bicycle parking spaces, at least equal in number to those required per Planning Code, would be provided around different areas of the project site for residents and visitors in the vicinity. The Proposed Project would provide approximately 450 bicycle spaces within the project site, of which 416 spaces would be secured spaces distributed within the residential buildings; while the remaining approximately 34 spaces would be provided through on-street bicycle racks. Final design and placement of the on-street bicycle racks would be subject to review and approval by SFMTA. Alternative 1 would provide approximately 328 secured bicycle spaces and 34 on-street spaces via bicycle racks. In addition, both the Proposed Project and Alternative 1 would provide two (2) showers and four (4) lockers within the project site.

For the Proposed Project and Alternative 1, bicycle parking spaces would be distributed around the project site and secured bicycle parking would be located in each building near residential entrances and within vehicle parking facilities serving the residences. Within buildings, bicycle facilities would be located in well-lit, safely accessible areas. Each building would have a safe, secure area for bicycle parking. The design of this parking would vary for each building, but in all cases would be easily accessible and designed to minimize conflicts between bicycles, pedestrians and drivers. Bicycle spaces at the community center would be provided via a bicycle rack. Bicycle racks would be provided on most blocks with concentrations around the community center and open spaces. The distribution of on-street bicycle spaces within the project site for the Proposed Project and Alternative 1 is shown in the Transit and Bike Parking layout, included in **Appendix B**. Exact locations of each secured bicycle parking area within residential buildings would be determined following the building design phase, but would likely be provided either on the ground floor or within the parking garage, if parking is included.

Alternative 2 – For Alternative 2, approximately 170 bicycle parking spaces would be provided, evenly scattered across the project site. All these spaces would be secured bicycle parking spaces and would be located in each building on the ground floor, near residential building entrances.

1.5 Study Scope and Approach

This transportation study has been prepared according to the scope of work approved by the City and County of San Francisco Planning Department (shown in **Appendix A**). For the analysis of the Proposed Project and its alternatives, the following four scenarios were examined:

- Existing Conditions
- Existing plus Project Conditions
- 2030 Cumulative Conditions
- 2030 Cumulative plus Project Conditions

The following 13 intersections in the vicinity of or within the project site were analyzed during the weekday PM peak hour (the highest hour between 4:00 PM and 6:00 PM):

1. Cesar Chavez Street/Connecticut Street (signalized)
2. Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp (signalized)
3. Pennsylvania Avenue/Southbound I-280 Off-Ramp
4. 25th Street/Indiana Street/Northbound I-280 On-Ramp
5. 25th Street/Connecticut Street
6. 25th Street/Dakota Street/Texas Street
7. 23rd Street/Dakota Street
8. 23rd Street/Wisconsin Street
9. 20th Street/Arkansas Street
10. 22nd Street/Missouri Street
11. Potrero Avenue/23rd Street (signalized)
12. Cesar Chavez Street/Vermont Street/US 101 Northbound On-Ramp
13. Cesar Chavez Street/US 101 Off-Ramp

In addition, the following six (6) freeway segments were evaluated during the weekday PM peak period:

1. Northbound I-280 (south of Cesar Chavez Street Off-Ramp)

2. Southbound I-280 (south of Pennsylvania Avenue On-Ramp)
3. Northbound I-280 (north of Indiana Street On-Ramp)
4. Southbound I-280 (north of Pennsylvania Avenue Off-Ramp)
5. Northbound US 101 (north of Cesar Chavez Street On-Ramp)
6. Southbound US 101 (north of Cesar Chavez Street Off-Ramp)

Furthermore, the following four (4) ramp junctions located in the vicinity of the project site were examined during the weekday PM peak period:

1. Northbound I-280/Cesar Chavez Street Off-Ramp
2. Southbound I-280/Pennsylvania Avenue Off-Ramp
3. Northbound I-280/Indiana Street On-Ramp
4. Southbound I-280/Pennsylvania Avenue On-Ramp

As mentioned above, all circulation elements were evaluated during the weekday PM peak period. However, four (4) of the study freeway segments were analyzed during the weekday AM peak period (the highest hour between 7:00 AM and 9:00 AM) as well. They are as follows:

1. Northbound I-280 (south of Cesar Chavez Street Off-Ramp)
3. Northbound I-280 (north of Indiana Street On-Ramp)
5. Northbound US 101 (north of Cesar Chavez Street On-Ramp)
6. Southbound US 101 (north of Cesar Chavez Street Off-Ramp)

Parking conditions, both on- and off-street, were examined within an area roughly bounded by 20th Street to the north, 26th Street to the south, Texas Street to the east, and Carolina Street to the west (**Figure 2-2**). Parking analysis was conducted during the weekday PM peak period (between 4:00 PM and 6:00 PM).

Field observations were conducted to identify current pedestrian and bicycle conditions within the project site. A comprehensive evaluation of current transit, bicycle, and pedestrian facilities is included in the report. Potential operational and demand impacts of transit service serving the study area were also analyzed. In addition, a qualitative review of existing bicycle routes and paths near the Proposed Project is included in the analysis. An evaluation of the existing pedestrian facilities including sidewalks, crosswalks, and the physical condition of the pedestrian network was also conducted as part of this transportation study. Given the extensive modifications to the roadway layout within the project site, a qualitative analysis of the changes to the pedestrian network was also conducted. Additionally, project impacts related to loading, emergency access, and construction impacts were also evaluated and discussed in the report. Parking analysis is also included for informational purposes. The project study area is illustrated in **Figure 1-8**.

Since Alternative 2 would only reconstruct the existing land uses available at the project site and would neither add net new trips nor modify the neighboring circulation network, only a qualitative analysis of this alternative is provided in this report.

PROJECT STUDY AREA
Figure 1-8

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Chapter 2: Setting

This chapter provides a description of the existing transportation conditions in the vicinity of the Proposed Project. Detailed in this chapter are the existing roadway traffic, transit, parking, pedestrian, and bicycle operating conditions within the study area.

2.1 Roadway Network

Definitions and regulatory requirements for the various San Francisco General Plan roadway classifications are included in **Appendix C**.

2.1.1 Regional Access

This section provides a discussion of the existing regional roadway network in the vicinity of the project site, including the location of the nearest access points.

United States Highway 101 (US 101) provides regional access to the project from the northern and southern counties. US 101 serves San Francisco, the Peninsula, the South Bay, and extends north via the Golden Gate Bridge to the North Bay. Within the northern part of San Francisco, sections of Lombard Street and Van Ness Avenue serve as US 101 along surface streets. Within the southern part of San Francisco and the Peninsula, US 101 is served via the Central Freeway and the Bayshore Freeway. In the project vicinity US 101 has four lanes in each direction. Access to the project site from US 101 is primarily provided by on- and off-ramps located at Cesar Chavez Street.

Interstate 280 (I-280) provides regional access from the South of Market area of downtown San Francisco to the South Bay/Peninsula. In the project vicinity I-280 has three lanes in each direction. Access to the Proposed Project from northbound I-280 is provided via the off-ramp to Cesar Chavez Street and on-ramp from Indiana Street. From southbound I-280, access to the project site is provided by on- and off-ramps at Pennsylvania Avenue. US 101 and I-280 have an interchange approximately one and a half miles south of the project site.

Interstate 80 (I-80) provides regional access to and from the East Bay to the project site. I-80 connects San Francisco to the East Bay and extends east via the San Francisco-Oakland Bay Bridge. I-80 begins at the Central Freeway/US 101 and I-80 interchange, approximately one mile north of the project site.

2.1.2 Local Access

This section provides a discussion of the existing local roadway network in the vicinity of the project, including roadway designation, number of travel lanes, and traffic flow directions.

Cesar Chavez Street is an east-west roadway running from Douglass Street to Maryland Street located in the Port of San Francisco North Container Terminal. It operates as a local two-way roadway between Douglass Street and Guerrero Street with some interruptions, and as a major arterial eastward from Guerrero Street to Third Street. East of Third Street, Cesar Chavez Street acts as a secondary arterial that primarily serves port and pier activities in the area. In the vicinity of the project site, Cesar Chavez Street has two lanes in either direction with on-street parking on both sides of the street. The San Francisco General Plan classifies Cesar Chavez Street as a Major Arterial in the CMP Network from Guerrero Street to Third Street, a Secondary Arterial east of Third Street, and as part of the Metropolitan Transportation System (MTS) Network. Cesar Chavez Street is part of Citywide Bicycle Route #60 between Third Street and Sanchez Street. It is identified as a Route with Significant Truck Traffic east of US 101. On- and off-ramps to/from northbound and southbound US 101 can be accessed from Cesar Chavez Street. In addition, an off-ramp from northbound I-280 directly connects to Cesar Chavez Street.

Cesar Chavez Street from Hampshire to Guerrero Streets in the Mission District is currently being redesigned. As part of the Cesar Chavez Street Design Plan, widened and planted center median, bicycle lanes, corner bulb-outs, new street lighting, and drought tolerant landscaping would be provided. Construction of this new plan is currently underway.

Potrero Avenue is a north-south roadway that runs between Brannan Street and Cesar Chavez Street. Potrero Avenue operates primarily as a two-way street its entire length and has a center turn lane. In the vicinity of the project site, Potrero Avenue has two travel lanes and a five-foot wide bicycle lane in each direction, sidewalks and on-street parking on both sides of the street, and a bus/taxi-only lane in the northbound direction. North of 17th Street, Potrero Avenue generally has three travel lanes in each direction. The San Francisco General Plan classifies Potrero Avenue as a Major Arterial in the CMP network, a MTS Network street, a Transit Preferential Street (secondary transit street), and a Neighborhood Commercial Street (from 24th Street to 26th Street). Potrero Avenue is part of Citywide Bicycle Route #25 between 17th Street and Cesar Chavez Street. Direct access to southbound US 101 from Potrero Avenue is available through a direct on-ramp.

Pennsylvania Avenue is a north-south roadway that runs between 17th Street and Cesar Chavez Street. In the vicinity of the project site, Pennsylvania Avenue operates as a two-way street with one lane each way and either parallel or perpendicular parking on both sides of the street. On- and off-ramps to and from southbound I-280 are provided from Pennsylvania Avenue.

Third Street is a north-south roadway that runs between Market Street and Bayshore Boulevard. North of King Street, Third Street is a one-way northbound roadway, with four to six travel lanes, of which one lane is reserved for transit vehicles. South of King Street, Third Street generally has two travel lanes in each direction. On-street parking is generally provided along both sides of the street, subject to tow-away regulations. On-street parking on the east side of Third Street between King Street and Market Street and on the west side between Bryant Street and Market Street is subject to tow-away from 7 AM to 9 AM. On-street parking is also prohibited on the east side of Third Street between Townsend Street and Market Street and on the west side between Bryant Street and Market Street (except between Harrison Street and Howard Street) from 3 PM and 7 PM. In the vicinity of the project site, Third Street operates as a two-way street with two lanes in each direction and a center median reserved for light-rail transit. The San Francisco General Plan classifies Third Street as a Major Arterial in the CMP network, a MTS Network street, a Transit Preferential Street (primary transit street), a citywide Pedestrian Network Street, and a Neighborhood Commercial Street.

20th Street is a discontinuous east-west roadway that runs between Douglass Street and east of Illinois Street, close to the San Francisco Bay. In the vicinity of the project site, 20th Street operates as a two-way street with one travel lane in each direction. It has on-street parking and sidewalks on both sides of the street.

22nd Street is a discontinuous east-west roadway that runs between Grand View Avenue and east of Illinois Street, near the San Francisco Bay. In the vicinity of the project site, 22nd Street operates as a two-way street with one travel lane in each direction. It has on-street parking and sidewalks on both sides of the street.

23rd Street is an east-west roadway that runs between Grand View Avenue and east of Illinois Street, near the San Francisco Bay. West of I-280, it is discontinuous between Pennsylvania Avenue and Carolina Street. In the vicinity of the project site, 23rd Street operates as a two-way street with one travel lane in each direction. It has on-street parking on both sides of the street, with discontinuous sidewalks located on one side of the street. 23rd Street is part of the Citywide Bicycle Route #525 between Potrero Avenue and Kansas Street.

25th Street is an east-west roadway that runs between Grand View Avenue and east of Michigan Street, near the San Francisco Bay. It is discontinuous across US 101. In the vicinity of the project site, 25th Street operates as a two-way street with one travel lane in each direction. It has on-street parking on both sides of the street, with discontinuous sidewalks located on one side of the street.

26th Street is a discontinuous east-west roadway that runs from Douglass Street to Third Street. West of I-280, it is discontinuous between Pennsylvania Avenue and Connecticut Street, and between US 101 and Hampshire Street. In the vicinity of the project site, 26th Street operates as a two-way street with one travel lane in each direction. It has on-street parking on both sides of the street, with discontinuous sidewalks located on one side of the street.

Wisconsin Street is a north-south roadway that runs between 16th Street and 26th Street. It is discontinuous between 17th Street and 19th Street. In the vicinity of the project site, Wisconsin Street operates as a two-way street with one travel lane in each direction. It has on-street parallel and perpendicular parking, along with sidewalks on both sides of the street.

Arkansas Street is a north-south roadway that runs between 16th Street and 23rd Street. In the vicinity of the project site, Arkansas Street operates as a two-way street with one travel lane in each direction, and on-street parking as well as sidewalks on both sides of the street.

Connecticut Street is a discontinuous local roadway that exists primarily within the vicinity of the project site. Between 16th Street and 22nd Street, Connecticut Street is a north-south local roadway. Near the project site, it runs as a westbound one-way east-west street between Wisconsin Street and 25th Street before turning into a two-way north-south street between 25th Street and Cesar Chavez Street. It has on-street parking and sidewalks on both sides of the street.

Missouri Street is a north-south roadway that runs between 16th Street and 23rd Street. In the vicinity of the project site, Missouri Street operates as a two-way street with one travel lane in each direction, and on-street parking as well as sidewalks on both sides of the street.

Indiana Street is a north-south roadway that runs between Mariposa Street and Tulare Street. Indiana Street operates as a northbound one-way street between Cesar Chavez Street and 25th Street. At other locations, it operates as a two-way street with one lane each way and on-street parking on both sides of the street. An on-ramp to northbound I-280 can be accessed from Indiana Street. Indiana Street is part of Citywide Bicycle Route #7 between Cesar Chavez Street and Mariposa Street.

Vermont Street is a north-south roadway that runs between Division Street and Cesar Chavez Street. It is discontinuous across US 101. In the vicinity of the project site, Vermont Street operates as a two-way street with one travel lane in each direction. On-street parking and sidewalks are provided on both sides of the street. Vermont Street is part of the Citywide Bicycle Route #525 between 26th Street and Cesar Chavez Street.

Dakota Street is a local north-south roadway within the project site that runs between 23rd Street and 25th Street. Dakota Street operates as a two-way street with one travel lane in each direction. It has on-street parking and sidewalks on both sides of the street.

Texas Street is a north-south roadway that runs between 17th Street and 25th Street. Just north of 22nd Street, Texas Street merges with 22nd Street. South of 22nd Street, it is discontinuous and begins again just north of 25th Street North of 22nd Street, Texas Street operates as a two-way street with one travel lane in each direction, and on-street parking as well as sidewalks on both sides of the street. South of 22nd Street, Texas Street operates as a local two-way street with a narrow travel lane in each direction. No sidewalks are provided along this portion of Texas Street.

Turner Terrace is a north-south roadway that runs southeast of Missouri Street, just south of 22nd Street. It is a cul-de-sac providing local access to housing units along the Potrero Annex. Turner Terrace operates as a two-way street with one travel lane in each direction and on-street parking on both sides of the street. A sidewalk runs along the west side of the street.

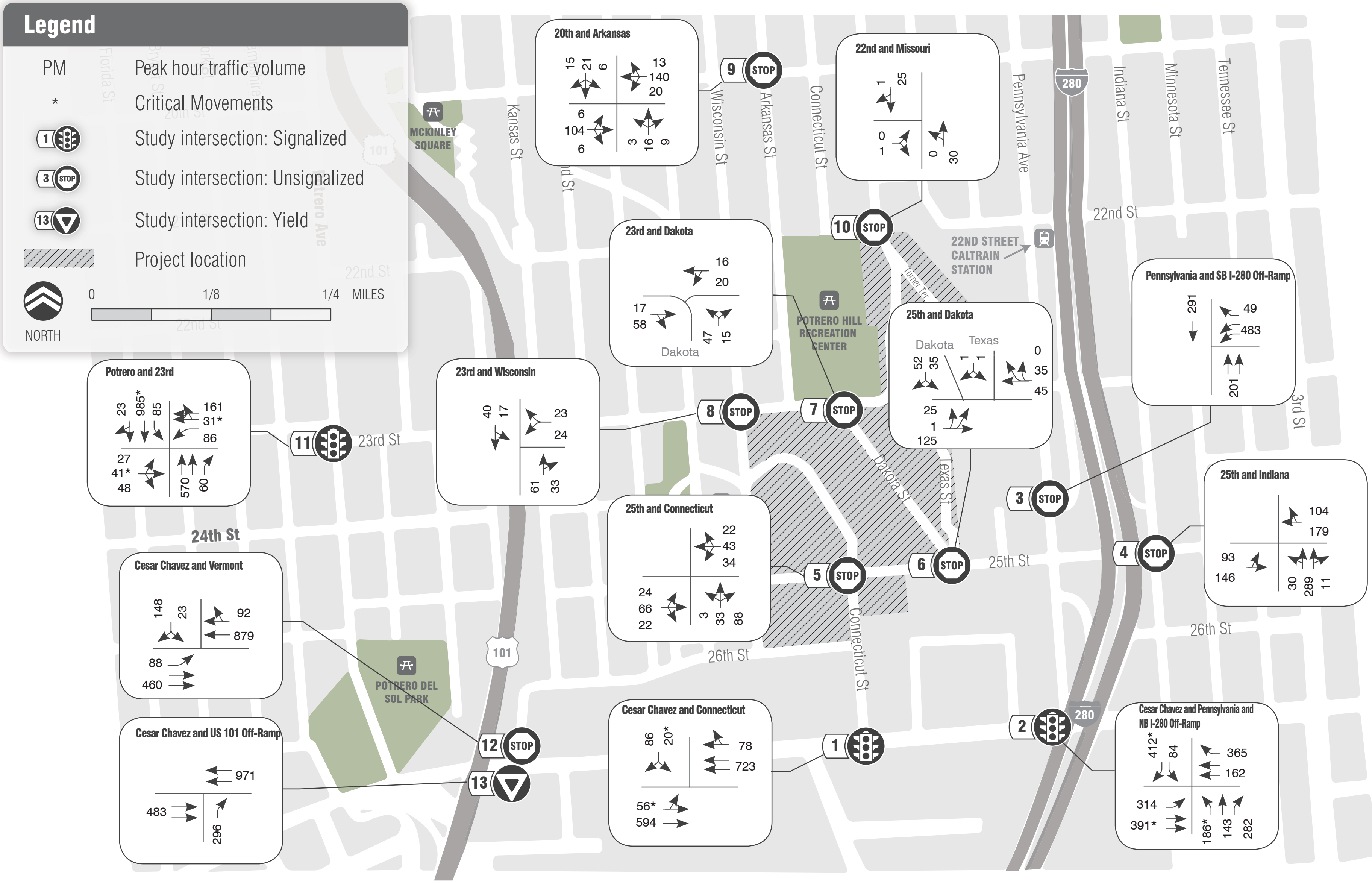
Watchman Way is a north-south roadway that runs southeast of Missouri Street, just south of Turner Terrace and northeast of 23rd Street. It is a cul-de-sac providing local access to housing units along the Potrero Annex. Watchman Way operates as a two-way street with one travel lane in each direction and on-street parking on both sides of the street. A sidewalk runs along the west side of the street.

2.2 Intersection Operating Conditions

Existing intersection operating conditions were evaluated for the peak hour of the weekday PM peak period (from 4:00 PM to 6:00 PM). Intersection turning movement counts at the following study intersections were collected on Tuesday, January 4, 2011:

1. Cesar Chavez Street/Connecticut Street
2. Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp
3. Pennsylvania Avenue/Southbound I-280 Off-Ramp
4. 25th Street/Indiana Street/Northbound I-280 On-Ramp
5. 25th Street/Connecticut Street
6. 25th Street/Dakota Street/Texas Street
7. 23rd Street/Dakota Street
8. 23rd Street/Wisconsin Street
9. 20th Street/Arkansas Street
10. 22nd Street/Missouri Street
11. Potrero Avenue/23rd Street
12. Cesar Chavez Street/Vermont Street
13. Cesar Chavez Street/US 101 Off-Ramp

Traffic counts collected at the study intersections are included in **Appendix E**; the existing weekday PM peak hour turning movement volumes and geometric configurations of the study intersections are presented in **Figure 2-1.**



INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS - EXISTING PM PEAK HOUR

Figure 2-1

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Within the project study area, three intersections (Cesar Chavez Street/Connecticut Street, Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp, and Potrero Avenue/23rd Street) are signalized, five intersections (Pennsylvania Avenue/Southbound I-280 Off-Ramp, 25th Street/Indiana Street/Northbound I-280 On-Ramp, 25th Street/Connecticut Street, 23rd Street/Wisconsin Street, and 20th Street/Arkansas Street) are all-way stop-controlled, and four intersections (25th Street/Dakota Street/Texas Street, 23rd Street/Dakota Street, 22nd Street/Missouri Street, and Cesar Chavez Street/Vermont Street) are one- or two-way stop-controlled. The Cesar Chavez Street/US 101 Off-Ramp intersection is one-way yield-controlled.

The operating characteristics of signalized and unsignalized intersections are described by the concept of level of service (LOS). LOS is a qualitative description of the performance of an intersection based on the average delay per vehicle. Intersection levels of service ranges from LOS A, which indicates free flow or excellent conditions with short delays, to LOS F, which indicates congested or overloaded conditions with extremely long delays.

Both signalized and unsignalized intersections were evaluated using the Highway Capacity Manual 2000 (HCM 2000) methodology. For signalized intersections, this methodology determines the capacity of each lane group approaching the intersection. The LOS is then based on average delay (in seconds per vehicle) for the various movements within the intersection. A combined weighted average delay and LOS values are presented for the intersection. For unsignalized intersections, the average delay and LOS values are calculated by approach (e.g., northbound) and movement (e.g., northbound left-turn), for those movements that are subject to delay.

Appendix D includes the LOS definitions for signalized and unsignalized intersections. LOS A through D are generally considered satisfactory for signalized intersections, and LOS E and F are generally considered unsatisfactory. Unsignalized intersections are considered to operate under unsatisfactory conditions if the worst approach operates at LOS E or F and California Department of Transportation's (Caltrans) traffic signal warrants are met. As such, in the LOS summary tables, the operating conditions of unsignalized intersections are presented for the worst approach.

A summary of the study intersection operations during the existing weekday PM peak hour is provided in **Table 2-1**. During the weekday PM peak hour, all of the study intersections operate under acceptable conditions (LOS D or better). Detailed LOS calculation sheets for the study intersections are included in **Appendix F**.

Table 2-1: Existing Intersection Operations – Weekday PM Peak Hour

#	Intersection	Traffic Control	Existing Conditions	
			Delay	LOS
Signalized				
1	Cesar Chavez Street/Connecticut Street	Signal	11.4	B
2	Cesar Chavez Street/Pennsylvania Avenue/NB I-280 Off-Ramp	Signal	38.4	D
11	Potrero Avenue/23rd Street	Signal	22.2	C
Unsignalized				
3	Pennsylvania Avenue/SB I-280 Off-Ramp	AWSC	15.2 (SB)	C
4	25th Street/Indiana Street/NB I-280 On-Ramp	AWSC	11.4 (EB)	B
5	25th Street/Connecticut Street	AWSC	8.0 (EB)	A
6	25th Street/Dakota Street/Texas Street	TWSC	9.6 (SEB)	A
7	23rd Street/Dakota Street	OWSC	9.2 (NB)	A
8	23rd Street/Wisconsin Street	AWSC	7.5 (SB)	A
9	20th Street/Arkansas Street	AWSC	8.5 (WB)	A
10	22nd Street/Missouri Street	OWSC	8.5 (EB)	A
12	Cesar Chavez Street/Vermont Street	TWSC	25.8 (SB)	D
13	Cesar Chavez Street/US 101 Off-Ramp	OWYC	13.3 (NB)	B

Notes:
Signal – traffic signal; OWSC – one-way stop-control; TWSC – two-way stop-control; AWSC – all-way stop-control; OWYC – one-way yield control.
NB – Northbound, SB – Southbound, EB – Eastbound, WB – Westbound, SEB – Southeast bound
Delay is presented in seconds per vehicle; for unsignalized intersections, delay and LOS values are presented for the worst approach, annotated in parentheses ( ).

2.3 Freeway and Ramp Junction Operating Conditions

Similar to intersections, study freeway segments and ramp junctions were evaluated during the weekday PM peak hour. Traffic volumes were obtained from Caltrans counts for years 2008/2009 at the following study freeway segments:

- Northbound I-280 (south of Cesar Chavez Street Off-Ramp)
- Southbound I-280 (south of Pennsylvania Avenue On-Ramp)
- Northbound I-280 (north of Indiana Street On-Ramp)
- Southbound I-280 (north of Pennsylvania Avenue Off-Ramp)
- Northbound US 101 (north of Cesar Chavez Street On-Ramp)
- Southbound US 101 (north of Cesar Chavez Street Off-Ramp)

In general, the latest available Caltrans counts for year 2010 were observed to be lower than those for years 2008/2009 within the study area. This temporary reduction in volumes is due to the economic recession. Therefore, for conservative purposes 2008/2009 traffic counts were used for analysis.

Similarly, ramp volumes were obtained from the latest available Caltrans counts for years 2008/2009 at the following ramps:

- Northbound I-280 off-ramp to Cesar Chavez Street
- Southbound I-280 off-ramp to Pennsylvania Avenue
- Northbound I-280 on-ramp from Indiana Street
- Southbound I-280 on-ramp from Pennsylvania Avenue

AM peak hour traffic volumes at the following four (4) freeway segments were observed to be either similar or higher than the PM peak hour volumes:

- Northbound I-280 (south of Cesar Chavez Street Off-Ramp)
- Northbound I-280 (north of Indiana Street On-Ramp)
- Northbound US 101 (north of Cesar Chavez Street On-Ramp)
- Southbound US 101 (north of Cesar Chavez Street Off-Ramp)

Therefore, the above four freeway segments were evaluated for traffic impacts during the AM peak period as well.

Similar to intersections, freeway segments and ramp junctions were evaluated based on the HCM 2000 methodology. Diverge and merge analysis was performed at the ramp junctions. HCM 2000 methodology identifies LOS of the freeway segments and ramp junctions using average vehicle density as the measure of effectiveness. Freeway segment LOS values are calculated based on traffic volume, lane geometry, vehicle type, free-flow speed, and other characteristics. Adjustments are typically made to the base free-flow speed to account for lane width, number of lanes, interchange density, and lateral clearance. Using the flow rates and speed data, average vehicle density of the freeway segment is computed.

For ramp junctions, HCM methodology computes demand flow rate using traffic volume and lane geometry data, while applying adjustments to account for the peak hour factor (PHF), heavy vehicle factor, and driver population factor. Flow rates are computed immediately upstream of ramp influence area for both merging and diverging ramps. Determination of LOS is then identified by comparing the computed demand flow rate and capacity of the ramp influence area.

Similar to intersections, LOS values of freeway segments and ramp junctions range from LOS A to F. LOS A to LOS D represent acceptable conditions, while LOS E and F represent unacceptable conditions. LOS definitions for freeway segments and ramp junctions are included in **Appendix D**.

Delay and LOS values for the study freeway segments during the existing weekday AM and PM peak hours are shown in **Table 2-2**. During the weekday AM peak hour, all of the study freeway segments operate at LOS D or better, except for Southbound US 101 (north of the Cesar Chavez Street Off-Ramp). This freeway segment operates at LOS F.

During the existing weekday PM peak hour, all of the study freeway segments operate at LOS D or better, except for Northbound US 101 (north of the Cesar Chavez Street On-Ramp). This freeway segment operates at LOS F.

Table 2-2: Existing Freeway Segment Operations – Weekday AM and PM Peak Hours

#	Study Freeway Segment	Volume[1]	Density	LOS
AM Peak Hour				
1	NB I-280 (south of Cesar Chavez Street Off-Ramp)	5,123	34.4	D
3	NB I-280 (north of Indiana Street On-Ramp)	4,644	22.9	C
5	NB US 101 (north of Cesar Chavez Street On-Ramp)	6,170	30.4	D
6	SB US 101 (north of Cesar Chavez Street Off-Ramp)	8,274	**>45**	**F**
PM Peak Hour				
1	NB I-280 (south of Cesar Chavez Street Off-Ramp)	2,394	16.0	B
2	SB I-280 (south of Pennsylvania Avenue On-Ramp)	4,375	29.3	D
3	NB I-280 (north of Indiana Street On-Ramp)	2,669	13.1	B
4	SB I-280 (north of Pennsylvania Avenue Off-Ramp)	4,877	32.6	D
5	NB US 101 (north of Cesar Chavez Street On-Ramp)	8,426	**>45**	**F**
6	SB US 101 (north of Cesar Chavez Street Off-Ramp)	6,754	33.4	D

Notes:
[1]Source: Latest available Caltrans traffic counts (years 2008/2009).
Density is reported in passenger cars per mile per lane (pc/mi/ln).
Bold indicates unacceptable conditions (LOS E or F).

The study ramp junction operations during the existing weekday PM peak hour are shown in **Table 2-3**. During the existing weekday PM peak hour, all of the study ramp junctions operate under acceptable conditions (LOS D or better).

Table 2-3: Existing Ramp Junction Operations – Weekday PM Peak Hour

#	Study Ramp Junction	Volume[1]		Density	LOS
		Ramp	Freeway		
1	NB I-280/Cesar Chavez Street Off-Ramp	731	2,394	4.8	A
2	SB I-280/Pennsylvania Avenue Off-Ramp	482	4,877	29.4	D
3	NB I-280/Indiana Street On-Ramp	366	2,303	17.0	B
4	SB I-280/Pennsylvania Avenue On-Ramp	770	3,605	26.9	C

Notes:
[1]Source: Latest available Caltrans traffic counts (years 2008/2009).
Density is reported in passenger cars per mile per lane (pc/mi/ln).

Detailed LOS calculation sheets for the study freeway segments and ramp junctions are included in **Appendix F**.

2.4 Transit Network

The project site is located in the southeast portion of San Francisco and is served by both local and regional public transit. Muni provides local transit service in the area via diesel buses and light rail vehicles. Service to and from the East Bay is provided by Bay Area Rapid Transit (BART), Alameda-Contra Costa Transit (AC Transit), and ferries; service to and from the South Bay/Peninsula is provided by BART, San Mateo Transit District (SamTrans), and Caltrain; service to and from the North Bay is provided by Golden Gate Transit buses and ferries.

At or near the project site there are approximately 15 Muni bus stops located along Arkansas Street, Wisconsin Street, 20th Street, 23rd Street, Dakota Street, 25th Street, 26th Street, and Connecticut Street as well as two Muni light rail stations located at the Third Street/20th Street and Third Street/23rd Street intersections (shown in **Figure 2-2**). Within the project site, there are 10 bus stops serving the 10 Townsend, 19 Polk, and 48 Quintara-24th Street routes. These bus stops are located at the following locations:

- Northbound Wisconsin Street – south of 25th Street
- Northbound Wisconsin Street – north of 26th Street
- Southbound Wisconsin Street – south of Coral Street
- Southbound Connecticut Street – north of 26th Street
- Northbound Connecticut Street – between 25th and Wisconsin Streets
- Westbound 25th Street – east of Connecticut Street
- Eastbound 25th Street – west of Dakota Street
- Westbound 23rd Street – east of Wisconsin Street
- Dakota Street – between 25th and 23rd Streets
- Dakota Street – south of 23rd Street

All bus stops are either pole-type bus stops with or without on-road signage or bus stops marked only by paint on the roadway.

2.4.1 Local Transit Providers

Muni provides transit service within the City and County of San Francisco, including bus (diesel motor coaches and electric trolley), light rail (Metro), cable car and electric streetcar lines. The motor coach fleet used by Muni is comprised of 30-foot small, 40-foot standard, and 60-foot articulated vehicles.

Muni operates four bus lines (Routes 10, 19, 22, and 48) and one light rail line (Line T) that directly serve the project site and its immediate vicinity. The majority of these routes pass by the project site. Routes 10, 19, and 48 are operated by Motor Coach Standard (MCS) vehicles, while the 22 Fillmore is operated by Trolley Coach Standard (TCS) vehicles.

The existing transit network in the vicinity of the project site is illustrated in **Figure 2-2**. Muni routes that travel along US 101 and I-280 are shown in the figure, but were omitted from analysis as these lines do not directly serve the project study area.

EXISTING TRANSIT NETWORK

Figure 2-2

2.4.2 Existing Muni Corridor Analysis

The weekday service frequencies and the nearest stop locations for the Muni lines that serve the project site are shown in **Table 2-4.** Service frequency and hours of operation reflect the latest changes in Muni service that were implemented in September 2010.

Table 2-4: Nearby Muni Service – Weekday Conditions

Route	Vehicle Type[3]	Hours of Operation	Minimum Frequency (per hour)[2]			Nearest Stop
			AM	MID	PM	
10 Townsend	MCS	5:45 AM – 7:15 PM	20	20	20	23rd/Dakota[1]
19 Polk	MCS	5:15 AM – 12:45 AM	15	15	15	25th/Connecticut[1]
22 Fillmore	TCS	24 hour service	9	10	8	18th/Connecticut
48 Quintara-24th Street	MCS	6:15 AM – 11:30 PM	10	15	12	25th/Connecticut[1]
T Third St	LRV-1	4:45 AM – 12:15 AM	10	10	9	23rd/Third

Source: San Francisco Municipal Transportation Agency (SFMTA)
Notes:
[1] Due to the size of the project site, multiple transit stops for these routes are located in the vicinity of the project site. The nearest stop indicated is the most central transit stop relative to the project site location.
[2] Weekday time periods: AM (7:00 AM – 9:00 AM), Midday (9:00 AM – 4:00 PM), and PM (4:00 PM – 6:00 PM).
[3] TCS – Trolley Coach Standard; MCS – Motor Coach Standard; LRV- Light Rail Vehicle (1 or 2 cars).
Muni routes that run on Potrero Avenue and US 101 were not included as part of this analysis as they do not have stops within the vicinity of the project site.

Capacity utilization relates the number of passengers per transit vehicle to the design capacity of the vehicle. The capacity per vehicle includes both seated and standing capacity, where standing capacity is somewhere between 30 to 80 percent of seated capacity (depending upon the specific transit vehicle configuration). For example, the capacity of a light rail is 119 passengers, the capacity of historic streetcar is 70 passengers, and the capacity of a standard bus is 63 passengers. Muni's standard for capacity utilization is 85 percent.

Based on the most recent (2007) Muni ridership data from the Transit Effectiveness Project (TEP) along with the 2011 Automatic Passenger Counter (APC) data, capacity utilization was determined for each route during the weekday PM peak hour. For the 10 Townsend, 19 Polk, and 48 Quintara-24th Street lines, 2011 APC data was used; whereas, for the 22 Fillmore and T Third Street lines 2007 TEP data was used to conduct line-by-line analysis.

The capacity utilization at the maximum load point (MLP) for the nearby Muni lines is presented in **Table 2-5**. The maximum load point for each route is not necessarily the nearest or closest stop to the project site, but rather the stop along the route with the highest ridership, regardless of the location of the stop. For example, the inbound 10 Townsend line has its MLP at the Sansome/Filbert stop, located in downtown San Francisco. As shown in **Table 2-5**, the inbound T Third Street Muni line has a load during the weekday PM peak hour at the Embarcadero/Folsom stop that exceeds Muni's standard of 85 percent capacity utilization. In addition, the 10 Townsend route exceeds the 85 percent utilization standard in both the directions at MLPs located at the Sansome/Filbert stop for inbound travel and Sansome/California for outbound travel. All other study Muni lines operate with a capacity utilization of less than 85 percent.

Table 2-5: Muni Route Analysis – Existing Weekday PM Peak Hour

Route	Direction of Travel	Ridership[3]	Capacity Utilization	Maximum Load Point (MLP)
10 Townsend[1]	Inbound	186	**98%**	Sansome/Filbert
	Outbound	171	**90%**	Sansome/California
19 Polk[1]	Inbound	172	68%	7th/Howard
	Outbound	124	49%	Polk/Sutter
22 Fillmore[2]	Inbound	328	58%	16th/Folsom
	Outbound	327	58%	Fillmore/Hayes
48 Quintara-24th Street[1]	Inbound	175	46%	24th/Folsom
	Outbound	180	48%	24th/Mission
T Third Street[2]	Inbound	656	**92%**	Embarcadero/Folsom
	Outbound	554	78%	Van Ness Station

Source: SFMTA TEP Data – 2007, SFMTA APC Data – 2011, CDM Smith – January 2012
Notes:
[1] Data for the 10 Townsend, 19 Polk, and 48 Quintara-24th Street lines include SFMTA APC data from 2011.
[2] Data included most recent TEP data (SFMTA Fall 2006 – Spring 2007 TEP Monitoring data).
[3] Ridership for peak hour of PM peak period; obtained from Muni TEP data. Ridership includes total riders at Maximum Load Point (MLP) of route during the weekday PM peak hour.
Bold indicates load exceeding Muni's capacity utilization standard.

Existing Muni Screenline Analysis

Muni service capacity is also defined by a set of screenlines surrounding the greater downtown San Francisco area. Muni screenlines defined in the San Francisco Planning Department's *2002 Transportation Impact Analysis Guidelines for Environmental Review* (SF Guidelines) were used for this analysis. These screenlines are located near the maximum load points of Muni lines crossing the screenlines. Each screenline contains several transit corridors where the majority of transit travel occurs. Four screenlines (Northeast, Northwest, Southeast, and Southwest) are roughly located around the peak travel points going to and from downtown San Francisco and relatively define travel to and from Superdistrict 1 to Superdistricts 2, 3, and 4. The map showing locations of Muni screenlines is included in **Appendix H**. Muni screenline analysis was conducted for the PM peak period using the ridership along peak direction of travel, which is the outbound direction from downtown San Francisco during the PM peak period. For purposes of this study, only the Southeast screenline was analyzed, since it is the only screenline that is crossed by the Muni routes serving the project site. The results of the Muni screenline analysis during the existing weekday PM peak hour are provided in **Table 2-6**. During the existing PM peak hour, the Southeast screenline in the outbound direction operates with a capacity utilization of 66 percent, below Muni's 85 percent capacity utilization standard.

Table 2-6: Muni Screenline Analysis – Existing Weekday PM Peak Hour

Screenline/Corridor	Ridership	Peak Hour Capacity	Capacity Utilization
Southeast Screenline			
Third Street Corridor	554	714	78%
Mission Street Corridor	1,254	2,350	53%
San Bruno/Bayshore Corridor	1,671	2,256	74%
All Other Lines	1,189	1,708	70%
Total	**4,668**	**7,028**	**66%**

Source: SFMTA TEP – 2008, SF Planning Department – 2009, CDM Smith – June 2011.

2.4.3 Muni Transit Effectiveness Project (TEP) Recommendations

The Transit Effectiveness Project (TEP) was a review of the Muni public transportation system conducted by the San Francisco Municipal Transportation Agency (SFMTA) in collaboration with the City Controller's Office to improve reliability, reduce travel times, and provide for improved Muni service based on increasing frequencies and updating bus routes and rail lines to match with changing travel patterns throughout San Francisco, via proposed recommendations for Muni. SFMTA recently published a TEP Implementation Strategy in April 2011. The TEP Improvement Strategy anticipates that many of the service improvements would be implemented sometime between the end of Fiscal Year (FY) 2013 and FY 2015. The remainder of service improvements would occur in FY 2016.[2] Within the project study area, the following changes were recommended by the TEP[3]:

- The one-car K Ingleside would continue to be through-routed with the T Third Street.
- The 10 Townsend would be renamed to become the 10 Sansome. Short-line service would operate between Van Ness Avenue and Market Street to provide additional capacity, replacing the to-be-discontinued 12 Pacific service. Existing service during peak periods within the project study area would be reduced from 10 minute headways to 15 minute headways.
- The 19 Polk would be rerouted to operate between Van Ness Avenue/North Point and San Francisco General Hospital, modifying existing routing in the Civic Center area. Segments south of 24th Street would be replaced by a revised 48 Quintara-24th Street.
- The 22 Fillmore would be rerouted to continue along 16th Street to Third Street, creating new connections to Mission Bay. The segment on 17th Street, Connecticut Street, and 18th Street would be replaced by a revised 33 Stanyan and more frequent peak service would be provided to reduce crowding (service every six minutes during the weekday PM peak period).
- Service on the 48 Quintara-24th Street would run all day from 48th Avenue to the Navy Yard, connecting to Hunters Point, currently served by the 19 Polk, complemented by a new 58 24th Street service connecting Diamond Street with the 22nd Street Caltrain station. Segments along Douglass Street and Hoffman Street would be served by a revised 35 Eureka. Existing segments in Potrero Hill would be supplemented by the new 58 24th Street line, while service along Arkansas Street, 20th Street, and Texas Street would be eliminated.

[2] SFMTA, Draft TEP Implementation Strategy, April 5, 2011, page 3-5.<Delete space – would let me do it>

[3] SFMTA TEP Staff Recommendations, http://www.sfmta.com/cms/mtep/TEPRecommendationsbyRoute.htm, January 2009.

2.4.4 Regional Transit Providers

BART operates regional rail transit service connecting the East Bay (from Pittsburg/Bay Point, Richmond, Dublin/Pleasanton and Fremont) and San Mateo County with San Francisco. Within San Francisco, BART operates along Market and Mission Streets. The nearest BART station is the 24th Street/Mission Station located about 1.3 miles west of the project site.

Caltrain provides rail passenger service on the Peninsula between Gilroy and San Francisco. The San Francisco terminal is located at Fourth and Townsend streets, in the South of Market area. The closest Caltrain station is the 22nd Street Station, located approximately 0.3 miles northeast of the project site. This station is served by local, limited, and "baby bullet" express train service. Currently, Caltrain operates 88 trains each weekday, with a combination of express and local service.

SamTrans provides bus service between San Mateo County and San Francisco. It operates four bus lines that serve San Francisco, including one express route. In general, SamTrans service to downtown San Francisco operates along Mission Street and Potrero Avenue. The nearest SamTrans terminal is located at the Temporary Transbay Terminal located on Howard Street between Main and Beale Streets, approximately 2.5 miles north of the project site.

AC Transit is the primary bus operator for the East Bay, including Alameda and western Contra Costa Counties. AC Transit operates 27 routes between the East Bay and San Francisco, all of which terminate at the Temporary Transbay Terminal, located 2.5 miles north of the project site.

Golden Gate Transit (GGT) is operated by the Golden Gate Bridge Highway and Transportation District and provides transit service between the North Bay (Marin and Sonoma counties) and San Francisco. GGT operates 23 commuter bus routes, and five basic bus routes. The nearest stops are located on Market Street at 7th and 8th Streets, about two miles north of the project site. Golden Gate Transit also operates ferry service between the North Bay and San Francisco. During the morning and evening commute periods, ferries run between Larkspur and San Francisco, and between Sausalito and San Francisco. The San Francisco terminal is located at the Ferry Building, about 2.8 miles north of the project site.

The existing transit network in the vicinity of the project site is illustrated in **Figure 2-2**. Regional routes that travel along US 101 and I-280 are shown in the figure, but were omitted from analysis as these lines do not directly serve the project study area.

2.4.5 Existing Regional Transit Screenline Analysis

A corridor analysis was conducted for regional transit providers that operate in the vicinity of the project site. Regional transit screenlines defined in the SF Guidelines were used for this analysis. For the East Bay, the screenline is defined by the San Francisco Bay and the Bay Bridge. This screenline accommodates AC Transit, BART, and the ferry service from Alameda and Contra Costa Counties. The North Bay screenline is defined by the San Francisco Bay as well as the Golden Gate Bridge. Golden Gate Transit buses and ferries provide service to and from the North Bay. The South Bay screenline is defined by the San Francisco and San Mateo County border. Transit services serving the South Bay include BART, Caltrain, and SamTrans.

All regional transit providers have a 100 percent capacity utilization standard.

Based on ridership data obtained from the San Francisco Planning Department, capacity utilization was determined for each regional transit screenline during the weekday PM peak hour and presented in **Table 2-7**. During the existing PM peak hour, no regional transit provider exceeds its capacity utilization standard.

Table 2-7: Regional Transit Screenline Analysis – Existing Weekday PM Peak Hour

Region	Regional Transit Operator	Ridership	Peak Hour Capacity	Capacity Utilization
East Bay	BART	20,067	24,150	83%
	AC Transit	2,517	4,193	60%
	Ferries	702	1,519	46%
	Subtotal	*23,286*	*29,862*	*78%*
North Bay	GGT Buses	1,397	2,205	63%
	GGT Ferries	906	1,700	53%
	Subtotal	*2,303*	*3,905*	*59%*
South Bay	BART	10,202	16,800	61%
	Caltrain	1,986	3,250	61%
	SamTrans	575	940	61%
	Subtotal	*12,763*	*20,990*	*61*
Total		**38,352**	**54,757**	**70%**

Source: SF Planning Department – 2009, 2012; CDM Smith – 2012

2.5 Pedestrian Conditions

In the vicinity of the study area, five to six-foot-wide sidewalks are available along most roadways. Sidewalks are typically provided along both sides of the street, except in areas where topography constrains sidewalk availability to one side of the street, such as along the north side of 23rd Street between Arkansas Street and Dakota Street, as well as the south side of 25th Street between Connecticut Street and Mississippi Street. On some streets where perpendicular parking is the main type of off-street parking, directly adjacent to the street and with wide curb cuts, such as at Dakota Street and Connecticut Street, vehicles must cross the sidewalk to access this perpendicular parking.

About half of the crosswalks within the study area are striped and/or marked. At the Connecticut Street/Wisconsin Street, 25th Street/Wisconsin Street, 25th Street/Connecticut Street, 23rd Street/Wisconsin Street, and 23rd Street/Dakota Street intersections, crosswalks are marked for pedestrian crossings. Crosswalks are not marked at the Turner Terrace/Missouri Street, 22nd Street/Missouri Street, 23rd Street/Arkansas Street, 25th Street/Dakota Street/Texas Street, 26th Street/Wisconsin Street, and 26th Street/Connecticut Street intersections. In addition, there is one pedestrian stairway along 23rd Street at Wisconsin Street.

In general, pedestrian activity within and around the project site under Existing Conditions was observed to be low.

2.6 Bicycle Conditions

The bicycle route network in the project study area is shown in **Figure 2-3**. Bikeways are typically classified as Class I, Class II, or Class III facilities.[4] Class I bikeways are bike paths with exclusive right-of-way for use by bicyclists or pedestrians. Class II bikeways are bike lanes striped with the paved areas of roadways and established for preferential use of bicycles, while Class III bikeways are signed bike routes that allow bicycles to share streets with vehicles.

There are four primary bicycle routes in the vicinity of the project site, including the following:

- Route #25 on Potrero Avenue between 20th Street and 25th Street (Class II facility)
- Route #525 on 23rd Street between Potrero Avenue and Kansas Street, and on Kansas Street between Potrero Avenue and Cesar Chavez Street (Class III facility)
- Route #60 on Cesar Chavez Street between Vermont Street and 3rd Street (Class III facility)
- Route #7 on Indiana Street between 20th Street and Cesar Chavez Street (Class III facility)

Route #25 Class II bicycle facility along Potrero Avenue is a continuous, striped, five-foot-wide bicycle lane in both the northbound and southbound directions; however, at intersections along Potrero Avenue, the exclusive bicycle lanes become a shared-use facility for vehicles and bicyclists approximately 200 feet prior to the intersections. Route #525 is a Class III wide curb lane bicycle route along 23rd Street and Kansas Street, and is a shared-use facility with no specific bicycle lane or sharrow treatment (a painted shared-use arrow). Route #60 is a Class III bicycle route along Cesar Chavez Street. It does not include any demarcations signifying a designated bicycle route and is also treated as a shared-use facility. Route #7 is a Class III wide curb lane bicycle route along Indiana Street, and is also a shared-use facility with no specific bicycle lane or sharrow treatment.

Current access to the project site by bicycle is minimal. Portions of 23rd Street, 25th Street, Dakota Street, and Connecticut Street are the flattest and most accessible streets for bicycles at the project site. Given the topography of the project site, bicycle activity in its vicinity is low. The aforementioned bicycle routes provide connections to other neighborhoods in San Francisco. In addition, no bicycle parking spaces are available on-site currently.

According to SFMTA, none of the study intersections experienced a significant amount of bicycle injury collisions from 2000 to 2008.[5]

[4] Bicycle facilities are defined by the State of California in the California Streets and Highway Code Section, 8902.4.

[5] *2008 San Francisco Collision Report,* SFMTA Planning Division, December 18, 2009.

EXISTING BICYCLE NETWORK
Figure 2-3

The San Francisco Bicycle Plan, certified in June 2009 by the San Francisco Planning Department, began implementing projects around the city beginning in summer 2010. As part of this plan, a total of 84 bicycle-related (60 near-term and 24 long-term) street projects were proposed to be implemented to encourage bicycle ridership and improve bicycle safety throughout the City of San Francisco.[6] Within the project study area, several bicycle-related projects are expected to be implemented as part of the Bicycle Plan. **Table 2-8** shows these anticipated San Francisco Bicycle Plan projects.

All anticipated San Francisco Bicycle Plan projects in the vicinity of the project site are expected to improve existing bicycle routes and would not directly impact the project site. In relation to the project study area, no new bicycle routes, lanes, or improvements are expected to directly affect the actual project site. This is in large part due to the natural topography of the study area.

Table 2-8: San Francisco Bicycle Plan Projects near the Project Site

Project Number[1]	Bicycle Project	Bicycle Route Number	Range of Implementation	Description of Project
5-1	23rd Street Bicycle Lanes, Kansas Street to Potrero Avenue	#525	Near-Term	Conversion of existing wide curb lane bicycle route to sharrows and/or full bicycle lanes in both directions
5-5	Cesar Chavez Street Bicycle Lanes, I-280 to US 101 Freeways	#60	Near-Term	Conversion of existing shared-lane bicycle route to sharrows and/or full bicycle lanes in both directions
5-8	Kansas Street Bicycle Lanes, 23rd Street to 26th Street	#525	Near-Term	Conversion of existing wide curb lane bicycle route to sharrows and/or full bicycle lanes in both directions

Source: SFMTA – 2009, CDM Smith – December 2011
Near-term improvement project descriptions accessed at http://www.sfmta.com/cms/bproj/Bicycle_Plan_Projects_000.htm
Note:
[1] The first number in the project number indicates the cluster number, an assigned number, to determine the closest geographic bicycle projects that would potentially have transportation impacts associated with implementation.

2.7 Retail and Freight Loading Conditions

The existing project site does not have any retail land uses. Therefore, under Existing Conditions, freight loading operations do not occur within the project site, nor does the project site have any on- or off-street loading spaces.

2.8 Parking Conditions

Parking Study Area

The existing on- and off-street parking conditions were examined within and surrounding the project site, bounded by 20th Street to the north, 26th Street to the south, Carolina Street to the west, and Texas Street to the east. Parking inventory and occupancy data were collected for the parking study area located outside of the project site. Since existing on-site parking facilities would be removed to

[6] San Francisco Bicycle Plan, SFMTA Planning Division, June 26, 2009.

construct new parking facilities and a new street pattern would be developed as part of this redevelopment project, only general observations of parking within the existing project site were conducted. The parking study area is exhibited in **Figure 2-4**.

Data Collection Summary

The parking supply and hourly occupancy rates of on-street and off-street parking facilities within the parking study area were determined for the PM peak period (between 4:00 PM and 6:00 PM) of a typical weekday (January 4, 2011) using field surveys.

Study Area Parking Regulations

The majority of the parking study area is comprised of unmetered, no-time limit on-street parking, with street cleaning restrictions. Due to the nature of the terrain of the study area, many blocks require perpendicular street parking. A small portion of the parking study area, bounded by 20th Street to the north, Texas Street to the east, 22nd Street to the south, and Connecticut Street to the west, lies within the "X" Residential Parking Permit (RPP) area. However, this portion of the study area does not lie within the actual project site. Vehicles displaying a RPP within this area are not subject to posted parking time limits. Current restrictions include a two-hour limit parking for vehicles not displaying a RPP sticker; these restrictions are enforced Monday through Friday, from 8:00 AM to 6:00 PM. All vehicles, including those with RPP stickers, are subject to current street cleaning restrictions.

Field observations indicate that there are approximately 1,301 on-street parking spaces and 64 off-street parking spaces within the study area, not including parking spaces within the project site itself.

2.8.1 On-Street Parking Conditions

The study area on-street parking occupancy rate was 50 percent during the evening peak period (4:00 PM to 6:00 PM). Since only a small portion of the study area lies within the "X" RPP, no observations were made regarding the number of vehicles parked in that area with RPP stickers.

On-street parking supply and calculated occupancy rates are provided in **Table 2-9**.

2.8.2 Off-Street Parking Conditions

The study area's off-street parking occupancy rate was approximately 80 percent during the evening peak period (4:00 PM to 6:00 PM). Even though off-street parking occupancy rate is high, current parking conditions within the project study area in general are sufficient due to the availability of ample on-street parking.

No public off-street parking facility is located within the parking study area. The closest public parking facility in the vicinity of the project site is the San Francisco General Hospital parking garage, located approximately four blocks west of the project site at 23rd Street and Utah Street.

PARKING STUDY AREA
Figure 2-4

Table 2-9: Existing Study Area On-Street Parking Supply and Occupancy – Weekday PM Peak Period

Block Face	Street	Location		Parking Supply		Parking Occupancy	
		From	To	On-Street	Off-Street	On-Street	Off-Street
N	20th St.	Carolina St.	Wisconsin St.	8	0	25%	-
N	20th St.	Wisconsin St.	Arkansas St.	10	0	30%	-
N	20th St.	Arkansas St.	Connecticut St.	10	0	80%	-
N	20th St.	Connecticut St.	Missouri St.	10	0	70%	-
N	20th St.	Missouri St.	Texas St.	14	0	29%	-
N	22nd St.	Carolina St.	Wisconsin St.	8	0	38%	-
N	22nd St.	east of Wisconsin St.		0	0	0	-
N	23rd St.	Carolina St.	Wisconsin St.	5	0	60%	-
N	Sierra St.	Missouri St.	Texas St.	10	0	30%	-
N	25th St.	Connecticut St.	Texas St.	1	12	100%	92%
N	26th St.	Wisconsin St.	Connecticut St.	16	20	69%	90%
N	Coral Rd.	Carolina St.	Wisconsin St.	12	0	25%	-
N	Caire Terrace	-		0	5	-	60%
E	Carolina St.	Caire Terrace	Coral Rd.	0	0	-	-
E	Carolina St.	Coral Rd.	Coral Rd.	12	0	92%	-
E	Carolina St.	Coral Rd.	23rd St.	7	0	43%	-
E	Carolina St.	23rd St.	22nd St.	25	0	68%	-
E	Carolina St.	22nd St.	20th St.	60	0	50%	-
E	Wisconsin St.	26th St.	Blaire Terrace	3	0	33%	-
E	Wisconsin St.	Blaire Terrace	25th St.	18	0	39%	-
E	Wisconsin St.	25th St.	Coral Rd.	6	0	0%	-
E	Wisconsin St.	Coral Rd.	Carolina St.	48	0	33%	-
E	Wisconsin St.	Carolina St.	23rd St.	12	0	67%	-
E	Wisconsin St.	23rd St.	Madera St.	12	0	33%	-
E	Wisconsin St.	Madera St.	22nd St.	18	0	67%	-
E	Wisconsin St.	22nd St.	20th St.	32	0	47%	-
E	Arkansas St.	22nd St.	20th St.	70	0	43%	-
E	Connecticut St.	26th St.	25th St.	20	0	20%	-
E	Connecticut St.	22nd St.	20th St.	75	0	57%	-
E	Missouri St.	Turner Terrace	Sierra St.	14	0	21%	-
E	Missouri St.	Sierra St.	20th St.	40	0	63%	-
E	Texas St.	Sierra St.	20th St.	80	0	45%	-
S	20th St.	Carolina St.	Wisconsin St.	10	0	20%	-
S	20th St.	Wisconsin St.	Arkansas St.	10	0	60%	-
S	20th St.	Arkansas St.	Connecticut St.	10	0	90%	-
S	20th St.	Connecticut St.	Missouri St.	10	0	70%	-
S	20th St.	Missouri St.	Texas St.	10	0	30%	-
S	22nd St	Carolina St.	Wisconsin St.	10	0	30%	-
S	22nd St.	east of Wisconsin St.		0	0	0	-
S	23rd St.	Carolina St.	Wisconsin St.	5	7	20%	100%
S	Sierra St.	Missouri St.	Texas St.	10	0	70%	-
S	25th St.	Connecticut St.	Texas St.	5	0	60%	-
S	26th St.	Wisconsin St.	Connecticut St.	30	0	23%	-
S	Coral Rd.	Carolina St.	Wisconsin St.	12	0	0%	-
S	Caire Terrace	-		0	12	-	58%
W	Carolina St.	Caire Terrace	Coral Rd.	17	0	12%	-
W	Carolina St.	Coral Rd.	Coral Rd.	12	0	83%	-

Table 2-9: Existing Study Area On-Street Parking Supply and Occupancy – Weekday PM Peak Period

Block Face	Street	Location		Parking Supply		Parking Occupancy	
		From	To	On-Street	Off-Street	On-Street	Off-Street
W	Carolina St.	Coral Rd.	23rd St.	0	6	-	100%
W	Carolina St.	23rd St.	22nd St.	36	0	53%	-
W	Carolina St.	22nd St.	20th St.	60	0	65%	-
W	Wisconsin St.	26th St.	Blaire Terrace	2	0	100%	-
W	Wisconsin St.	Blaire Terrace	25th St.	10	0	0%	-
W	Wisconsin St.	25th St.	Coral Rd.	4	0	0%	-
W	Wisconsin St.	Coral Rd.	Carolina St.	10	0	80%	-
W	Wisconsin St.	Carolina St.	23rd St.	12	0	58%	-
W	Wisconsin St.	23rd St.	Madera St.	25	0	48%	-
W	Wisconsin St.	Madera St.	22nd St.	48	0	50%	-
W	Wisconsin St.	22nd St.	20th St.	62	0	85%	-
W	Arkansas St.	22nd St.	20th St.	32	0	53%	-
W	Connecticut St.	26th St.	25th St.	37	0	65%	-
W	Connecticut St.	22nd St.	20th St.	75	0	60%	-
W	Missouri St.	Turner Terrace	Sierra St.	1	2	0%	0%
W	Missouri St.	Sierra St.	20th St.	20	0	50%	-
W	Texas St.	Sierra St.	20th St.	60	0	23%	-
Total				**1,301**	**64**	**50%**	**81%**

2.8.3 On-Site Parking Conditions

The Proposed Project would substantially reconfigure and alter the project site's layout. Subsequently, all on-street parking, including on-site perpendicular parking, would be demolished. Construction of new parking facilities would include both redesigned and new on-street as well as off-street parking facilities as specified by the Project Sponsor. Therefore, no existing parking counts were conducted for the study area. However, details provided by the Project Sponsor indicate that approximately 256 off-street and approximately 100 on-street parking spaces are located within the existing project site boundaries.

Approximate parking occupancy rates for the actual project site are shown in **Table 2-10.** These were developed based on general observations, not by actual counts. Overall, parking occupancy within the project site was observed to be less than 50 percent for both on- and off-street facilities during the weekday PM peak period.

Table 2-10: Existing Project Site Parking Occupancy – Weekday PM Peak Period

Block Face	Street	Location		Parking Occupancy	
		From	To	On-Street	Off-Street
E	Missouri St.	22nd St.	Turner Terrace	10%	0%
E	Missouri St.	Turner Terrace	Watchman Way	50%	80%
E	Missouri St.	Watchman Way	Dakota St.	50%	80%
E	Texas St.	north of Dakota St.		90%	0%
E	Connecticut St.	25th St.	Wisconsin St.	25%	80%
N	Turner Terrace	east of Missouri St.		80%	80%
N	Watchman Way	east of Missouri St.		0%	90%
N	23rd St.	Wisconsin St.	Arkansas St.	0%	0%
N	23rd St.	Arkansas St.	Missouri St.	10%	0%
N	Dakota St.	Missouri St.	Texas St.	60%	80%
W	Missouri St.	22nd St.	Turner Terrace	0%	0%
W	Missouri St.	Turner Terrace	Watchman Way	50%	0%
W	Missouri St.	Watchman Way	Dakota St.	50%	0%
W	Texas St.	north of Dakota St.		0%	0%
W	Connecticut St.	25th St.	Wisconsin St.	50%	75%
S	Turner Terrace	east of Missouri St.		80%	0%
S	Watchman Way	east of Missouri St.		0%	80%
S	23rd St.	Wisconsin St.	Arkansas St.	0%	0%
S	23rd St.	Arkansas St.	Missouri St.	0%	0%
S	Dakota St.	Missouri St.	Texas St.	60%	80%
Average				**<50%**	**<50%**

Chapter 3: Travel Demand Analysis

Travel demand refers to the new vehicle, transit, pedestrian and other trips that would be generated by the Proposed Project and other project alternatives. This chapter details an estimate of the trips that would be generated by the Proposed Project and Alternative 1, while accounting for trip credits due to the removal of the existing housing units from the project site. In addition, the Proposed Project's parking demand, number of delivery/service vehicle trips, and loading space demand are also discussed in this chapter. As mentioned in Chapter 1, the Proposed Project consists of 1,600 affordable and market-rate housing units, 100 senior housing units, along with 15,000 square feet of neighborhood retail shops, and a 35,000 square foot community center; while, Alternative 1 would consist of 1,200 affordable and market-rate housing units, 80 senior housing units, along with 15,000 square feet of neighborhood retail shops, and a 25,000 square foot community center. Alternative 2 would only reconstruct the existing land uses available at the project site and would not result in any net new trips; therefore, travel demand estimation for this alternative is not discussed.

The travel demand, parking demand, and loading demand estimates are based on information contained in the 2002 San Francisco Planning Department's Transportation Impact Analysis Guidelines (SF Guidelines); Institute of Transportation Engineers (ITE) Trip Generation Manual, 8th Edition; ITE Parking Generation Manual, 4th Edition; and square footage and housing unit information provided by the Project Sponsor. **Appendix I** includes the travel demand calculations and **Appendix J** includes the parking and loading demand calculations for the Proposed Project.

3.1 Trip Generation

The person-trip generation for the Proposed Project and Alternative 1 includes trips made by residents, visitors, and employees, and is based upon daily and PM peak hour trip generation rates obtained from SF Guidelines and the ITE Trip Generation Manual. Based on SF Guidelines, residential trip generation rates were determined to be 7.5 daily person trips per unit for 1 bedroom or studio residences, 10 daily person trips per unit for 2 or more bedroom housing units, 5 daily person trips per unit for senior housing residences, and 150 daily person trips per 1,000 square feet of retail development. Pursuant to SF Guidelines, residential trip generation rates were assumed to be the same for both market-rate and affordable housing units. For the proposed community center, since a similar land use is not available in the SF Guidelines, trip generation rates of 1.45 PM peak hour person trips per 1,000 square feet and 22.8 daily person trips per 1,000 square feet were obtained from the ITE Trip Generation Manual, 8th Edition, Land Use #495. Parks proposed within the project site would not generate trips, since they would mainly serve as open space for surrounding land uses. The Proposed Project is primarily a residential development, with small portions of retail and community center developments, which would result in negligible internal trips. Therefore, to be conservative, no internal trip capture was assumed as part of this analysis.

The existing project site does not have specific driveways for vehicles to access each block; therefore, traffic counts to estimate the trip credits for the existing housing units was not collected. Instead, trip credits for the existing housing units were estimated using the trip generation rates provided in SF

Guidelines. To estimate trip credits of existing housing units, all housing units are assumed to be at full occupancy[7].

The weekday daily and PM peak hour trip generation rates used for the Proposed Project and Alternative 1 are shown in **Table 3-1**.

Table 3-1: Weekday Trip Generation Rates

Land Use	PM Peak Hour Trip Rate	PM Peak Hour Percent of Daily	Daily Trip Rate
Residential – 1 Bedroom/Studio[1]	1.30 person-trips per unit	17.3 percent of daily rate	7.5 person-trips per unit
Residential – 2 Bedrooms or more[1]	1.73 person-trips per unit	17.3 percent of daily rate	10.0 person-trips per unit
Residential – Senior Housing[1]	0.30 person-trips per unit	6.0 percent of daily rate	5.0 person-trips per unit
General Retail[1]	13.5 person-trips per 1,000 sf	9.0 percent of daily rate	150 person-trips per 1,000 sf
Community Center[2]	1.45 person-trips per 1,000 sf[3]	-	22.8 person-trips per 1,000 sf[3]

Notes:
[1] Source: SF Guidelines, October 2002
[2] Source: ITE Trip Generation Manual, 8th Edition
[3] Since the community center would primarily serve the Potrero HOPE, development, these values are assumed to be person-trip rates to develop a reasonable number of vehicle trips accessing the community center. This approach is consistent with the Sunnydale-Velasco Housing Development Traffic Study.

The weekday trip generation of the Proposed Project and Alternative 1 are shown in **Table 3-2**. The Proposed Project would generate approximately 12,243 net person-trips (inbound and outbound) on a weekday daily basis and 1,787 net person-trips during the PM peak hour (from 4:00 PM to 6:00 PM). While, Alternative 1 would generate approximately 8,290 net person-trips (inbound and outbound) on a weekday daily basis and 1,139 net person-trips during the PM peak hour (from 4:00 PM to 6:00 PM).

[7] According to the project Sponsor, about five (5) percent of the existing housing units (about 30 units) might be vacant, which would result in additional trips of about 53 person trips and 28 vehicle trips during the PM peak hour. Of these additional trips, a maximum of 14 vehicle trips are anticipated to be distributed to major study intersections (Cesar Chavez Street/Connecticut Street, 25th Street/Connecticut Street, 25th Street/Dakota Street/Texas Street, and Cesar Chavez Street/US 101 Off-Ramp) and a maximum of 5 trips to other study intersections. These additional trips not included in the LOS analysis are not expected to impact LOS values of the study intersections.

Table 3-2: Weekday Person-Trip Generation – Proposed Project

Land Use	Proposed Project			Alternative 1		
	Size	Person-Trips		Size	Person-Trips	
		Daily	PM Peak Hour		Daily	PM Peak Hour
Proposed Development						
Residential						
1 Bedroom/Studio	496 units	3,720	644	346 units	2,595	449
2+ Bedroom	1,104 units	11,060	1,913	854 units	8,540	1,477
Senior Housing	100 units	500	30	80 units	400	24
Retail	15,000 sf	2,250	203	15,000 sf	2,250	203
Community Center	35,000 sf	801	51	25,000 sf	572	36
Total	-	**18,311**	**2,837**	-	**14,357**	**2,189**
Trip Credits for Existing Development						
Residential						
1 Bedroom/Studio	-53 units	-398	-69	-53 units	-398	-69
2+ Bedroom	-567 units	-5,670	-981	-567 units	-5,670	-981
Net New Trips	-	**12,243**	**1,787**	-	**8,290**	**1,139**

Source: SF Guidelines, ITE Trip Generation Manual, 8th Edition, CDM Smith – January 2012

3.2 Mode Split

The project-generated net person-trips were assigned to travel modes in order to determine the number of auto, transit, walk, and other trips; other trips include trips made by bicycle, motorcycle, and additional modes. Mode split information for the Proposed Project and Alternative 1 was obtained from SF Guidelines for work and non-work related trips to and from Superdistrict 3 and 2000 U.S. Census data for residential land uses (Census Tract 227.03). For the proposed community center, mode split of non-work related trips was developed using the updated trip distribution, which in-turn was developed assuming that all visitor trips would be from within San Francisco. According to SF Guidelines, 19 percent of the visitor trips to a community center would be from outside of San Francisco. The community center proposed as part of this redevelopment project is anticipated to primarily serve the neighborhood and is not expected to generate any visitor trips to/from outside of San Francisco. Therefore, instead of using SF Guidelines to identify distribution of visitor trips to/from the community center, visitor trips were distributed based on the assumption that all trips would originate/terminate within San Francisco, with the majority originating/terminating within Superdistrict 3, where the project site is located. As such, it is assumed that 85 percent of visitor trips to the community center would be from/to Superdistrict 3 and five percent of trips from/to each of the remaining superdistricts. The mode split percentages used for the analysis are shown in **Table 3-3**.

Table 3-3: Mode Split of Project-Related Trips

Mode	Residential		General Retail		Community Center	
	Work	Non-Work	Work	Non-Work	Work	Non-Work[2]
Auto	59.7%	59.7%	71.1%	64.1%	71.1%	45.7%
Transit	20.2%	20.2%	20.2%	11.7%	20.2%	20.8%
Walk	4.9%	4.9%	5.8%	22.4%	5.8%	23.7%
Other[1]	15.3%	15.3%	2.9%	1.8%	2.9%	9.8%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: SF Guidelines, 2000 U.S. Census Data, CDM Smith – January 2012
Notes:
[1] Other mode includes bicycles, motorcycles, taxis, and additional modes.
[2] Mode split was not obtained from SF Guidelines, but developed based on the updated trip distribution assumed for community center's visitor trips.

These mode split percentages were applied to the trips generated by the Proposed Project and Alternative 1 to identify trips by mode, while the average vehicle occupancy rate calculated from the 2000 U.S. Census Data for residential land use (Census Tract 227.03) and that was provided in SF Guidelines for other land uses was applied to determine the number of vehicle-trips generated by the Proposed Project and Alternative 1.

The trips by mode for the net project-related trips during the weekday PM peak hour for the Proposed Project and Alternative 1 are presented in **Table 3-4**.

Table 3-4: Trip Generation by Mode – Weekday PM Peak Hour

Land Use	Person-Trips					Vehicle Trips
	Auto	Transit	Walk	Other[1]	Total	
Proposed Project						
Residential	1,524	515	124	390	2,553	1,348
Retail	130	24	44	4	203	70
Community Center	24	11	12	5	51	11
Trip Credits	-626	-212	-51	-160	-1,050	-554
Total	**1,069**	**344**	**130**	**243**	**1,787**	**891**
Alternative 1						
Residential	1,149	389	94	294	1,926	1,017
Retail	130	24	44	4	203	70
Community Center	17	8	8	3	36	8
Trip Credits	-626	-212	-51	-160	-1,050	-554
Total	**685**	**214**	**96**	**145**	**1,139**	**553**

Source: SF Guidelines, 2000 U.S. Census Data, CDM Smith – January 2012
Notes:
[1] Other mode includes bicycles, motorcycles, taxis, and additional modes.

Approximately 60 percent (1,069 trips) of the person-trips generated by the Proposed Project would be auto-based, 19 percent (344 trips) transit-based and 21 percent (373 trips) would occur by walk/other modes. In total, the Proposed Project would result in 891 new vehicle trips during the weekday PM peak hour, of which 575 would be inbound and 316 would be outbound.

Similarly, for Alternative 1, approximately 60 percent (685 trips) of the person-trips would be auto-based, 19 percent (214 trips) would be transit-based, and the remaining 21 percent (241 trips) would occur by walk/other modes. In total, the Proposed Project would result in 553 new vehicle trips during the weekday PM peak hour, of which 351 would be inbound and 202 would be outbound.

For the AM peak hour analysis, it was assumed that the number of trips generated by the project during the AM peak hour would remain the same as under the PM peak hour, but opposite in direction. Therefore, during the AM peak hour, the Proposed Project and Alternative 1 are anticipated to generate 891 (316 inbound and 575 outbound) and 553 (202 inbound and 351 outbound) new vehicle trips.

3.3 Trip Distribution/Assignment

Similar to mode split estimation, trip distribution for the Proposed Project and Alternative 1 was based on the information obtained from SF Guidelines for work and visitor trips to retail land uses located in Superdistrict 3, in addition to 1990 U.S. Census data for residential land uses (Census Tract 227). Trip distribution is based on the origin/destination of a specific trip, and is separated into the four quadrants of San Francisco (Superdistricts 1 through 4), East Bay, North Bay, South Bay, and outside the region. As mentioned earlier, trip distribution of community center's visitor trips was not obtained from SF Guidelines, but was developed assuming that those trips would be to/from within San Francisco, i.e. 85 percent of visitor trips to the community center would be from/to Superdistrict 3 and five percent of trips from each of the remaining superdistricts. Trip distribution patterns for the project-generated traffic are shown in **Table 3-5**.

Table 3-5: Trip Distribution Patterns

Place of Trip Origin	Residential		General Retail		Community Center	
	Work	Visitor	Work	Visitor	Work	Visitor[1]
San Francisco						
Superdistrict 1	47.4%	47.4%	8.3%	6%	8.3%	5%
Superdistrict 2	10.5%	10.5%	10.6%	9%	10.6%	5%
Superdistrict 3	10.5%	10.5%	23.9%	61%	23.9%	85%
Superdistrict 4	10.5%	10.5%	7.9%	5%	7.9%	5%
East Bay	7.8%	7.8%	14.3%	3%	14.3%	0%
North Bay	1.7%	1.7%	5.6%	2%	5.6%	0%
South Bay	10.9%	10.9%	26.9%	9%	26.9%	0%
Out of Region	0.7%	0.7%	2.5%	5%	2.5%	0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Source: SF Guidelines, 1990 U.S. Census Data, CDM Smith – March 2011
Note:
[1] Distribution pattern was not obtained from SF Guidelines.

As indicated in **Table 3-5**, the highest percentage of the trips generated by the Proposed Project and Alternative 1 would come to and from areas within San Francisco. These distribution patterns were used as the basis for assigning project-related vehicle-trips to nearby local streets in the study area, and transit-trips to local and regional transit operators. The trip distribution for project-related inbound and outbound trips during the PM peak hour is exhibited in **Figures 3-1** and **3-2**. Project trip distribution would be the same for the Proposed Project and Alternative 1.

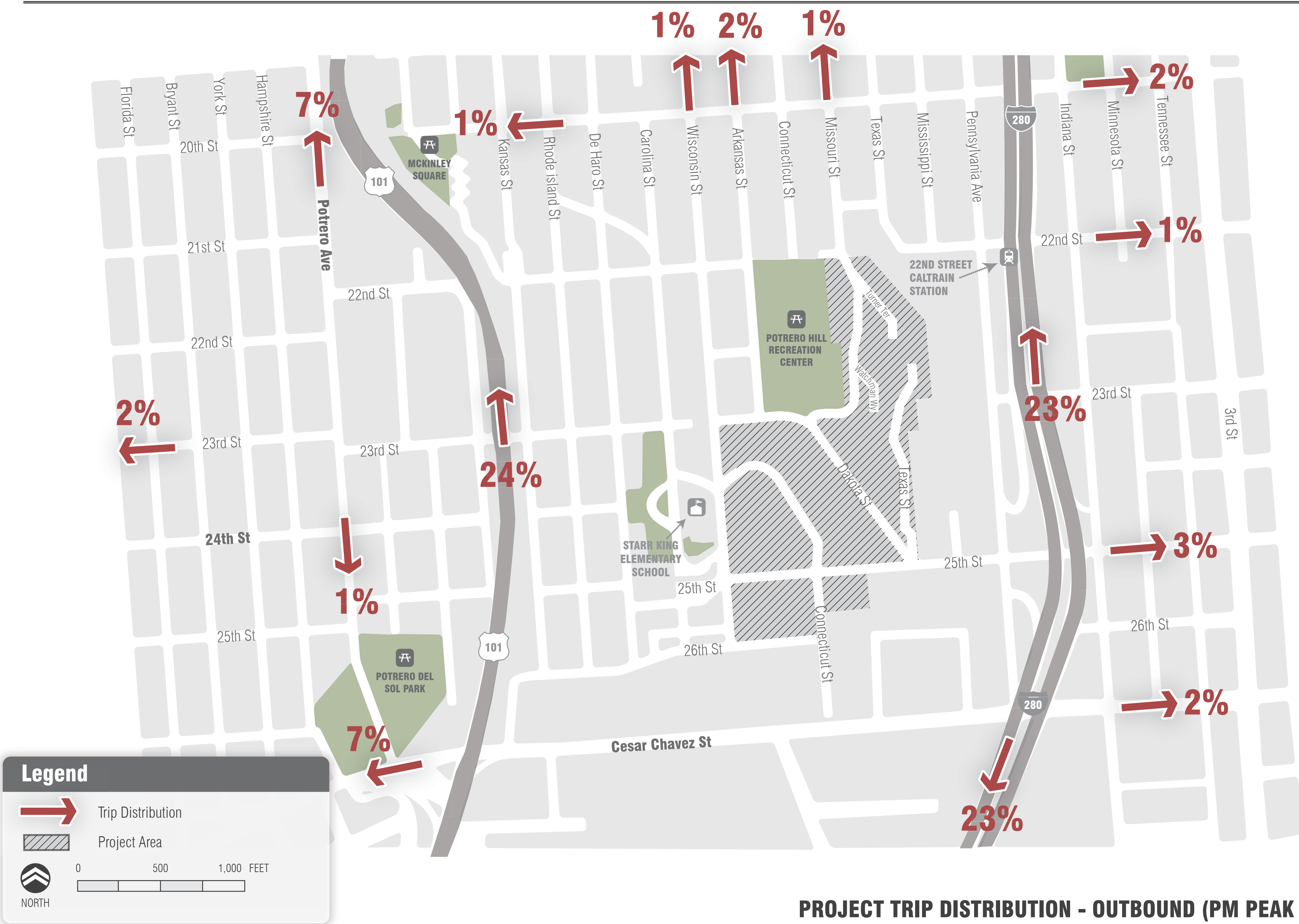
For the AM peak hour analysis, it was assumed that the project trip distribution during the AM peak hour would remain the same as under the PM peak hour, but opposite in direction, i.e., the AM peak hour's inbound trip distribution would be the same as the PM peak hour's outbound trip distribution and the AM peak hour's outbound trip distribution would be the same as the PM peak hour's inbound trip distribution.

The distribution of project-related PM peak hour trips to study intersections is exhibited in **Table 3-6**.

Table 3-6: Project Trip Distribution to Study Intersections – PM Peak Hour

#	Study Intersection	Traffic Control	Distribution of Project-Related Trips	
			Inbound Trips	Outbound Trips
Signalized				
1	Cesar Chavez Street/Connecticut Street	Signal	47%	25%
2	Cesar Chavez Street/Pennsylvania Avenue/NB I-280 Off-Ramp	Signal	13%	3%
11	Potrero Avenue/23rd Street	Signal	11%	11%
Unsignalized				
3	Pennsylvania Avenue/SB I-280 Off-Ramp	AWSC	27%	0%
4	25th Street/Indiana Street/NB I-280 On-Ramp	AWSC	2%	28%
5	25th Street/Connecticut Street	AWSC	38%	43%
6	25th Street/Dakota Street/Texas Street	TWSC	43%	57%
7	23rd Street/Dakota Street	OWSC	8%	27%
8	23rd Street/Wisconsin Street	AWSC	6%	6%
9	20th Street/Arkansas Street	AWSC	3%	4%
10	22nd Street/Missouri Street	OWSC	5%	5%
12	Cesar Chavez Street/Vermont Street	TWSC	18%	14%
13	Cesar Chavez Street/US 101 Off-Ramp	OWYC	42%	24%

PROJECT TRIP DISTRIBUTION - INBOUND (PM PEAK HOUR)
Figure 3-1



PROJECT TRIP DISTRIBUTION - OUTBOUND (PM PEAK HOUR)
Figure 3-2

3.4 Freight Delivery and Service Vehicle Demand

Loading demand consists of the number of delivery and service vehicle-trips generated by the project, plus the number of loading spaces that would be required to accommodate the demand. The number of daily delivery/service vehicle trips is estimated based on the size of each land use and a truck trip generation rate (specific to each land use). The number of loading spaces necessary to accommodate this demand is based on the anticipated hours of operation, turnover of loading spaces, and an hourly distribution of trips. The information and rates used in the loading demand analysis was obtained from SF Guidelines for the proposed retail land use. For the proposed community center, the loading rate for an institutional use from SF Guidelines was used.

The daily delivery/service vehicle trips and loading space demand for the Proposed Project and Alternative 1 are shown in **Table 3-7**. For Alternative 2, since land uses would not change, no new loading demand would be expected as a result of reconstruction.

The Proposed Project would generate approximately 67 delivery/service vehicle-trips per day, which would result in a demand of three loading spaces during the average hour and four spaces during the peak hour of loading demand. Comparatively, Alternative 1 would generate a total of 41 loading trips approximately, and have a demand for two loading spaces during both the average and peak hours. The majority of anticipated loading trips would result due to residential land uses spread throughout the project site.

Table 3-7: Delivery/Service Vehicle Trips and Loading Space Demand

Project/Land Use	Delivery/Service Vehicle Trips	Loading Space Demand	
		Average Hour	Peak Hour
Proposed Project			
Residential	60.0	2.8	3.5
Retail	3.3	0.2	0.2
Community Center	3.5	0.2	0.2
Total	**66.8**	**3.2**	**3.9**
Alternative 1			
Residential	34.9	1.6	2.0
Retail	3.3	0.2	0.2
Community Center	2.5	0.1	0.1
Total	**40.7**	**1.9**	**2.3**

Source: SF Guidelines, CDM Smith – January 2012

3.5 Parking Demand

Parking demand consists of both long-term demand (residents and retail as well as community center employees) and short-term demand (typically retail as well as community center visitors and services). For residential land uses, the parking demand was derived by determining both the mix of 1 bedroom/studio and 2 bedrooms-and-more housing units, along with the corresponding number of expected affordable housing and market-rate housing units within the Proposed Project. **Table 3-8** shows the expected housing mix for the Proposed Project and Alternative 1.

Table 3-8: Proposed Project and Alternative 1 Housing Mix

Land Use	Proposed Project	Alternative 1
Affordable Housing Units		
1 Bedroom/Studio	148 units	122 units
2+ Bedrooms	822 units	674 units
Market-Rate Housing Units		
1 Bedroom/Studio	348 units	224 units
2+ Bedrooms	282 units	180 units
Senior Housing Units		
1 Bedroom/Studio	98 units	78 units
2+ Bedrooms	2 units	2 units

Source: BRIDGE Housing – January 2012

Long-term parking demand for retail facilities was determined by estimating the number of anticipated employees and applying the percentage of people who drive as well as average vehicle occupancy from the trip generation calculations; while long-term parking demand for the community center was estimated using the total daily work-related vehicle trips. The short-term parking for both the retail and community center land uses was estimated based on the total daily visitor trips and an average turnover rate from SF Guidelines of 5.5 vehicles per space.

While the retail uses and community center may not have their peak parking demand during the weekday PM peak period, the overall project would have its peak parking demand during the weekday PM peak period. This is because residential land uses, which are the major contributor of this project's parking demand, have their peak parking demand during the weekday PM peak period. Therefore, the project-generated parking demand was determined for the weekday PM peak period. Parking demands for the Proposed Project and Alternative 1 are shown in **Table 3-9**.

The Proposed Project would have a total parking demand for about 1,764 spaces during the evening peak period, with 81 spaces for short-term demand and 1,683 spaces for long-term demand. Alternative 1 would have a total parking demand for about 1,315 spaces during the evening peak period, with 77 spaces for short-term demand and 1,238 spaces for long-term demand.

Table 3-9: Parking Demand - Weekday Evening Peak Period

Land Use	Parking Demand		
	Short Term	Long Term	Total
Proposed Project			
Residential			
Affordable	0	823	823
Market-Rate	0	806	806
Senior Housing	0	20	20
Retail	67	25	92
Community Center	14	9[1]	23
Total	**81**	**1,683**	**1,764**
Alternative 1			
Residential			
Affordable	0	675	675
Market-Rate	0	516	516
Senior Housing	0	16	16
Retail	67	25	92
Community Center	10	6[1]	16
Total	**77**	**1,238**	**1,315**

Source: SF Guidelines, CDM Smith – January 2012
Notes:
[1] Estimated from daily work-related vehicle trips.

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Chapter 4: Impact Analysis

This chapter presents the assessment of neighboring circulation network operations under Existing plus Project, 2030 Cumulative, and 2030 Cumulative plus Project Conditions. Traffic, transit, pedestrian, bicycle, loading, and construction operations are discussed in this chapter. Parking information is also provided. As mentioned in Chapter 1, since Alternative 2 would only reconstruct the existing land uses available at the project site and would neither add net new trips nor modify the neighboring circulation network to result in any transportation-related impacts, only a qualitative analysis of this alternative is provided in this report.

4.1 Significance Criteria

The following are the significance criteria used by the Planning Department for the determination of impacts associated with a proposed project:

- The operational impact on signalized intersections is considered significant when project-related traffic causes the intersection level of service to deteriorate from LOS D or better to LOS E or F, or from LOS E to LOS F. The operational impacts on unsignalized intersections are considered potentially significant if project-related traffic causes the level of service at the worst approach to deteriorate from LOS D or better to LOS E or F and Caltrans signal warrants would be met, or would cause Caltrans signal warrants to be met when the worst approach is already operating at LOS E or F. The project may result in significant adverse impacts at intersections that operate at LOS E or F under existing conditions depending upon the magnitude of the project's contribution to the worsening of the average delay per vehicle. In addition, the project would have a significant adverse impact if it would cause major traffic hazards or contribute considerably to cumulative traffic increases that would cause deterioration in levels of service to unacceptable levels;
- The operational impacts on freeway mainline segments and freeway on-ramp merge and off-ramp diverge operations are considered significant when project-related traffic causes the level of service to deteriorate from LOS D or better to LOS E or LOS F, or from LOS E to LOS F. In addition, a project would have a significant effect on the environment if it would contribute substantially to freeway segment or ramp congestion operating at unacceptable levels (LOS E or LOS F);
- The project would have a significant effect on the environment if it would cause a substantial increase in transit demand that could not be accommodated by adjacent transit capacity, resulting in unacceptable levels of transit service; or cause a substantial increase in delays or operating costs such that significant adverse impacts in transit service levels could result. With the Muni and regional transit screenlines analyses, the project would have a significant effect on the transit provider if project-related transit trips would cause the capacity utilization standard to be exceeded during the PM peak hour;
- The project would have a significant effect on the environment if it would result in substantial overcrowding on public sidewalks, create potentially hazardous conditions for pedestrians, or otherwise interfere with pedestrian accessibility to the site and adjoining areas;
- The project would have a significant effect on the environment if it would create potentially hazardous conditions for bicyclists or otherwise substantially interfere with bicycle accessibility to the site and adjoining areas;

- A project would have a significant effect on the environment if it would result in a loading demand during the peak hour of loading activities that could not be accommodated within proposed on-site loading facilities or within convenient on-street loading zones, and created potentially hazardous conditions or significant delays affecting traffic, transit, bicycles or pedestrians;
- The project would have a significant effect on the environment if it would result in inadequate emergency access; and
- Construction-related impacts generally would not be considered significant due to their temporary and limited duration.

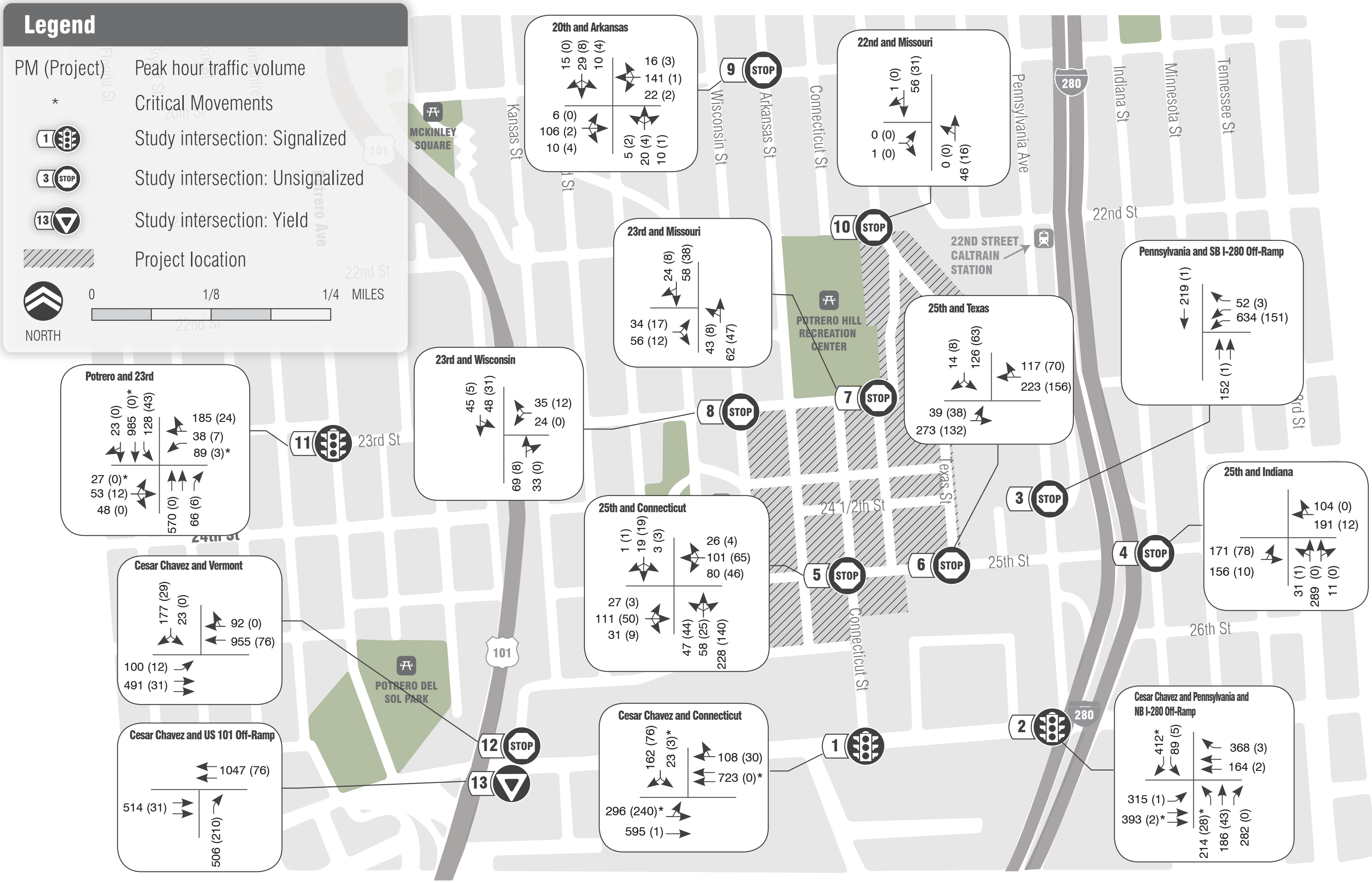
4.2 Existing plus Project Conditions

4.2.1 Traffic Impacts

Intersection Impacts

The Proposed Project would generate 891 project-related vehicle trips (575 inbound and 316 outbound) during the weekday PM peak hour, while Alternative 1 would generate 553 project-related vehicle trips (351 inbound and 202 outbound) during the weekday PM peak hour. Since Alternative 2 would reconstruct the existing land uses, it would not result in any additional project-related trips. Therefore, all transportation operations under this scenario would remain identical to Existing Conditions.

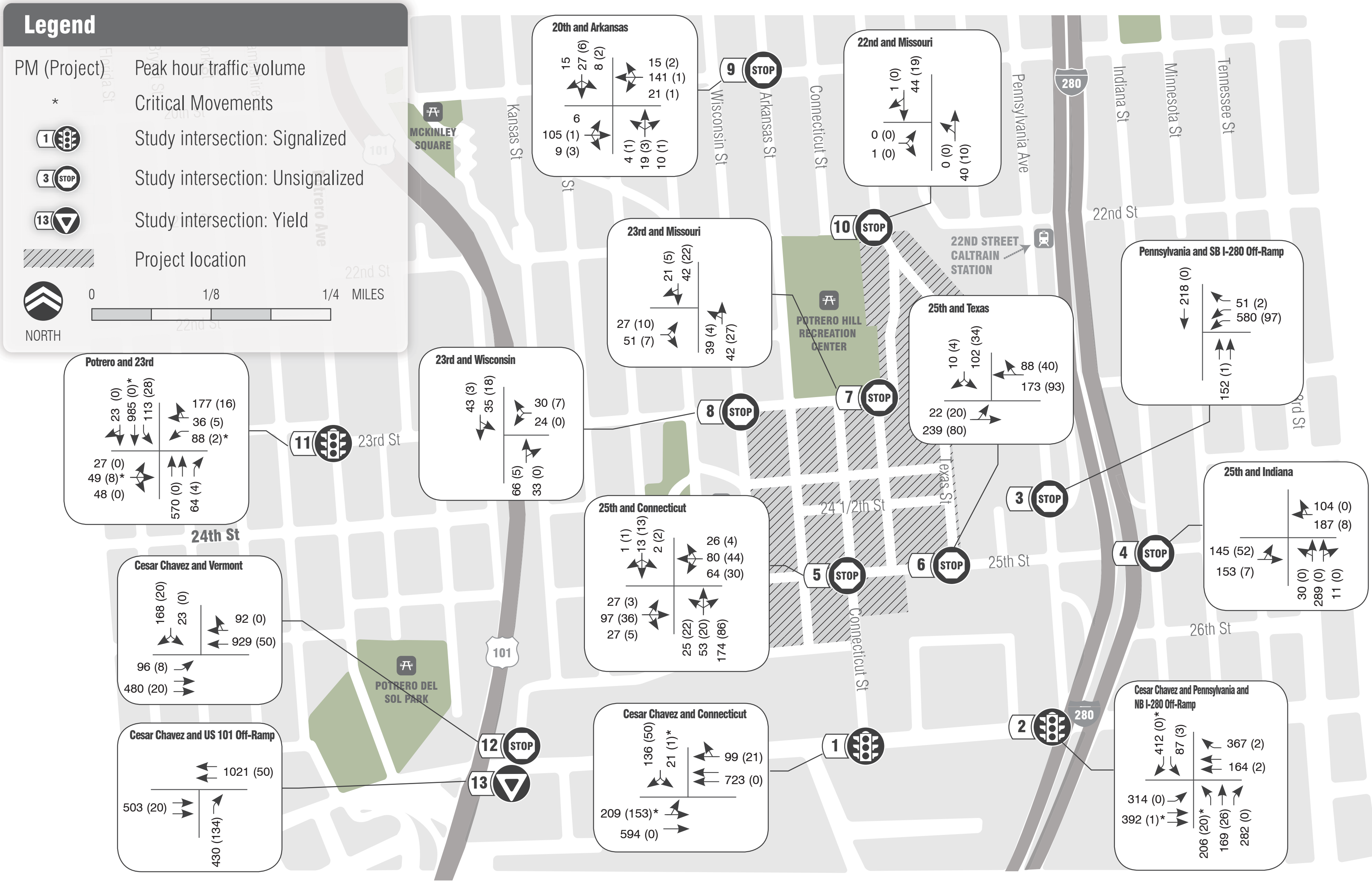
The above mentioned project trips have been distributed within the study area using the trip distribution and assignment discussed in **Section 3.3 – Trip Distribution/Assignment**. Additionally, relevant traffic circulation adjustments as mentioned in **Section 1.4.2 – Vehicular Access** (shifting approximately 25 percent of traffic traveling along Pennsylvania Avenue to Texas Street and approximately 25 percent of traffic traveling along Dakota Street to Arkansas Street), were applied to reflect changes in the circulation pattern due to the roadway layout reconfiguration planned as part of the Proposed Project and Alternative 1. The resulting traffic volumes and proposed geometric configurations at the study intersections under Existing plus Project Conditions for the Proposed Project and Alternative 1 during the weekday PM peak hour are illustrated in **Figures 4-1** and **4-2**.



INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS - EXISTING PLUS PROJECT PM PEAK HOUR (PROPOSED PROJECT)

Figure 4-1

WilburSmith ASSOCIATES



INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS - EXISTING PLUS PROJECT PM PEAK HOUR (ALTERNATIVE 1)

Figure 4-2

WilburSmith ASSOCIATES

A comparison of the intersection operations under Existing and Existing plus Project conditions during the weekday PM peak hour is provided in **Table 4-1**.

Proposed Project - Under Existing plus Project Conditions, vehicle delays at intersections would increase such that nine of the 13 study intersections would continue to operate at the same operating conditions (LOS) as under Existing Conditions during the weekday PM peak hour, while the Proposed Project traffic would alter the remaining four intersections LOS weekday PM peak hour conditions (25th Street/Connecticut Street would worsen from LOS A to LOS B, 25th Street/Dakota Street/Texas Street would worsen from LOS A to LOS C, 23rd Street/Dakota Street would worsen from LOS A to LOS B, and Cesar Chavez Street/US 101 Off-Ramp would worsen from LOS B to LOS C). However, all the study intersections would continue to operate at an acceptable LOS (LOS D or better) as under Existing Conditions. Hence, the Proposed Project would not result in any significant traffic impacts at the study intersections under Existing plus Project Conditions. Traffic impacts related to site access and circulation are discussed in Subsection Site Access and On-Site Circulation Impacts on Page 4-10.

Alternative 1 – Under Existing plus Alternative 1 Conditions, 10 of the 13 study intersections would continue to operate at the same weekday PM peak hour LOS operating conditions as under Existing Conditions, while the Proposed Project traffic would alter the remaining three intersections LOS weekday PM peak hour conditions (25th Street/Dakota Street/Texas Street would worsen from LOS A to LOS B, 23rd Street/Dakota Street would worsen from LOS A to LOS B, and Cesar Chavez Street/US 101 Off-Ramp would worsen from LOS B to LOS C). However, similar to the Proposed Project, all the study intersections would during the weekday PM peak hour, continue to operate at an acceptable LOS (LOS D or better) operating condition, as under Existing Conditions. Hence, similar to the Proposed Project, Alternative 1 would not result in any significant traffic impacts at the study intersections under Existing plus Alternative 1 Conditions.

Alternative 2 – Alternative 2 would neither add net new trips nor modify the neighboring circulation network; and as such, all study intersections would continue to operate at the same LOS operating as under Existing Conditions (LOS D or better) under weekday PM peak hour conditions. Therefore, Alternative 2 would not result in any significant traffic impacts at the study intersections under Existing plus Alternative 2 Conditions.

Detailed LOS calculation sheets are included in **Appendix F**.

Table 4-1: PM Peak Hour Intersection Operations – Existing vs. Existing plus Project Conditions

#	Intersection	Existing		Existing plus Project			
				Proposed Project		Alternative 1	
		Delay	LOS	Delay	LOS	Delay	LOS
Signalized							
1	Cesar Chavez Street/Connecticut Street	11.4	B	13.5	B	12.5	B
2	Cesar Chavez Street/Pennsylvania Avenue/NB I-280 Off-Ramp	38.4	D	38.5	D	38.4	D
11	Potrero Avenue/23rd Street	22.2	C	24.3	C	23.4	C
Unsignalized							
3	Pennsylvania Avenue/SB I-280 Off-Ramp	15.2 (SB)	C	17.0 (WB)	C	15.5 (WB)	C
4	25th Street/Indiana Street/NB I-280 On-Ramp	11.4 (EB)	B	14.2 (EB)	B	13.1 (EB)	B
5	25th Street/Connecticut Street	8.0 (EB)	A	12.5 (NB)	B	10.0 (NB)	A
6	25th Street/Dakota Street/Texas Street[1]	9.6 (SB)	A	17.0 (SB)	C	13.6 (SB)	B
7	23rd Street/Dakota Street[2]	9.2 (NB)	A	10.6 (NB)	B	10.1 (NB)	B
8	23rd Street/Wisconsin Street	7.5 (SB)	A	7.8 (SB)	A	7.7 (SB)	A
9	20th Street/Arkansas Street	8.5 (WB)	A	8.6 (WB)	A	8.6 (WB)	A
10	22nd Street/Missouri Street	8.5 (EB)	A	8.5 (EB)	A	8.5 (EB)	A
12	Cesar Chavez Street/Vermont Street	25.8 (SB)	D	34.5 (SB)	D	31.0 (SB)	D
13	Cesar Chavez Street/US 101 Off-Ramp	13.3 (NB)	B	22.4 (NB)	C	17.6 (NB)	C

Notes:
[1] This intersection is 25th/Dakota/Texas under No Project Conditions and 25th/Texas under With Project Conditions.
[2] This intersection is 23rd/Dakota under No Project Conditions and 23rd/Missouri under With Project Conditions.
Alternative 2, where no net new project trips would be added would operate similar to Existing Conditions.
EB – Eastbound, NB – Northbound, SB – Southbound, WB – Westbound
Delay presented in seconds per vehicle; for unsignalized intersections delay and LOS is presented for the worst approach, annotated in parentheses ( ).
Bold indicates intersection operates at an unacceptable LOS.
Alternative 2, where no net new project trips would be added would operate similar to Existing Conditions.

Freeway Segment Impacts

A comparison of the freeway segment operations under Existing and Existing plus Project conditions for the Proposed Project and Alternative 1 during the weekday AM and PM peak hours is presented in **Table 4-2**. The addition of project-generated traffic would result in slight increases in traffic density along all freeway segments for both the Proposed Project and Alternative 1.

Proposed Project – Under Existing plus Project weekday AM peak period conditions, three of the four study freeway segments would continue to operate at acceptable operating conditions (LOS D or better). Southbound US 101 (north of the Cesar Chavez Street off-ramp) would continue to operate at LOS F operating conditions under Existing and Existing plus Project Conditions. The Proposed Project would increase traffic on this freeway segment by approximately 77 vehicles [from 8,274 vehicles per hour (vph) to 8,351 vph], resulting in less than one (1) percent traffic increase during the AM peak hour. Since the Proposed Project would not contribute considerable amounts of traffic to this freeway segment, the Proposed Project's contribution to the existing LOS F operating conditions on this freeway segment would not be considered a significant impact during the AM peak hour.

Under Existing plus Project weekday PM peak hour conditions, five (5) of the six (6) study freeway segments would continue to operate at acceptable operating conditions (LOS D or better). The remaining freeway segment, Northbound US 101 (north of the Cesar Chavez Street off-ramp) would continue to operate at LOS F under Existing and Existing plus Project Conditions. The Proposed Project would increase traffic on this freeway segment by approximately 77 vehicles (from 8,426 vph to 8,503 vph), resulting in less than one (1) percent traffic increase during the PM peak hour. Since the Proposed Project would not contribute considerable amounts of traffic to this freeway segment, the Proposed Project's contribution to the existing LOS F operating conditions on this freeway segment would not be considered a significant impact during the PM peak hour.

Therefore, the Proposed Project would not result in significant impacts at any of the study freeway segments during the AM or PM peak hours under Existing plus Project Conditions.

Alternative 1 – Similar to the Proposed Project, Alternative 1 would result in three of the four study freeway segments continuing to operate at acceptable operating conditions (LOS D or better) under Existing as well as Existing plus Alternative 1 AM peak hour conditions. Even though Southbound US 101 (north of the Cesar Chavez Street off-ramp) would continue to operate at LOS F under Existing and Existing plus Alternative 1 Conditions, Alternative 1 would increase traffic on this freeway segment by 48 vehicles (from 8,274 vph to 8,322 vph), less than the Proposed Project, resulting in a less than 1 percent traffic increase during the PM peak hour. Since Alternative 1 would not contribute cumulatively considerable amounts of traffic to this freeway segment, the contribution of Alternative 1 to the LOS F operating conditions for this segment during the AM peak hour would not be considered a significant impact.

Table 4-2: Existing vs. Existing plus Project Freeway Segment Operations – Weekday AM and PM Peak Hours

#	Study Freeway Segment	Existing		Existing plus Project			
				Proposed Project		Alternative 1	
		Density	LOS	Density	LOS	Density	LOS
AM Peak Hour							
1	NB I-280 (south of Cesar Chavez Street Off-Ramp)	34.4	D	34.9	D	34.7	D
3	NB I-280 (north of Indiana Street On-Ramp)	22.9	C	23.6	C	23.3	C
5	NB US 101 (north of Cesar Chavez Street On-Ramp)	30.4	D	31.1	D	30.8	D
6	SB US 101 (north of Cesar Chavez Street Off-Ramp)	**>45**	**F**	**>45**	**F**	**>45**	**F**
PM Peak Hour							
1	NB I-280 (south of Cesar Chavez Street Off-Ramp)	16.0	B	16.5	B	16.3	B
2	SB I-280 (south of Pennsylvania Avenue On-Ramp)	29.3	D	29.7	D	29.6	D
3	NB I-280 (north of Indiana Street On-Ramp)	13.1	B	13.5	B	13.4	B
4	SB I-280 (north of Pennsylvania Avenue Off-Ramp)	32.6	D	33.6	D	33.2	D
5	NB US 101 (north of Cesar Chavez Street On-Ramp)	**>45**	**F**	**>45**	**F**	**>45**	**F**
6	SB US 101 (north of Cesar Chavez Street Off-Ramp)	33.4	D	34.2	D	33.9	D

Notes:
Density is reported in passenger cars per mile per lane (pc/mi/ln)
Bold indicates unacceptable conditions (LOS E or F).

Table 4-3: Existing vs. Existing plus Project Ramp Junction Operations – Weekday PM Peak Hour

#	Study Ramp Junction	Existing		Existing plus Project			
				Proposed Project		Alternative 1	
		Density	LOS	Density	LOS	Density	LOS
1	NB I-280/Cesar Chavez Street Off-Ramp	4.8	A	5.5	A	5.2	A
2	SB I-280/Pennsylvania Avenue Off-Ramp	29.4	D	30.3	D	29.9	D
3	NB I-280/Indiana Street On-Ramp	17.0	B	17.6	B	17.4	B
4	SB I-280/Pennsylvania Avenue On-Ramp	26.9	C	27.5	C	27.3	C

Notes:
Density is reported in passenger cars per mile per lane (pc/mi/ln)

Similar to the Proposed Project, during the PM peak hour, Alternative 1 would result in five of the six study freeway segments continuing to operate at LOS D or better operating conditions under Existing as well as Existing plus Alternative 1 Conditions. The remaining freeway segment, Northbound US 101 (north of the Cesar Chavez Street off-ramp) would continue to operate at LOS F under Existing and Existing plus Alternative 1 Conditions. Alternative 1 would increase traffic on this freeway segment by 48 vehicles (from 8,426 vph to 8,474 vph), less than the Proposed Project, and resulting in less than 1 percent traffic increase during the PM peak hour. Since Alternative 1 would not contribute considerable amounts of traffic to this freeway segment, the contribution of Alternative 1 to the LOS F operating conditions during the PM peak hour on this freeway segment would not be considered a significant impact.

Therefore, similar to the Proposed Project, Alternative 1 would not result in significant impacts at any of the study freeway segments during the AM or PM peak hours under Existing plus Alternative 1 Conditions.

Alternative 2 – Alternative 2 would not add any new trips; as such, all study freeway segments would continue to operate with the same LOS and density values as under Existing Conditions. Therefore, Alternative 2 would not result in any significant traffic impacts at the study freeway segments under Existing plus Alternative 2 Conditions.

Detailed LOS calculation sheets for the study freeway segments are included in **Appendix F**.

Ramp Junction Impacts

A comparison of the ramp junction operations under Existing and Existing plus Project conditions is provided in **Table 4-3**.

Proposed Project – Under Existing plus Project conditions, all of the study ramp junctions would continue to operate at the same acceptable LOS (LOS D or better) operating conditions during the weekday PM peak hour as under Existing Conditions. Hence, the Proposed Project would result in less-than-significant impacts at these ramp junctions during the weekday PM peak hour under Existing plus Project Conditions.

Alternative 1 – Similar to the Proposed Project, under Alternative 1, all of the study ramp junctions would continue to operate at the same acceptable LOS (LOS D or better) operating conditions as under Existing Conditions. Hence, Alternative 1 would also result in less-than-significant impacts at these ramp junctions under Existing plus Alternative 1 Conditions.

Alternative 2 – Alternative 2 would not add any new trips; as such, all study ramp junctions would continue to operate with the same acceptable LOS operating conditions and density values as under Existing Conditions. Therefore, Alternative 2 would not result in any significant traffic impacts at the study ramp junctions under Existing plus Alternative 2 Conditions.

Detailed LOS calculation sheets for the study ramp junctions are included in **Appendix F**.

Site Access and On-Site Circulation Impacts

As mentioned in **Section 1.4.2 – Vehicular Access**, roadway reconfigurations and modifications are planned within the project site as part of the Proposed Project and Alternative 1. With the reconfigured roadway layout, the project site would be directly accessed via several local streets, including Connecticut Street, 25th Street, 26th Street, Arkansas Street, Wisconsin Street, and Missouri Street. This would allow for multiple local access points within the project site. Circulation within the project site would occur via new internal streets, along with modified and reconstructed roadways.

The following roadways would be either constructed or modified as part of the Proposed Project and Alternative 1:

- **23rd Street** would have its intersection with Dakota Street eliminated. Additionally, it would be straightened and extended eastward to meet the newly constructed Missouri Street. Between Arkansas Street and Missouri Street it is proposed to have a 41.5-foot-wide right-of-way, due to limited street width as a result of local topography;
- **24th Street** would be a newly constructed east-west street between Wisconsin Street and Texas Street. However, it would be disconnected from other sections of 24th Street. As it serves as the main retail and community street for the Proposed Project, 24th Street is proposed to have a 84-foot-wide right-of-way with extra wide sidewalks and diagonal parking between Arkansas Street and Missouri Street. West of Arkansas Street and east of Missouri Street, 24th Street is proposed to have a 61.5-foot-wide right-of-way;
- **24½th Street** would be a newly constructed east-west street between Arkansas Street and Texas Street. It is proposed to have a 56-foot-wide right-of-way through the project site. It would front the proposed community center and central park between Arkansas Street and Missouri Street;
- **25th Street** would have its intersection with Dakota Street eliminated. Minor sidewalk, crosswalk, and bulb-out improvements are also planned along 25th Street as well. Between Wisconsin Street and Connecticut Street it is proposed to have a 60-foot-wide right-of-way. Between Connecticut Street and Missouri Street it is proposed to have a 56-foot-wide right-of-way. Between Missouri Street and Texas Street it is proposed to have a 61-foot-wide right-of-way. Access to Pennsylvania Avenue to the east would be maintained;
- **26th Street** is expected to retain its existing roadway alignment, with minor sidewalk, crosswalk, and bulb-out improvements. Between Wisconsin Street and Connecticut Street it is proposed to have a 54-foot-wide right-of-way. Existing access to the west along 26th Street would be maintained;
- **Wisconsin Street** is expected to retain its existing roadway alignment and right-of-way, with minor sidewalk, crosswalk, and bulb-out improvements. Existing access to the north along Wisconsin Street would be maintained;
- **Arkansas Street** is proposed to have a 69-foot-wide right-of-way through the project site. It would be extended from its existing 23rd Street terminus south to 26th Street, providing multiple internal street connections. Existing access to the north along Arkansas Street would be maintained;
- **Connecticut Street** would retain its existing roadway alignment from 26th Street to 25th Street. North of 25th Street, it would be straightened and modified to connect to 24 and ½th Street. Between 24½th Street and 25th Street, Connecticut Street is proposed to have a 75-foot-wide right-of-way. This section would be converted from a one-way street to a two-way street. Existing access to the south along Connecticut Street would be maintained;

- **Missouri Street** would be extended from its existing 23rd Street terminus south to 25th Street, providing multiple internal street connections. North of the Missouri Overlook park the street would have a 56-foot-wide right-of-way. Between the Missouri Overlook park and 23rd Street the street is proposed to have a 41.5-foot-wide right-of-way. Between 23rd Street and 25th Street the street would have a 69-foot-wide right-of-way. The existing Missouri Street roadway alignment and access north of 23rd Street would be maintained; and
- **Texas Street** would be widened and extended from 25th Street northward to meet Missouri Street near the north end of the project site. Turner Terrace south of Missouri Street would be converted to Texas Street. The northernmost section of Texas Street near Missouri Street would have a 56-foot-wide right-of-way. Between this section and 23rd Street it is proposed to have a 69-foot-wide right-of-way. Between 23rd Street and 24½th Street, Texas Street is proposed to have a 48-foot-wide right-of-way. Even though Texas Street would convert into a long straight road, the curb extensions and crosswalks provided at each intersection within the project site, and possible pavement material changes provided at the 23rd Street Stair should act as traffic calming devices and help slow down speeding traffic.

All the streets within the project site would be designed with one travel lane in each direction, and landscaping and sidewalks on both sides of the street. As part of the Proposed Project and Alternative 1, on-street parking would generally be provided on both sides of the streets located within the project site, except at the following locations:

- Missouri Street from 23rd Street to Missouri Overlook and 23rd Street from Arkansas Street to Missouri Street – No on-street parking would be provided; and
- Texas Street from 23rd Street Stairway to 24½th Street, 26th Street from Wisconsin Street to Connecticut Street, and 25th Street from Missouri Street to Texas Street – on-street parking would be provided on one side of the street.

Watchman Way, Dakota Street, Turner Terrace, and portions of Connecticut Street would be eliminated as part of the Proposed Project and Alternative 1. Modification of roadway layout would alter two study intersections as follows:

- 25th Street/Dakota Street/Texas Street intersection would be reconfigured and renamed to 25th Street/Texas Street; and
- 23rd Street/Dakota Street intersection would be renamed to 23rd Street/Missouri Street.

Additionally, modification of roadway layout would result in two new T-intersections along Texas Street (with 24th Street, and 24½th Street) and three new intersections along Arkansas Street (four-way intersections with 24th Street and 25th Street, and a T-intersection with 24½th Street). All new intersections would have one mixed-flow lane in each direction and all of them are assumed to be stop-controlled intersections, either one-way, two-way, or four-way stop-controlled intersections. Final intersection designs, including designs of intersection bulb-outs and parking garage driveways would be developed in coordination with the SFMTA as part of the overall infrastructure design and permitting that would occur prior to the construction of each phase.

Bulb-outs are planned to be provided at most intersections, depending on DPW and SFMTA recommendations when final intersection configurations are designed. In general, it is anticipated that pedestrian bulb-outs would be provided along streets where high pedestrian activity is expected, such as streets along the planned neighborhood center (24th Street), streets leading to and from the planned park areas and possibly streets with transit service (Arkansas, Wisconsin, and Missouri Streets). Bulb-outs could also be provided wherever possible along other streets serving residential uses. Driveways to underground garages for various blocks are anticipated to be located on the following streets:

- Blocks A and J – Wisconsin and Arkansas Streets
- Blocks F and K – Arkansas Street
- Block G – Arkansas and 24½th Streets
- Blocks C and B – Arkansas, Connecticut, and 25th Streets
- Block D – Connecticut, Missouri, 25th, and 24½th Streets
- Block X – Connecticut and 25th Streets
- Block L – Missouri and 23rd Streets
- Block E – Texas and 24½th Streets
- Block H – Missouri, Texas, 24th, and 24½th Streets
- Block M – Missouri and 24th Streets
- Block N – Missouri and Texas Streets
- Block Q – Missouri Street
- Blocks O, P and R – Texas Street

Potential access points to underground garages for various blocks are shown in the Potential Garage Entries Plan (included in **Appendix B**), the proposed internal circulation plan is included in **Appendix B**, and new vehicle connections planned with the Proposed Project and Alternative 1 are shown in **Figure 4-3**.

It is anticipated that the newly constructed roadway grid would better connect locally with other nearby streets. Vehicular site circulation is anticipated to consist primarily of localized traffic and transit service accessing the residential units, parks, and community center on the project site. Intersections located within the project site that were evaluated in this study (25th Street/Connecticut Street, 23rd Street/Missouri Street, 23rd Street/Wisconsin Street, and 25th Street/Texas Street) experience LOS D or better operating conditions after implementing either the Proposed Project or Alternative 1. Due to the anticipated localized traffic patterns for the Proposed Project and Alternative 1, and the acceptable internal study intersection operating conditions, it is not expected that the project site would experience any significant circulation or site access issues as a result of project implementation. However, since the specific street designs, including locations of intersection bulb-outs and driveways connecting to the parking garages are not developed, the Proposed Project and Alternative 1 would be considered to result in a significant impact to traffic circulation.

Transportation Mitigation Measure 1 – During the design of each phase of the project, the Project Sponsor shall develop designs for intersection bulb-outs and driveways connecting to parking garages incorporating the guidelines and design controls provided below. These design recommendations were identified from Better Streets Plan and guidelines provided by SFMTA, and the Planning Department.

Bulb-out Design (Source – Better Streets Plan)

- All streets within the project site shall adhere to standards contained in the Better Streets Plan by the San Francisco Planning Department, including the following:

SOURCE: VAN METER WILLIAMS POLLACK LLP, 2010

NEW VEHICLE AND PEDESTRIAN CONNECTIONS

Figure 4-3

  - Streets and bulb-outs shall be designed to accommodate emergency vehicle (WB-40) turns; and
  - Streets and bulb-outs along Muni routes shall be designed to accommodate a 40-foot (B-40) bus.
- Bulb-outs shall be designed consistent with the SFDPW and other City agency specifications to accommodate use of mechanical street sweepers, and shall be consistent with San Francisco Fire Department and SFMTA regulations. All bulb-outs require the approval of the interagency TASC committee.

Driveway Design (Source – Better Streets Plan, Planning Department, and SFMTA)

- All driveways leading to parking garages shall be designed in accordance with the San Francisco Planning Code Sections 145.1 and 155 standards applicable in RM zoning districts and the Planning Department's Guidelines for Adding Garages and Curb Cuts;
- Garages with more than 20 parking spaces would be subject to the Planning Department's Queue Abatement Condition of Approval, requiring the project sponsor to design for and prevent through monitoring the potential for vehicle queues in the public right-of-way;
- Garage entrances and curb cuts shall be designed to minimize their impact on other modes of travel, including pedestrian circulation;
- Garage entrances shall be no wider than 16 feet, 12 feet being the preferred width;
- Garage entrances located along streets with transit service (Missouri, Arkansas, and Wisconsin Streets) shall not encumber any bus stop and not be located directly before a bus stop; and
- The minimum clearance distance between any garage driveway and neighboring intersections would be identified coordinating with the SFMTA.

The intersection bulb-out and driveway designs for each phase of construction would be finalized after review and approval by the Planning Department, SFDPW, and SFMTA to assure compliance with these standards. With the implementation of **Transportation Mitigation Measure 1**, the circulation impacts of the Proposed Project and its alternatives would be considered **less-than-significant with mitigation**.

4.2.2 Transit Impacts

The Proposed Project would generate 344 weekday PM peak hour transit trips (221 inbound and 123 outbound) and Alternative 1 would generate 214 weekday PM peak hour transit trips (135 inbound and 79 outbound). This demand is expected to comprise approximately 19 percent of the Proposed Project's trips during the PM peak hour. These transit trips to and from the project site would utilize nearby Muni lines and regional transit lines, and may include transfers to other Muni bus lines and light rail lines, or other regional transit providers.

Due to the proposed modification of the roadway network, the Proposed Project and Alternative 1 would reroute 10 Townsend within the project site – between 23rd and 25th Streets, the outbound 10 Townsend will be rerouted from Dakota Street to Arkansas Street, while the inbound 10 Townsend will be rerouted from Dakota Street to Wisconsin Street. Additionally, as part of the Muni TEP recommendations[8], a new planned local Muni line, the 58 24th Street, would traverse through the project site along Wisconsin Street, 25th Street, and Missouri Street.

Based on the trip distribution patterns presented in **Section 3.3 – Trip Distribution/Assignment**, the project-related weekday PM peak hour transit demand would be distributed to the study area as shown in **Table 4-4**.

Table 4-4: Distribution of Transit Trips – Weekday PM Peak Hour

Place of Trip Origin	Total Transit Trips			
	Proposed Project		Alternative 1	
	Inbound	Outbound	Inbound	Outbound
San Francisco				
Superdistrict 1	99	50	59	31
Superdistrict 2	23	13	14	8
Superdistrict 3	31	23	21	17
Superdistrict 4	22	12	13	7
East Bay	17	9	10	6
North Bay	4	2	2	1
South Bay	23	12	14	8
Out of Region	2	2	2	1
Total	**221**	**123**	**135**	**79**

Source: SF Guidelines, CDM Smith – January 2012

For the Proposed Project, it is estimated that 175 inbound and 98 outbound trips would be served by Muni lines, while 46 inbound and 25 outbound trips would be served by regional transit providers. In comparison, for Alternative 1, 107 inbound and 63 outbound trips would be served by Muni lines, while 28 inbound and 16 outbound trips would be served by regional transit providers.

Alternative 2 would not result in any additional transit trips to/from the project site. Hence, transit operations of all transit routes serving the project site would remain the same under Existing and Existing plus Project Conditions for this alternative. Therefore, Alternative 2 would not cause any significant transit impacts.

Existing plus Project Muni Line-by-Line Analysis

Since the 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni routes provide direct service to the project site, line-by-line analysis was conducted for these three routes under Existing plus Project Conditions. This analysis is followed by the Muni Screenline analysis.

[8] SFMTA TEP Staff Recommendations, http://www.sfmta.com/cms/mtep/TEPRecommendationsbyRoute.htm, January 2009.

As mentioned above, the Proposed Project and Alternative 1 would result in transit route changes. In addition, the Project and Alternative 1 would relocate/consolidate existing bus stops and create new ones as follows:

- Bus stops serving the 19 Polk and located along northbound Connecticut Street (between 25th and Wisconsin Streets), southbound Connecticut Street (north of 26th Street), and southbound Wisconsin Street (south of Coral Street) would be eliminated, since the 19 Polk would not travel through the project site in the near future;
- Bus stop serving the outbound 10 Townsend and located along westbound 25th Street (east of Connecticut Street) would be relocated to southbound Arkansas Street (north of 24th Street);
- Bus stops serving the inbound 10 Townsend and located along northbound Dakota Street (between 25th and 23rd Streets, and south of 23rd Street) and westbound 23rd Street (east of Wisconsin Street) would be relocated and consolidated at northbound Wisconsin Street (south of 24th Street);
- Bus stop serving the 48 Quintara-24th Street and located along eastbound 25th Street (west of Dakota Street) would be relocated to eastbound 25th Street (west of Connecticut Street);
- Bus stops serving the 10 Polk and 48 Quintara-24th Street located at northbound Wisconsin Street (north of 26th Street and south of 25th Street) would be consolidated at northbound Wisconsin Street (south of 25th Street); and
- New bus stops would be created along westbound 25th Street (east of Wisconsin Street), westbound 25th Street (west of Connecticut Street), and various locations along Missouri Street in both the directions, including north of 24th Street, between 23rd and Texas Streets, and north of Texas Street. These new bus stops are planned to serve the new 58 24th Street line and other Muni routes.

In total, 12 bus stops would be created or affected as part of the Proposed Project and Alternative 1.

Project-related transit trip demand for each line was calculated using the number of transit trips accessing each superdistrict (shown in **Table 4-4**) and then assigning those trips to the study Muni lines serving those superdistricts. For the Proposed Project, 119 of the 175 inbound trips to the project site and 66 of the 98 outbound transit trips would be served by the 10 Townsend, 19 Polk, and 48 Quintara-24th Street lines (because of transit line orientation, an inbound trip to the project site for the 10 Townsend and 19 Polk routes would constitute an outbound trip as defined by Muni's operational direction). While for Alternative 1, 72 of the 107 inbound trips and 42 of the 63 outbound trips would be served by these three Muni lines.

Table 4-5 shows a comparison of the line-by-line analysis for the 10 Townsend, 19 Polk, and 48 Quintara-24th Street lines under Existing and Existing plus Project Conditions.

Proposed Project – The Proposed Project is expected to generate a maximum of 52 transit trips per direction along any study transit line. Under Existing plus Project Conditions, the Proposed Project would increase the capacity utilizations of all three Muni lines. The Proposed Project related transit trips would worsen the capacity utilization of the 10 Townsend at its Major Load Point (MLP) from 98 percent to 113 percent in the inbound direction and from 90 percent to 118 percent in the outbound direction. However, the 19 Polk and 48 Quintara-24th Street lines would continue to operate under Muni's 85 percent utilization threshold (77 percent for the 19 Polk and 54 percent for the 48 Quintara-24th Street).

The Proposed Project would add 52 additional riders to the outbound 10 Townsend line (about 17 riders per bus during the peak hour) and 27 additional riders to the inbound 10 Townsend line (about 9 riders per bus during the peak hour). This would constitute nearly an additional standard busload of transit trips in the outbound direction and half a busload of transit trips in the inbound direction. As such, the Proposed Project would cause a substantial increase in the transit ridership of the 10 Townsend and deteriorate its capacity utilization. Therefore, the Proposed Project is expected to cause a significant impact to the 10 Townsend line, primarily outbound, and less-than-significant impacts to the 19 Polk and 48 Quintara-24th Street lines under Existing plus Project Conditions.

Table 4-5: Muni Line-by-Line Analysis – Existing plus Project Weekday PM Peak Hour

Route	Direction of Travel	Existing		Project Trips	Existing plus Project	
		Ridership[1]	Capacity Utilization		Ridership	Capacity Utilization
Proposed Project						
10 Townsend	Inbound	186	**98%**	27	213	**113%**
	Outbound	171	**90%**	52	223	**118%**
19 Polk	Inbound	172	68%	22	194	77%
	Outbound	124	49%	39	163	65%
48 Quintara-24th Street	Inbound	175	46%	28	203	54%
	Outbound	180	48%	17	197	52%
Alternative 1						
10 Townsend	Inbound	186	**98%**	18	204	**108%**
	Outbound	171	**90%**	32	203	**107%**
19 Polk	Inbound	172	68%	13	185	73%
	Outbound	124	49%	24	148	59%
48 Quintara-24th Street	Inbound	175	46%	16	191	51%
	Outbound	180	48%	11	191	51%

Source: SFMTA APC Data – 2011, CDM Smith – January 2012
Notes:
[1] Ridership for peak hour of PM peak period; obtained from Muni APC data. Ridership includes total riders at Maximum Load Point (MLP) of route during the weekday PM peak hour.
The discontinued 53 Southern Heights' ridership was not included in this analysis.
Bold indicates load exceeding Muni's 85 percent capacity utilization standard.

10 Townsend

The 10 Townsend would operate with capacity utilization exceeding Muni's 85 percent threshold under Existing and Existing plus Project Conditions. Since the Proposed Project would increase ridership of this line by a maximum of 52 trips (28 percent), the Proposed Project is considered to cause a significant transit impact to this Muni line under Existing plus Project Conditions.

> **Transportation Mitigation Measure 2 –** The Project Sponsor shall work with the SFMTA to ensure that the transit capacity impact to the 10 Townsend related to the Proposed Project is reduced to a less-than-significant level by financially compensating the SFMTA for the cost of providing the service needed to accommodate the project at proposed levels of service. The

financial contribution shall be calculated and applied in a manner that is consistent with the SFMTA cost/scheduling model. The amount and schedule of payment and commitment to application of service needs shall be set forth in a Transit Mitigation Agreement between the Project Sponsor and SFMTA.

The payment of the fee identified in this mitigation measure would serve to reduce the Proposed Project's impact on the operations of 10 Townsend to a less-than-significant level. However, because the ability of SFMTA, as another City agency, to provide the additional service on local lines needed to accommodate this project is uncertain, the feasibility of the mitigation measure is unknown. Therefore, the Proposed Project's impact to the operations of 10 Townsend would be considered **significant and unavoidable**.

Alternative 1 – This alternative is expected to generate a maximum of 32 transit trips per direction along any study transit line. Similar to the Proposed Project, Alternative 1 would increase the capacity utilizations of all three Muni lines under Existing plus Project Conditions. Transit trip associated with Alternative 1 would worsen the capacity utilization of the 10 Townsend from 98 percent to 108 percent in the inbound direction and from 90 percent to 107 percent in the outbound direction. However, the 19 Polk and 48 Quintara-24th Street lines would continue to operate with maximum capacity utilization values (68 percent for 19 Polk and 48 percent for 48 Quintara-24th Street) lower than Muni's 85 percent utilization standard under Existing plus Project Conditions.

Alternative 1 would worsen capacity utilization of the 10 Townsend line by adding approximately 30 riders in the outbound direction. Hence, Alternative 1 would cause a substantial increase in the transit ridership of the 10 Townsend line, particularly in the outbound direction during the PM peak hour. Therefore, similar to the Proposed Project, Alternative 1 is expected to cause significant impact to the 10 Townsend line and less-than-significant impacts to the 19 Polk and 48 Quintara-24th Street lines under Existing plus Project Conditions.

<u>10 Townsend</u>
The 10 Townsend would operate with capacity utilization exceeding the Muni's 85 percent threshold under Existing and Existing plus Project Conditions. Since, Alternative 1 would increase ridership of this line by a maximum of 32 trips (17 percent), Alternative 1 is considered to cause a significant impact to this Muni line under Existing plus Project Conditions. **Transportation Mitigation Measure 2**, identified for the Proposed Project above, would also apply to Project Alternative 1. Similar to the Proposed Project, the feasibility of implementing this mitigation measure by SFMTA is uncertain; therefore, the impact would remain **significant and unavoidable** under Existing plus Alternative 1 Conditions**.**

Alternative 2 – Alternative 2 would not add any new transit-related trips; as such, all study Muni lines would continue to operate with the same capacity utilization as under Existing Conditions. Therefore, Alternative 2 would not result in any significant transit impacts to specific Muni lines under Existing plus Project Conditions.

Existing plus Project Muni Screenline Analysis

Based on the most recent Muni screenline data obtained from the Transit Center District Plan Transportation Study (AECOM, 2010) and the project-generated transit trips shown above, capacity utilization under Existing plus Project conditions were determined for Muni screenlines that serve the project site, particularly the corridors within the Southeast screenline, during the weekday PM peak hour. The project-generated transit trips for the Proposed Project and Alternative 1 were distributed to these screenlines based on the distribution shown in **Table 4-6**.

As mentioned earlier, 275 transit trips (176 inbound and 99 outbound) for the Proposed Project and 170 transit trips (107 inbound and 63 outbound) for Alternative 1 would use Muni to access the project site. As mentioned in **Section 2.4.2 – Existing Muni Corridor Analysis**, only the Southeast screenline was considered for analysis purposes. This screenline includes ridership traveling in the peak direction during the PM peak hour, i.e. away from downtown San Francisco. Since the 99 Muni-based trips for the Proposed Project and 63 Muni-based trips for Alternative 1 would be traveling in the non-peak screenline direction, these trips were not included in the screenline analysis. Of the 176 and 103 Muni-based trips in the peak direction for the Proposed Project and Alternative 1, approximately 130 and 80 trips would cross the Southeast screenline using the 10 Townsend, 19 Polk, and T Third Street Muni lines. As such, these were included in the screenline analysis. The remaining Muni-based trips in the peak direction would use the 22 Fillmore and 48 Quintara-24th Street lines to access the project site; these two Muni routes do not cross any of the four screenlines identified for Muni.

The estimated number of project-generated transit riders for Muni's Southeast screenline and the Muni capacity utilization under Existing as well as Existing plus Project conditions during the weekday PM peak hour are shown in **Table 4-6**.

Proposed Project – Overall, the addition of project-generated transit trips to the Muni routes that serve the study area would not substantially increase the peak hour capacity utilization. As shown in **Table 4-6**, the Southeast screenline would not exceed Muni's standard of 85 percent capacity utilization under Existing plus Project Conditions. However, the Third Street corridor's capacity utilization increases and closely approaches the 85 percent threshold due to the addition of project-related trips. Additionally, since the 99 outbound Muni trips would occur in the non-peak direction of travel (i.e. inbound to downtown or not across any transit screenline), these trips would not be expected to cause significant impact to Muni's operations. Therefore, the Proposed Project would be considered to result in less-than-significant transit demand impacts to the Muni's Southeast screenline under Existing plus Project Conditions.

Table 4-6: Existing plus Project Muni Screenline Analysis – Weekday PM Peak Hour

Screenline/Corridor	Existing			Existing plus Project					
				Proposed Project			Alternative 1		
	Ridership	Peak Hour Capacity	Capacity Utilization	Project Trips	Ridership	Capacity Utilization	Project Trips	Ridership	Capacity Utilization
Southeast Screenline									
Third Street	554	714	78%	39	593	83%	24	578	81%
Mission Street	1,254	2,350	53%	0	1,254	53%	0	1,254	53%
San Bruno/Bayshore	1,671	2,256	74%	0	1,671	74%	0	1,671	74%
All Other Lines	1,189	1,708	70%	91	1,280	75%	56	1,245	73%
Total	**4,668**	**7,028**	**66%**	**130**	**4,798**	**68%**	**80**	**4,748**	**68%**

Source: AECOM, 2010; CDM Smith – January 2012.
Notes:
Screenline analysis was conducted only in the peak direction from downtown San Francisco toward the project site.

Alternative 1 – Similar to the Proposed Project, transit trips related to Alternative 1 would not substantially increase the peak hour capacity utilization of the Southeast Screenline or corridors within the Screenline, as shown in **Table 4-6**. Under Existing plus Project Conditions, the Southeast screenline would increase to have a capacity utilization of 68 percent and would not exceed Muni's standard of 85 percent. The Third Street corridor capacity utilization would increase to 81 percent (less than the Proposed Project's 83 percent capacity utilization). Similar to the Proposed Project, since the 63 outbound Muni trips would occur in the non-peak direction of travel (i.e. inbound to downtown or not across any transit screenline), these trips would not be expected to cause significant impact to Muni's operations. Therefore, similar to the Proposed Project, Alternative 1 would result in less-than-significant impacts to Muni's Southeast screenline under Existing plus Project Conditions.

Alternative 2 – Alternative 2 would not add any new transit-related trips; as such, the Southeast screenline would continue to operate with the same capacity utilization as under Existing Conditions. Therefore, Alternative 2 would not result in any significant traffic impacts to the Southeast screenline under Existing plus Project Conditions.

Existing plus Project Regional Transit Screenline Analysis

Using screenlines previously described in **Section 2.4.5 – Existing Regional Transit Screenline Analysis**, project-related regional transit trips were added to East Bay, North Bay, and South Bay screenlines.

During the PM peak hour, 71 transit trips (46 inbound and 25 outbound) for the Proposed Project and 44 transit trips (28 inbound and 16 outbound) for Alternative 1 would use regional transit providers. Since the peak direction of travel during the PM peak hour for regional screenlines would be from San Francisco County to the East Bay, North Bay, and South Bay, only the outbound regional transit trips (25 for the Proposed Project and 16 for Alternative 1) were included in the screenline analysis. The inbound regional transit trips (46 for the Proposed Project and 28 for Alternative 1) would occur in the non-peak direction of travel; as such, they would not be expected to cause significant impact to regional transit operations.

The number of estimated project-generated transit riders for regional screenlines and the expected capacity utilization under Existing as well as Existing plus Project conditions for the Proposed Project and Alternative 1 during the weekday PM peak hour are shown in **Table 4-7**.

Proposed Project – Even with the addition of 25 outbound transit trips associated with the Proposed Project, the capacity utilizations of all regional transit providers serving the project site would remain the same under Existing and Existing plus Project Conditions, and would not exceed their designated capacity utilization standards. Therefore, the Proposed Project is considered to result in less-than-significant impacts to regional transit operations under Existing plus Project Conditions.

Alternative 1 – Similar to the Proposed Project, Alternative 1 would not worsen capacity utilization of any study regional transit provider under Existing plus Project Conditions. Also, none of the regional transit providers serving the project site would exceed their designated capacity utilization standards for Alternative 1 as well. Therefore, Alternative 1 is, similar to the Proposed Project, considered to result in less-than-significant impacts to regional transit operations under Existing plus Project Conditions.

Table 4-7: Existing plus Project Regional Screenline Analysis – Weekday PM Peak Hour

Region	Regional Transit Operator	Existing			Existing plus Project					
					Proposed Project			Alternative 1		
		Ridership	Peak Hour Capacity	Capacity Utilization	Project Trips	Ridership	Capacity Utilization	Project Trips	Ridership	Capacity Utilization
East Bay	BART	20,067	24,150	83%	7	20,074	83%	5	20,072	83%
	AC Transit	2,517	4,193	60%	2	2,519	60%	2	2,519	60%
	Ferries	702	1,519	46%	0	702	46%	0	702	46%
	Subtotal	*23,286*	*29,862*	*78%*	*9*	*23,295*	*78%*	*7*	*23,293*	*78%*
North Bay	GGT Buses	1,397	2,205	63%	1	1,398	63%	1	1,398	63%
	GGT Ferries	906	1,700	53%	1	907	53%	1	907	53%
	Subtotal	*2,303*	*3,905*	*59%*	*2*	*2,305*	*59%*	*2*	*2,305*	*59%*
South Bay	BART	10,202	16,800	61%	9	10,211	61%	5	10,207	61%
	Caltrain	1,986	3,250	61%	4	1,990	61%	2	1,988	61%
	SamTrans	575	940	61%	1	576	61%	0	575	61%
	Subtotal	*12,763*	*20,990*	*61%*	*14*	*12,777*	*61%*	*7*	*12,770*	*61%*
Total		**38,352**	**54,757**	**70%**	**25**	**38,377**	**70%**	**16**	**38,368**	**70%**

Source: SF Planning Department – 2009, 2012; CDM Smith – January 2012.

Alternative 2 – Alternative 2 would not add any new transit-related trips; as such, all study regional transit services would continue to operate with the same capacity utilization as under Existing Conditions. Therefore, Alternative 2 would not result in any significant traffic impacts to regional transit service under Existing plus Project Conditions.

Project Transit Operations Analysis

Driveway Placement – The provision of underground parking beneath residential buildings would create multiple driveways along streets located within the project site to access those garages. As mentioned in **Section 4.2.1 – Traffic Impacts**, as part of Transportation Mitigation Measure 1, all garage entrances that would be located along streets with transit service (Missouri, Arkansas, and Wisconsin Streets) would be required to have additional review by SFMTA Transit Operations to ensure the driveway would not encumber any bus stop or bus operations. Additionally, minimum clearance distance will be provided between any garage driveway and neighboring intersections as well as Muni stops. These clearance distances would be identified coordinating with SFMTA. Similarly, any bulb-outs along streets located within the project site, including transit streets, would require the review of the TASC, which includes SFMTA, DPW and other city agencies, and would be required to meet the following standards contained in the Better Streets Plan by the San Francisco Planning Department:

- Streets and bulb-outs shall be designed to accommodate emergency vehicle (WB-40) turns; and
- Streets and bulb-outs along Muni routes shall be designed to accommodate a 40-foot (B-40) bus.

Therefore, driveways and bulb-outs provided as part of the Proposed Project and its alternatives are not expected to result in any significant impacts to Muni operations under Existing plus Project Conditions.

Bus Routing – Current Muni lines directly serving the project site (10 Townsend, 19 Polk, and 48 Quintara-24th Street) would continue to serve the project site under Existing plus Project Conditions as well. However, as mentioned in **Section 1.4.2 – Vehicular Access**, the existing street network within the project site would be modified to a grid system to better match the neighboring street layout as part of the Proposed Project and Alternative 1. This modification in roadway layout would realign all diagonally aligned streets into streets running in the north-south and east-west directions, thereby rerouting the Muni lines as mentioned in Section 1.4.2 – Vehicular Access. Project design plans, including relocations of bus stops were reviewed by Muni and bus reroutes as well as potential stop locations were approved.[9] The planned modification to the roadway layout might increase walking distance for some bus riders by one to two blocks, but it would reduce travel distance for the Muni lines and generally improve their operations. Therefore, the Proposed Project and Alternative 1 are not expected to result in any significant impacts to on-site Muni operations under Existing plus Project Conditions.

For Alternative 2, the roadway layout within the project site would not be modified. As such, there would not be any modifications to Muni bus routing within the project site. Hence, Alternative 2 would not result in any significant impacts to on-site Muni operations under Existing plus Project Conditions.

Bus Stop Relocation – Due to street realignment and grid reconnections to the surrounding neighborhood under Existing plus Project Conditions, the Proposed Project and Alternative 1 would

[9] Confirmation from SFMTA was obtained by the Planning Department (Brett Bollinger) on October 11, 2012.

result in the relocation of existing bus stops within the project site. In addition, the following changes to the Muni lines directly serving the project site are planned as part of the TEP by 2016:

- The 10 Townsend would be renamed to become the 10 Sansome;
- The 19 Polk would be rerouted to operate between Van Ness Avenue/North Point and San Francisco General Hospital, and would not serve the project site directly;
- The 48 Quintara-24th Street would be rerouted so that segments south of 24th Street would be served by the 48 Quintara-24th Street, instead of the 19 Polk. Service on the 48 Quintara-24th Street would run all day from 48th Avenue to the Navy Yard, connecting to Hunters Point, currently served by the 19 Polk; and
- A new 58 24th Street service connecting Diamond Street with the 22nd Street Caltrain station would serve the project site directly.

The following discussion identifies the impact of bus stop relocations on Muni's operations under two scenarios – with and without implementation of TEP recommendations before the project development is completed (anticipated by 2025).

<u>With TEP Implementation</u> – In coordination with SFMTA, the Project Sponsor has developed bus routing and stops through the project site to best align with the expected TEP transit route alignments and connect properly with the remainder of the transit lines external to the project study area. The Proposed Project and Alternative 1 would relocate/consolidate existing bus stops and create new ones accounting for the planned changes to Muni lines serving the project site as part of the TEP. Final bus stop location and design would be subject to SFMTA review and approval. As mentioned in **Section 1.4.2 – Vehicular Access**, proposed changes to the bus stops include the following:

- Bus stops serving the 19 Polk and located along northbound Connecticut Street (between 25th and Wisconsin Streets), southbound Connecticut Street (north of 26th Street), and southbound Wisconsin Street (south of Coral Street) would be eliminated, since the 19 Polk would not travel through the project site in the near future;
- The bus stop serving the outbound 10 Townsend/Sansome and located along westbound 25th Street (east of Connecticut Street) would be relocated to southbound Arkansas Street (north of 24th Street);
- Bus stops serving the inbound 10 Townsend and located along northbound Dakota Street (between 25th and 23rd Streets, and south of 23rd Street) and westbound 23rd Street (east of Wisconsin Street) would be relocated and consolidated at northbound Wisconsin Street (south of 24th Street);
- The bus stop serving the 48 Quintara-24th Street and located along eastbound 25th Street (west of Dakota Street) would be relocated to eastbound 25th Street (west of Connecticut Street);
- Bus stops serving the 10 Polk and 48 Quintara-24th Street and located at northbound Wisconsin Street (north of 26th Street and south of 25th Street) would be consolidated at northbound Wisconsin Street (south of 25th Street); and
- New bus stops would be created along westbound 25th Street (east of Wisconsin Street), westbound 25th Street (west of Connecticut Street), and various locations along Missouri Street in both the directions, including north of 24th Street, between 23rd and Texas Streets, and north of Texas Street. These new bus stops are planned to serve the new 58 24th Street line and other Muni routes.

The proposed bus routing and relocated bus stops are exhibited in **Figure 1-7**.

In total, 12 bus stops would be provided within the project site, compared to 10 bus stops under Existing Conditions. The elimination of two (2) bus stops serving the 19 Polk on Connecticut and Wisconsin Streets would not affect Muni's operations, since the 19 Polk would not access the project site in the near future. Even though three bus stops serving the inbound 10 Townsend/Sansome would be consolidated to one bus stop along northbound Wisconsin Street, it would not worsen Muni's operations. The consolidation is planned to enhance Muni operations by reducing bus travel distance and travel time. However, consolidation of bus stops would increase walking distance for some of the transit riders by one to two blocks. The Proposed Project and Alternative 1 would not modify the number of bus stops within the project site that would serve the outbound 10 Townsend/ Sansome and 48 Quintara-24th Street lines. Therefore, the planned relocation and consolidation of bus stops as part of the Proposed Project and Alternative 1 would not have a significant impact on Muni's operations with the implementation of TEP recommendations.

Alternative 2 would not modify any of the bus stops located within the project site. Therefore, Alternative 2 is not expected to have a significant impact on Muni operations with the implementation of TEP recommendations.

<u>Without TEP Implementation</u> – In the event that TEP recommendations are not implemented before the project development is completed, it is anticipated that the locations of bus stops within the project site would remain the same, except the following:

- Bus stop serving the 19 Polk and located along northbound Connecticut Street (between 25th and Wisconsin Streets) would be relocated to westbound 25th Street (west of Connecticut Street);
- Bus stop serving the 19 Polk and located along southbound Wisconsin Street (south of Coral Street) would be relocated to westbound 25th Street (east of Wisconsin Street); and
- Bus stops serving the inbound 10 Townsend and located along northbound Dakota Street (between 25th and 23rd Streets, and south of 23rd Street) and westbound 23rd Street (east of Wisconsin Street) would be relocated and consolidated at northbound Wisconsin Street (south of 24th Street).

In total, eight (8) bus stops would be provided within the project site, compared to 10 bus stops under Existing Conditions. The relocation of bus stops serving the 19 Polk and the consolidation of bus stops serving the inbound 10 Townsend would not be anticipated to worsen Muni's operations. The consolidation is planned to enhance Muni's operations by reducing bus travel distance and travel time. Consolidation and relocations of bus stops would, however, increase walking distance for some transit riders by one to two blocks. Therefore, the planned relocation and consolidation of bus stops as part of the Proposed Project and Alternative 1 would not have a significant impact on Muni's operations without the implementation of TEP recommendations.

Similar to under the With TEP Implementation scenario, Alternative 2 would not modify any of the bus stops located within the project site under Without TEP Implementation scenario. Therefore, Alternative 2 is not expected to have a significant impact on Muni operations without the implementation of TEP recommendations.

4.2.3 Pedestrian Impacts

Proposed Project and Alternative 1 – During the weekday PM peak hour, the Proposed Project would generate an estimated 476 pedestrian trips, including 130 trips based on 'walk' mode and 346 trips by public transit that would walk between the transit stop and the project site (see **Appendix I** for full Travel Demand Analysis/Mode Split information). Alternative 1 would generate 310 pedestrian trips, consisting of 96 walk-only trips and 214 trips to/from transit stops.

As mentioned in **Section 1.4.1 – Pedestrian Access**, the Proposed Project and Alternative 1 would provide pedestrian bulb-outs, wherever feasible and crosswalks at all intersections located within the project site. This would increase the number of these elements as compared to existing conditions. Bulb-outs provide widened sidewalks for pedestrians, shortened crossing distances, and also traffic calming. Bulb-out designs at each intersection have not been developed; as such, their dimensions and curb radii cannot be provided in this report. However, they would be required to be designed such that large vehicles, in particular buses, would be able to make right turns where needed. The Project Sponsor would be required to work with the SFMTA, DPW and the San Francisco Fire Department to make sure intersections are designed to meet their specifications. In addition, sidewalks that are 5 feet to 14 feet wide would be provided along all streets within the project site. Wider sidewalks, about 9.5 feet to 14 feet wide would be provided along blocks with retail facilities and community center (Blocks K and L). All sidewalks and corner bulb-outs would be compliant with the American Disability Act (ADA). The planned pedestrian amenities provided as part of the Proposed Project and Alternative 1 would be an improvement over existing conditions, as many portions of the project site currently do not have any sidewalk facilities, such as continuous pedestrian sidewalks or crosswalks, and pedestrian bulb-outs at intersections.

New pedestrian connections would be provided as part of the Proposed Project and Alternative 1 within and along the periphery of the project site. These new pedestrian connections are exhibited in **Figure 4-3**. Additionally, the Proposed Project and Alternative 1 would provide new pedestrian paths to link new and existing neighborhood amenities, including the following:

- Connecticut Street would be transformed into a grand series of stairways between the new 24½th Street and 23rd Street linking residents to the Potrero Hill Recreation Center;
- A new stairway connecting 23rd Street from Missouri Street to Texas Street would be provided;
- A new stairway along 22nd Street would be provided between Missouri Street and Texas Street. It is anticipated that this new facility could begin the pedestrian connection to the 22nd Street Caltrain Station, the 23rd Street T Third Street Station, and the 22nd Street mixed-use district; and
- A pedestrian-accessible path would be provided to important neighborhood amenities, including Starr King Elementary School and the health clinic located at the Coral Street/Wisconsin Street intersection.

These new pedestrian connections would improve pedestrian circulation within and in the vicinity of the project site. The Proposed project attempts to maximize accessibility by locating the neighborhood core (consisting of retail facilities, community center, and the 24th Street Central Park) at the center of the development on streets with less than 5 percent slope. The project would also provide pedestrian amenities on the street network such as street lights and plantings on every block. These improvements are consistent with the City's Better Streets Plan.

Additionally, the Project Sponsor is working with the MOD (Mayor's Office on Disability) and SFDPW to prepare an accessibility circulation plan to ensure a circulation strategy for disabled citizens. This plan would be developed to create more pedestrian paths which would be accessible in the future, concentrate accessible units along Texas and 24th Streets, which are relatively less steeper than other streets within the project site, concentrate accessible units that would have accessible parking in buildings with the most community amenities, and keep Texas Street relatively flat throughout. This plan would ensure a circulation strategy for disabled citizens within the project site and reduce the need to access streets with steep grades.

The provision of below-grade residential parking would increase the potential for vehicle-pedestrian conflicts at driveway access locations. Therefore, to minimize these conflicts and to enhance pedestrian safety, the following guidelines would be adopted as part of Transportation Mitigation Measure 1 for the design of driveways and curb cuts:

- Driveways would generally be provided along major north-south streets to restrict the majority of the vehicular traffic to these roads and minimize vehicle traffic along minor east-west streets;
- Garage entrances shall have a preferred width of 12 feet and a maximum width of 16 feet;
- Garages with more than 20 parking spaces would be subject to the Planning Department's Queue Abatement Condition of Approval, requiring the project sponsor to design for and prevent through monitoring the potential for vehicle queues in the public right-of-way, including sidewalks;
- Curb-cuts would be kept to a minimum; and
- At driveways for larger garages, warning signals or vehicle alert system shall be deployed to improve vehicle, pedestrian, and bicycle circulation near the garage entrance.

As mentioned in **Section 2.5 – Pedestrian Conditions**, pedestrian activity within the study area under Existing Conditions was observed to be low, despite having an elementary school, a health clinic, and a recreation center in the neighborhood. Even with the construction of the project, pedestrian trips accessing Starr King Elementary School, the health clinic, and the Potrero Hill Recreation Center are expected to be low-to-moderate. However, since the Proposed Project and Alternative 1 would provide pedestrian accessible paths to these facilities along with improve pedestrian features, including wide sidewalks, crosswalks, and pedestrian bulb-outs, potential pedestrian and vehicular conflicts are expected to be low.

Even though the Proposed Project and Alternative 1, with the addition of land uses such as a community center and a denser residential unit layout, would increase pedestrian activity and conflicts with project vehicles within and in the vicinity of the project site, the pedestrian improvements planned as part of this project would generally improve conditions and be able to accommodate the increased pedestrian activity. Therefore, the Proposed Project and Alternative 1 are expected to cause less-than-significant impacts to pedestrian operations within and adjacent to the project site under Existing plus Project Conditions.

Alternative 2 –For Alternative 2 pedestrian facilities would remain the same as under existing conditions and no improvements would be provided Alternative 2 would not add any new pedestrian trips to the study area and pedestrian activity within the study area under Existing plus Project Conditions would continue to be similar to Existing Conditions. Therefore similar to Existing Conditions, pedestrian facilities currently available at the project site would remain to accommodate existing pedestrian activity and Alternative 2 would have less-than-significant pedestrian impacts.

4.2.4 Bicycle Impacts

Planning Code Requirements and Standards

Planning Code Requirements – Based on the Planning Code Section 155.5, 25 Class 1 bicycle parking spaces for the first 50 dwelling units and an additional Class 1 space for every 4 additional dwelling units are required for residential developments over 50 dwelling units in size, excluding senior dwelling units. The Proposed Project and Alternative 1would include 1,700 dwelling units (with 1,600 non-senior-housing units) and 1,280 units (with 1,200 units non-senior-housing units), while Alternative 2 would rebuild the existing land uses on-site, including 620 affordable units (with no senior housing units). As such, 412 bicycle parking spaces, 312 spaces, and 167 spaces would be required to be provided by the Proposed Project, Alternative 1, and Alternative 2, respectively for residential use.

Additionally, based on the Planning Code Section 155.4, retail buildings in excess of 25,000 square feet in gross floor area would be required to provide bicycle parking spaces. Neither of the retail spaces proposed as part of the Proposed Project and Alternative 1 would exceed this square footage threshold. Alternative 2 would not provide any retail facilities. Therefore, no bicycle parking spaces for retail facilities would be required for the Proposed Project and its alternatives. For the proposed community center, the Planning Code Section 155.4 states that for new commercial professional services buildings, if the square footage is between 20,000 and 50,000 square feet, six (6) Class 1 or Class 2 bicycle parking spaces are required. Therefore, the Proposed Project and Alternative 1 would both require six Class 1 or Class 2 bicycle parking spaces for the planned community center. Alternative 2 would not provide any community center. Hence, no bicycle parking spaces for community center would be required for Alternative 2. Therefore, per the Planning Code requirements, a total of 418 bicycle spaces, 318 spaces, and 167 spaces are required to be provided for the Proposed Project, Alternative 1, and Alternative 2.

Based on the Planning Code Section 155 (j), for each 20 off-street parking spaces provided, one space shall be provided for bicycle parking. Since the Proposed Project, Alternative 1, and Alternative 2 would provide 1,055, 773, and 256 off-street parking spaces, a total of 53, 38, and 12 bicycle spaces would have to be provided for each of the project alternatives, respectively. These bicycle space requirements are lower than those obtained using Planning Code Sections 155.4 and 155.5. Therefore, to be conservative, Planning Code requirements of 418 bicycle spaces, 318 spaces, and 167 spaces for the Proposed Project, Alternative 1, and Alternative 2 are used for this study.

In addition to bicycle parking, the community center within the Proposed Project and Alternative 1 would be required to provide shower and clothes locker facilities. According to the Planning Code (Section 155.3), for facilities between 20,000 and 50,000 square feet in size, two (2) showers and four (4) lockers are required. The residential development portion of the project would be exempt from the shower and locker facilities requirement.

Proposed Project Supply – Based on current designs, the Proposed Project would provide 450 bicycle spaces within the project site, of which 416 spaces would be secured spaces distributed within the residential buildings; while the remaining 34 spaces would be, subject to SFMTA review and approval, provided on-street as bicycle racks. Alternative 1 would provide 328 secured bicycle spaces and 34 on-street spaces via bicycle racks. Six (6) of the on-street bicycle spaces would be provided at the community center. The proposed distribution of on-street bicycle spaces within the project site for the Proposed Project and Alternative 1 is shown in the Transit and Bike Parking layout, included in **Appendix B**. Exact locations of secured bicycle parking spaces would be determined following the building design phase and review and approval by SFMTA. In addition, the Proposed Project and Alternative 1, based on current designs, would provide at least two (2) showers and four (4) locker facilities in the Community Center. For Alternative 2, approximately 170 secured off-street bicycle parking spaces would be provided in the ground floor of each residential building.

Bicycle parking spaces would be distributed around the project site, with secured bicycle parking within each residential building and on-street bicycle racks provided near the commercial, recreational and community center facilities, subject to SFMTA review and approval. As shown in **Appendix B**, concentrations of bicycle racks would be provided around community center and open space areas. The design of residential bicycle parking would vary for each building, but in all cases would be easily accessible and designed to minimize conflicts between bicycles, pedestrians and drivers. Within buildings, bicycle facilities would be located in well-lit, safely accessible areas. As the Proposed Project and its alternatives are anticipated to be built in several phases over time, adequate bicycle facilities would be provided in accordance with the number of residential units being constructed during each phase, and coordination with SFMTA for the on-street bicycle parking would occur as streets were completed. Therefore, the Proposed Project and its alternatives would meet the Planning Code requirements for bicycle parking, showers, and lockers.

Bicycle Circulation

The Proposed Project and its alternatives would not provide any dedicated bicycle facilities within the project site. However, the redesign of the street layout as part of the Proposed Project and Alternative 1 would provide streets with grades less than 8.33 percent within the project site along Texas, 24th, and 23rd Streets. While no bicycle routes currently traverse the project site, opportunities for bicycle connections are envisioned along these less steep streets provided as part of the Proposed Project and Alternative 1. Opportunities for key bicycle connections are created along the following streets:

- Texas Street in the north-south direction between 25th and 22nd Streets;
- 24th Street in the east-west direction between Wisconsin and Texas Streets;
- 25th Street in the east-west direction between Connecticut and Indiana Streets; and
- Connecticut Street in the north-south direction between 25th and Cesar Chavez Streets.

These planned opportunities for key bicycle connections are shown in the Mobility and Circulation Concept Plan, included in **Appendix B**. Also, street and landscape design with wider sidewalks, 11-to-12-foot travel ways, better internal connections, and more public pathways is expected to encourage bicycling opportunities as part of roadway accommodations. Back-in vehicle parking would be provided on 24th Street between Arkansas and Missouri Streets to increase safety for bicyclists. Head-in parking would be limited to Texas Street. Bicycle racks are planned, subject to SFMTA review and approval, for all public open spaces, the community center, and along retail facilities as designated in the Transit and Bike Parking layout, included in **Appendix B**.

With an increased residential density, an increase in bicycle activity within the study area is anticipated due to the Proposed Project and Alternative 1. During the PM peak hour, 243 and 145 net project-related trips for the Proposed Project and Alternative 1 would be performed using modes other than automobile, transit, and walking. It is anticipated that a majority of these “other” trips would be by bicycle. Even though there are no bicycle facilities (bicycle routes) at or near the project site under Existing Conditions, as mentioned above, the redesign of the street layout and design as part of the Proposed Project and Alternative 1 would likely encourage bicycle travel and connections along relatively flat streets within the project site, including Texas Street, 24th Street, 25th Street, and Connecticut Street. With an increase in residential density, parking and parking garage driveways, conflicts between new vehicles and bicyclists would also increase. Vehicles and bicyclists would share project roadways, and bicyclists would conflict with parking and parking garage driveways. However, street design would generally improve bicycle conditions, and bicycle travel was observed to be relatively low in the project area. Therefore, the Proposed Project and Alternative 1 would result in less-than-significant impacts to the study area bicycle operations under Existing plus Project Conditions.

Alternative 2 would not generate any new bicycle-related trips as compared to Existing Conditions. Therefore, Alternative 2 would not result in any significant impacts to bicycle operations under Existing plus Project Conditions. Also, since Alternative 2 would not increase the overall bicycle trips accessing the project site, it is not expected to result in an increase in potential bicycle conflicts with other modes of transportation.

4.2.5 Loading Impacts

Planning Code Requirements and Standards

Planning Code Requirements – According to the Planning Code requirements (§152), one (1) off-street freight loading space would be required for retail stores ranging from 10,001 to 60,000 square feet in size. The Proposed Project and Alternative 1 would provide two retail facilities in Blocks K and L, each less than 10,000 square feet in size. Therefore, the Proposed Project and Alternative 1 would not be required to provide any loading space for retail. Since no retail facilities are proposed as part of Alternative 2, no off-street loading spaces for retail are required for this alternative too.

Residential buildings and other facilities (under which the community center would be categorized) are expected to provide loading spaces if they exceed 100,000 square feet in gross floor area (i.e., 1 space from 100,001 to 200,000 square feet, 2 spaces from 200,001 square feet to 500,000 square feet, etc.). Residential buildings around the project site would total 2,000,000 square feet in size across 16 blocks, with some blocks having multiple residential buildings (as shown in **Tables 1-2 and 1-4**). It is not anticipated that any of the residential buildings would individually exceed 100,000 square feet. Also, the community center would be less than 100,000 square feet in gross floor area. Hence, no freight loading spaces are required for residential or community center land uses. In total, according to the Planning Code, no off-street freight loading spaces are required for the Proposed Project and Alternative 1.

Similar to Existing Conditions, Alternative 2 would have a total square footage of 577,000 square feet for residential uses distributed across 61 buildings (38 in the Potrero Terrace parcel and 23 in the Potrero Annex parcel). It is not anticipated that any of the residential buildings would individually exceed 100,000 square feet. Hence, no freight loading spaces are required for residential uses. Alternative 2 would not develop any retail facilities or a community center as part of it. Therefore, according to the Planning Code, no off-street freight loading spaces are required for Alternative 2 as well.

Proposed Project Supply – The Proposed Project and its alternatives are not required to provide off-street loading and, therefore, would not provide any off-street loading spaces. However, the project sponsor would seek to provide at least 18 on-street loading spaces by providing generally at least one on-street loading space per block for the Proposed Project and Alternative 1 and five on-street loading spaces for Alternative 2. These yellow-marked loading spaces are subject to review and approval by SFMTA at a public hearing. The on-street loading spaces would be provided close to retail and community center facilities, and where appropriate, such as at the senior housing facility and near residential lobbies. Their exact location would be determined when the buildings are designed.

Loading Conditions

As stated in **Section 3.8 – Freight Delivery and Service Vehicle Demand**, the Proposed Project would generate a loading demand of approximately three (3) spaces and four (4) spaces during the average and peak loading hours; whereas, Alternative 1 would generate a loading demand of approximately two (2) spaces during both the average and peak loading hours. The provision of at least 18 on-street loading spaces distributed across the project site would meet the average and peak hour loading demands for the Proposed Project and Alternative 1. As mentioned earlier, exact locations of the on-street loading spaces would be determined during the building design phase. Also, per leasing agreements, loading and delivery for the proposed retail uses would take place during non-peak hours along 24th Street. Therefore, with the provision of 18 on-street loading spaces, the Proposed Project and Alternative 1 would result in less-than-significant impacts to loading operations under Existing plus Project Conditions.

Alternative 2 with about 620 residential units and no retail and community center uses would have a loading demand for zero (0) spaces. However, as mentioned in **Section 1.4.3**, five off-street loading spaces would be provided as part of Alternative 2. These off-street loading spaces would be distributed across the project site and would meet the loading demand for Alternative 2. Therefore, with the provision of five on-street loading spaces, Alternative 2 would result in less-than-significant impacts to loading operations under Existing plus Project Conditions.

Passenger Drop-off/Pick-up Activities

The same on-street loading spaces that could be provided for the Proposed Project and its alternatives could also be used for passenger pick-up/drop-off activities within the project site. The Project Sponsor may also seek a white passenger zone for the senior housing use. As mentioned earlier, these on-street loading spaces would be provided close to community center, senior housing facility, and residential lobbies. Their exact location would be determined when the buildings are designed. However, streets located in the vicinity of the buildings have sufficient street frontages to accommodate these on-street passenger loading spaces. Therefore, the Proposed Project and its alternatives are not expected to result in any significant impacts to passenger loading activities under Existing plus Project Conditions.

Garbage Storage and Access

Garbage collection would be a combination of centralized and decentralized garbage, recycling, and compost collection areas to maximize efficiency depending on the type of building. For all project-related land uses, including residential, retail, and community center, garbage bins and dumpsters would be located internally within each building including in the parking garage where present. The exact locations of each collection area would be determined following the building design phase, but generally internal to each building, near maintenance, loading, or parking facilities. Garbage bins and dumpsters would be taken to the street and returned to the garages by maintenance personnel on pick up days. The Project Sponsor would coordinate with the San Francisco Department of the Environment (SF Environment) and the SFMTA's Sustainable Streets Division to ensure that the garbage facilities would remain on the street for the shortest time and would not result in any impacts to pedestrian and traffic circulation. Since neither garbage storage nor garbage access are expected to interfere with pedestrian and traffic circulation, the Proposed Project and its alternatives would result in less-than-significant loading impacts due to garbage access under Existing plus Project Conditions.

4.2.6 Emergency Vehicle Access Operations

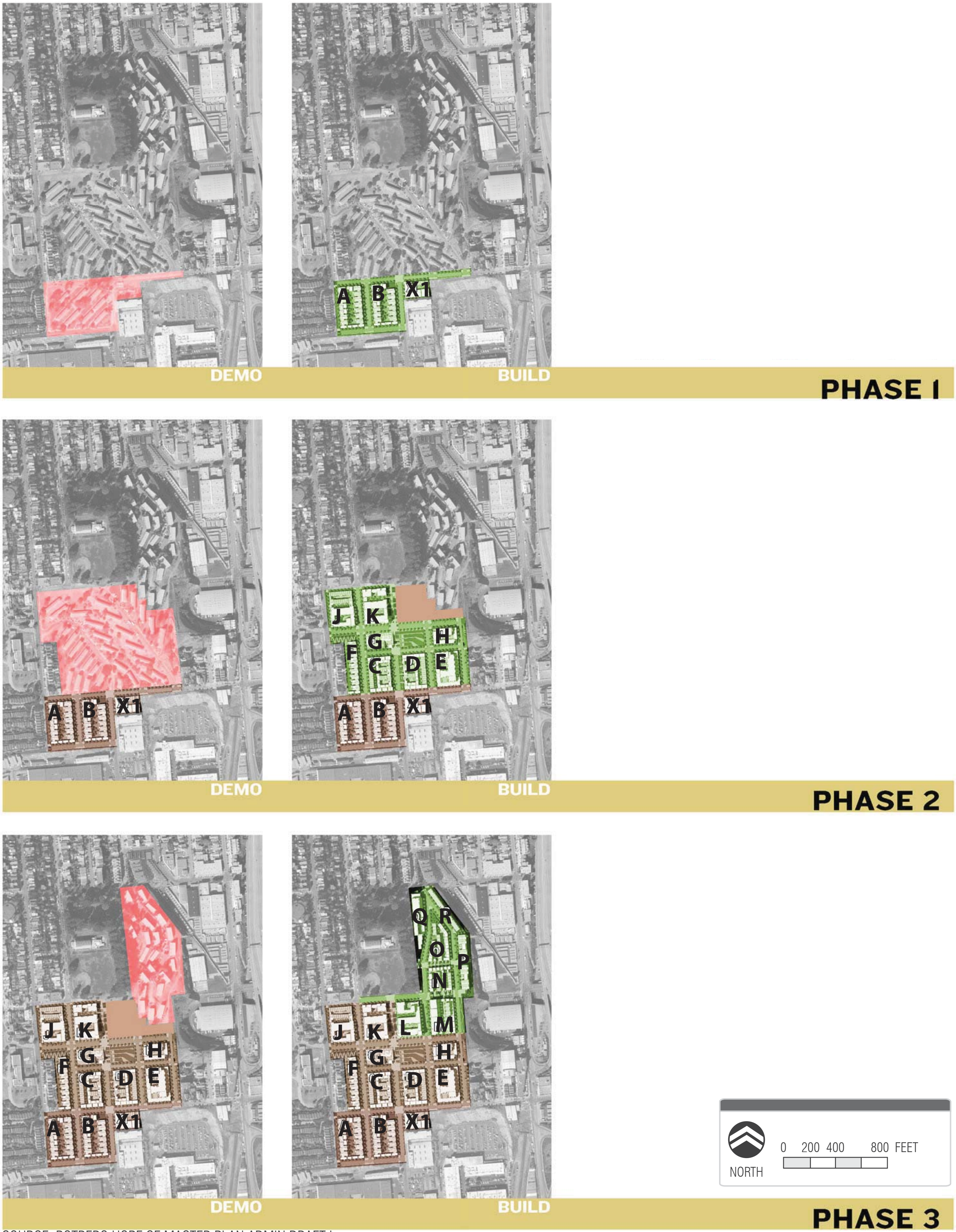
The closest fire station in the vicinity of the project site is San Francisco Fire Department Station #37, located at 798 Wisconsin Street, near the intersection of 22nd Street and Wisconsin Street. It is located approximately 0.25 miles northwest of the project site. The closest police station is Mission Police Station, located at 630 Valencia Street, near the intersection of 17th and Valencia Streets. It is located approximately two (2) miles northwest of the project site. The Proposed Project and its alternatives would not be expected to impact the access of emergency vehicles, including fire trucks.

The street configuration planned as part of the Proposed Project and Alternative 1 would create a grid of streets with easier cross-site access. All new streets would provide emergency vehicle access and meet the San Francisco Fire Department's access requirements. New connections include extending Arkansas Street from 23rd Street to 26th Street, extending Missouri Street directly south from 23rd Street directly to 25th Street, formalizing Texas Street and connecting it to Missouri Street on the northern edge of the site, and new east-west streets connecting Wisconsin Street and Coral Street to Texas Street (refer to **Section 1.4.2 – Vehicular Access** for more detail on the planned roadway connections). All buildings would be required to meet all applicable building and life safety regulations. Considering the above information, the Proposed Project and its alternatives would provide adequate emergency access to all project facilities, therefore, would not result in significant emergency access-related impacts.

4.2.7 Construction Impacts

Detailed plans for construction activities have not been finalized. The following analysis is based on information provided by the project sponsor and professional knowledge of similar construction projects throughout city. Project construction would occur in three non-overlapping phases, spanning from 2015 to 2025, lasting approximately 10 years. For the Proposed Project and its alternatives, Phase 1 would likely include the redevelopment of Potrero Terrace portion of the project site that is located south of 25th Street, while Phase 2 would include development of remaining portions of the Potrero Terrace site. Phase 3 would include redevelopment of the entire Potrero Annex portion of the project site. For the Proposed Project and Alternative 1, the above mentioned construction phasing would represent construction of Blocks A, B, and X1 during Phase 1; Blocks C, D, E, F, G, H, J, and K during Phase 2; and Blocks L, M, N, O, P, Q, and R during Phase 3. All street layout improvements would be performed as and when neighboring blocks are constructed. This construction phasing is preliminary; however, for the Proposed Project and Alternative 1, Phase 1 is expected to last about 26 months, while Phases 2 and 3 would last about 48 months. For Alternative 2, Phases 1, 2, and 3 are expected to last about 18, 27, and 23 months, respectively. The three phases of constructions for the Proposed Project and Alternative 1 are exhibited in **Figure 4-4,** while that for Alternative 2 are shown in **Figure 4-5**.

Each construction phase would include demolition of existing facilities, followed by grading and construction of new facilities. Wherever possible, the project would accommodate on-site relocation of existing residents. Residents would be able to move into the new housing units as they become available. The Project Sponsor would develop an access plan for pedestrians and transit during each phase of construction coordinating with the residents, SFMTA, SFDPW, and other utility agencies and City departments.

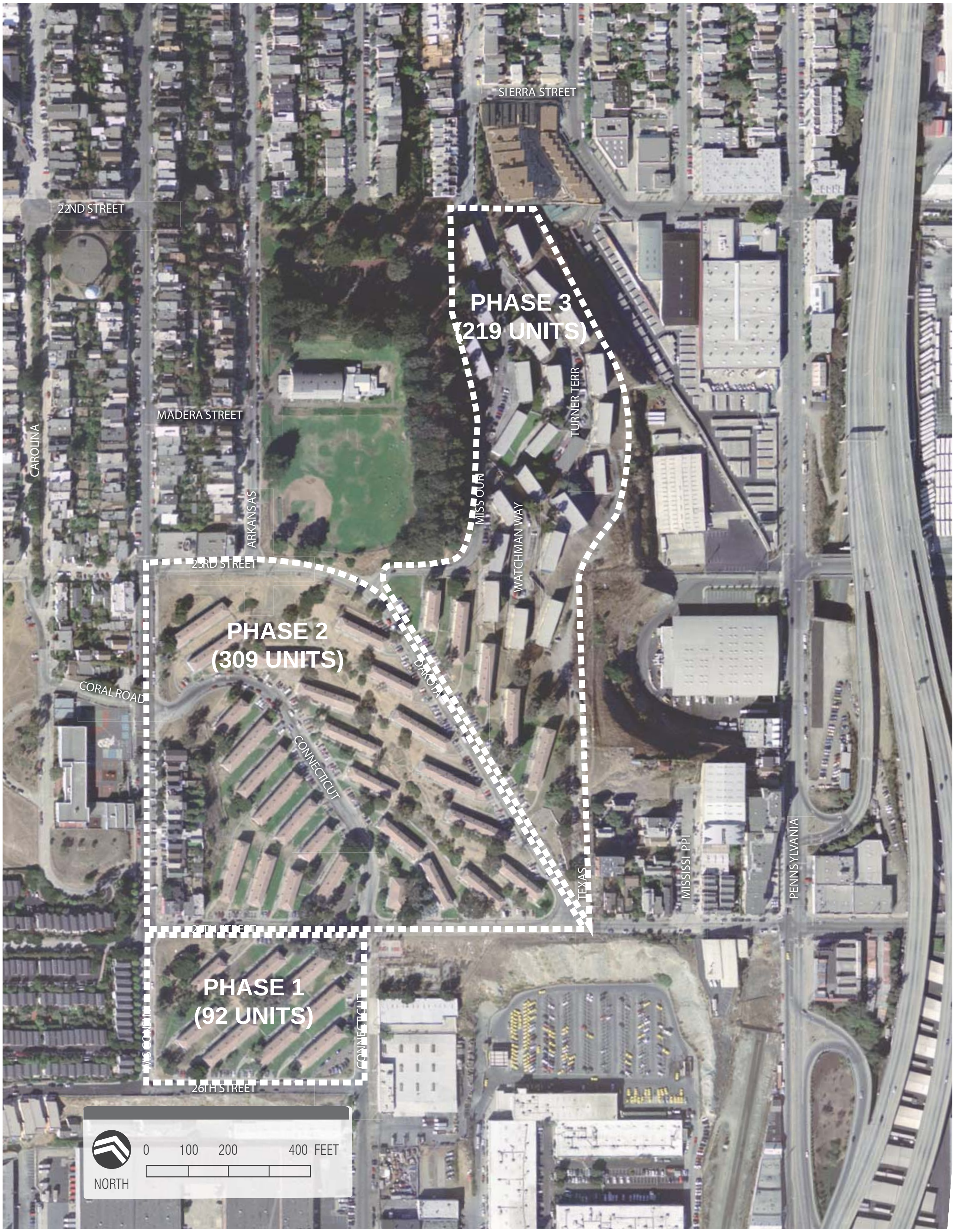


SOURCE: POTRERO HOPE SF MASTER PLAN ADMIN DRAFT I

NOTE:THIS PHASING IS PRELIMINARY AND SUBJECT TO CHANGE

PRELIMINARY CONSTRUCTION PHASING - PROPOSED PROJECT AND ALTERNATIVE 1

Figure 4-4



SOURCE: VAN METER WILLIAMS POLLACK LLP, 2010

PRELIMINARY CONSTRUCTION PHASING - ALTERNATIVE 2

Figure 4-5

Like other similar construction projects within the City, construction activity is expected to occur on Monday through Saturday from 7 AM to 5 PM[10]. The hours of construction would be consistent with the Department of Building Inspection requirements, and the contractor would need to comply with the San Francisco Noise Ordinance. Construction staging and worker parking would not be provided, but would occupy the on-street parking spaces available within the project site. All construction work would be performed using the Regulations for Working in San Francisco Streets (the Blue Book[11]). Similarly, any construction-related lane closures (travel, parking, sidewalk) requires the review at a public hearing of the interagency TASC, consisting of agencies such as SFMTA, DPW, SFFD, and SFPD.

Impacts to Site Access and Traffic Circulation due to Street Closure

Proposed Project and Alternative 1 – The redevelopment of the project site would involve temporary street closures in each phase for the demolition, regrading, modification of site layout, and construction activities. These street closures are expected to last for about eight (8) months, but not the whole duration of each phase. During Phase 1, portions of 25th and 26th Streets located between Wisconsin and Connecticut Streets would be closed for all traffic, except for construction and emergency vehicles. However, to minimize disruption to east-west traffic, these streets would be closed in two non-overlapping periods, each period lasting about four (4) to five (5) months. During the period when 26th Street is closed, traffic would be detoured to 25th Street via Wisconsin Street; while during the period when 25th Street is closed, traffic would be detoured to 26th Street via Connecticut Street. As such, travel distance for traffic would increase by about one to two blocks during both the periods. The closure of portions of 25th and 26th Streets would add about 100 to 150 detour trips during the PM peak hour to 26th, Connecticut, 25th, and Wisconsin Streets in either direction for a period of 10-14 months. Currently, these streets carry about 100 to 200 vehicles in each direction during the PM peak hour. With the detour traffic, the overall traffic on these streets would increase to about 300 to 350 vehicles per hour in each direction. Since the typical capacity of a local roadway is about 800 vehicles per hour per lane, even with the addition of detour traffic 26th, Connecticut, 25th, and Wisconsin Streets would continue to operate at levels lower than their capacities.

During Phase 2, the portion of Connecticut Street located from 25th Street to Wisconsin Street and that of Dakota Street from 24th Street to 25th Street would be closed for about 12 months. The majority of the north-south traffic would be detoured to Wisconsin Street via 23rd Street during this phase. Residents of the Potrero Annex portion of the project site would have to access neighboring circulation network via 23rd and Wisconsin Streets, resulting in an increase in travel distance by about 0.3 miles. It is expected that detour traffic of about 150 vehicles would be added to Wisconsin Street (from 23rd to 25th Streets), 23rd Street (from Wisconsin Street to Dakota Street), and 25th Street (from Wisconsin Street to Dakota Street) in each direction during the PM peak hour. All three streets (Wisconsin, 23rd, and 25th Streets) currently operate well below their capacities of about 800 vehicles per hour per lane (they carry about 200 to 250 vehicles in each direction); hence, even with the addition of detour traffic these streets would continue to operate at levels lower than their capacities.

The student drop-off/pick-up facilities for the Starr King Elementary School are located along Wisconsin Street between Coral Road and Carolina Street. As such, the increase in traffic along Wisconsin Street (from 23rd to 25th Streets) during Phase 2 due to detour traffic would delay the school's pick-up and

[10] Construction in San Francisco is permitted seven days a week between the hours of 7 AM and 8 PM.

[11] The most recent version is available at http://www.sfmta.com/cms/vcons/documents/BlueBook7thEd-OnlineVers2008-0701.pdf.

drop-off activities during the morning and evening peak hours. However, as mentioned above, even with the addition of detour traffic, Wisconsin Street is expected to continue to operate at levels lower than their capacities. Therefore, significant delays to drop-off and pick-up activities at the school are not expected.

During Phase 3, the portion of 23rd Street located east of Dakota Street and that of Dakota Street from 24th to 23rd Streets would be closed for about 12 months. Due to the street closures, traffic from the Potrero Terrace portion of the project site would be detoured to extended Arkansas Street via 23rd Street and newly built portion of 24th Street within the project site, resulting in an increase in travel distance by about one to two blocks. Similar to Phase 2, detour traffic of about 50 to 100 vehicles would be added to 24th Street (from Arkansas Street to Dakota Street) and 23rd Street (between Dakota Street and Arkansas Street), while about 150 vehicles would be added to Arkansas Street (between 23rd and 24th Streets) in each direction during the PM peak hour. Traffic volumes along streets located within the project site are in general low and operate well below their capacities. Therefore, even with an increase of about 100 to 150 vehicles during the PM peak hour due to the detour traffic, these streets are expected to operate at levels lower than their capacities.

During construction work, local access to any homes/businesses located on adjacent streets would be maintained, as required. None of the street closures planned as part of the three phases would block direct access to Starr King Elementary School, Starr King Open Space, or the Potrero Hill Recreation Center. A portion of the traffic accessing these facilities using 25th, 26th, Connecticut, Dakota, and 23rd Streets would have to detour using the routes discussed above during each construction phase when those streets are closed. Also, as mentioned above, the increase in traffic along Wisconsin Street (from 23rd to 25th Streets) during Phase 2 due to detour traffic would delay the school's drop-off and pick-up activities during the morning and evening peak hours, though significant delays are not expected due to less-than-capacity traffic on Wisconsin Street.

No Ramp and freeway lane closures are anticipated during the construction of the Proposed Project and Alternative 1. All lane closures would be within or adjacent to the project site; therefore, the potential street closures during the construction of the Proposed Project and Alternative 1 would not affect traffic on the state highway system.

Although each street closure would not cause a significant impact individually, considered together and over the length of time required would be considered a significant construction-related impact on traffic circulation in the project area. Transportation Mitigation Measure 2, discussed in detail at the end of this section, would serve to reduce this impact by providing traffic detours and temporary pedestrian facilities during street closures; however, given the magnitude of the project, the duration of the construction period, and the potential that street closures over long periods could affect traffic operations, the impact would remain **significant and unavoidable**.

Alternative 2 – During Phases 1 and 3 of Alternative 2, no streets would be closed. Hence, there would be no site-access related impacts during these two phases. However, during Phase 2, the portion of Connecticut Street located north of 25th Street would be closed for about 27 months. Since this segment of Connecticut Street would only serve the Potrero Terrace portion of the project site located north of 25th Street, which would be under construction during Phase 2, the planned street closures during Phase 2 would not affect access to/from the remaining portions of the project site. All other traffic would be detoured to 25th Street to access Wisconsin Street. As mentioned earlier, currently 25th Street carries about 100 to 200 vehicles in each direction during the PM peak hour. With the detour traffic, the overall traffic on these streets is expected to increase to about 300 vehicles per hour in each direction. Therefore, even with the addition of detour traffic 25th Street would continue to operate at levels lower than its capacity (about 800 vehicles per hour per lane).

Similar to the Proposed Project and Alternative 1, no Ramp and freeway lane closures are anticipated during the construction of Alternative 2. All lane closures would be within or adjacent to the project site; therefore, the potential street closures during the construction of Alternative 2 would not affect traffic on the state highway system.

Even though the construction of Alternative 2 would cause the temporary closure of one roadway segment (Connecticut Street located north of 25th Street), it is anticipated to last for about 27 months, which is five (5) months shorter in duration of overall street closures anticipated during the construction of the Proposed Project and Alternative 1 (32 months). Considering the duration of street closure, Alternative 2 is expected to result in a significant construction-related impact on traffic circulation. Similar to the Proposed Project and Alternative 1, Transportation Mitigation Measure 2 discussed at the end of this section would serve to reduce this impact by providing traffic detours and temporary pedestrian facilities during street closures; however, given the magnitude of the project, the duration of the construction period, and the potential that street closures over long periods could affect traffic operations, the impact would remain **significant and unavoidable**.

Fencing, grading, and street closures would be planned so as to maintain access to the existing occupied units at all times during the construction period. Temporary pedestrian facilities would be provided to facilitate pedestrian movement within and to the project site. It is anticipated that demolition and construction during each phase would be planned such as to maintain pedestrian and bicycle access to the project site. As mentioned earlier, the Project Sponsor would develop an access plan for pedestrians and transit during each phase of construction coordinating with the residents, SFMTA, SFDPW, and other utility agencies and the City departments. In the event of emergency, emergency vehicles would be able to access the occupied portion of the project site at all times. A discussion on the emergency vehicle access plan during the construction period is provided later in this section.

Impacts to On-Site Transit Operations due to Street Closure

As mentioned above, the redevelopment of the project site would involve temporary street closures during each construction phase, which could in-turn cause rerouting of Muni lines and relocation of bus stops within the project site. Potential bus rerouting and bus stop relocation could be as follows.

Proposed Project and Alternative 1 – During Phase 1 of the Proposed Project and Alternative 1, Muni lines traveling along 25th Street might be rerouted to 26th Street via Connecticut Street when 25th Street between Connecticut and Wisconsin Streets is closed for approximately eight (8) months. Also, due to the closure of 25th and 26th Streets in Phase 1, bus stops located at the Wisconsin Street/25th Street and Connecticut Street/26th Street intersections might be closed or relocated. However, since both 25th Street and 26th Street would not be closed at the same, the above mentioned bus stops are not expected to close at the same time. So riders can access Muni buses from the other bus stop when one is closed. Additionally, Muni riders can access two other neighboring bus stops located within a block radius at the Wisconsin Street/26th Street and 25th Street/Connecticut Street intersections.

During Phase 2, Muni lines traveling along 26th Street would be restored to 25th Street. However, all Muni lines traveling along Dakota Street between 25th and 23rd Streets and along Connecticut Street between 25th and Wisconsin Streets might be rerouted to Wisconsin Street for approximately 12 months. Due to the closure of Connecticut and Dakota Streets, two bus stops located along these roadway segments would be closed or relocated. However, Muni riders can access buses from four other neighboring bus stops located within a two-block radius at the Wisconsin Street/Coral Street, Dakota Street/23rd Street, 25th Street/Dakota Street, and 25th Street/Dakota Street intersections.

During Phase 3, all Muni lines traveling along Dakota Street between 25th and 23rd Streets and along Connecticut Street between 25th and Wisconsin Streets could be rerouted to Wisconsin Street and Arkansas Street that would be extended during Phase 2; these bus rerouting is expected to occur for approximately 12 months. Due to the closure of Dakota Street, the bus stop located at the Dakota Street/23rd Street intersection would also be closed or relocated. However, Muni riders can access buses from the neighboring bus stop located within a two-block radius at the Wisconsin Street/23rd Street intersection.

Although each bus rerouting would not cause a significant impact individually, considering them altogether and over the long period of time would be considered a significant construction-related impact to on-site transit operations. Transportation Mitigation Measure 2, discussed in detail at the end of this section, would serve to reduce this impact by developing a bus rerouting and bus stop relocation plan prior to each construction phase; however, given the magnitude of the project and the duration of the construction period, the impact to on-site transit operations would remain **significant and unavoidable**.

Alternative 2 – During Phases 1 and 3 of Alternative 2, no streets would be closed. Hence, no rerouting of Muni lines is required for these two phases. However, bus stops may be closed or relocated due to ongoing construction off-street. Under such conditions, Muni riders can access buses from neighboring bus stops located within a two-block radius. Also, during Phase 2, the portion of Connecticut Street located north of 25th Street would be closed or relocated. Therefore, Muni lines traveling along Connecticut Street between 25th and Wisconsin Streets might have to be rerouted to Wisconsin Street for approximately 27 months. Due to the closure of Connecticut Street, the bus stops located along this roadway segment would be closed or relocated as well. However, Muni riders can access buses from three other neighboring bus stops located within a two-block radius at the Wisconsin Street/Coral Street, 25th Street/Connecticut Street, and Wisconsin Street/25th Street intersections.

Overall, bus routes and stops located along Connecticut Street between 25th and Wisconsin Streets might have to be temporarily rerouted and relocated for approximately 27 months. Considering the duration of bus rerouting and bus stop relocation, Alternative 2 is expected to result in significant construction-related impact to on-site transit operations. As mentioned above for the Proposed Project and Alternative 1, Transportation Mitigation Measure 2 discussed at the end of this section would serve to reduce this impact. However, given the magnitude of the project and the duration of the bus rerouting period, the impact to on-site transit operations would remain **significant and unavoidable**.

Impacts to On-Site Pedestrian Operations due to Street Closure

Proposed Project, Alternative 1, and Alternative 2 – When street closures are implemented during the construction phase, it is anticipated that sidewalks located along those roadways would also be temporarily closed. However, temporary pedestrian facilities, subject to SFMTA approval, would be provided under those circumstances to facilitate pedestrian movement within and to the project site. It is anticipated that demolition and construction during each phase would be planned such as to maintain pedestrian connections to the project site. As such, the construction-related temporary closures due to the Proposed Project and its alternatives would cause **less-than-significant** impacts to the pedestrian operations within the study area.

Impacts to On-Site Bicycle Operations due to Street Closure

Proposed Project, Alternative 1, and Alternative 2 – Since there are no dedicated bicycle facilities within the project site, bicyclists use streets for transportation. Therefore, when street closures are implemented during the construction phase, they would affect bicycle operations as well. However, as mentioned earlier, bicycle activity within and nearby the project site is minimal. Also, it is anticipated that demolition and construction during each phase would be planned such as to maintain bicycle connections to the project site. As such, the construction-related temporary closures due to the Proposed Project and its alternatives would cause **less-than-significant** impacts to the bicycle operations within the study area.

Impacts to Traffic Operations due to Construction Traffic

Proposed Project and Alternative 1 – The Proposed Project and Alternative 1 would include grading of approximately 248,160 cubic yards of earthwork over the three construction phases. During Phase 1, approximately 18,000 cubic yards of earthwork would be used as fill and approximately 7,400 cubic yards would be exported off site. During Phase 2, approximately 135,680 cubic yards would be excavated and filled on site, but a total of approximately 213,490 cubic yards would be necessary for fill; as such, approximately 77,810 cubic yards of fill would be imported to the project site. During Phase 3, approximately 35,730 cubic yards of earthwork would be used as fill and approximately 51,350 cubic yards would be exported off site. This earthwork would generate a minimum of about 3,550 truck trips (assuming 18-wheel trucks with a capacity of 70 cubic yards would be used for hauling) and a maximum of about 14,600 truck trips (assuming dump trucks with a capacity of about 17 cubic yards would be used for hauling) during the construction period. Construction work is anticipated to occur Monday through Saturday from 7 AM to 5 PM. This would translate to about nine (9) to 34 truck trips per day, based on the conservative assumption of a six-month period of hauling activity per phase. Additionally, development of the project site would involve approximately 150 daily worker trips during Phase 1 and approximately 220 during Phases 2 and 3. In total, the Proposed Project and Alternative 1 would involve approximately 144 construction-related vehicle trips (110 worker trips and 34 trucks trips) during the PM peak hour. Hence, the total peak hour construction-related vehicle trips would be substantially fewer than the number of vehicle-trips that would be generated by the Proposed Project and Alternative 1 (approximately 890 and 550 PM peak hour vehicle trips). Additionally, construction-related trips are temporary depending on the phase of construction. Nevertheless, construction traffic would reduce capacity of surrounding streets due to planned street closures and detours. Hence, construction traffic generated by the Proposed Project and Alternative 1 would result in a significant impact on traffic operations. As discussed in more detail below, Transportation Mitigation Measure 2 would address construction traffic specifically by planning construction work and truck deliveries such as to minimize construction traffic during the weekday morning (6 AM to 9 AM) and evening (4 PM to 6 PM) peak periods and by identifying ways to reduce construction worker vehicle trips though transportation demand management programs; however, the construction traffic impact on neighboring traffic operations would remain **significant and unavoidable**.

Alternative 2 – This alternative would involve approximately 150 daily worker trips during Phase 1, approximately 260 during Phase 2, and approximately 220 during Phase 3. Assuming the amount of earthwork required for the Proposed Project and its alternatives is the same, Alternative 2 would involve a maximum of about 164 construction-related vehicle trips (130 worker trips and 34 trucks trips) during the PM peak hour. These peak hour construction-related vehicle trips would be substantially higher than the number of vehicle-trips that would be generated by Alternative 2 (zero net PM peak hour vehicle trips). Also, these 164 construction-related vehicle trips generated for Alternative 2 are slightly higher than those generated during the construction of the Proposed Project and Alternative 1. Hence, construction traffic generated by Alternative 2 would result in a significant impact on traffic operations. Similar to the Proposed Project and Alternative 1, Transportation Mitigation Measure 2 (discussed in detail below) would address construction traffic; however, the construction traffic impact on neighboring traffic operations would remain **significant and unavoidable**.

Impacts to Transit, Bicycle, and Pedestrian Operations due to Construction Traffic

Proposed Project, Alternative 1, and Alternative 2 – Even though it is anticipated that very few construction workers would access the project site using transit, on foot, or using bicycle, it is anticipated that the construction traffic along with street closures would increase potential vehicle-pedestrian and vehicle-bicycle conflicts within the study area. Nevertheless, there is low pedestrian and bicycle activity in the vicinity of the project site under Existing Conditions. As such, the pedestrian and bicycle facilities available within the study area are expected to handle the bicycle and pedestrian activity related to construction traffic. Also, construction sites would be fenced off during each construction phase to avoid and minimize disruption to pedestrian and bicycle operations outside the construction zone. Therefore, construction traffic generated by the Proposed Project and its alternatives are expected to result in **less-than-significant** impact to neighboring transit, bicycle, and pedestrian operations.

Impacts to Parking Operations due to Construction Traffic

Proposed Project, Alternative 1, and Alternative 2 – Construction staging and worker parking would not be provided, but would occupy the on-street parking spaces available within the project site. Therefore, even though construction workers would cause a temporary parking demand, it would be accommodated on site and is not anticipated to impact neighboring parking operations.

As discussed above, due to the length of the construction phases and schedule (approximately 10 years), the number of required street closures/detours, the number of bus route and stop relocations and the uncertainty associated with a long construction project, the Proposed Project and its alternatives would result in significant construction-related impacts to traffic and transit operations.

> **Transportation Mitigation Measure 3 –** To reduce construction-related impacts to traffic and transit operations, the Project Sponsor shall develop and implement a Transportation Control Plan (TCP) for each construction phase to anticipate and minimize impacts of various construction activities associated with the Proposed Project and its alternatives. The TCP would disseminate appropriate information to contractors and affected agencies with respect to coordinating construction activities to minimize overall disruptions and ensure that overall circulation in the project area is maintained to the extent possible, with particular focus on ensuring pedestrian, transit, and bicycle connectivity. The program would supplement and expand, rather than modify or supersede, any manual, regulations, or provisions set forth by SFMTA, SFDPW, other City departments and agencies. Specifically, the plan should:

- Identify construction traffic management and a cohesive program of operational and demand management strategies designed to maintain acceptable levels of travel flow during periods of construction activities. These include, but are not limited to, construction strategies, demand management activities, alternative route strategies, and public information strategies consistent with best practices in San Francisco, as well as other cities or agencies that, although not being implemented in the City, could provide valuable management practices for the project. Management practices include, but are not limited to:
  - Planning site construction and truck deliveries such as to minimize construction-related traffic operations during the weekday morning (6 AM to 9 AM) and evening (4 PM to 6 PM) peak commute hours;
  - Identifying ways to reduce construction worker vehicle trips through transportation demand management programs and methods to manage construction work parking demands, such as promoting carpooling/vanpooling, encouraging transit usage, discouraging workers from parking off-site, etc.;
  - Working further with SFMTA to identify the best traffic detours during each construction phase;
  - Identifying best practices to accommodate pedestrians, such as temporary pedestrian wayfinding signage or temporary walkways;
  - Working with SFMTA to identify relocated Muni routes and stops and the best methods to notify riders of changes; and
  - Identifying best practices to manage traffic flows on surrounding streets.
- Describe procedures required by different departments and/or agencies in the city or region for implementation of the TCP, such as reviewing agencies, approval processes, and estimated timelines. For example,
  - The project sponsor will need to coordinate temporary and permanent changes to the transportation network within the City of San Francisco, including traffic, street and parking changes and lane closures, with the SFMTA. Any permanent changes may require meeting with the SFMTA Board of Directors or one of its sub-Committees. This may require a public hearing. As part of this process, the Construction Plan is required to be reviewed by the Transportation Advisory Staff Committee (TASC) to resolve internal differences between different transportation modes; and
  - Caltrans Deputy Directive 60 (DD-60) requires TCP and contingency plans for all state highway activities. These plans should be part of the normal project development process and must be considered during the planning stage to allow for the proper cost, scope and scheduling of the TCP activities on Caltrans right-of-way. These plans should adhere to Caltrans standards and guidelines for stage construction, construction signage, traffic handling, lane and ramp closures and TCP documentation for all work within Caltrans right-of-way.
- Notify emergency vehicle providers about the planned street closures/detours and their duration for each construction phase.
- Develop a public information plan to provide adjacent residents and businesses with regularly-updated information regarding project construction, including construction activities, durations, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and other lane closures; and

- Hire a transportation manager to actively manage the construction vehicle, truck loading, passenger loading and emergency vehicle access to the project site through at least the most intense phases of construction.

As mentioned earlier, the TCP should address phased development of the project and would require updating at each phase. The TCP shall be submitted to TASC, consisting of representatives from the SFMTA and Muni operations, Fire Department, Police Department, and SFDPW for review/approval. Similarly, any travel lane, parking lane, or sidewalk closures are required to be reviewed by the TASC. Implementation of **Transportation Mitigation Measure 3** included in the traffic management plan would reduce the contribution of the Proposed Project and its alternatives to construction-related traffic impacts; however, given the magnitude of the project, the duration of the construction period, and the potential that street closures over long periods could affect traffic operations, the impact would remain **significant and unavoidable**.

Emergency Vehicle Access during Construction

Proposed Project and Alternative 1 – The construction emergency vehicle access plan for the Proposed Project and Alternative 1 is exhibited in **Figure 4-6**.

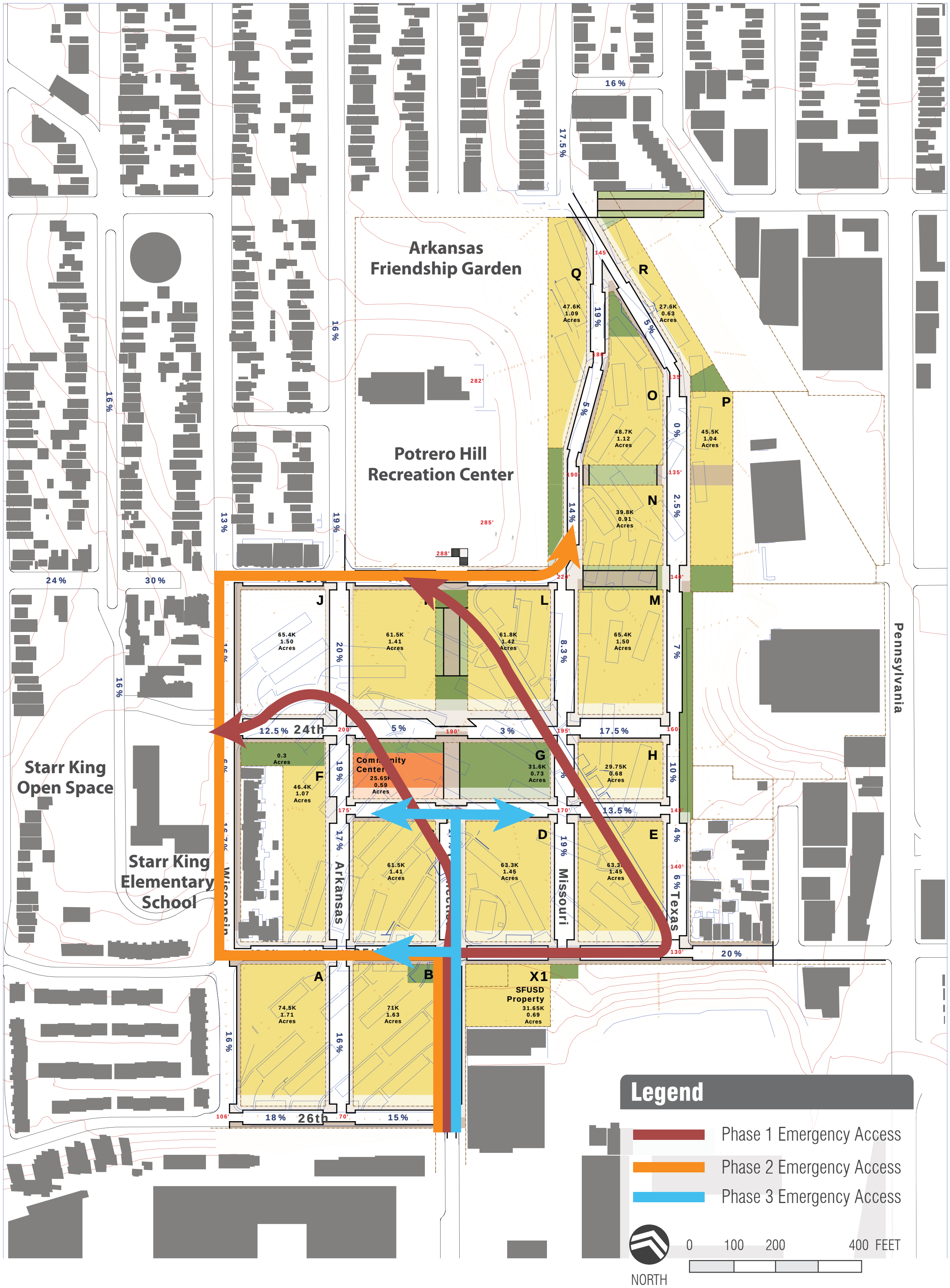
During Phase 1, emergency vehicle access routes would consist of Connecticut Street between 26th and Wisconsin Street, Connecticut Street between 26th and 25th Streets, 25th Street between Connecticut and Dakota Streets, and Dakota Street north of 25th Street. During Phase 2, emergency vehicle access routes would consist of Connecticut Street between 26th and 25th Streets, 25th Street between Connecticut and Wisconsin Streets, Wisconsin Street between 25th and 23rd Streets, and 23rd Street east of Wisconsin Street. During Phase 3, the emergency access route would consist of Connecticut Street between 26th and 23rd Streets, 26th Street west of Connecticut Street, 25th Street west of Connecticut Street, and 24th Street east and west of Connecticut Street.

Alternative 2 – The construction emergency vehicle access for Alternative 2 would remain the same as under Existing Conditions. During Phases 1 and 3, emergency vehicle access routes would be provided via the following two routes:

- Connecticut Street located between 26th and Wisconsin Street; and
- Connecticut Street located between 26th and 25th Streets, 25th Street between Connecticut and Dakota Streets, and Dakota Street north of 25th Street.

During Phase 2, emergency vehicle access would be provided via the following two routes:

- Connecticut Street located between 26th and 25th Streets, 25th Street between Connecticut and Dakota Streets, and Dakota Street north of 25th Street; and
- Connecticut Street between 26th and 25th Streets, 25th Street between Connecticut and Wisconsin Streets, Wisconsin Street between 25th and 23rd Streets, and 23rd Street east of Wisconsin Street.



CONSTRUCTION EMERGENCY VEHICLE ACCESS - PROPOSED PROJECT AND ALTERNATIVE 1

Figure 4-6

4.2.8 Parking Analysis

The following section includes an evaluation of the parking supply and demand analysis, parking requirements set forth by the Planning Code, and parking operations associated with the Proposed Project.

Planning Code Requirements – Based on the current Planning Code (§151) requirements, the Proposed Project and Alternative 1 would be required to provide a total of 667 and 436 off-street parking spaces, respectively. This is based on the provision of one (1) parking space for each dwelling unit, excluding affordable housing or senior housing units and one (1) parking space for every 500 square feet of occupied floor area for retail spaces ranging between 5,000 and 20,000 square feet in area. Additionally, the community center would be required to provide off-street parking for the proposed day care/preschool facilities (code requirement of one space for every 25 accommodated children) and music/dance/arts/gymnasium facilities (code requirement of one space for every 2,000 square feet of occupied floor area in excess of 7,500 square feet) provided as part of the community center for the Proposed Project and Alternative 1. **Table 4-8** provides a comparison of the number of off-street parking spaces required by the Planning Code and the number of the spaces provided by the Proposed Project and Alternative 1.

In addition, according to the Planning Code requirements (§155.i and §166.d), the project would be required to provide one handicap-accessible parking space for every 25 off-street parking spaces as well as two car-share parking spaces for the first 200 dwelling units of a residential development and an additional car-share parking space for every subsequent 200 dwelling units. In total, 663 off-street parking spaces are required per the Planning Code for the Proposed Project (630 spaces are required for residential uses, 16 spaces for retail uses, and 17 spaces for the community center). An additional 42 handicap-accessible and nine (9) car-share parking spaces are also required per Planning Code. Alternative 1 would be required to provide a total of 432 off-street parking spaces (404 spaces for residential uses, 16 for retail uses, and 12 for the community center), 30 handicap-accessible and seven (7) car-share spaces to meet Planning Code requirements. .

Parking Supply – The Proposed Project would provide approximately 1,055 off-street parking spaces for the Proposed Project and 773 off-street parking spaces for Alternative 1 within the project site. In general, these off-street parking spaces are split by structured or underground garages to be constructed at each block. For the Proposed Project, these off-street spaces would consist of 485 parking spaces for affordable housing units, 535 parking spaces for market-rate housing units, 20 parking spaces for senior housing, 10 parking spaces for retail use, and five (5) parking spaces for the community center. For Alternative 1, 398 parking spaces for affordable housing units, 345 parking spaces for market-rate units, 15 parking spaces for senior housing units, 10 spaces for retail uses, and five (5) spaces for the community center would be provided. In addition, 30 handicap-accessible spaces and seven (7) car-share spaces would be provided for both the Proposed Project and Alternative 1. Car-share spaces would be publicly accessible, as defined by the Planning Code. However, the exact locations of the parking spaces would be determined following the building design phase. As required by the City of San Francisco, all parking spaces for housing units would be unbundled and sold separately from the housing unit itself.

Table 4-8: San Francisco Planning Code Off-Street Parking Requirements

Land Use	Code Requirement	Proposed Project				Alternative 1			
		Size	Minimum Required	Proposed Supply	Difference	Size	Minimum Required	Proposed Supply	Difference
Residential									
Market-Rate	1 per unit	630 units	630	535	-95	404 units	404	345	-59
Affordable	None	970 units	0	485	485	796 units	0	398	398
Senior Housing	None	100 units	0	20	20	80 units	0	15	15
Retail	1 per 500 gsf occupied								
Block K		5,500 gsf	0	0	0	5,500 gsf	0	0	0
Block L		9,500 gsf	16	10	-6	9,500 gsf	16	10	-6
Community Center	n.a.[1]	35,000 gsf	17	5	-12	25,000 gsf	12	5	-7
Total			**663**	**1,055**	**392**		**432**	**773**	**341**
Handicap-accessible	1 per 25 spaces provided	n.a.	42	42	0	n.a.	30	30	0
Car-share	2 per first 200 units, 1 every 200 units after	n.a.	9	9	0	n.a.	7	7	0

Source: San Francisco Planning Code; CDM Smith– January 2012.
Notes:
[1]Parking requirements for the community center are determined by calculating the parking requirement of each specific use in the facility (gymnasium, pre-school, etc.) and totaling the parking requirements for each of these uses.

Additionally, the reconfiguration of roadways and addition of new streets within the project site would provide a minimum of 600 unmetered on-street parking spaces, consisting of curbed spaces along project roadways for both the Proposed Project and Alternative 1. Perpendicular, angled, or parallel on-street parking would be provided on all streets located within the project site. On-street parking provided along 24th Street between Missouri Street and Arkansas Street would be time-limited. On-street parking facilities planned within the project site for the Proposed Project and Alternative 1 are shown in Roadway Cross-Sections, included in **Appendix B**.

Parking Demand – Using the methodology recommended by the SF Guidelines, the short-term and long-term parking demands were calculated for the project during the weekday evening peak period. The Proposed Project is estimated to generate a parking demand of 1,764 parking spaces in the evening peak period, while approximately 1,655 parking spaces (1,055 off-street and 600 on-street) would be provided. The parking demand of the Proposed Project would exceed the parking supply by approximately 109 parking spaces. Alternative 1 would have an evening parking demand of 1,315 spaces, which would be served by the 1,373 parking spaces (773 off-street and 600 on-street) provided within the project site as part of this alternative. Long-term parking demand is expected to be the primary parking demand at the project site, since the project primarily consists of residential dwelling units. Detailed parking demand calculations are included in **Appendix J**.

Since on-site parking supply is expected to be less than the peak parking demand for the Proposed Project, residents and other parkers would likely search for parking in the neighborhood, outside of the project site. As discussed in **Section 2.8.1 – On-Street Parking Conditions**, the surrounding neighborhood under Existing Conditions has approximately 50 percent of the 1,301 available on-street parking spaces occupied during the evening peak period. As such, approximately 650 parking spaces are available in the vicinity of the project site during the weekday evening peak period. These surplus parking spaces would be able to accommodate the Proposed Project's additional parking demand of 109 parking spaces during the evening peak period. As mentioned earlier, all parking demand for Alternative 1 would be satisfied by the parking supply provided as part of this alternative.

Alternative 2 would have the same parking demand as under Existing Conditions. As mentioned in **Section 2.8.3 – On-Site Parking Conditions**, parking occupancy within the project site is less than 50 percent for both on- and off-street facilities during the weekday PM peak period under Existing Conditions, indicating that the parking demand at the project site is less than the available parking supply. Therefore, similar to Existing Conditions, the available on-site parking supply of approximately 256 off-street and 100 on-street parking spaces is expected to be sufficient to meet the parking demand of Alternative 2.

4.3 2030 Cumulative Impacts

This section includes a discussion on traffic and transit operations under 2030 Cumulative Conditions and 2030 Cumulative plus Project Conditions. Additionally, development of traffic volumes under 2030 Cumulative Conditions and transportation-related impacts identified under 2030 Cumulative plus Project Conditions have been discussed.

4.3.1 Background Growth

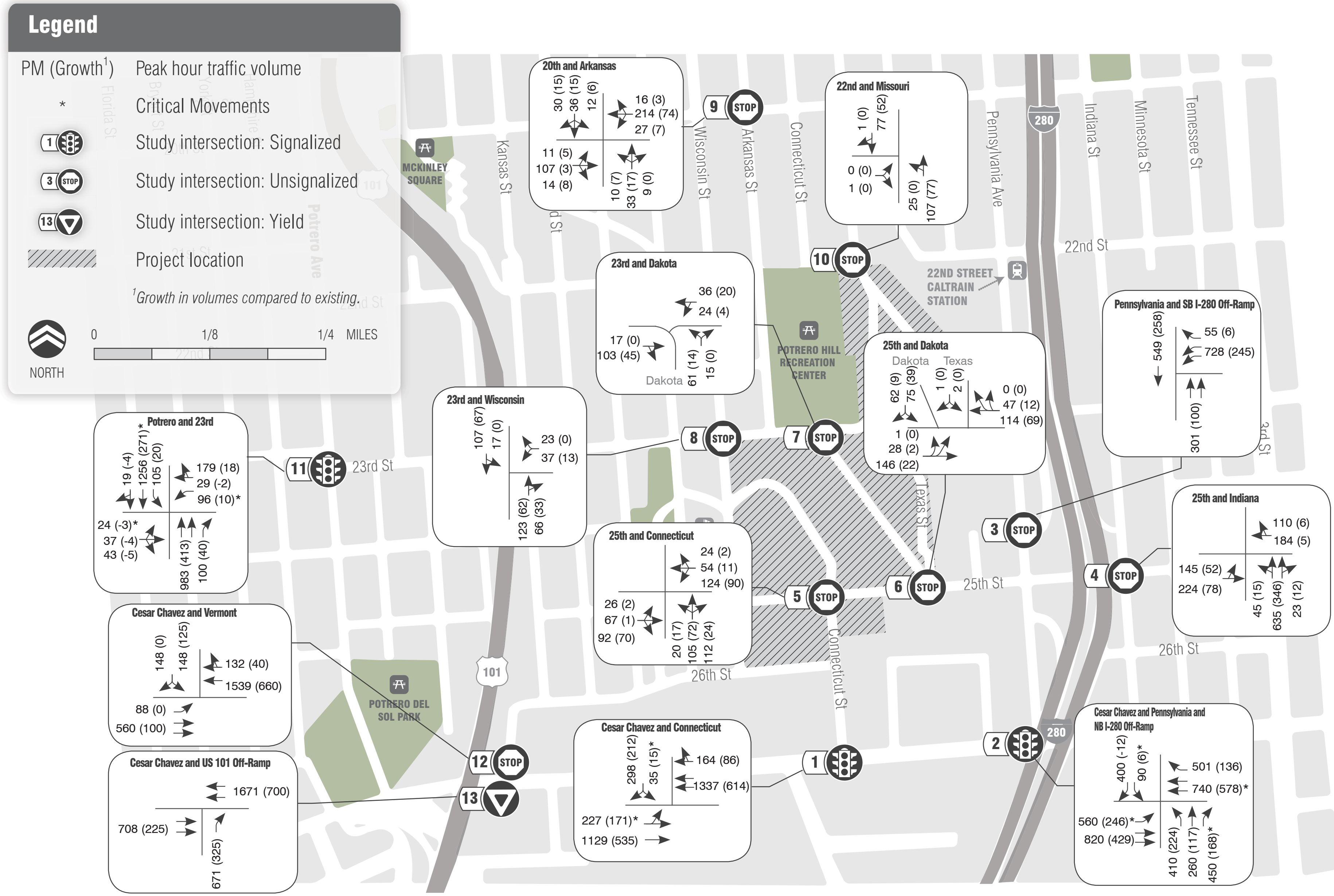
To be consistent with the traffic study being performed for a neighboring development (Sunnydale-Velasco Housing Development), intersection volumes under 2030 Cumulative Conditions were developed using the same methodology that was adopted in that traffic study. According to this methodology, intersection volumes under 2030 Cumulative Conditions were developed based on the combination of future traffic volumes reported in Candlestick Point-Hunters Point Shipyard Phase II Development Plan Environmental Impact Report, November 2009 (herein referred to as the "CS-HP Phase 2 EIR") and traffic growth projected by the San Francisco County Transportation Authority's Chain Activity Modeling Process (SF-CHAMP) model. The SF-CHAMP model is the City and County of San Francisco's unique activity-based forecasting tool for future travel demand within the city, taking into account future land use, socioeconomics, and transportation patterns to develop future traffic and transit volumes along all San Francisco roadways and transit lines. The SF-CHAMP model predicts future person trips by mode (auto, transit, walk and bicycle trips). It also forecasts vehicular traffic on regional freeways, major arterials and on the study area local roadway network considering the available roadway capacity, origin-destination demand and travel speeds when assigning the future travel demand to the roadway network. This model can be used to assess transportation-related impacts due to changes in land use, socioeconomic, and circulation network.

The SF-CHAMP model divides San Francisco into approximately 981 geographic areas, known as Traffic Analysis Zones (TAZs). For each TAZ, travel demand is estimated based on the population and employment growth assumptions developed by the Association of Bay Area Governments (ABAG). The SF-CHAMP Model travel demand estimates incorporate the ABAG land use and socio-economic database and growth forecasts for year 2030.

The technical memorandum detailing the development of intersection volumes under 2030 Cumulative Conditions is included in **Appendix L**. This memorandum was submitted to and approved by the Planning Department. Traffic volumes at the study intersections, along with their geometric configurations under 2030 Cumulative Conditions are illustrated in **Figure 4-7**.

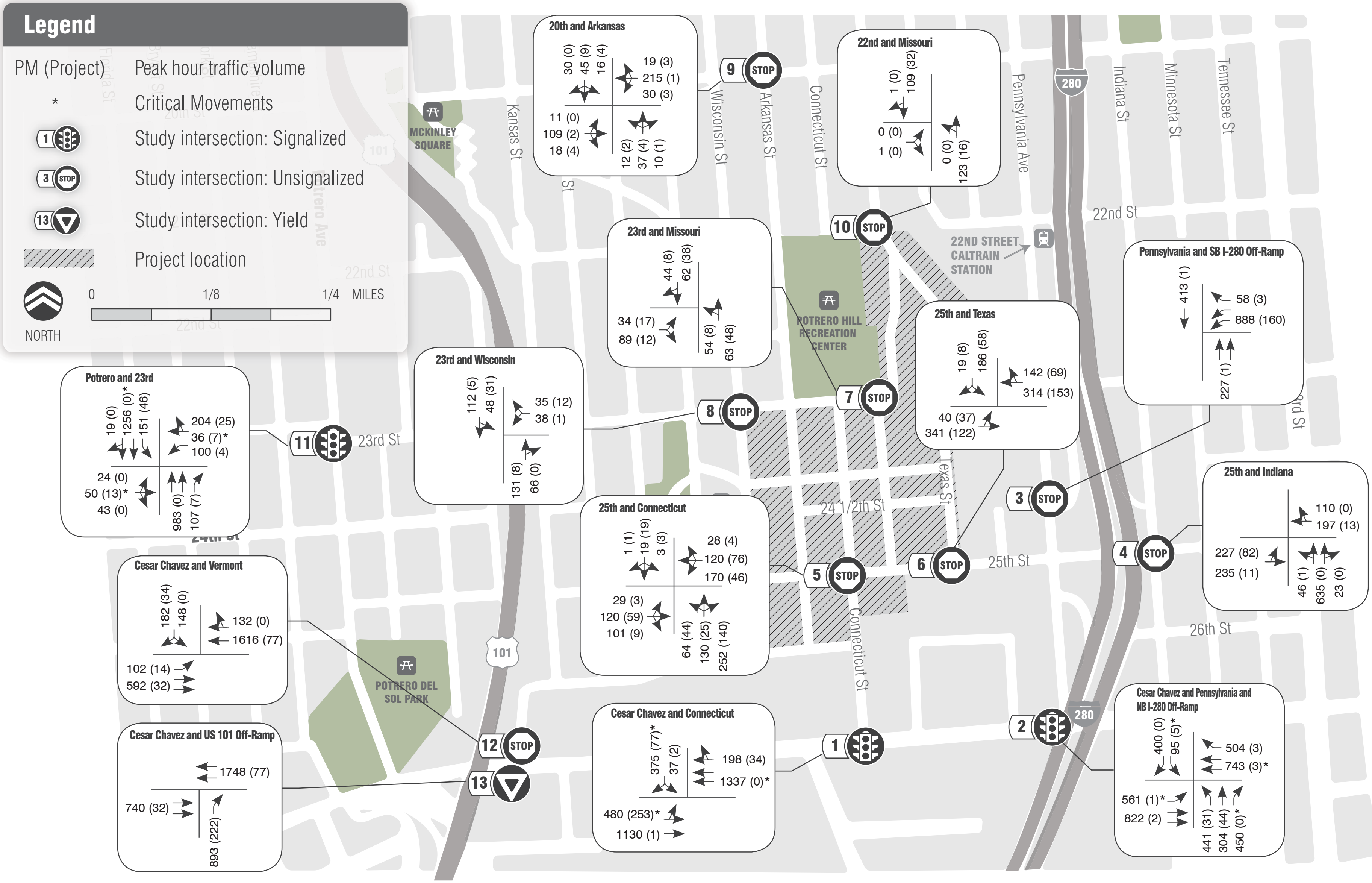
The vehicle-trips generated by the Proposed Project (576 inbound and 316 outbound) and Alternative 1 (352 inbound and 202 outbound) during the weekday PM peak hour were distributed within the study area using the trip distribution discussed in **Section 3.3 – Trip Distribution/Assignment**. These distributed project trips were added to year 2030 intersection volumes. Additionally, relevant traffic circulation adjustments as mentioned in **Section 1.4.2 – Vehicular Access** (shifting approximately 25 percent of traffic traveling along Pennsylvania Avenue to Texas Street and approximately 25 percent of traffic traveling along Dakota Street to Arkansas Street), were applied to reflect changes in the circulation pattern due to the roadway layout reconfiguration planned as part of the Proposed Project and Alternative 1. The resulting traffic volumes and proposed geometric configurations at the study intersections under 2030 Cumulative Conditions for the Proposed Project and Alternative 1 are illustrated in **Figures 4-8** and **4-9**.

Traffic volumes at the study freeway segments and ramp junctions under 2030 Cumulative Conditions were obtained from the CS-HP Phase 2 EIR. To account for traffic volumes that would be generated by the Candlestick Point-Hunters Point Shipyard development, freeway and ramp volumes reported under 2030 plus Project Conditions of the CS-HP Phase 2 EIR were used as 2030 baseline volumes for this study. The vehicle-trips generated by the Proposed Project (576 inbound and 316 outbound) and Alternative 1 (352 inbound and 202 outbound) during the weekday PM peak hour were distributed within the study area using the trip distribution discussed in **Section 3.3 – Trip Distribution/Assignment**. These distributed project trips were added to year 2030 freeway and ramp volumes. The resulting traffic volumes at the study freeway segments and ramp junctions are exhibited in **Tables 4-9, 4-10** and **4-11.**



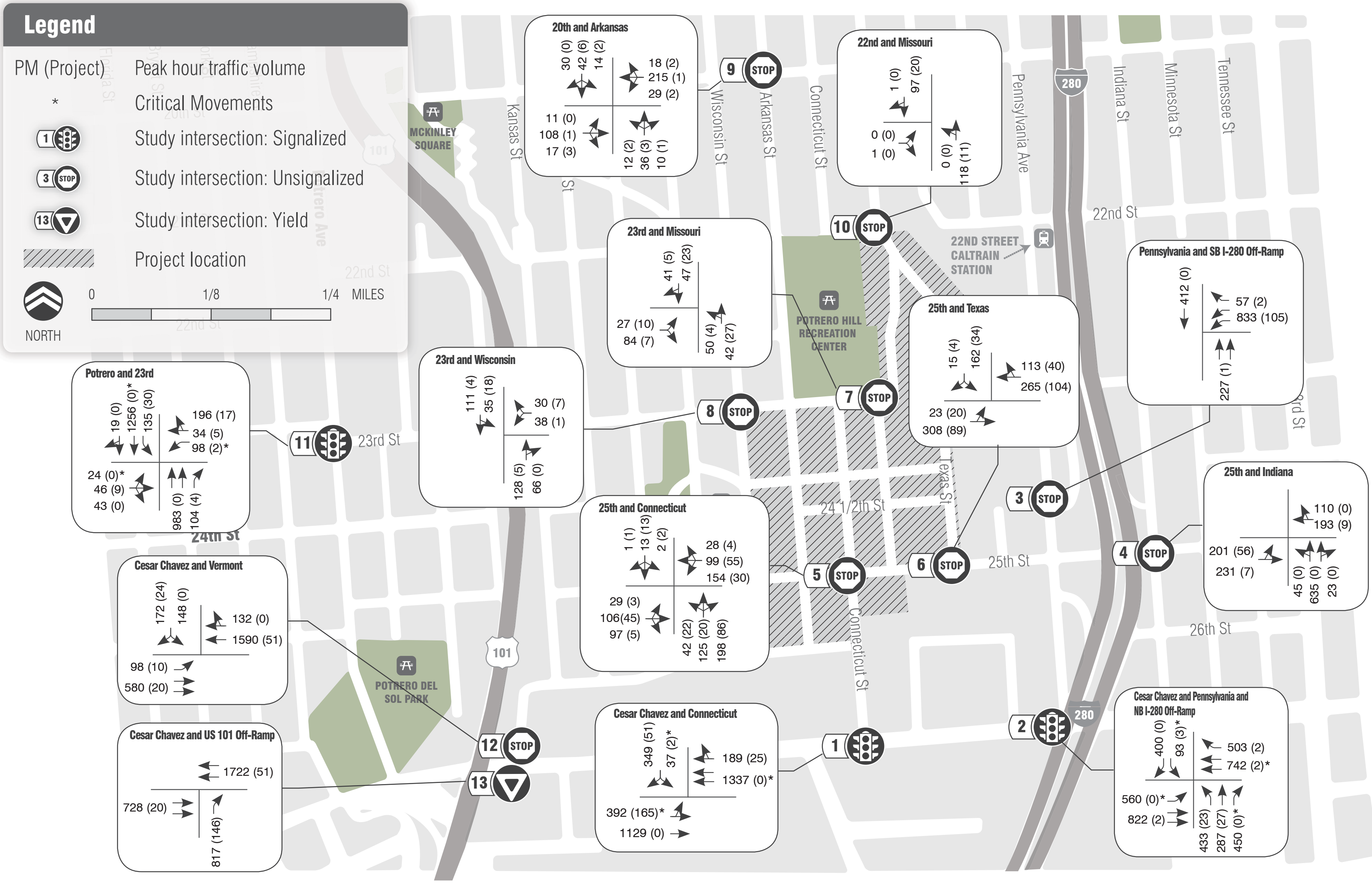
INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS - 2030 CUMULATIVE PM PEAK HOUR

Figure 4-7



INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS - 2030 CUMULATIVE PLUS PROJECT PM PEAK HOUR

Figure 4-8



INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS - 2030 CUMULATIVE PLUS PROJECT PM PEAK HOUR (ALTERNATIVE 1)

Figure 4-9

Table 4-9: 2030 Cumulative and 2030 Cumulative plus Project Traffic Volumes (AM Peak Hour) – Study Freeway Segments

#	Study Freeway Segment	Existing	2030 Cumulative	Proposed Project			Alternative 1		
				Volumes Added	2030 Cumulative plus Project	Project Contribution	Volumes Added	2030 Cumulative plus Project	Project Contribution
1	NB I-280 (south of Cesar Chavez Street Off-Ramp)	5,123	7,110	74	7,184	1.0%	49	7,159	0.7%
3	NB I-280 (north of Indiana Street On-Ramp)	4,644	6,450	142	6,592	2.2%	84	6,534	1.3%
5	NB US 101 (north of Cesar Chavez Street On-Ramp)	6,170	11,550	146	11,696	1.3%	88	11,638	0.8%
6	SB US 101 (north of Cesar Chavez Street Off-Ramp)	8,274	10,910	77	10,987	0.7%	48	10,958	0.4%

Table 4-10: 2030 Cumulative and 2030 Cumulative plus Project Traffic Volumes (PM Peak Hour) – Study Freeway Segments

#	Study Freeway Segment	Existing	2030 Cumulative	Proposed Project			Alternative 1		
				Volumes Added	2030 Cumulative plus Project	Project Contribution	Volumes Added	2030 Cumulative plus Project	Project Contribution
1	NB I-280 (south of Cesar Chavez Street Off-Ramp)	2,394	6,670	74	6,744	1.1%	46	6,716	0.7%
2	SB I-280 (south of Pennsylvania Avenue On-Ramp)	4,375	7,500	74	7,574	1.0%	49	7,549	0.7%
3	NB I-280 (north of Indiana Street On-Ramp)	2,669	6,730	73	6,803	1.1%	44	6,774	0.7%
4	SB I-280 (north of Pennsylvania Avenue Off-Ramp)	4,877	6,760	142	6,902	2.1%	84	6,844	1.2%
5	NB US 101 (north of Cesar Chavez Street On-Ramp)	8,426	10,740	77	10,817	0.7%	48	10,788	0.4%
6	SB US 101 (north of Cesar Chavez Street Off-Ramp)	6,754	10,980	146	11,126	1.3%	88	11,068	0.8%

Table 4-11: 2030 Cumulative and 2030 Cumulative plus Project Traffic Volumes (PM Peak Hour) – Study Ramp Junctions

#	Study Ramp Junction	Existing		2030 Cumulative		Proposed Project				Alternative 1			
						Volumes Added	2030 Cumulative plus Project		Project Contribution	Volumes Added	2030 Cumulative plus Project		Project Contribution
		Ramp	Freeway	Ramp	Freeway		Ramp	Freeway			Ramp	Freeway	
1	NB I-280/Cesar Chavez Street Off-Ramp	731	2,394	930	6,670	74	1,004	6,744	1.0%	46	976	6,716	0.6%
2	SB I-280/Pennsylvania Avenue Off-Ramp	482	4,877	870	6,760	142	1,012	6,902	1.8%	84	954	6,844	1.1%
3	NB I-280/Indiana Street On-Ramp	366	2,303	990	5,740	73	1,063	5,740	1.1%	44	1,034	5,740	0.6%
4	SB I-280/Pennsylvania Avenue On-Ramp	770	3,605	1,610	5,890	74	1,684	5,890	1.0%	49	1,659	5,890	0.6%

4.3.2 Foreseeable Transportation Network Changes

The following improvements to the transportation network located in the vicinity of the project site are expected in the nearby future and are considered for analysis under 2030 Cumulative Conditions. These improvements would be completed by City and County of San Francisco agencies such as SFDPW and SFMTA.

Transit Network Modifications

As discussed in **Section 2.4.3 – Muni TEP Recommendations**, the SFMTA would implement the TEP by 2016. The following changes planned as part of the TEP recommendations would affect the Muni routes serving the study area:

- The one-car K Ingleside would continue to be through-routed with the T Third Street.
- The 10 Townsend would be renamed to become the 10 Sansome. Short-line service would operate between Van Ness Avenue and Market Street to provide additional capacity, replacing the to-be-discontinued 12 Pacific service. Existing service during peak periods within the project study area would be reduced from 10 minute headways to 15 minute headways.
- The 19 Polk would be rerouted to operate between Van Ness Avenue/North Point and San Francisco General Hospital, modifying existing routing in the Civic Center area. Segments south of 24th Street would be replaced by a revised 48 Quintara-24th Street.
- The 22 Fillmore would be rerouted to continue along 16th Street to Third Street, creating new connections to Mission Bay. The segment on 17th Street, Connecticut Street, and 18th Street would be replaced by a revised 33 Stanyan and more frequent peak service would be provided to reduce crowding (service every six minutes during the weekday PM peak period).
- Service on the 48 Quintara-24th Street would run all day from 48th Avenue to the Navy Yard, connecting to Hunters Point, currently served by the 19 Polk, complemented by a new 58 24th Street service connecting Diamond Street with the 22nd Street Caltrain station. Segments along Douglass Street and Hoffman Street would be served by a revised 35 Eureka. Existing segments in Potrero Hill would be supplemented by the new 58 24th Street line, while service along Arkansas Street, 20th Street, and Texas Street would be eliminated.

Bicycle Network Modifications

The following improvements to the neighboring bicycle network are anticipated as part of the San Francisco Bicycle Plan:

- Project 5-1 – This project involves conversion of existing wide curb lane bicycle route along 23rd Street between Kansas Street and Potrero Avenue to sharrows and/or full bicycle lanes in both directions;
- Project 5-5 – This project involves conversion of existing shared-lane bicycle route along Cesar Chavez Street between I-280 and US 101 freeways to sharrows and/or full bicycle lanes in both directions;
- Project 5-18 – This project involves conversion of existing wide curb lane bicycle route along Kansas Street between 23rd and 26th Streets to sharrows and/or full bicycle lanes in both directions; and
- Minor improvements to the bicycle route along Indiana Street.

These projects in the vicinity of the project site are expected to improve existing bicycle routes and would not directly affect bicycle operations within the project site. The construction of these bicycle improvements would not conflict with the construction of this project (anticipated beginning is in 2015), since the above improvements either have been recently completed or are being performed currently, except for Project 5-1. However, even this bicycle improvement is expected to be completed before the construction of the project would begin.

4.3.3 Traffic Impacts

A comparison of the study intersection operations during the weekday PM peak hour under 2030 Cumulative Conditions and 2030 Cumulative plus Project Conditions is provided in **Table 4-12**.

2030 Cumulative Conditions Intersection Operations

Under 2030 Cumulative Conditions, during the weekday PM peak hour, five (5) of the 13 study intersections (Potrero Avenue/23rd Street, 23rd Street/Dakota Street, 23rd Street/Wisconsin Street, 20th Street/Arkansas Street, and 22nd Street/Missouri Street) would continue to operate at the same acceptable LOS (LOS C or better) as under Existing Conditions; while LOS conditions at the remaining eight (8) study intersections would deteriorate from their existing operations. However, of these eight intersections, four would continue to operate with an acceptable LOS (LOS D or better). The remaining four intersections would operate at an unacceptable LOS (LOS E or F) and include the following:

- Intersection #2 – Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp (worsening from LOS D under Existing Conditions to LOS F under 2030 Cumulative Conditions);
- Intersection #3 – Pennsylvania Avenue/Southbound I-280 Off-Ramp (worsening from LOS C under Existing Conditions to LOS F under 2030 Cumulative Conditions);
- Intersection #12 – Cesar Chavez Street/Vermont Street (worsening from LOS C under Existing Conditions to LOS F under 2030 Cumulative Conditions); and
- Intersection #13 – Cesar Chavez Street/US 101 Off-Ramp (worsening from LOS B under Existing Conditions to LOS F under 2030 Cumulative Conditions).

Detailed LOS calculation sheets for 2030 Cumulative Conditions are included in **Appendix F** and signal warrant analysis sheets for unsignalized intersections are included in **Appendix K**.

2030 Cumulative plus Project Conditions Intersection Impacts

Proposed Project – Study intersection operations during the weekday PM peak hour under 2030 Cumulative plus Project Conditions are provided in **Table 4-12**. Under 2030 Cumulative plus Project Conditions, eight of the 13 study intersections would continue to operate at an acceptable LOS (LOS D or better) during the weekday PM peak hour as compared to 2030 Cumulative Conditions. Therefore, the Proposed Project would result in less-than-significant traffic impacts at these eight intersections. The remaining five intersections (Cesar Chavez Street/Pennsylvania Avenue/NB I-280 Off-Ramp, Pennsylvania Avenue/SB I-280 Off-Ramp, 25th Street/Indiana Street/NB I-280 On-Ramp, Cesar Chavez Street/Vermont Street, and Cesar Chavez Street/US 101 Off-Ramp) would operate at an unacceptable LOS (LOS E or F). Based on the significance criteria mentioned in **Section 4.1 – Significance Criteria**, the Proposed Project would result in significant traffic impacts at four of these study intersections under 2030 Cumulative plus Project Conditions.

Table 4-12: PM Peak Hour Intersection Operations – 2030 Cumulative vs. Cumulative plus Project Conditions

#	Intersection	Existing			2030 Cumulative			2030 Cumulative plus Project: Proposed Project			2030 Cumulative plus Project: Alternative 1		
		Delay	V/C Ratio	LOS	Delay	V/C Ratio	LOS	Delay	V/C Ratio	LOS	Delay	V/C Ratio	LOS
Signalized													
1	Cesar Chavez Street/Connecticut Street	11.4	-	B	25.3	-	C	47.1	-	D	38.2	-	D
2	Cesar Chavez Street/Pennsylvania Avenue/NB I-280 Off-Ramp	38.4	-	D	**>80**	**1.07**	**F**	**>80**	**1.08**	**F**	**>80**	**1.07**	**F**
11	Potrero Avenue/23rd Street	22.2	-	C	24.3	-	C	26.6	-	C	25.6	-	C
Unsignalized				-									
3	Pennsylvania Avenue/SB I-280 Off-Ramp	15.2 (SB)	-	C	**>50 (SB)**	**1.10**	**F[3]**	**>50 (WB)**	**0.93**	**F[4]**	**40.3 (WB)**	**0.87**	**E[4]**
4	25th Street/Indiana Street/NB I-280 On-Ramp	11.4 (EB)	-	B	21.5 (EB)	-	C	**37.9 (EB)**	**0.88**	**E[4]**	30.7 (EB)	0.82	D
5	25th Street/Connecticut Street	8.0 (EB)	-	A	10.3 (NB)	-	B	28.0 (NB)	-	D	16.6 (NB)	-	C
6	25th Street/Texas Street[1]	9.6 (SEB)	-	A	11.0 (SB)	-	B	30.1 (SB)	-	D	20.0 (SB)	-	C
7	23rd Street/Dakota Street[2]	9.2 (NB)	-	A	10.1 (NB)	-	A	11.1 (NB)	-	B	10.5 (NB)	-	B
8	23rd Street/Wisconsin Street	7.5 (SB)	-	A	8.1 (SB)	-	A	8.5 (SB)	-	A	8.3 (SB)	-	A
9	20th Street/Arkansas Street	8.5 (WB)	-	A	10.0 (WB)	-	A	10.2 (WB)	-	B	10.2 (WB)	-	B
10	22nd Street/Missouri Street	8.5 (EB)	-	A	8.9 (EB)	-	A	8.8 (EB)	-	A	8.7 (EB)	-	A
12	Cesar Chavez Street/Vermont Street	25.8 (SB)	-	D	**>50 (SB)**	**5.00**	**F[3]**	**>50 (SB)**	**6.54**	**F[4]**	**>50 (SB)**	**5.99**	**F[4]**
13	Cesar Chavez Street/US 101 Off-Ramp	13.3 (NB)	-	B	**>50 (NB)**	**1.14**	**F[3]**	**>50 (NB)**	**1.55**	**F[4]**	**>50 (NB)**	**1.41**	**F[4]**

Notes:

[1] This intersection is 25th/Dakota/Texas under Cumulative Conditions and 25th/Texas under Cumulative plus Project Conditions.
[2] This intersection is 23rd/Dakota under Cumulative Conditions and 23rd/Missouri under Cumulative plus Project Conditions.
[3] This intersection satisfies Caltrans signal warrants under 2030 Cumulative Conditions.
[4] This intersection satisfies Caltrans signal warrants under 2030 Cumulative plus Project Conditions.
V/C Ratio – Volume-to-capacity ratio; it is reported for intersections operating at LOS E and F only.
EB – Eastbound, NB – Northbound, SB – Southbound, WB – Westbound
Delay is presented in seconds per vehicle; for unsignalized intersections, delay, v/c ratio, and LOS are presented for the worst approach, annotated in parenthesis ( ).
Bold indicates intersection operates at an unacceptable LOS.

Intersection #2 – Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp

The Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp intersection would operate at LOS F under 2030 Cumulative and 2030 Cumulative plus Project Conditions, and the Proposed Project would increase traffic along the critical movements operating at LOS F by less than five percent (0.2 percent or one trip along the eastbound left-turning movement and 0.4 percent or three trips along the westbound through movement). The Proposed Project's traffic along the critical movements operating unacceptably under 2030 Cumulative plus Project Conditions at the Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp intersection would not be considered a substantial contribution and therefore, the traffic impact at this intersection would be considered **less-than-significant**.

Intersection #3 – Pennsylvania Avenue/Southbound I-280 Off-Ramp

The LOS/worst approach of the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection would operate at LOS F (approximate average vehicle delay of 93 seconds) for the southbound approach under 2030 Cumulative Conditions, and would shift to the westbound approach with the worst average delay for the intersection decreasing to 50 seconds, although the overall LOS would remain at LOS F under 2030 Cumulative plus Project Conditions. As mentioned in **Section 1.4.2 – Vehicular Access**, the modification of roadway layout planned as part of the Proposed Project is anticipated to shift approximately 25 percent of traffic travelling along Pennsylvania Avenue to Texas Street. This shift in traffic would reduce traffic along northbound and southbound Pennsylvania Avenue, thereby improving traffic operations at this intersection under 2030 Cumulative plus Project Conditions. As such, the worst operating approach at this intersection would also shift from southbound approach under 2030 Cumulative Conditions to westbound approach under 2030 Cumulative plus Project Conditions. This intersection would satisfy the Caltrans signal warrants under both 2030 Cumulative and Cumulative plus Project Conditions (signal warrant analysis sheets are included in **Appendix K**). Therefore, contribution of the Proposed Project to traffic along the worst approach was examined. The Proposed Project would increase traffic along the westbound left-turning movement by about 160 vehicle trips (18 percent). Since the Proposed Project would alter the worst approach and result in an increase in traffic of the westbound left-turning critical movement at the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection by more than five percent, it would be considered to cause a significant impact at this intersection under 2030 Cumulative plus Project Conditions.

Capacity improvements such as providing an additional left-turning lane on the Southbound I-280 Off-Ramp to improve the operating conditions of this approach and intersection was considered, but would require providing an additional through lane along Southbound Pennsylvania Avenue, from either reducing sidewalk widths or encroaching into the neighboring property. Therefore, adding an additional southbound left-turn lane, although considered, is not recommended as mitigation.

Installation of a traffic signal at this location was considered and would improve the operating conditions of this intersection from LOS F (approximately 50 seconds of delay per vehicle for the westbound approach) to LOS B (approximately 17 seconds of delay per vehicle). However, when signal warrants are met at any intersection, before a signal is recommended, additional review and prioritization is required by SFMTA. The intersection is evaluated to determine whether a signal would be warranted; and if so, it would be added to the proposed signal list maintained by SFMTA Transportation Engineering. The intersection signalization is prioritized based on a number of factors, including availability of funding, degree of hazard, and need in relation to other locations in the City. SFMTA does not have any plans to install a traffic signal at this intersection currently, and therefore the project contributing to a potential future signalization at this intersection would not be considered a feasible mitigation measure.

Transportation Mitigation Measure 4 – Project's Fair Share of Traffic Improvements.

The project sponsor shall therefore mitigate its impact to traffic related to the project development by coordinating with SFMTA on the appropriateness of signalization at this location or similar improvements to traffic operations. The Project Sponsor shall financially compensate SFMTA for its fair share of the cost of signalization at this location or other similar traffic-related improvements in the vicinity which would similarly improve traffic operating conditions. The financial contribution shall be calculated and applied based on the proposed development's fair share of the identified improvements.

Due to the uncertainty of the implementation of **Transportation Mitigation Measure 4**, the feasibility of the recommended mitigation measure is unknown. Therefore, the Proposed Project's impact at the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection would remain **significant and unavoidable**. The Project Sponsor shall work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at this intersection.

<u>Intersection #4 – 25th Street/Indiana Street/Northbound I-280 On-Ramp</u>
The worst approach (eastbound approach) of the 25th Street/Indiana Street/Northbound I-280 On-Ramp intersection would deteriorate from LOS C (about 22 seconds of delay) under 2030 Cumulative Conditions to LOS E (about 38 seconds of delay) under 2030 Cumulative plus Project Conditions. In addition, traffic added by the Proposed Project would cause Caltrans signal warrant to be met at this intersection under 2030 Cumulative plus Project Conditions (signal warrant analysis sheets are included in **Appendix K**). As such, the Proposed Project would be considered to cause a significant impact at this intersection under 2030 Cumulative plus Project Conditions.

Transportation Mitigation Measure 5 – Restripe the eastbound approach so as to convert the existing shared left-through lane to a through lane and provide a new 75-foot left-turn pocket. The restriping would require prohibition of on-street parking for approximately 75 feet in the eastbound approach (loss of two parking spaces).

Implementation of Transportation Mitigation Measure 5 would improve the intersection operations to LOS C (approximately 24 seconds of delay per vehicle in the northbound direction). Hence, with **Transportation Mitigation Measure 5**, the traffic impact at this intersection would be reduced to **less-than-significant** for the Proposed Project. Constructing a new left-turn pocket would result in the removal of two on-street parking spaces or although less likely, a slight reduction in sidewalk widths along the eastbound approach. These impacts related to the implementation of Transportation Mitigation Measure 5 would not be considered significant, and would be consistent with those analyzed with the proposed project.

<u>Intersection #12 – Cesar Chavez Street/Vermont Street</u>
The worst approach (southbound approach) of the Cesar Chavez Street/Vermont Street intersection would operate at LOS F under 2030 Cumulative Conditions. In addition, this intersection would continue to satisfy the Caltrans signal warrants under 2030 Cumulative and Cumulative plus Project Conditions (signal warrant analysis sheets are included in **Appendix K**). Therefore, contribution of the Proposed Project to traffic along the worst approach was examined. The Proposed Project would increase traffic along the southbound approach of this intersection by about 33 vehicles (11 percent). Since the Proposed Project would alter the worst approach and result in an increase in traffic of the southbound approach at the Cesar Chavez Street/Vermont Street intersection by more than five percent, it is

considered to cause a significant impact at this intersection under 2030 Cumulative plus Project Conditions.

During the PM peak hour of 2030 Cumulative Conditions, the southbound approach of this intersection would operate with an average vehicle delay greater than 1,000 seconds. This is primarily due to the lack of sufficient gaps between vehicles travelling along Cesar Chavez Street (2,319 vehicles per hour) for the southbound left-turning vehicles (148 vehicles per hour) to perform the maneuver. Capacity improvements at this intersection would not help improve gaps between traffic travelling along Cesar Chavez Street. As such, capacity improvements alone, although considered, are not recommended to improve operations at this intersection.

Similarly, restricting southbound left turns from Vermont Street to Cesar Chavez Street was considered for mitigation. This improvement would reduce the delay of the southbound approach from greater than 1,000 seconds of delay per vehicle (LOS F) to approximately 45 seconds per vehicle (LOS E). However, elimination of left turns would force vehicles turning left to use Cesar Chavez Street/Connecticut Street intersection to travel along eastbound Cesar Chavez Street. This would worsen operations at the Cesar Chavez Street/Connecticut Street intersection from LOS D to LOS F. Therefore, this improvement is not recommended as a feasible mitigation measure either.

Installation of a traffic signal at this location was considered and would improve the operating conditions of this intersection from LOS F (greater than 1,000 seconds of delay per vehicle in the southbound direction) to LOS B (approximately 17 seconds of delay per vehicle). However, when signal warrants are met at any intersection, before a signal is recommended, additional review and prioritization is required by SFMTA. In particular, this intersection is located less than 50 feet away from the neighboring unsignalized intersection of Cesar Chavez Street and US 101 Off-Ramp, and as such, traffic signalization at this intersection is not likely recommended. SFMTA does not have any plans to install a traffic signal at this intersection currently, and therefore the project contributing to a potential future signalization at this intersection would not be considered a feasible mitigation measure.

> **Transportation Mitigation Measure 6 –** Project's Fair Share of Traffic Improvements.
>
> The project sponsor shall therefore mitigate its impact to traffic related to the project development by coordinating with SFMTA on the appropriateness of signalization at this location or similar improvements to traffic operations. The Project Sponsor shall financially compensate SFMTA for its fair share of the cost of signalization at this location or other similar traffic-related improvements in the vicinity which would similarly improve traffic operating conditions. The financial contribution shall be calculated and applied based on the proposed development's fair share of the identified improvements.

Due to the uncertainty of the implementation of **Transportation Mitigation Measure 6**, the feasibility of the recommended mitigation measure is unknown. Therefore, the Proposed Project's impact at the Cesar Chavez Street/Vermont Street intersection would remain **significant and unavoidable**. The Project Sponsor shall work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at this intersection.

<u>Intersection #13 – Cesar Chavez Street/US 101 Off-Ramp</u>

The worst approach (northbound approach) of the Cesar Chavez Street/US 101 Off-Ramp intersection would operate at LOS F under 2030 Cumulative Conditions. In addition, this intersection would continue to satisfy the Caltrans signal warrants under 2030 Cumulative and Cumulative plus Project Conditions (signal warrant analysis sheets are included in **Appendix K**). Therefore, contribution of the Proposed Project to traffic along the worst approach was examined. The Proposed Project would increase traffic along the northbound approach of this intersection by about 222 vehicles (33 percent). Since the Proposed Project would alter the worst approach and result in an increase in traffic of the northbound approach at the Cesar Chavez Street/ US 101 Off-Ramp intersection by more than five percent, it is considered to cause a significant impact at this intersection under 2030 Cumulative plus Project Conditions.

This intersection would satisfy the Caltrans signal warrant during the PM peak hour. However, even with the installation of a traffic signal this intersection would continue to operate at LOS F (approximately 105 seconds of delay per vehicle). Hence, improving the traffic operations at this intersection to acceptable levels would require widening of the US 101 Off-ramp, in addition to installing a traffic signal. But, widening of the off-ramp would involve substantial right-of-way acquisition, ramp construction, and pavement striping. Additionally, when signal warrants are met at any intersection, before a signal is recommended, additional review and prioritization is required by SFMTA. The intersection is evaluated to determine whether a signal would be warranted; and if so, it would be added to the proposed signal list maintained by SFMTA Transportation Engineering. The intersection signalization is prioritized based on a number of factors, including availability of funding, degree of hazard, and need in relation to other locations in the City. SFMTA does not have any plans to install a traffic signal at this intersection currently, and therefore the project contributing to a potential future signalization at this intersection would not be considered a feasible mitigation measure.

The Planning Department is currently developing improvements to the Cesar Chavez Street/Bayshore Avenue/Potrero Avenue intersection as part of the Cesar Chavez East Community Design Plan. According to this plan, a “hairball” design of this intersection has been recommended to improve pedestrian and bicycle operations. In addition, it has been proposed to allow left turns from eastbound Cesar Chavez Street directly onto the northbound US 101 On-ramp near Vermont Street. It is anticipated that these recommendations would improve the operating conditions of the Cesar Chavez Street/US 101 Off-Ramp intersection. However, the Cesar Chavez East Community Design Plan is in the planning stage and has not been adopted yet.

> **Transportation Mitigation Measure 7 –** Project’s Fair Share of Traffic Improvements.
>
> The project sponsor shall therefore mitigate its impact to traffic related to the project development by coordinating with SFMTA on the appropriateness of signalization at this location or similar improvements to traffic operations. The Project Sponsor shall financially compensate SFMTA for its fair share of the cost of signalization at this location or other similar traffic-related improvements in the vicinity which would similarly improve traffic operating conditions. The financial contribution shall be calculated and applied based on the proposed development’s fair share of the identified improvements.

Due to the uncertainty of the implementation of **Transportation Mitigation Measure 7** and that it remains at LOS F even with signalization, the feasibility of the recommended mitigation measure is unknown. Therefore, the Proposed Project’s impact at the Cesar Chavez Street/US 101 Off-Ramp intersection would remain **significant and unavoidable**. The Project Sponsor shall work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at this intersection.

Alternative 1 – Under 2030 Cumulative plus Alternative 1 Conditions, nine of the 13 study intersections would continue to operate at an acceptable LOS (LOS D or better) as under 2030 Cumulative Conditions. Therefore, Alternative 1 would result in less-than-significant traffic impacts at these nine intersections. The remaining four intersections (Cesar Chavez Street/Pennsylvania Avenue/NB I-280 Off-Ramp, Pennsylvania Avenue/SB I-280 Off-Ramp, Cesar Chavez Street/Vermont Street, and Cesar Chavez Street/US 101 Off-Ramp) would operate at an unacceptable LOS (LOS E or worse). Based on the significance criteria mentioned in **Section 4.1 – Significance Criteria**, Alternative 1 would result in significant traffic impacts at three of these study intersections under 2030 Cumulative plus Alternative 1 Conditions. A discussion of the determination of significant impacts is provided below.

Intersection #2 – Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp
The Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp intersection would operate at LOS F under 2030 Cumulative and 2030 Cumulative plus Alternative 1 Conditions and Alternative 1 would increase traffic along the critical movement operating at LOS F by less than five percent (two trips or 0.3 percent along the westbound through movement). Traffic due to Alternative 1 along the critical movement operating unacceptably under 2030 Cumulative plus Project Conditions at the Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp intersection would not be considered a substantial contribution and therefore, the impact would be considered **less-than-significant**..

Intersection #3 – Pennsylvania Avenue/Southbound I-280 Off-Ramp
The LOS/worst approach of the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection would operate at LOS F (approximate average vehicle delay of 93 seconds) for the southbound approach under 2030 Cumulative Conditions, and would shift to the westbound approach with the worst average delay for the intersection decreasing to 40 seconds (LOS E) under 2030 Cumulative plus Project Conditions. As mentioned in **Section 1.4.2 – Vehicular Access**, the modification of roadway layout planned as part of the Proposed Project is anticipated to shift approximately 25 percent of traffic from Pennsylvania Avenue to Texas Street. This shift in traffic would reduce traffic along northbound and southbound Pennsylvania Avenue, thereby improving traffic operations at this intersection under 2030 Cumulative plus Project Conditions. As such, the worst operating approach at this intersection would also shift from southbound approach under 2030 Cumulative Conditions to westbound approach under 2030 Cumulative plus Alternative 1 Conditions. Also, this intersection would continue to satisfy the Caltrans signal warrants under 2030 Cumulative and Cumulative plus Alternative 1 Conditions (signal warrant analysis sheets are included in **Appendix K**). Therefore, contribution of Alternative 1 to traffic along the worst approach was examined. Alternative 1 would increase traffic along the westbound left-turning movement by about 105 vehicle trips (13 percent), which is slightly lower than the Proposed Project’s contribution of 160 vehicle trips (18 percent). Hence, similar to the Proposed Project, Alternative 1 would alter the worst approach and result in an increase in traffic of the westbound left-turning critical movement at the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection by more than five percent; as such, Alternative 1 would be considered to cause a significant impact at this intersection under 2030 Cumulative plus Alternative 1 Conditions.

Similar to that for the Proposed Project, installation of a traffic signal would improve the operating conditions of this intersection from LOS F (approximately 50 seconds of delay per vehicle for the westbound approach) to LOS B (approximately 17 seconds of delay per vehicle). However, the project contributing to a potential future signalization at this intersection would not be considered a feasible mitigation measure due to reasons discussed above for the Proposed Project.

Transportation Mitigation Measure 4, identified for the Proposed Project above, would also apply to Alternative 1. Similar to the Proposed Project, the feasibility of implementing this mitigation measure by SFMTA is uncertain; therefore, the impact of Alternative 1 at the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection would remain **significant and unavoidable**. The Project Sponsor shall work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at this intersection.

<u>Intersection #12 – Cesar Chavez Street/Vermont Street</u>
The worst approach (southbound approach) of the Cesar Chavez Street/Vermont Street intersection would operate at LOS F under 2030 Cumulative Conditions. In addition, this intersection would continue to satisfy the Caltrans signal warrants under 2030 Cumulative and Cumulative plus Alternative 1 Conditions (signal warrant analysis sheets are included in **Appendix K**). Therefore, contribution of Alternative 1 to traffic along the worst approach was examined. Alternative 1 would increase traffic along the southbound approach of this intersection by about 24 vehicles (8 percent), which is slightly lower than the Proposed Project's contribution of 33 vehicles (11 percent). Hence, similar to the Proposed Project, Alternative 1 would alter the worst approach and result in an increase in traffic of the southbound approach at the Cesar Chavez Street/Vermont Street intersection by more than five percent; as such, Alternative 1 would be considered to cause a significant impact at this intersection under 2030 Cumulative plus Alternative 1 Conditions.

Similar to that for the Proposed Project, installation of a traffic signal would improve the operating conditions of this intersection from LOS F (greater than 1,000 seconds of delay per vehicle for the southbound approach) to LOS B (approximately 16 seconds of delay per vehicle). However, the project contributing to a potential future signalization at this intersection would not be considered a feasible mitigation measure due to reasons discussed above for the Proposed Project.

Transportation Mitigation Measure 6, identified for the Proposed Project above, would also apply to Alternative 1. Similar to the Proposed Project, the feasibility of implementing this mitigation measure by SFMTA is uncertain; therefore, the impact of Alternative 1 at the Cesar Chavez Street/Vermont Street intersection would remain **significant and unavoidable**. The Project Sponsor shall work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at this intersection.

<u>Intersection #13 – Cesar Chavez Street/US 101 Off-Ramp</u>
The worst approach (northbound approach) of the Cesar Chavez Street/US 101 Off-Ramp intersection would operate at LOS F under 2030 Cumulative Conditions. In addition, this intersection would continue to satisfy the Caltrans signal warrants under 2030 Cumulative and Cumulative plus Alternative 1 Conditions (signal warrant analysis sheets are included in **Appendix K**). Therefore, contribution of Alternative 1 to traffic along the worst approach was examined. Alternative 1 would increase traffic along the northbound approach of this intersection by about 146 vehicles (22 percent), which is lower than the Proposed Project's contribution of 222 vehicles (33 percent). Similar to the Proposed Project, Alternative 1 would alter the worst approach and result in an increase in traffic of the northbound approach at the Cesar Chavez Street/ US 101 Off-Ramp intersection by more than five percent; as such, Alternative 1 is considered to cause a significant impact at this intersection under 2030 Cumulative plus Alternative 1 Conditions.

Similar to that for the Proposed Project, installation of a traffic signal would improve the operating conditions of this intersection, but would still continue to operate at LOS F. However, the project contributing to a potential future signalization at this intersection would not be considered a feasible mitigation measure due to reasons discussed above for the Proposed Project.

Transportation Mitigation Measure 7, identified for the Proposed Project above, would also apply to Alternative 1. Similar to the Proposed Project, the feasibility of implementing this mitigation measure by SFMTA is uncertain; therefore, the impact of Alternative 1 at the Cesar Chavez Street/ US 101 Off-Ramp intersection would remain **significant and unavoidable**. The Project Sponsor shall work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at this intersection.

Alternative 2 – Alternative 2 would not add any new trips; as such, all study intersections would continue to operate with the same LOS and delay values as under 2030 Cumulative Conditions. Therefore, Alternative 2 would result in **less-than-significant** traffic impacts at the study intersections.

Detailed LOS calculation sheets, including TRAFFIX outputs sheets for the proposed mitigation measures are provided in **Appendix F**, while signal warrant analysis sheets are included in **Appendix K**.

2030 Cumulative Conditions Freeway Segment Operations

A comparison of the study freeway segment operations during the weekday AM and PM peak hours under 2030 Cumulative Conditions and 2030 Cumulative plus Project Conditions is provided in **Table 4-13**.

Under 2030 Cumulative Conditions, during the weekday AM peak hour, none of the study freeway segments would operate at the same LOS value as under Existing Conditions; LOS values of all the study freeway segments would deteriorate from their existing operating conditions. However, one freeway segment (Northbound I-280, north of Indiana Street On-Ramp) would continue to operate at acceptable operating conditions (LOS D or better). The remaining three freeway segments would operate at unacceptable operating conditions (LOS F) and include the following:

- Northbound I-280 (south of Cesar Chavez Street Off-Ramp)
- Northbound US 101 (north of Cesar Chavez Street On-Ramp)
- Southbound US 101 (north of Cesar Chavez Street Off-Ramp)

Table 4-13: AM and PM Peak Hour Freeway Segment Operations – 2030 Cumulative vs. 2030 Cumulative plus Project Conditions

#	Study Freeway Segment	Existing		2030 Cumulative		2030 Cumulative plus Project			
						Proposed Project		Alternative 1	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
AM Peak Hour									
1	NB I-280 (south of Cesar Chavez Street Off-Ramp)	34.4	D	**>45**	**F**	**>45**	**F**	**>45**	**F**
3	NB I-280 (north of Indiana Street On-Ramp)	22.9	C	31.8	D	32.5	D	32.2	D
5	NB US 101 (north of Cesar Chavez Street On-Ramp)	30.4	D	**>45**	**F**	**>45**	**F**	**>45**	**F**
6	SB US 101 (north of Cesar Chavez Street Off-Ramp)	**>45**	**F**	**>45**	**F**	**>45**	**F**	**>45**	**F**
PM Peak Hour									
1	NB I-280 (south of Cesar Chavez Street Off-Ramp)	16.0	B	**>45**	**F**	**>45**	**F**	**>45**	**F**
2	SB I-280 (south of Pennsylvania Avenue On-Ramp)	29.3	D	**>45**	**F**	**>45**	**F**	**>45**	**F**
3	NB I-280 (north of Indiana Street On-Ramp)	13.1	B	33.2	D	33.6	D	33.5	D
4	SB I-280 (north of Pennsylvania Avenue Off-Ramp)	32.6	D	**>45**	**F**	**>45**	**F**	**>45**	**F**
5	NB US 101 (north of Cesar Chavez Street On-Ramp)	**>45**	**F**	**>45**	**F**	**>45**	**F**	**>45**	**F**
6	SB US 101 (north of Cesar Chavez Street Off-Ramp)	33.4	D	**>45**	**F**	**>45**	**F**	**>45**	**F**

Notes:
[1] Source: Freeway analysis conducted as part of the CS-HP Phase 2 EIR.
[2] Source: Ramp junction analysis conducted as part of the CS-HP Phase 2 EIR.
NB – Northbound, SB - Southbound
Density is reported in passenger cars per mile per lane (pc/mi/ln).
Bold indicates unacceptable conditions (LOS E or F).

Under 2030 Cumulative Conditions during the weekday PM peak hour, only one study freeway segment (Northbound US 101, north of Cesar Chavez Street On-Ramp) would operate at the same LOS as under Existing Conditions (LOS F); while LOS values of the remaining five (5) study freeway segments would deteriorate from their existing operating conditions. However, of these five study freeway segments, one segment (Northbound I-280, north of Indiana Street On-Ramp) would operate at acceptable operating conditions (LOS D or better), while the remaining four freeway segments would operate at unacceptable operating conditions (LOS F). Overall, the following five freeway segments would operate at LOS F under 2030 Cumulative PM Peak Hour Conditions:

- Northbound I-280 (south of Cesar Chavez Street Off-Ramp)
- Southbound I-280 (south of Pennsylvania Avenue On-Ramp)
- Southbound I-280 (north of Pennsylvania Avenue Off-Ramp)
- Northbound US 101 (north of Cesar Chavez Street On-Ramp)
- Southbound US 101 (north of Cesar Chavez Street Off-Ramp)

Detailed LOS calculation sheets for the study freeway segments under 2030 Cumulative Conditions are included in **Appendix G**.

2030 Cumulative plus Project Conditions Freeway Segment Impacts

Proposed Project – Under 2030 Cumulative plus Project weekday AM peak hour conditions, only one study freeway segment, Northbound I-280 (north of Indiana Street On-Ramp) would continue to operate at acceptable operating conditions (LOS D or better) as under 2030 Cumulative Conditions; the remaining three study freeway segments would operate at unacceptable operating conditions (LOS F). However, as shown in **Table 4-9**, the Proposed Project's contribution to the increase in traffic along these three freeway segments that would operate at LOS F would be less than five (5) percent. Since the Proposed Project would not contribute considerable amounts of traffic to these freeway segments, the Proposed Project's contribution to LOS F operating conditions under 2030 Cumulative Conditions at these three freeway segments (Northbound I-280, south of Cesar Chavez Street Off-Ramp; Northbound US 101, north of Cesar Chavez Street On-Ramp; and Southbound US 101, north of Cesar Chavez Street Off-Ramp) would be considered a **less-than-significant** impact during the AM peak hour.

Under 2030 Cumulative plus Project weekday PM peak hour conditions, only one study freeway segment would continue to operate at acceptable operating conditions (LOS D or better) under 2030 Cumulative and 2030 Cumulative plus Project Conditions; the remaining five freeway segments, including Northbound I-280 (south of Cesar Chavez Street Off-Ramp, Southbound I-280 (south of Pennsylvania Avenue On-Ramp), Southbound I-280 (north of Pennsylvania Avenue Off-Ramp), Northbound US 101 (north of Cesar Chavez Street On-Ramp), and Southbound US 101 (north of Cesar Chavez Street Off-Ramp) would operate at unacceptable operating conditions (LOS F). However, as shown in **Table 4-10**, the Proposed Project's contribution to traffic increase along these five freeway segments that would operate at LOS F would be less than five (5) percent. Since the Proposed Project would not contribute considerable amounts of traffic to these freeway segments, the Proposed Project's contribution to LOS F operating conditions under 2030 Cumulative Conditions at these freeway segments would be considered a less-than-significant impact during the PM peak hour, as well.

Therefore, the Proposed Project would result in **less-than-significant** traffic impacts at all of the study freeway segments under 2030 Cumulative plus Project Conditions.

***Alternative 1* –** Under 2030 Cumulative plus Alternative 1 weekday AM peak hour conditions, only one study freeway segment, Northbound I-280 (north of Indiana Street On-Ramp) would continue to operate at acceptable operating conditions (LOS D or better) as under 2030 Cumulative Conditions; the remaining three study freeway segments would operate at unacceptable operating conditions (LOS F). However, as shown in **Table 4-9**, the contribution of Alternative 1 to the increase in traffic along freeway segments operating at LOS F would be less than five (5) percent. Since Alternative 1 would not contribute considerable amounts of traffic to these freeway segments, the contribution of Alternative 1 to LOS F operating conditions under 2030 Cumulative Conditions at these three freeway segments (Northbound I-280, south of Cesar Chavez Street Off-Ramp; Northbound US 101, north of Cesar Chavez Street On-Ramp; and Southbound US 101, north of Cesar Chavez Street Off-Ramp) would be considered a **less-than-significant** impact during the AM peak hour.

Under 2030 Cumulative plus Alternative 1 weekday PM peak hour conditions, only one study freeway segment would continue to operate at acceptable operating conditions (LOS D or better) under 2030 Cumulative and 2030 Cumulative plus Alternative 1 Conditions. The remaining five freeway segments, including Northbound I-280 (south of Cesar Chavez Street Off-Ramp, Southbound I-280 (south of Pennsylvania Avenue On-Ramp), Southbound I-280 (north of Pennsylvania Avenue Off-Ramp), Northbound US 101 (north of Cesar Chavez Street On-Ramp), and Southbound US 101 (north of Cesar Chavez Street Off-Ramp) would operate at unacceptable operating conditions (LOS F). However, as shown in Table 4-10, the contribution of Alternative 1 to the increase in traffic along the study freeway segments would be less than five (5) percent. Since Alternative 1 would not contribute considerable amounts of traffic to the study freeway segments, the contribution of Alternative 1 to LOS F operating conditions under 2030 Cumulative Conditions at these freeway segments would be considered a **less-than-significant** impact during the PM peak hour as well.

Therefore, Alternative 1 would result in **less-than-significant** traffic impacts at all of the study freeway segments under 2030 Cumulative plus Alternative 1 AM and PM Peak Hour Conditions.

***Alternative 2* –** Alternative 2 would not add any new trips; as such, all study freeway segments would continue to operate with the same LOS and density values as under 2030 Cumulative Conditions. Therefore, Alternative 2 would result in **less-than-significant** traffic impacts at the study freeway segments.

Detailed LOS calculation sheets for the study freeway segments under 2030 Cumulative plus Alternative 2 Conditions are included in **Appendix G**.

2030 Cumulative Ramp Junction Operations

A comparison of the study freeway segment operations during the weekday PM peak hour under 2030 Cumulative Conditions and 2030 Cumulative plus Project Conditions is provided in **Table 4-14**.

Under 2030 Cumulative Conditions, LOS of all the study ramp junctions would worsen from an acceptable LOS (LOS D or better) under Existing Conditions to an unacceptable LOS (LOS F).

Detailed LOS calculation sheets for the study ramp junctions under 2030 Cumulative Conditions are included in **Appendix G**.

Table 4-14: PM Peak Hour Ramp Junction Operations – 2030 Cumulative vs. 2030 Cumulative plus Project Conditions

#	Study Ramp Junction	Existing		2030 Cumulative		2030 Cumulative plus Project			
						Proposed Project		Alternative 1	
		Density	LOS	Density	LOS	Density	LOS	Density	LOS
1	NB I-280/Cesar Chavez Street Off-Ramp	4.8	A	**DEC**	**F**	**DEC**	**F**	**DEC**	**F**
2	SB I-280/Pennsylvania Avenue Off-Ramp	29.4	D	**DEC**	**F**	**DEC**	**F**	**DEC**	**F**
3	NB I-280/Indiana Street On-Ramp	17.0	B	**DEC**	**F**	**DEC**	**F**	**DEC**	**F**
4	SB I-280/Pennsylvania Avenue On-Ramp	26.9	C	**DEC**	**F**	**DEC**	**F**	**DEC**	**F**

Notes:
NB – Northbound; SB - Southbound
DEC – Demand Exceeds Capacity.
Density is reported in passenger cars per mile per lane (pc/mi/ln).
Bold indicates unacceptable conditions (LOS E or F).

2030 Cumulative plus Project Conditions Ramp Junction Impacts

Proposed Project – Similar to 2030 Cumulative Conditions, all of the study ramp junctions would operate at an unacceptable LOS (LOS F) under 2030 Cumulative plus Project Conditions. However, as shown in **Table 4-11**, the contribution of the Proposed Project to the increase in traffic at the study ramp junctions would vary between 1 percent and 1.8 percent. Since the Proposed Project would not contribute cumulatively considerable amounts of traffic to the study ramp junctions, the Proposed Project's contribution to the LOS F operating conditions under 2030 Cumulative Conditions at these ramp junctions would not be considered a significant impact. Therefore, the Proposed Project would result in **less-than-significant** traffic impacts at all of the study ramp junctions because of its less-than-substantial contribution to freeway congestion.

Alternative 1 – All of the study ramp junctions would operate at an unacceptable LOS (LOS F) under 2030 Cumulative and 2030 Cumulative plus Alternative 1 Conditions. However, as shown in **Table 4-11**, the contribution of Alternative 1 to the increase in traffic at the study ramp junctions would vary between 0.6 percent and 1 percent. Since Alternative 1 would not contribute cumulatively considerable amounts of traffic to the study ramp junctions, the contribution of Alternative 1 to the LOS F operating conditions under 2030 Cumulative Conditions at these ramp junctions would not be considered a significant impact. Therefore, Alternative 1 would result in **less-than-significant** traffic impacts at all of the study ramp junctions because of its less-than-substantial contribution to freeway congestion.

Alternative 2 – Alternative 2 would not add any new trips; as such, all study ramp junctions would continue to operate with the same LOS and density values as under 2030 Cumulative Conditions. Therefore, Alternative 2 would result in **less-than-significant** traffic impacts at the study ramp junctions.

Detailed LOS calculation sheets for the study ramp junctions under 2030 Cumulative plus Project Conditions are included in **Appendix G**.

4.3.4 Transit Impacts

Transit analysis under 2030 Cumulative Conditions was performed based on the assumptions that all of the TEP recommendations proposed by the SFMTA and discussed in **Section 2.4.3 – Muni TEP Recommendations** would be implemented by 2030. The following changes planned as part of the TEP recommendations would affect the Muni routes serving the study area and are expected to be in place by year 2030:

- The 10 Townsend would be renamed to become the 10 Sansome;
- A new 58 24th Street line would serve the Potrero Hill area and replace the to-be-rerouted 19 Polk, while supplementing 48 Quintara-24th Street routes;
- The 19 Polk would be rerouted and direct service to the project study area would be discontinued; and
- The 48 Quintara-24th Street line would have all-day service and connect to Hunters Point, where the 19 Polk currently terminates. It would be rerouted in the Potrero Hill area with the inclusion of the new 58 24th Street line.

Therefore, transit analysis under 2030 Cumulative and 2030 Cumulative plus Project Conditions was performed taking into consideration the above planned modifications to Muni lines and operations.

2030 Cumulative Conditions Muni Line-by-Line Analysis

To determine future ridership, Muni transit projections documented in the Transit Center District Plan Transportation Study (AECOM, 2010) were used. The study included an updated screenline summary for specific Muni routes and regional transit operators. Additionally, the study used updated TEP data and documented changes to transit service since the last update to the transit screenlines conducted and published in SF Guidelines. The study included screenline data; therefore, each Muni route that would service the project site was assigned to appropriate screenline (Southeast screenline). Ridership estimates for each Muni study route (10 Townsend/Sansome, 19 Polk, and 48 Quintara-24th Street) was determined by calculating the difference in projected 2030 Muni screenline ridership from existing (2008) screenline ridership and determining annual growth rates in transit ridership based on this difference, for both light rail and bus vehicles. These growth rates were subsequently applied to each individual transit line being studied in the line-by-line analysis. Additionally, since 19 Polk would not provide direct service to the project site under 2030 Cumulative Conditions, it was assumed that the anticipated ridership demand for 19 Polk in the Potrero Hill area would be served by other Muni routes operating in that area, approximately 40 percent by the 10 Townsend, 20 percent each by the 22 Fillmore and the new 58 24th Street, and 10 percent each by the 48 Quintara-24th Street and the T Third Street.

Future year transit capacity for each study route was determined using the proposed service headways developed by the SFMTA as part of the TEP and documented in the Summary of Recommendations – Comparison of Proposed and Existing Service Frequencies and Hours of Service (September 2008). Using the proposed headway of each transit route during the PM peak hour and the seated capacity of vehicle serving each route, the capacity of Muni routes under 2030 Cumulative Conditions were developed. As part of the TEP, headways were developed for transit service in the peak direction only. Future headways for service in the non-peak direction were estimated assuming that the rate of change of headways in the peak and non-peak directions would remain the same.

A comparison of Muni line-by-line operations under 2030 Cumulative and 2030 Cumulative plus Project Conditions is provided in **Table 4-15**.

Under 2030 Cumulative Conditions, capacity utilization of the 19 Polk would slightly improve compared to Existing Conditions in both the directions (from 68 to 58 percent in the inbound direction and from 49 to 42 percent in the inbound direction) due to the planned increase in service frequencies. Similarly, capacity utilization of the 10 Townsend/Sansome would slightly improve compared to Existing Conditions in both the directions; however, this line would continue to operate with a capacity utilization higher than the Muni's 85 percent utilization standard (94 percent in the inbound direction and 87 percent in the outbound direction). The capacity utilization of the 48 Quintara-24th Street would worsen from Existing Conditions and exceed Muni's 85 percent utilization standard in both the directions (89 percent in the inbound direction and 91 percent in the outbound direction).

Table 4-15: Muni Line-by-Line Analysis – 2030 Cumulative vs. Cumulative plus Project Weekday PM Peak Hour

Route	Travel Direction	Existing		2030 Cumulative		Project Trips	2030 Cumulative plus Project	
		Ridership	Capacity Utilization	Ridership	Capacity Utilization		Ridership	Capacity Utilization
Proposed Project								
10 Townsend/Sansome[1]	Inbound	186	**98%**	238	**94%**	36	274	**109%**
	Outbound	171	**90%**	219	**87%**	68	287	**114%**
19 Polk	Inbound	172	68%	220	58%	0[2]	220	58%
	Outbound	124	49%	159	42%	0[2]	159	42%
48 Quintara-24th Street	Inbound	175	46%	224	**89%**	30	254	**101%**
	Outbound	180	48%	230	**91%**	21	251	**100%**
Alternative 1								
10 Townsend/Sansome[1]	Inbound	186	**98%**	238	**94%**	23	261	**104%**
	Outbound	171	**90%**	219	**87%**	42	261	**104%**
19 Polk	Inbound	172	68%	220	58%	0[2]	220	58%
	Outbound	124	49%	159	42%	0[2]	159	42%
48 Quintara-24th Street	Inbound	175	46%	224	**89%**	17	241	**96%**
	Outbound	180	48%	230	**91%**	13	243	**97%**

Source: SFMTA APC Data – 2011, CDM Smith – June 2012
Notes:
[1] The 10 Townsend is proposed to be renamed to the 10 Sansome following TEP implementation.
[2] No project-related transit trips were assumed to access 19 Polk due to the proposed rerouting of this line as part of the TEP.
Bold indicates load exceeding Muni's 85 percent capacity utilization standard.

2030 Cumulative plus Project Conditions Muni Line-by-Line Analysis

As mentioned in **Section 4.2.2 – Transit Impacts**, the Proposed Project would generate 344 weekday PM peak hour transit trips (221 inbound and 123 outbound). Of these 344 PM peak hour transit trips, 175 inbound and 98 outbound trips would be served by Muni lines, while 46 inbound and 25 outbound trips would be served by regional transit providers. The Proposed Project, under Existing plus Project conditions would have a significant impact to the 10 Townsend, and would similarly significantly increase ridership under Cumulative plus Project conditions. Using the same methodology adopted for Existing plus Project Conditions (discussed in **Section 4.2.2 – Transit Impacts**), project-related Muni-bound transit trips were distributed to the three Muni lines (10 Townsend/Sansome, 19 Polk, and 48 Quintara-24th Street). Since the 19 Polk would not provide direct service to the project site under 2030 Cumulative plus Project Conditions, no project-related transit trips were assigned to this line.

Proposed Project – Under 2030 Cumulative plus Project Conditions, the Proposed Project would deteriorate transit operations of two Muni lines (10 Townsend/Sansome and 48 Quintara-24th Street), but would not modify operations of the 19 Polk. The 19 Polk would continue to operate with a capacity utilization of 58 percent and 42 percent in the inbound and outbound directions; however, capacity utilization of the 10 Townsend/Sansome would increase by 15 percent (from 94 to 109 percent) in the inbound direction and 27 percent (from 87 percent to 114 percent) in the outbound direction. Also, capacity utilization of the 48 Quintara-24th Street would increase by 12 percent (from 89 to 101 percent) in the inbound direction and 8 percent (from 91 percent to 99 percent) in the outbound direction. Both the 10 Townsend/Sansome and 48 Quintara-24th Street lines would continue to operate above Muni's 85 percent utilization standard in both the inbound and outbound directions under 2030 Cumulative plus Project Conditions.

Under 2030 Cumulative plus Project Conditions, during the weekday PM peak hour, the Proposed Project would substantially increase the ridership of outbound 10 Townsend/Sansome by about 68 riders (about 23 riders per bus during the peak hour), inbound 10 Townsend/Sansome by about 36 riders (about 12 riders per bus during the peak hour), outbound 48 Quintara-24th Street by about 19 riders (about 3 riders per bus during the peak hour), and inbound 48 Quintara-24th Street by about 30 riders (about 5 riders per bus during the peak hour). Given that both these Muni lines are anticipated to operate above Muni's 85 percent utilization standard under 2030 Cumulative Conditions, the additional transit demand due to the Proposed Project would result in significant impacts to the 10 Townsend/Sansome (primarily outbound) and 48 Quintara-24th Street (primarily inbound) routes under 2030 Cumulative plus Project Conditions.

<u>10 Townsend/Sansome</u>
The 10 Townsend/Sansome line would operate with capacity utilization exceeding the Muni's 85 percent threshold under 2030 Cumulative and 2030 Cumulative plus Project Conditions. Since, the Proposed Project would increase ridership of this line by a maximum of 68 trips (27 percent), the Proposed Project is considered to cause a significant transit impact to this Muni line under 2030 Cumulative plus Project Conditions.

As discussed under Existing plus Project conditions, Transportation Mitigation Measure 2 which would require the Project Sponsor to work with SFMTA to determine its fair share of ensuring the transit capacity impact to the 10 Townsend related to the Proposed Project is reduced to a less-than-significant level, would similarly apply under 2030 Cumulative Plus Project conditions. The payment of the fee identified in this mitigation measure would serve to reduce the Proposed Project's impact on the operations of 10 Townsend under Existing plus Project and 2030 Cumulative plus Project Conditions to a less-than-significant level. However, because the ability of SFMTA, as another City agency, to provide the additional service on local lines needed to accommodate this project is uncertain, the feasibility of the mitigation measure is unknown. Therefore, the Proposed Project's impact to the operations of 10 Townsend would be considered **significant and unavoidable**.

48 Quintara-24th Street

The 48 Quintara-24th Street line would operate with capacity utilization exceeding the Muni's 85 percent threshold under 2030 Cumulative and 2030 Cumulative plus Project Conditions. Since, the Proposed Project would increase ridership of this line by a maximum of 30 trips (12 percent), the Proposed Project is considered to cause a significant transit impact to this Muni line under 2030 Cumulative plus Project Conditions.

> **Transportation Mitigation Measure 8 –** The Project Sponsor shall work with SFMTA to ensure that the transit capacity impact to the 48 Quintara-24th Street line related to the Proposed Project under cumulative conditions is reduced to a less-than-significant level by financially compensating SFMTA for the cost of providing the service needed to accommodate the project at proposed levels of service. The financial contribution shall be calculated and applied in a manner that is consistent with the SFMTA cost/scheduling model. The amount and schedule of payment and commitment to application of service needs shall be set forth in a Transit Mitigation Agreement between the Project Sponsor and SFMTA.

The payment of the fee identified in this mitigation measure would serve to reduce the Proposed Project's impact on the operations of the 48 Quintara-24th Street under 2030 Cumulative Conditions to a less-than-significant level. However, because the ability of SFMTA, as another City agency, to provide the additional service on local lines needed to accommodate this project is uncertain, the feasibility of the mitigation measure is unknown. Therefore, the Proposed Project's impact to the operations of the 10 Townsend and 48 Quintara-24th Street would be considered **significant and unavoidable** under 2030 Cumulative plus Project Conditions.

Alternative 1 – Alternative 1 would generate 214 weekday PM peak hour transit trips (135 inbound and 79 outbound), of which 107 inbound and 63 outbound trips would be served by Muni lines, while 28 inbound and 16 outbound trips would be served by regional transit providers. Similar to the Proposed Project, Alternative 1 would deteriorate transit operations of the 10 Townsend/Sansome and 48 Quintara-24th Street, but would not modify operations of the 19 Polk (this line would continue to operate with a capacity utilization of 58 percent and 42 percent in the inbound and outbound directions). Alternative 1 would increase the capacity utilization of the 10 Townsend/Sansome by 10 percent (from 94 to 104 percent) in the inbound direction and 17 percent (from 87 percent to 104 percent) in the outbound direction. Also, it would increase the capacity utilization of 48 Quintara-24th Street by 7 percent (from 89 to 96 percent) in the inbound direction and 5 percent (from 91 percent to 96 percent) in the outbound direction. Both the 10 Townsend/Sansome and 48 Quintara-24th Street lines would continue to operate above Muni's 85 percent utilization standard in both the inbound and outbound directions under 2030 Cumulative plus Alternative 1 Conditions.

Under 2030 Cumulative plus Alternative 1 Conditions, during the weekday PM peak hour, Alternative 1 would substantially increase the ridership of outbound 10 Townsend/Sansome by about 42 riders (about 14 riders per bus during the peak hour), inbound 10 Townsend/Sansome by about 23 riders (about 8 riders per bus during the peak hour), outbound 48 Quintara-24th Street by about 12 riders (about 2 riders per bus during the peak hour), and inbound 48 Quintara-24th Street by about 17 riders (about 3 riders per bus during the peak hour). Given that both these Muni lines are anticipated to operate above Muni's 85 percent utilization standard under 2030 Cumulative Conditions, the additional transit demand due to Alternative 1 would result in a significant impacts to the 10 Townsend/Sansome and 48 Quintara-24th Street lines under 2030 Cumulative plus Alternative 1 Conditions.

10 Townsend/Sansome

The 10 Townsend/Sansome line would operate with capacity utilization exceeding Muni's 85 percent threshold under 2030 Cumulative and 2030 Cumulative plus Alternative 1 Conditions. Since Alternative 1 would increase the ridership of this line by a maximum of 42 trips (17 percent), Alternative 1 is considered to cause a significant transit impact to 10 Townsend/Sansome under 2030 Cumulative plus Alternative 1 Conditions.

Transportation Mitigation Measure 2 discussed for the Proposed Project above would also apply to Alternative 1. The payment of the fee identified in this mitigation measure would reduce the impact of Alternative 1 on the operations of 10 Townsend to a less-than-significant level. However, similar to the Proposed Project, the feasibility of implementing this mitigation measure by SFMTA is uncertain; therefore, the impact would remain **significant and unavoidable** under 2030 Cumulative plus Alternative 1 Conditions.

48 Quintara-24th Street

The 48 Quintara-24th Street line would operate with capacity utilization exceeding Muni's 85 percent threshold under 2030 Cumulative and 2030 Cumulative plus Alternative 1 Conditions. Since, Alternative 1 would increase ridership of this line by a maximum of 17 trips (7 percent), it is considered to cause a significant impact to this Muni line under 2030 Cumulative plus Alternative 1 Conditions. **Transportation Mitigation Measure 8** identified for the Proposed Project above would also apply to Alternative 1. The payment of the fee identified in this mitigation measure would reduce the impact of Alternative 1 on the operations of 48 Quintara-24th Street to a less-than-significant level. However, similar to the Proposed Project, because the ability of SFMTA to provide the additional service on these lines needed to accommodate this project is uncertain, the feasibility of the mitigation measure is unknown. Therefore, the impact of Alternative 1 to the operations of 48 Quintara-24th Street would be considered **significant and unavoidable** under 2030 Cumulative plus Alternative 1 Conditions.

Alternative 2 – Alternative 2 would not add any new transit-related trips; as such, all study Muni lines would continue to operate with the same capacity utilization as under 2030 Cumulative Conditions. Therefore, Alternative 2 would result in **less-than-significant** transit impacts to specific Muni lines under 2030 Cumulative plus Alternative 2 Conditions.

Detailed calculation sheets for the line-by-line analysis under 2030 Cumulative and 2030 Cumulative plus Project Conditions are included in **Appendix H**.

2030 Cumulative Conditions Muni Screenline Analysis

Similar to Existing Conditions, weekday PM peak hour capacity utilization for Muni's Southeast screenline was determined under 2030 Cumulative Conditions. Screenline analysis under 2030 Cumulative Conditions takes into account the planned changes to Muni service, including projected capacity and anticipated service changes. Muni ridership and capacity under 2030 Cumulative Conditions were obtained from the transit projections documented in the Transit Center District Plan –

Transportation Study (AECOM, 2010). The ridership and capacity projections under 2030 Cumulative Conditions, along with a comparison of screenline operations under Existing Conditions, and the forecasted capacity utilization for the Muni's Southeast screenline, are presented in **Table 4-16**.

Under 2030 Cumulative conditions, the overall capacity utilization of the Muni's Southeast screenline (79 percent) is expected to increase by approximately 13 percent from Existing Conditions (66 percent); however, it would still operate with a capacity utilization value that is below Muni's standard of 85 percent. Compared to Existing Conditions, under 2030 Cumulative Conditions, the capacity utilization of the Third Street corridor would increase from 78 percent to 91 percent (13 percent increase) and exceed Muni's 85 percent threshold, and the All Other Lines corridor (consisting of J Church, 12 Folsom, and 19 Polk lines) would increase from 70 percent to 85 percent (15 percent increase) and operate at Muni's 85 percent threshold. The other two corridors, Mission Street and San Bruno/Bayshore would operate with capacity utilization below the 85 percent threshold.

2030 Cumulative plus Project Conditions Muni Screenline Analysis

Using the same methodology and project-generated transit ridership as mentioned in **Section 4.2.2 – Transit Impacts**, approximately 130 and 80 transit trips associated with the Proposed Project and Alternative 1, respectively, would cross the Southeast screenline in the peak direction from downtown San Francisco (along the 10 Townsend, 19 Polk, and T Third Street lines). The remaining inbound Muni trips (46 for the Proposed Project and 23 for Alternative 1) would use the 22 Fillmore and 48 Quintara-24th Street lines, which are not included in the Muni screenlines. A summary of the screenline analysis for Muni's Southeast screenline under 2030 Cumulative plus Project Conditions during the weekday PM peak hour is provided in **Table 4-16**.

Proposed Project – Under 2030 Cumulative plus Project Conditions, the Southeast screenline would operate with an overall capacity utilization of 80 percent (less than Muni's 85 percent threshold), an increase of approximately one percent from 2030 Cumulative Conditions. The Mission Street and San Bruno/Bayshore corridors would continue to operate with the same capacity utilizations as under 2030 Cumulative Conditions (61 and 78 percent, respectively). The All Other Lines corridor (consisting of J Church, 12 Folsom, and 19 Polk lines) and the Third Street corridor would operate with an overall capacity utilization of 90 and 92 percents (greater than Muni's 85 percent threshold) under 2030 Cumulative plus Project Conditions. However, the capacity utilization of these corridors would exceed Muni's 85 percent threshold under 2030 Cumulative Conditions itself; as such, the Proposed Project's contribution to the changes in the capacity utilizations of these corridors was estimated.

The Proposed Project would increase the capacity utilization of the All Other Lines corridor by 5.9 percent (from 85 percent to 90 percent) and the Third Street corridor by 1.5 percent (from 91 percent to 92 percent). Since the Proposed Project would increase ridership along the Third Street corridor by approximately one (1) percent, its contribution would not be considered a significant impact to this Southeast screenline under 2030 Cumulative plus Project Conditions. However, the Proposed Project would increase the capacity utilization of the All Other Lines corridor crossing the Southeast screenline (consisting of J Church, 12 Folsom, and 19 Polk) by 5.9 percent. Therefore, the Proposed Project's contribution of riders to this corridor within the Southeast screenline which operates above Muni's 85 percent capacity utilization threshold under cumulative conditions would be considered a significant transit impact under 2030 Cumulative plus Project Conditions.

Table 4-16: 2030 Cumulative vs. Cumulative plus Project Muni Screenline Analysis – Weekday PM Peak Hour

Screenline/Corridor	Existing			2030 Cumulative			2030 Cumulative plus Project					
							Proposed Project			Alternative 1		
	Ridership	Peak Hour Capacity	Capacity Utilization	Ridership	Peak Hour Capacity	Capacity Utilization	Project Trips	Ridership	Capacity Utilization	Project Trips	Ridership	Capacity Utilization
Southeast Screenline												
Third Street	554	714	78%	2,592	2,856	**91%**	39	2,631	**92%**	24	2,616	**92%**
Mission Street	1,254	2,350	53%	1,370	2,256	61%	0	1,370	61%	0	1,370	61%
San Bruno/Bayshore	1,671	2,256	74%	2,344	3,008	78%	0	2,344	78%	0	2,344	78%
All Other Lines	1,189	1,708	70%	1,550	1,820	**85%**	91	1,641	**90%**	56	1,606	**88%**
Total	**4,668**	**7,028**	**66%**	**7,856**	**9,940**	**79%**	**130**	**7,996**	**80%**	**80**	**7,936**	**80%**

Source: AECOM – 2010; CDM Smith – January 2012.
Notes:
Screenline analysis conducted only in the peak outbound direction from San Francisco toward the project site.

> **Transportation Mitigation Measure 9 –** The Project Sponsor shall work with SFMTA to ensure that the transit capacity impact to the All Other Lines corridor related to the Proposed Project under cumulative conditions is reduced to a less-than-significant level by financially compensating SFMTA for the cost of providing the service needed to accommodate the project at proposed levels of service. The financial contribution shall be calculated and applied in a manner that is consistent with the SFMTA cost/scheduling model. The amount and schedule of payment and commitment to application of service needs shall be set forth in a Transit Mitigation Agreement between the Project Sponsor and SFMTA.

The payment of the fee identified in this mitigation measure would reduce the Proposed Project's impact on the operations of the All Other Lines corridor in the Southeast screenline to a less-than significant level. However, because the ability of SFMTA to provide the additional service on these lines needed to accommodate this project is uncertain, the feasibility of the mitigation measure is unknown. Therefore, the Proposed Project's impact on the operations of the All Other Lines corridor in the Southeast screenline under 2030 Cumulative plus Project Conditions would be considered **significant and unavoidable**.

Alternative 1 – Similar to the Proposed Project, the overall capacity utilization of the Southeast screenline under 2030 Cumulative plus Alternative 1 Conditions would increase by approximately one percent (from 79 percent under 2030 Cumulative Conditions to 80 percent) for Alternative 1. The Mission Street and San Bruno/Bayshore corridors would continue to operate with the same capacity utilizations as under 2030 Cumulative Conditions (61 and 78 percent, respectively). The All Other Lines corridor and the Third Street corridor would operate with an overall capacity utilization of 88 and 92 percents (greater than Muni's 85 percent threshold) under 2030 Cumulative plus Alternative 1 Conditions. However, the capacity utilization of these corridors would exceed Muni's 85 percent threshold under 2030 Cumulative Conditions itself; as such, the contribution of Alternative 1 to the changes in the capacity utilizations of these corridors was estimated.

Alternative 1 would increase the capacity utilization of the All Other Lines corridor by 3.6 percent (from 85 percent to 88 percent) and that of the Third Street corridor by 0.9 percent (from 91 percent to 92 percent). Since Alternative 1 would increase ridership along the Third Street corridor by approximately one (1) percent, it would not be considered to cause any significant impacts to this corridor under 2030 Cumulative plus Alternative 1 Conditions. However, Alternative 1 would increase the capacity utilization of the All Other Lines corridor crossing the Southeast screenline by approximately four (4) percent. Therefore, the contribution of Alternative 1 to this corridor within the Southeast screenline which operates above Muni's 85 percent capacity utilization threshold under cumulative conditions would be considered a significant transit impact under 2030 Cumulative plus Alternative 1 Conditions.

Transportation Mitigation Measure 9 discussed for the Proposed Project above would also apply to Alternative 1. The payment of the fee identified in this mitigation measure would reduce the impact of Alternative 1 on the operations of the All Other Lines corridor to a less-than-significant level. However, similar to the Proposed Project, the feasibility of implementing this mitigation measure by SFMTA is uncertain; therefore, the impact would remain **significant and unavoidable** under 2030 Cumulative plus Alternative 1 Conditions.

Alternative 2 – Alternative 2 would not add any new transit-related trips; as such, the Southeast screenline and all corridors included in it would continue to operate with the same capacity utilization as under 2030 Cumulative Conditions. Therefore, Alternative 2 would result in **less-than-significant** traffic impacts to Muni screenlines under 2030 Cumulative plus Alternative 2 Conditions.

2030 Cumulative Conditions Regional Transit Screenline Analysis

Regional transit capacity utilization was also evaluated under 2030 Cumulative Conditions. Similar to Muni screenline projections, ridership and capacity projections of regional transit operators under 2030 Cumulative Conditions were obtained from the transit projections documented in the Transit Center District Plan Transportation Study (AECOM, 2010). **Table 4-17** exhibits ridership, capacity, and expected utilization for 2030 Cumulative Conditions, alongside Existing Conditions, as a comparison.

Under 2030 Cumulative Conditions, the transit operations of most regional transit operators serving the project study area would worsen from Existing Conditions, with the exception of BART and SamTrans service to the South Bay, where the expected provision of additional transit service would offset the anticipated increase in transit ridership. The overall capacity utilization of all the regional transit operators would increase from 70 percent to 86 percent. The capacity utilization of BART to the East Bay, AC Transit to the East Bay, and GGT buses to the North Bay are anticipated to increase from 83 percent to 110 percent for BART, from 60 percent to 113 percent for AC Transit, and from 63 percent to 114 percent for GGT buses. All regional transit providers have a 100 percent capacity utilization standard. Hence, capacity utilizations of BART, AC Transit buses, and GGT buses would increase above their threshold values under 2030 Cumulative Conditions. All other regional transit operators would operate with capacity utilizations below their respective threshold values. Additionally, the East Bay and North Bay regional transit screenlines are anticipated to operate with capacity utilizations of more than 100 percent.

2030 Cumulative plus Project Conditions Regional Transit Screenline Analysis

Regional transit screenlines were also evaluated under 2030 Cumulative plus Project Conditions using the same methodology previously described in **Section 2.4.5 – Existing Regional Transit Screenline Analysis**. A summary of the regional transit screenline analysis under 2030 Cumulative plus Project conditions during the weekday PM peak hour is provided in **Table 4-17**.

Proposed Project – Under 2030 Cumulative plus Project Conditions, the Proposed Project would generate a total of 25 regional transit trips during the PM peak hour in the peak direction (away from San Francisco). The capacity utilizations of all regional transit operators would remain almost the same under both 2030 Cumulative and 2030 Cumulative plus Project Conditions. The South Bay screenline would continue to operate with a capacity utilization of less than 100 percent, while the East Bay and North Bay regional screenlines would continue to operate with capacity utilizations of greater than 100 percent. Specifically, BART to the East Bay, AC Transit to the East Bay, and GGT buses to the North Bay would operate with capacity utilizations of 110 percent, 113 percent and 114 percent, respectively, thereby exceeding their 100 percent utilization standard. However, the Proposed Project would add less than one (1) percent of the trips to these transit providers (seven trips to BART serving the East Bay, two trips to AC Transit serving the East Bay, and one trip to GGT buses serving the North Bay). Therefore, the Proposed Project would not make a substantial contribution to the ridership of regional transit operators and result in **less-than-significant** impacts to these operators under 2030 Cumulative plus Project Conditions.

Table 4-17: 2030 Cumulative vs. Cumulative plus Project Regional Transit Screenline Analysis – Weekday PM Peak Hour

Region	Regional Transit Operator	Existing			2030 Cumulative			2030 Cumulative plus Project					
								Proposed Project			Alternative 1		
		Ridership	Peak Hour Capacity	Capacity Utilization	Ridership	Peak Hour Capacity	Capacity Utilization	Project Trips	Ridership	Capacity Utilization	Project Trips	Ridership	Capacity Utilization
East Bay	BART	20,067	24,150	83%	32,225	29,400	**110%**	7	32,232	**110%**	5	32,230	**110%**
	AC Transit	2,517	4,193	60%	7,477	6,600	**113%**	2	7,479	**113%**	1	7,478	**113%**
	Ferries	702	1,519	46%	2,118	2,719	78%	0	2,118	78%	0	2,118	78%
	Subtotal	*23,286*	*29,862*	*78%*	*41,819*	*38,719*	*108%*	*9*	*41,829*	*108%*	*6*	*41,826*	*108%*
North Bay	GGT Buses	1,397	2,205	63%	2,508	2,205	**114%**	1	2,509	**114%**	1	2,509	**114%**
	GGT Ferries	906	1,700	53%	1,627	1,700	96%	1	1,628	96%	1	1,628	96%
	Subtotal	*2,303*	*3,905*	*59%*	*4,135*	*3,905*	*106%*	*2*	*4,137*	*106%*	*2*	*4,137*	*106%*
South Bay	BART	10,202	16,800	61%	11,202	21,000	53%	9	11,211	53%	6	11,208	53%
	Caltrain	1,986	3,250	61%	3,981	6,400	62%	5	3,986	62%	2	3,983	62%
	SamTrans	575	940	61%	402	940	43%	0	402	43%	0	402	43%
	Ferries	-	-	-	74	300	25%	0	74	25%	0	74	25%
	Subtotal	*12,763*	*20,990*	*61%*	*15,659*	*28,640*	*55%*	*14*	*15,673*	*55%*	*8*	*15,667*	*55%*
Total		**38,352**	**54,757**	**70%**	**61,614**	**71,264**	**86%**	**25**	**61,639**	**86%**	**16**	**61,630**	**86%**

Source: SF Planning Department – 2009, 2012; CDM Smith –2012.

Alternative 1 – Under 2030 Cumulative plus Alternative 1 Conditions, Alternative 1 would generate a total of 16 regional transit trips during the PM peak hour in the peak direction (away from San Francisco). Similar to the Proposed Project, the capacity utilizations of all regional transit operators would remain almost the same under 2030 Cumulative and 2030 Cumulative plus Alternative 1 Conditions. The South Bay screenline would continue to operate with a capacity utilization of less than 100 percent, while the East Bay and North Bay regional screenlines would continue to operate with capacity utilizations of greater than 100 percent. BART to the East Bay, AC Transit to the East Bay, and GGT buses to the North Bay would continue to operate with capacity utilizations of 110 percent, 113 percent, and 114 percent, respectively, thereby exceeding their 100 percent utilization standard. However, Alternative 1 would add less than one (1) percent of the trips to these transit providers (five trips to BART serving the East Bay, one trip to AC Transit serving the East Bay, and one trip to GGT buses serving the North Bay). Therefore, Alternative 1 would not make a substantial contribution to the ridership of regional transit operators and would result in a **less-than-significant** impact to these operators under 2030 Cumulative plus Alternative 1 Conditions.

Alternative 2 – Alternative 2 would not add any new transit-related trips; as such, all study regional transit services would continue to operate with the same capacity utilizations as under 2030 Cumulative Conditions. Therefore, Alternative 2 would result in **less-than-significant** operational impacts to regional transit operators under 2030 Cumulative plus Alternative 2 Conditions.

Chapter 5: Mitigation and Improvement Measures

This chapter includes recommended mitigation and improvement measures that would enhance the study area operations. In addition, a transportation demand management (TDM) plan comprised of several applicable strategies to reduce auto-based travel demand is included.

5.1 Mitigation Measures – Existing plus Project Conditions

The following section describes the mitigation measures that would enhance the study area operations under Existing plus Project Conditions.

5.1.1 Traffic and Circulation

Proposed Project, Alternative 1, and Alternative 2 – Recommended mitigation measures are as follows:

Transportation Mitigation Measure 1 – During the design of each phase of the project, the Project Sponsor shall develop designs for intersection bulb-outs and driveways connecting to parking garages incorporating the guidelines and design controls provided below. These design recommendations were identified from Better Streets Plan and guidelines provided by SFMTA, and the Planning Department.

Bulb-out Design (Source – Better Streets Plan)

- All streets within the project site shall adhere to standards contained in the Better Streets Plan by the San Francisco Planning Department, including the following:
  - o Streets and bulb-outs shall be designed to accommodate emergency vehicle (WB-40) turns; and
  - o Streets and bulb-outs along Muni routes shall be designed to accommodate a 40-foot (B-40) bus.
- Bulb-outs shall be designed consistent with the SFDPW and other City agency specifications to accommodate use of mechanical street sweepers, and shall be consistent with San Francisco Fire Department and SFMTA regulations. All bulb-outs require the approval of the interagency TASC committee.

Driveway Design (Source – Better Streets Plan, Planning Department, and SFMTA)

- All driveways leading to parking garages shall be designed in accordance with the San Francisco Planning Code Sections 145.1 and 155 standards applicable in RM zoning districts and the Planning Department's Guidelines for Adding Garages and Curb Cuts;
- Garages with more than 20 parking spaces would be subject to the Planning Department's Queue Abatement Condition of Approval, requiring the project sponsor to design for and prevent through monitoring the potential for vehicle queues in the public right-of-way;
- Garage entrances and curb cuts shall be designed to minimize their impact on other modes of travel, including pedestrian circulation;
- Garage entrances shall be no wider than 16 feet, 12 feet being the preferred width;
- Garage entrances located along streets with transit service (Missouri, Arkansas, and Wisconsin Streets) shall not encumber any bus stop and not be located directly before a bus stop; and

- The minimum clearance distance between any garage driveway and neighboring intersections would be identified coordinating with the SFMTA.

The intersection bulb-out and driveway designs for each phase of construction would be finalized after review and approval by the Planning Department and SFMTA to assure compliance with these standards. With the implementation of Transportation Mitigation Measure 1, the circulation impacts of the Proposed Project and its alternatives would be considered **less-than-significant with mitigation**.

5.1.2 Transit

Proposed Project and Alternative 1 – Recommended mitigation measures are as follows:

10 Townsend

> **Transportation Mitigation Measure 2 –** The Project Sponsor shall work with the SFMTA to ensure that the transit capacity impact to the 10 Townsend related to the Proposed Project and Alternative 1 is reduced to a less-than-significant level by financially compensating the SFMTA for the cost of providing the service needed to accommodate the project at proposed levels of service. The financial contribution shall be calculated and applied in a manner that is consistent with the SFMTA cost/scheduling model. The amount and schedule of payment and commitment to application of service needs shall be set forth in a Transit Mitigation Agreement between the Project Sponsor and SFMTA.

The payment of the fee identified in this mitigation measure would serve to reduce the impact of the Proposed Project and Alternative 1 on the operations of 10 Townsend to a less-than-significant level. However, because the ability of SFMTA, as another City agency, to provide the additional service on local lines needed to accommodate this project is uncertain, the feasibility of the mitigation measure is unknown. Therefore, the impact of the Proposed Project and Alternative 1 to the operations of 10 Townsend would be considered **significant and unavoidable**.

Alternative 2 – No mitigation measures are recommended, since Alternative 2 would not cause any significant traffic impacts.

5.1.3 Pedestrian

No mitigation measures are recommended, since the Proposed Project and its alternatives would not cause significant impacts to nearby pedestrian operations.

5.1.4 Bicycle

No mitigation measures are recommended, since the Proposed Project and its alternatives would not cause significant impacts to nearby bicycle operations.

5.1.5 Loading

No mitigation measures are required, since project-related loading demand would not affect loading operations.

However, as an improvement, it is recommended that the Project Sponsor coordinate with the San Francisco Department of the Environment (SF Environment) and the SFMTA's Sustainable Streets Division to ensure that the garbage facilities would remain on the street for the shortest time and would not result in any impacts to pedestrian and traffic circulation.

5.1.6 Emergency Access

No mitigation measures are required, since the Proposed Project and its alternatives are not expected to significantly alter emergency access to the project site.

5.1.7 Construction

Recommended mitigation measures are as follows:

Transportation Mitigation Measure 3 – To reduce construction-related impacts, the Project Sponsor shall develop and implement a Construction Transportation Control Plan (TCP) for each construction phase to anticipate and minimize impacts of various construction activities associated with the Proposed Project and its alternatives. The TCP would disseminate appropriate information to contractors and affected agencies with respect to coordinating construction activities to minimize overall disruptions and ensure that overall circulation in the project area is maintained to the extent possible, with particular focus on ensuring pedestrian, transit, and bicycle connectivity. The program would supplement and expand, rather than modify or supersede, any manual, regulations, or provisions set forth by SFMTA, SDDPW, other City departments and agencies. Specifically, the plan should:

- Identify construction traffic management and a cohesive program of operational and demand management strategies designed to maintain acceptable levels of travel flow during periods of construction activities. These include, but are not limited to, construction strategies, demand management activities, alternative route strategies, and public information strategies consistent with best practices in San Francisco, as well as other cities or agencies that, although not being implemented in the City, could provide valuable management practices for the project. Management practices include, but are not limited to:
    - Planning site construction and truck deliveries such as to minimize construction-related traffic operations during the weekday morning and evening peak commute hours;
    - Identifying ways to reduce construction worker vehicle trips through transportation demand management programs and methods to manage construction work parking demands, such as promoting carpooling/vanpooling, encouraging transit usage, discouraging workers from parking off-site, etc.;
    - Working further with SFDPW to identify the best traffic detours during each construction phase;
    - Identifying best practices to accommodate pedestrians, such as temporary pedestrian wayfinding signage or temporary walkways;
    - Working with SFMTA to identify relocated Muni routes and stops; and
    - Identifying best practices to manage traffic flows on surrounding streets.
- Describe procedures required by different departments and/or agencies in the city for implementation of the TCP, such as reviewing agencies, approval processes, and estimated timelines. For example,
    - The project sponsor will need to coordinate temporary and permanent changes to the transportation network within the City of San Francisco, including traffic, street and parking changes and lane closures, with SFMTA. Any permanent changes may require meeting with the SFMTA Board of Directors or one of its sub-Committees. This may require a public hearing. Temporary traffic and transportation changes must be coordinated through the SFMTA's Interdepartmental Staff Committee on

Traffic and Transportation (ISCOTT) and would require a public meeting. As part of this process, the Construction Plan may be reviewed by the Transportation Advisory Staff Committee (TASC) to resolve internal differences between different transportation modes; and

  - Caltrans Deputy Directive 60 (DD-60) requires TCP and contingency plans for all state highway activities. These plans should be part of the normal project development process and must be considered during the planning stage to allow for the proper cost, scope and scheduling of the TCP activities on Caltrans right-of-way. These plans should adhere to Caltrans standards and guidelines for stage construction, construction signage, traffic handling, lane and ramp closures and TCP documentation for all work within Caltrans right-of-way.

- Notify emergency vehicle providers about the planned street closures/detours and their duration for each construction phase.
- Develop a public information plan to provide adjacent residents and businesses with regularly-updated information regarding project construction, including construction activities, durations, peak construction vehicle activities (e.g., concrete pours), travel lane closures, and other lane closures; and
- Hire a transportation manager to actively manage the construction vehicle, truck loading, passenger loading and emergency vehicle access to the project site through at least the most intense phases of construction.

As mentioned earlier, the TCP should address phased development of the project. The TCP shall be submitted to TASC, consisting of representatives from the SFMTA and Muni operations, Fire Department, Police Department, and SFDPW for review/approval. Similarly, any travel lane, parking lane, or sidewalk closures are required to be reviewed by the TASC. Implementation of the Mitigation Measure 2 included in the traffic management plan would reduce the contribution of the Proposed Project and its alternatives to construction-related traffic impacts; however, given the magnitude of the project, the duration of the construction period, and the potential that street closures over long periods could affect traffic operations, the impact would remain **significant and unavoidable**.

5.2 Mitigation Measures – 2030 Cumulative plus Project Conditions

The following section describes the mitigation measures that would enhance the study area operations under 2030 Cumulative plus Project Conditions.

5.2.1 Traffic

Proposed Project – Recommended mitigation measures are as follows:

<u>Intersection #3 – Pennsylvania Avenue/Southbound I-280 Off-Ramp</u>

Transportation Mitigation Measure 4 – Project's Fair Share of Traffic Improvements.

The project sponsor shall therefore mitigate its impact to traffic related to the project development by coordinating with SFMTA on the appropriateness of signalization at this location or similar improvements to traffic operations. The Project Sponsor shall financially compensate SFMTA for its fair share of the cost of signalization at this location or other similar traffic-related improvements in the vicinity which would similarly improve traffic operating conditions. The financial contribution shall be calculated and applied based on the proposed development's fair share of the identified improvements.

Due to the uncertainty of the implementation of Transportation Mitigation Measure 3, the feasibility of the recommended mitigation measure is unknown. Therefore, the Proposed Project's impact at the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection would remain **significant and unavoidable**. The Project Sponsor shall work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at this intersection.

Intersection #4 – 25th Street/Indiana Street/Northbound I-280 On-Ramp

Transportation Mitigation Measure 5 – Restripe the eastbound approach so as to convert the existing shared left-through lane to a through lane and provide a new 75-foot left-turn pocket. The restriping would require prohibition of on-street parking for approximately 75 feet in the eastbound approach (loss of two parking spaces).

Implementation of Transportation Mitigation Measure 4 would improve the intersection operations to LOS C (approximately 24 seconds of delay per vehicle in the northbound direction). Hence, with Mitigation Measure 4, the traffic impact at this intersection would be reduced to **less-than-significant** for the Proposed Project. Constructing a new left-turn pocket would result in the removal of two on-street parking spaces or although less likely, a slight reduction in sidewalk widths along the eastbound approach. These impacts related to the implementation of Transportation Mitigation Measure 4 would not be considered significant, and would be consistent with those analyzed with the proposed project.

Intersection #12 – Cesar Chavez Street/Vermont Street

Transportation Mitigation Measure 6 – Project's Fair Share of Traffic Improvements.

The project sponsor shall therefore mitigate its impact to traffic related to the project development by coordinating with SFMTA on the appropriateness of signalization at this location or similar improvements to traffic operations. The Project Sponsor shall financially compensate SFMTA for its fair share of the cost of signalization at this location or other similar traffic-related improvements in the vicinity which would similarly improve traffic operating conditions. The financial contribution shall be calculated and applied based on the proposed development's fair share of the identified improvements.

Due to the uncertainty of the implementation of Transportation Mitigation Measure 5, the feasibility of the recommended mitigation measure is unknown. Therefore, the Proposed Project's impact at the Cesar Chavez Street/Vermont Street intersection would remain **significant and unavoidable**. The Project Sponsor shall work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at this intersection.

Intersection #13 – Cesar Chavez Street/US 101 Off-Ramp

Transportation Mitigation Measure 7 – Project's Fair Share of Traffic Improvements.

The project sponsor shall therefore mitigate its impact to traffic related to the project development by coordinating with SFMTA on the appropriateness of signalization at this location or similar improvements to traffic operations. The Project Sponsor shall financially compensate SFMTA for its fair share of the cost of signalization at this location or other similar traffic-related improvements in the vicinity which would similarly improve traffic operating conditions. The financial contribution shall be calculated and applied based on the proposed development's fair share of the identified improvements.

Due to the uncertainty of the implementation of Transportation Mitigation Measure 6, the feasibility of the recommended mitigation measure is unknown. Therefore, the Proposed Project's impact at the Cesar Chavez Street/US 101 Off-Ramp intersection would remain **significant and unavoidable**. The Project Sponsor shall work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at this intersection.

Alternative 1 – Recommended mitigation measures are as follows:

Intersection #3 – Pennsylvania Avenue/Southbound I-280 Off-Ramp

Transportation Mitigation Measure 4 – Project's Fair Share of Traffic Improvements.

The project sponsor shall therefore mitigate its impact to traffic related to the project development by coordinating with SFMTA on the appropriateness of signalization at this location or similar improvements to traffic operations. The Project Sponsor shall financially compensate SFMTA for its fair share of the cost of signalization at this location or other similar traffic-related improvements in the vicinity which would similarly improve traffic operating conditions. The financial contribution shall be calculated and applied based on the proposed development's fair share of the identified improvements.

Due to the uncertainty of the implementation of Transportation Mitigation Measure 3, the feasibility of the recommended mitigation measure is unknown. Therefore, the impact of Alternative 1 at the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection would remain **significant and unavoidable**. The Project Sponsor shall work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at this intersection.

Intersection #12 – Cesar Chavez Street/Vermont Street

Transportation Mitigation Measure 6 – Project's Fair Share of Traffic Improvements.

The project sponsor shall therefore mitigate its impact to traffic related to the project development by coordinating with SFMTA on the appropriateness of signalization at this location or similar improvements to traffic operations. The Project Sponsor shall financially compensate SFMTA for its fair share of the cost of signalization at this location or other similar traffic-related improvements in the vicinity which would similarly improve traffic operating conditions. The financial contribution shall be calculated and applied based on the proposed development's fair share of the identified improvements.

Due to the uncertainty of the implementation of Transportation Mitigation Measure 5, the feasibility of the recommended mitigation measure is unknown. Therefore, the impact of Alternative 1 at the Cesar Chavez Street/Vermont Street intersection would remain **significant and unavoidable**. The Project Sponsor shall work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at this intersection.

Intersection #13 – Cesar Chavez Street/US 101 Off-Ramp

Transportation Mitigation Measure 7 – Project's Fair Share of Traffic Improvements.

The project sponsor shall therefore mitigate its impact to traffic related to the project development by coordinating with SFMTA on the appropriateness of signalization at this location or similar improvements to traffic operations. The Project Sponsor shall financially compensate SFMTA for its fair share of the cost of signalization at this location or other similar traffic-related improvements in the vicinity which would similarly improve traffic operating conditions. The financial contribution shall be calculated and applied based on the proposed development's fair share of the identified improvements.

Due to the uncertainty of the implementation of Transportation Mitigation Measure 6, the feasibility of the recommended mitigation measure is unknown. Therefore, the impact of Alternative 1 at the Cesar Chavez Street/US 101 Off-Ramp intersection would remain **significant and unavoidable**. The Project Sponsor shall work with SFMTA to identify any alternative improvements at this intersection and contribute its fair share to improvements at this intersection.

Alternative 2 – No mitigation measures are recommended, since Alternative 2 would not cause any significant traffic impacts.

5.2.2 Transit

Proposed Project and Alternative 1 – Recommended mitigation measures are as follows:

10 Townsend/Sansome

Transportation Mitigation Measure 2 – The Project Sponsor shall work with the SFMTA to ensure that the transit capacity impact to the 10 Townsend related to the Proposed Project and Alternative 1 is reduced to a less-than-significant level by financially compensating the SFMTA for the cost of providing the service needed to accommodate the project at proposed levels of service. The financial contribution shall be calculated and applied in a manner that is consistent with the SFMTA cost/scheduling model. The amount and schedule of payment and commitment to application of service needs shall be set forth in a Transit Mitigation Agreement between the Project Sponsor and SFMTA.

The payment of the fee identified in this mitigation measure would serve to reduce the impact of the Proposed Project and Alternative 1 on the operations of 10 Townsend to a less-than-significant level. However, because the ability of SFMTA, as another City agency, to provide the additional service on local lines needed to accommodate this project is uncertain, the feasibility of the mitigation measure is unknown. Therefore, the impact of the Proposed Project and Alternative 1 on the operations of 10 Townsend would be considered **significant and unavoidable**.

48 Quintara-24th Street

Transportation Mitigation Measure 8 – The Project Sponsor shall work with SFMTA to ensure that the transit capacity impact to the 48 Quintara-24th Street line related to the Proposed Project and Alternative 1 under cumulative conditions is reduced to a less-than-significant level by financially compensating SFMTA for the cost of providing the service needed to accommodate the project at proposed levels of service. The financial contribution shall be calculated and applied in a manner that is consistent with the SFMTA cost/scheduling model. The amount and schedule of payment and commitment to application of service needs shall be set forth in a Transit Mitigation Agreement between the Project Sponsor and SFMTA.

The payment of the fee identified in this mitigation measure would serve to reduce the impact of the Proposed Project and Alternative 1 on the operations of the 48 Quintara-24th Street under 2030 Cumulative Conditions to a less-than-significant level. However, because the ability of SFMTA, as another City agency, to provide the additional service on local lines needed to accommodate this project is uncertain, the feasibility of the mitigation measure is unknown. Therefore, the impact of the Proposed

Project and Alternative 1 on the operations of the 10 Townsend and 48 Quintara-24th Street would be considered **significant and unavoidable** under 2030 Cumulative plus Project Conditions.

All Other Lines at the Southeast Screenline

> **Transportation Mitigation Measure 9 –** The Project Sponsor shall work with SFMTA to ensure that the transit capacity impact to the All Other Lines corridor related to the Proposed Project and Alternative 1 under cumulative conditions is reduced to a less-than-significant level by financially compensating SFMTA for the cost of providing the service needed to accommodate the project at proposed levels of service. The financial contribution shall be calculated and applied in a manner that is consistent with the SFMTA cost/scheduling model. The amount and schedule of payment and commitment to application of service needs shall be set forth in a Transit Mitigation Agreement between the Project Sponsor and SFMTA.

The payment of the fee identified in this mitigation measure would reduce the impact of the Proposed Project and Alternative 1 on the operations of the All Other Lines corridor in the Southeast screenline to a less-than significant level. However, because the ability of SFMTA to provide the additional service on these lines needed to accommodate this project is uncertain, the feasibility of the mitigation measure is unknown. Therefore, the impact of the Proposed Project and Alternative 1 on the operations of the All Other Lines corridor in the Southeast screenline would be considered **significant and unavoidable**.

Alternative 2 – No mitigation measures are recommended, since Alternative 2 would not cause any significant transit impacts.

5.3 Improvement Measures

5.3.1 Transportation Demand Management Plan

A transportation demand management (TDM) plan generally includes strategies that aim to promote and encourage more efficient use of transportation resources. It may comprise of a multitude of solutions and evaluative techniques that provide information on measures to increase transportation system efficiency.

TDM measures typically encourage travelers to utilize alternative modes of transportation, such as inducing shifts from single auto occupancy travel to transit, rideshare, bicycle, and pedestrian travel. The following sections include a description of various TDM measures that are applicable to the Proposed Project.

TDM Strategies Currently Considered by the Project Sponsor

This section describes the TDM strategies that either would be implemented or are being considered by the Project Sponsor to implement as part of the Proposed Project.

Promote Transit Usage – The Project Sponsor would promote transit usage to reduce external auto-based trips.

- The Project Sponsor would explore the feasibility of providing a subsidized transit pass to low-income households. The Project Sponsor would either identify a source of funding to provide subsidized passes or coordinate with the SFMTA to have an agreement to offer transit passes at a reduced cost to residents.

- The Master Homeowners Association would regularly distribute transit information, including timetables, schedules, information on nearby transit stations and stops, and additional information on local and regional transit operators to all residents. Accurate, up-to-date information on transit options would also be provided via a transit bulletin board or similar structure in the community center.

Promote Pedestrian Activity – The Project Sponsor would promote pedestrian activity to reduce external and internal auto-based trips.

- A series of pedestrian paths and stairways would be provided within the project site, including along Connecticut Street, 23rd Street, and 22nd Street;
- An accessible path would be provided to important neighborhood amenities, such as Starr King Elementary School and the health clinic at the Wisconsin Street/Coral Street intersection; and
- Pedestrian facilities provided along 22nd Street is anticipated to offer a pedestrian connection at the north end of the park down to the 22nd Street Caltrain station, the T Third Street light rail station at 23rd Street and Third Street, and the 22nd Street mixed-use district.

Promote Car-sharing – Car-sharing programs provide convenient auto access to a resident, employee, or visitor on a demand response basis. Dedicated car-share parking locations or "pods" are established which is accessed through an automated reservation system. This system provides access to a vehicle for trips requiring an automobile but reduces the bundled costs of private ownership and parking of a dedicated vehicle for every resident or employee. The Project Sponsor would promote car-sharing to reduce external auto-based trips.

- Car-sharing spaces would be provided within the project site; and
- To encourage more users, the Project Sponsor is considering the provision of discounted membership rates, especially to the affordable housing residents for using car-sharing facilities.

Provide On-site Neighborhood Center – The Project Sponsor would provide on-site neighborhood center to reduce external project-related trips.

- Small neighborhood retail outlets would be provided within the project site;
- Pre-school, day care, gymnasium, and sports facilities would be provided at the proposed on-site community center; and
- The Project Sponsor is considering the provision of a non-profit food cooperative within the project site.

Traffic Calming Measures – Traffic calming includes various design features and strategies intended to reduce vehicle traffic speeds and volumes on a particular roadway. These roadway design treatments range from minor modifications for an individual street to a comprehensive redesign of the roadway network.

- New safe streets, open spaces, and a walkable neighborhood;
- The surrounding street grid-pattern would be extended in to the project site to improve the movement and safety of pedestrians and bicyclists;
- New streets would be constructed in the north-south and east-west direction to improve vehicle, pedestrian, and bicycle circulation;

- At least five-foot-wide sidewalks and striped crosswalks are expected to be provided on all block faces within the project site, along with pedestrian bulb-outs at intersections to improve pedestrian safety and reduce crossing distances. The pedestrian bulb-outs would also serve as traffic calming measures. These sidewalks and corner bulb-outs would be compliant with the American Disability Act (ADA) to ensure safe crossings for seniors and persons with disabilities; and
- The diagonally aligned Dakota Street from 23rd Street to 25th Street would be replaced by Missouri Street aligned in the north-south direction. This would either eliminate or reduce speeding issues currently observed along Dakota Street.

The above mentioned traffic calming measures provided on-site would improve pedestrian safety by reducing the severity of pedestrian injuries when they do occur by calming traffic, creating intersections for convenient and safe pedestrian crossings, and reducing the incidence of speeding. Street and park lighting play a key role in enhancing personal security and creating safe public spaces. As such, light levels shall be as specified in the San Francisco Better Streets Plan. Stairways and terraces shall be well lit at night to enhance safety and personal security. Lighting shall be pedestrian scaled and be coordinated with street trees and site furnishings.

Additional TDM Strategies – Improvement Measures

The following TDM strategies are recommended in addition to those that are already being considered by the Project Sponsor to implement as part of the Proposed Project and its alternatives.

***Hire Local* –** The Project Sponsor could encourage the owners of neighborhood retail developments to hire employees from the local community. This would either eliminate or reduce work-related auto-based trips to the retail developments planned within the project site.

***Preferential HOV Parking* –** The Project Sponsor could provide incentives for use of alternate modes of travel to the single occupancy vehicle by reserving close-in, secure, covered, and/or preferable parking spaces for high-occupancy vehicles. Carpool and vanpool spaces could be provided closer to the building entrance or elevator, but not closer than the parking spaces designated for use by handicapped persons.

Carpool/Vanpool – The Project Sponsor could promote carpool or vanpool programs for commuters who live within the project site and share the same schedule. The Project Sponsor could subsidize the cost of vehicles and fuel costs; the remaining costs could be divided among the participants based on the distance they travelled.

On-site TDM Coordinator – The Project Sponsor could provide a TDM Coordinator with responsibilities such as providing concierge trip-planning services, mobility training, provision of transit passes, new resident outreach to promote moving in without a vehicle (like Travel Choice New Residents program), coordination of ride-sharing/vanpooling, etc. The TDM Coordinator could be located at the neighborhood community center.

Provision of Muni Fast Pass – The Project Sponsor could provide at least one Muni Fast Pass per dwelling unit, as part of rent/HOA fees. This program could be partially subsidized by the Project Sponsor.

Promote Bicycling – The Project Sponsor could promote bicycle usage to reduce external and internal auto-based trips by providing bicycle facilities within the project site, primarily along less steep streets, including Texas Street and 24th Street.

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Appendix 4.7B Transportation Study Appendices. CDM Smith. October 11, 2012. Case NO. 2010.0515E

APPENDIX

APPENDIX A

SCOPE OF WORK

ENGINEERS
PLANNERS
ECONOMISTS
Wilbur Smith Associates

201 Mission Street
Suite 1450
San Francisco, CA 94105
(415) 495-6201
(415) 495-5305 fax
www.wilbursmith.com

November 10, 2011

Mr. Brett Bollinger
San Francisco Planning Department
Major Environmental Analysis Section
1650 Mission Street, Suite 400
San Francisco, CA 94103

Subject: Transportation Study Scope of Work for the proposed Potrero Annex and Terraces HOPE SF Development, San Francisco

Mr. Bollinger:

Wilbur Smith Associates (WSA) is pleased to submit this scope of work to offer transportation engineering and planning services required for the proposed Potrero HOPE SF Development (herein referred to as the 'Proposed Project') at the Potrero Annex and Terrace public housing site in the Potrero Hill neighborhood of San Francisco, California. This scope of work has been developed based on the *San Francisco Transportation Impact Analysis Guidelines for Environmental Review (SF Guidelines)* published by the Planning Department in October 2002.

The transportation study will address the existing transportation network and assess the transportation impacts associated with the proposed Potrero Annex and Terraces HOPE SF Development (herein referred to as the "Proposed Project"). To comply with the National Environmental Policy Act (NEPA) requirements, two alternatives will be analyzed as part of this transportation study. The following two alternatives will be studied as part of the combined EIR/EIS document:

- Alternative 1 – This alternative would involve reducing the height of proposed buildings at the project site from 80 feet to 40 feet. Also, the number of units would be reduced.
- Alternative 2 – This alternative would involve constructing the land use that's already present at the project site under existing conditions.

Evaluation of project alternatives would involve the following assumptions:

- The only difference between the Original Project description and Alternative 1 would be in the size of proposed land uses. All other project descriptions, including the type and location of land uses, number and location of proposed internal blocks, and new vehicle as well as pedestrian connections within the project site would remain the same.

- Alternative 2 would require only qualitative analysis.

Per the latest project description provided to WSA on August 8, 2011, the proposed project would consist of 970 affordable units (145 studios/one-bedroom units and 825 two or more bedroom units), 630 market rate units (345 studios/one-bedroom units and 285 two or more bedroom units), 100 senior units (98 studios/one-bedroom units and 2 two or more bedroom units), 15,000 square foot of retail, 35,000 square foot community center, and 1,040 off-street parking spaces (485 spaces for affordable units, 535 spaces for market rate units, 20 spaces for senior units, 10 spaces for retail, and 5 spaces for the community center). The Proposed Project would result in new vehicle connections along 24th Street, Arkansas Street, Missouri Street, and Texas Street and new pedestrian connections along 24½th Street, 24 Street, 23rd Street, 22nd Street, Arkansas Street, Connecticut Street, Missouri Street, and Texas Street.

SCOPE OF SERVICES

The following sections of this scope of work describe the tasks that will be performed by WSA to conduct the transportation analysis and prepare the Transportation Report for the Proposed Project.

The San Francisco Planning Department requires that the scope of work for the transportation study be reviewed and approved by the Department prior to commencement of any work by the transportation consultant. WSA's project manager met with the San Francisco Planning Department staff, as well as with Project Sponsor representatives on September 24, 2010, to review, discuss and finalize the scope of work presented here.

The key focus of this task was to determine the methodology and approach to this study based on past and on-going transportation studies in the area.

Task 1 – Project Description

WSA will describe the Proposed Project in a Project Description section. This section will include a brief description of the existing uses on the site and the adjacent land uses, including off-street parking, and a description of the uses being proposed as part of the Project, including their location, types and intensities, and access. The description will also include the transit service, bicycle facilities, site circulation, pedestrian facilities, and on-street/off-street parking that would be provided and access to those spaces; the passenger and freight loading/unloading facilities and driveways, will also be described. Site maps, design plans as well as locational maps of the Proposed Project will be included as provided by the Project Sponsor.

Task 2 – Data Collection

WSA anticipates collecting weekday evening (4:00-6:00 PM) peak period turning movement counts for 13 intersections within the study area. The study intersections include:

1. Cesar Chavez Street/Connecticut Street
2. Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp

3. Pennsylvania Avenue/Southbound I-280 Off-Ramp
4. 25th Street/Indiana Street/Northbound I-280 On-Ramp
5. 25th Street/Connecticut Street
6. 25th Street/Dakota Street/Texas Street (proposed to be 25th Street/Texas Street)
7. 23rd Street/Dakota Street (proposed to be 23rd/Connecticut Street)
8. 23rd Street/Wisconsin Street
9. 20th Street/Arkansas Street
10. 22nd Street/Missouri Street
11. Potrero Avenue/23rd Street
12. Cesar Chavez Street/Vermont Street/US 101 On-Ramp
13. Cesar Chavez Street/US 101 Off-Ramp

Study intersections were updated and finalized based on input from the Planning Department staff.

Freeway and Ramp Data – WSA will collect the freeway segment and ramp volumes from the most recent California Department of Transportation (Caltrans) traffic counts. Potential freeway segment and ramp locations include the following:

Ramp Locations:
- Northbound I-280 off-ramp to Cesar Chavez Street
- Southbound I-280 off-ramp to Pennsylvania Avenue
- Northbound I-280 on-ramp from Indiana Street
- Southbound I-280 on-ramp from Pennsylvania Avenue

Freeway Segment Locations:
- Northbound I-280 (south of off-ramp to Cesar Chavez Street)
- Southbound I-280 (south of on-ramp from Pennsylvania Avenue)
- Northbound I-280 (north of on-ramp from Indiana Street)
- Southbound I-280 (north of off-ramp to Pennsylvania Avenue)
- Northbound US 101 (north of on-ramp from Cesar Chavez Street)
- Southbound US 101 (north of off-ramp to Cesar Chavez Street)

Parking Data – WSA will perform general observations of parking conditions at and around the proposed project site. WSA will present information on the proposed parking lot usage for the Proposed Project. The project site boundary will extend from 20th Street in the north to 26th Street in the south and Carolina Street in the west to Texas Street in the east. WSA will conduct parking inventory and occupancy counts for the parking study area that is located outside of the project site. WSA will collect this parking data during the weekday evening peak period (4 PM to 6 PM).

Transit Data – Data will be compiled on transit operators that provide service to the study area. Operating times and capacity utilization of Muni Routes 48, 19, 10, 22, and T will be collected.

Bicycle, Pedestrian, and Loading Data – WSA will perform general observations of the bicycle, pedestrian, and loading facilities available in the vicinity of the project site.

Task 3 – Existing Conditions Analysis

Using the data gathered in Task 1, WSA will document existing street traffic, transit, parking, and bicycle conditions in the vicinity of the Proposed Project site, including:

Task 3.1 – A base map and text for the study area, describing the street designations, street names, current number of lanes and traffic flow directions. Location and distance of access points to and from regional highways will be noted and identification of roadways on the Congestion Management Network. Figures showing the location of bicycle lanes in the vicinity of the project site and intersection geometrics will also be prepared.

Task 3.2 – Intersection level of service (LOS) conditions during the weekday PM peak hour at the study intersections would be analyzed using the *2000 Highway Capacity Manual Operations* Methodology.

Task 3.3 – WSA will perform the freeway analysis using the methodology that is consistent with the Candlestick Point-Hunters Point Shipyard Phase II Development EIR. Operating conditions during the weekday PM peak hour at the mainline segments will be analyzed using the Highway Capacity Software (HCS+) and the LOS and average density values will be reported.

Additionally, WSA will perform merge and diverge analysis using HCS+ software at the study ramp locations.

Task 3.4 – WSA will document a quantitative discussion of the parking supply at and around the project site. WSA assumes that the information about existing parking usage at the project site will be provided by the Project Sponsor. Parking data for the study area located outside of the project site will be compiled from the parking supply and occupancy counts conducted by WSA. A discussion of the existing vehicle circulation and site access conditions will also be included under this task. Residential parking permit areas within the study area will also be noted.

Task 3.5 – WSA will document the local and regional transit operators that provide service to/from San Francisco, including information on access between the study area and the regional terminals. The project team will perform weekday evening peak hour corridor analyses for Muni and other regional transit operators serving the study area. To be consistent with the Sunnydale Environmental Impact Report (EIR), WSA will perform a line-by-line analysis for the five Muni lines within the study area (Lines 48, 19, 10, 22 and T).

Task 3.6 – Qualitative discussion of general pedestrian and bicycle circulation conditions in the vicinity of the project site, including identification of nearby bicycle lanes and routes and the provision of bicycle parking would be assessed during the weekday PM peak hour. In addition, pedestrian and bicycle safety as well as any right-of-way issues will be identified and documented.

Task 3.7 – Qualitative discussion of other retail and freight loading conditions in the study area under existing conditions will be provided as part of this task.

Task 4 – Project Trip Generation, Trip Distribution, Parking, and Loading Demand Analysis

Using *SF Guidelines*, WSA will estimate the weekday daily and evening peak hour trips generated by the Proposed Project. Also, vehicle trips from the existing land use will be estimated using *SF Guidelines*. These trips will be deducted from the project trips generated under future Buildout conditions to identify the net new trips associated with the Proposed Project. These new trips will then be distributed by mode and by origin/destination. The mode split and distribution of the net project trips will be based on *SF Guidelines*.

In addition, WSA will estimate the weekday midday and evening peak period parking demand along with the demand for delivery and retail loading/unloading spaces. WSA will use the project trip generation rates to calculate the estimated project parking demand based on the methodology prescribed by *SF Guidelines*. WSA will estimate project travel demand based on the project description provided by the Project Sponsor for both alternatives.

WSA will submit a technical memorandum summarizing the project travel demand, parking demand, and loading demand to the Planning Department for review.

Task 5 – Volume Development for Future Conditions

Per direction from the Planning Department, WSA will perform the future analysis under Year 2030 Conditions. The future traffic volumes at the existing study intersections will be obtained from the Candlestick Point-Hunters Point Shipyard Phase II Development EIR. The Proposed Project will assume that the Candlestick Point-Hunters Point Shipyard development is already in place. Thus, the 2030 baseline volumes developed for the Proposed Project will correspond to the Year 2030+Project volumes from the Candlestick Point-Hunters Point Shipyard Phase II development. For study intersections that are not evaluated as part of the Candlestick Point-Hunters Point Shipyard Phase II Development EIR, year 2030 traffic volumes will be developed by applying a traffic growth factor that is consistent with the projected growth at the common study intersections. WSA will coordinate closely with SFCTA to ensure volumes developed for future conditions are accurate and defensible.

As part of the Proposed Project, new intersections are proposed to be developed within the study area. These new intersections will likely change the underlying traffic circulation around the project site. Based on the knowledge of local traffic behavior and engineering judgment, WSA in consultation with the Planning Department, will manually overlay estimated traffic patterns for future conditions.

WSA will prepare a technical memorandum discussing the methodology to develop future volumes. This memorandum will be submitted to the Planning Department for review and approval prior to proceeding with the analysis under the Proposed Project.

Task 6 – Transportation Impact Analysis

Task 6.1 – Traffic Impacts: WSA will calculate intersection LOS conditions during the weekday PM peak hour at the study intersections using the *2000 Highway Capacity Manual Operations Methodology*. The intersection levels of service will be calculated for the following scenarios:

- Existing
- Existing plus Project
- Year 2030 Baseline
- Year 2030 Baseline plus Project

WSA will also evaluate the new internal intersections that would be created as part of the project under plus project conditions. Similar to Existing Conditions, WSA will use the Traffix™ software to evaluate the intersection operations under plus project and future scenarios. WSA will also qualitatively discuss traffic impacts associated with each phase of the proposed development.

Also, WSA will evaluate the study freeway segments and ramps under the above mentioned scenarios. Similar to analysis under Existing Conditions, WSA will use HCS+ to perform a basic freeway segment analysis at the study freeway segments. Traffic impacts to the freeway segments will be identified based on the guidelines provided in the *Guide for the Preparation of Traffic Impacts Studies* (Caltrans, December 2002).

Task 6.2 – Parking Impacts: WSA will determine the sufficiency of the proposed parking supply relative to the estimated parking demand and the project parking required under Section 151 of the San Francisco Planning Code. WSA will compare the aggregate evening parking demand for the Proposed Project to the aggregate proposed parking requirements (minimums or maximums) within the study area. Any potential parking deficits will be discussed.

Task 6.3 – Transit Impacts: WSA will estimate the increase in weekday PM peak hour transit ridership for Muni and the regional transit providers based on the estimated travel demand at the project site. An assessment of the future transit ridership and capacity will be conducted for existing and future transit operations in the vicinity of the study, using the previously-identified Muni corridors and regional screenlines as well as 2020 Cumulative ridership and capacity utilization data provided in *SF Guidelines*.

Task 6.4 – Pedestrian Impacts: WSA will qualitatively assess the changes to the pedestrian conditions in the study area, including estimates of the number of new pedestrian trips that would be added to the network with the Proposed Project. Potential pedestrian safety issues will be identified.

Task 6.5 – Bicycle Impacts: WSA will qualitatively assess the changes to the bicycle conditions in the study area. Potential bicycle safety issues will be identified.

Task 6.6 – Freight Loading and Service Impacts: WSA will quantitatively assess the potential loading impacts associated with the Proposed Project, specifically with regards to any changed requirements for the provision of off-street loading spaces. Areas of high current loading demand and areas where exiting needs are not met will be identified, and potential impacts to on-street loading and general vehicular circulation will be discussed.

Task 6.7 – Construction Impacts: WSA will qualitatively assess the potential impacts associated with construction of the Proposed Project within the study area.

Task 6.8 – Internal Circulation Development Support: WSA will assist the project design team in developing circulation within the Proposed Project site. The circulation development support will include reviewing the project master plans, identifying new internal intersection control requirements, developing the geometric configurations of the new internal intersections and roadways, and reviewing and developing the parking layout within the project site. WSA will ensure that all roadway cross-sections conform to state and local roadway design standards. WSA will provide input to the project architects and civil engineers for both the project's internal and adjacent roadways.

Task 6.9 – Traffic Management Plan and Traffic Construction Document Development (Optional Task): During construction activities, a Traffic Management Plan (TMP) will be developed to provide strategies to continue operations and identify improvements needed to maintain operations. The following are key issues that the team has identified and will be addressed in the TMP:

- Phasing and sequencing of construction activities to identify an optimal circulation strategy.
- Parking areas for construction activities to minimize disruption and provide enough capacity for simultaneous activities.
- New or relocated bus stop locations.

Traffic construction documents will be prepared to address the improvements identified by the Traffic Management Plan. These may include plans and specifications for temporary parking areas, interim traffic signalization (if signals are warranted for the proposed construction), and auxiliary turn lanes as identified by the traffic study.

Task 7 – Develop Mitigation/Improvement Measures

WSA will identify mitigation measures to improve conditions where significant project-related impacts have been identified, and improvement measures where non-significant impacts have been identified due to the Proposed Project.

Task 8 – Updating Transportation Analysis

This task addresses the revision of traffic analysis required based on the updated project description provided by the Project Sponsor. Completion of this task involves redoing the following tasks:

- Project travel demand estimation, including estimation of project trip generation, trip distribution, parking demand, and loading demand.
- Evaluation of transportation impacts, including traffic impacts, parking impacts, transit impacts, pedestrian impacts, bicycle impacts, and loading/unloading impacts for the following two scenarios:
    - Existing plus Project
    - Year 2030 Cumulative plus Project

- Developing mitigation measures to improve potential significant impacts to less-than-significant level under the following two scenarios:
  - Existing plus Project
  - Year 2030 Cumulative plus Project
- Documenting the results of the analysis in the draft report.

Task 9 – Analysis Supporting EIR/EIS Document

Task 9.1 – Project Travel Demand Estimation: Similar to the original project, WSA will estimate the weekday daily and evening peak hour trips generated by Alternative 1 using *SF Guidelines*. The vehicle trips from the existing land use will be deducted from the trips generated by Alternative 1 to identify the net new trips associated with Alternative 1. These new trips will then be distributed by mode and by origin/destination. The mode split and distribution of the net trips will be based on *SF Guidelines*.

In addition, WSA will estimate the weekday midday and evening peak period parking demand along with the demand for freight loading/unloading spaces using the methodology prescribed by *SF Guidelines*.

Task 9.2 – Transportation Impact Analysis: Similar to the original project, WSA will perform transportation impact analysis for Alternative 1. As part of this task, traffic impacts, parking impacts, transit impacts, pedestrian impacts, bicycle impacts, freight loading/unloading impacts, and construction impacts will be identified for Alternative 1 using the same methodologies adopted for the original project.

Traffic impact analysis will be conducted at the same 13 intersections, four (4) freeway-ramp junctions, and six (6) freeway segment locations evaluated for the Original Project. Transportation impact analysis for Alternative 1 will be performed under the following two scenarios:

- Existing plus Project
- Year 2030 Baseline plus Project

As mentioned earlier, WSA will perform and report a qualitative analysis for Alternative 2.

Task 9.3 – Development of Mitigation Measures: WSA will identify mitigation measures to improve conditions where significant transportation impacts have been identified due to Alternative 1.

Task 10 – Documentation

WSA will prepare a technical memorandum summarizing the project travel demand, including project trip generation, trip distribution, parking and loading demand and submit it to the MEA for review three weeks after the notice-to-proceed is issued. WSA will prepare another technical memorandum discussing the methodology for developing future traffic volumes. This report will be submitted to MEA for review five weeks after the notice-to-proceed is issued.

Additionally, WSA will prepare the Draft Report 1, incorporating the data, analysis, and conclusions from the above tasks. WSA will make sure that the traffic analysis and the draft report complies with the California Environmental Quality Act (CEQA) and NEPA requirements. This report will be submitted to the Planning Department for review and to circulate to other appropriate City of San Francisco agencies.

Per comments submitted by the Planning Department on Draft Report 1 on August 22, 2011, WSA will submit the following two additional technical memorandums before submitting the Draft Report 2:

- A technical memorandum addressing mitigations proposed at each study intersection that results in a significant impact. The memorandum should include all mitigation measures that were considered and reasons why mitigation measure(s) was rejected and/or applied to each affected intersection.
- A technical memorandum addressing all comments provided by the Planning Department and SFMTA and how those comments would be addressed in Draft Report 2.

WSA will prepare the Draft Report 2, incorporating the comments from the City agencies on Draft Report 1 and reporting data, analysis, and conclusions from Tasks 8 and 9. This report will also be submitted to the Planning Department for review and to circulate to other appropriate City of San Francisco agencies. WSA will incorporate comments from the City agencies and prepare one additional draft report, and then prepare a final report for the City's approval. The City will then perform a screencheck of the final report.

The proposed schedule for the transportation study is attached as part of this scope of work.

APPENDIX B

PROJECT SITE PLANS

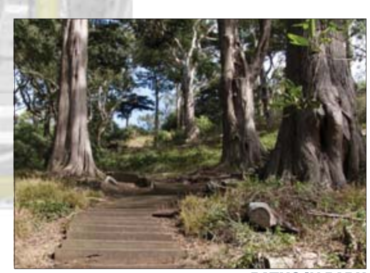
CIRCULATION (UPDATED)


PEDESTRIAN STAIRS


SHARED STREETS


ACCESSIBLE 24TH STREET


STAIR CONNECTION TO PARK


PATHS IN PARK

POTENTIAL GARAGE ENTRIES*

** The arrows represent potential garage entry locations. Depending on the future design of the buildings, fewer entries may be required and location of entries may change. No garage entries are to be located on 24th Street between Wisconsin and Missouri Streets. Garage entries shall not conflict with MUNI Bus stops. Garage entries shall be located as far from street intersections as possible.*

OPEN SPACE (UPDATED)

EDIBLE GARDEN TERRACES

STAIRS

COMMUNITY PARK

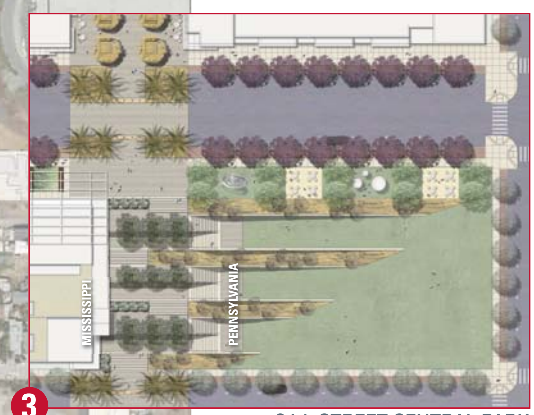
BACKYARD AND DECKS

PARK

LANDSCAPE CONCEPT PLAN (UPDATED)

TRIANGLE PARK

ACCESSIBLE PATH AND SQUIGGLE PARK



24th STREET CENTRAL PARK

25th and CONNECTICUT STREET PARK & TOT-LOT

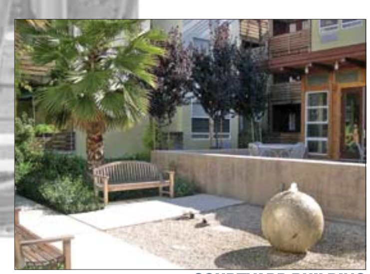
BUILDING TYPE

CORRIDOR BUILDING

WALK-UP FLATS

WALK-UP FLATS

COURTYARD WALK-UP



COURTYARD BUILDING

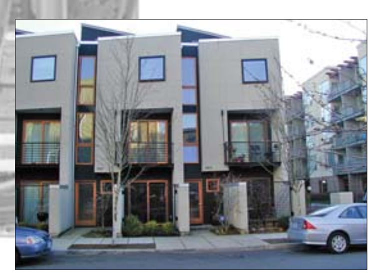
BUILDING HEIGHT

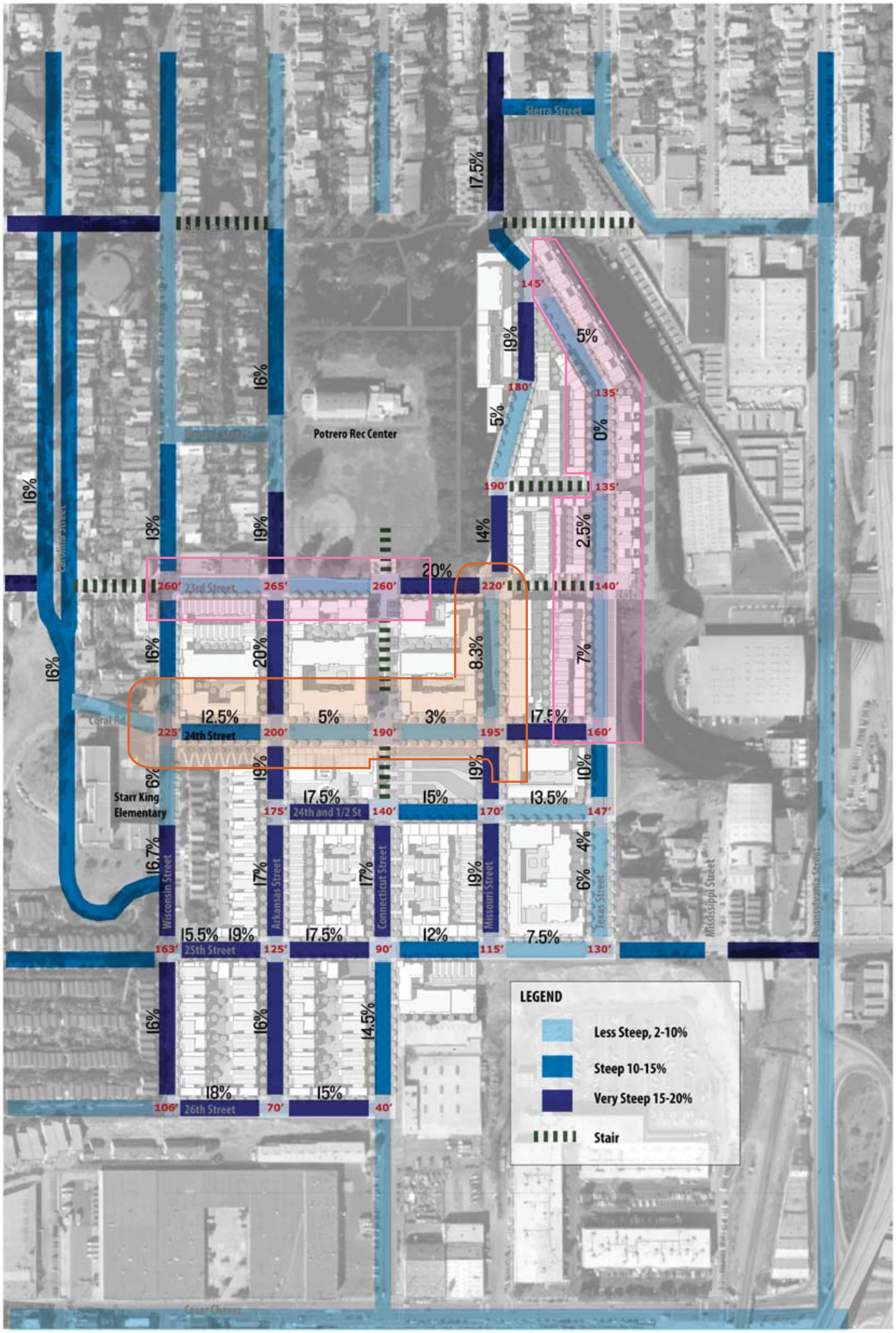

6-7 STORY


4 STORY


4 STORY


3 STORY

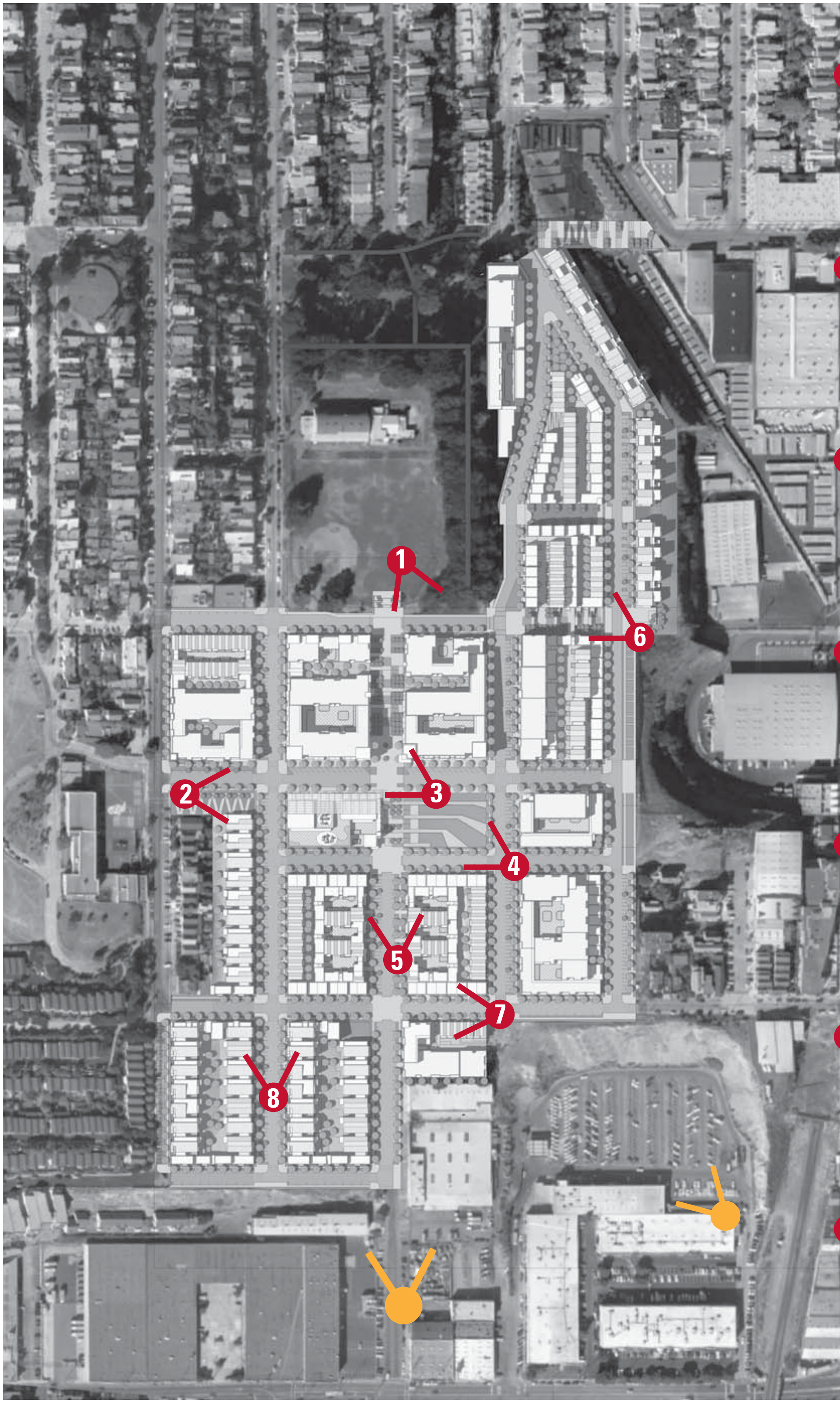

3 STORY



STREET SLOPE DIAGRAM

ACCESSIBLE ZONES (less the 8.33% slope)

POTRERO RENDERINGS KEY



1

2

3

4

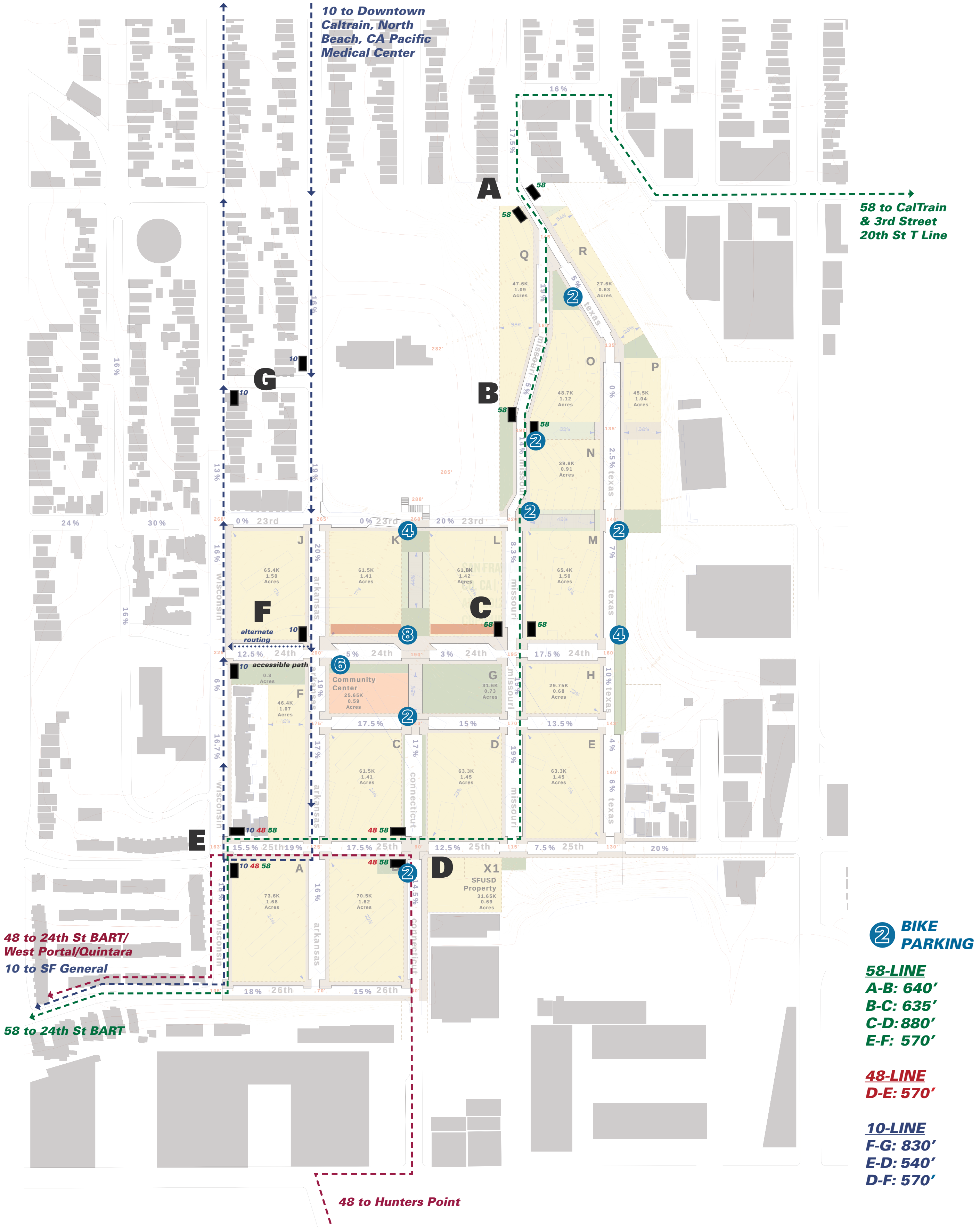
5

6

7

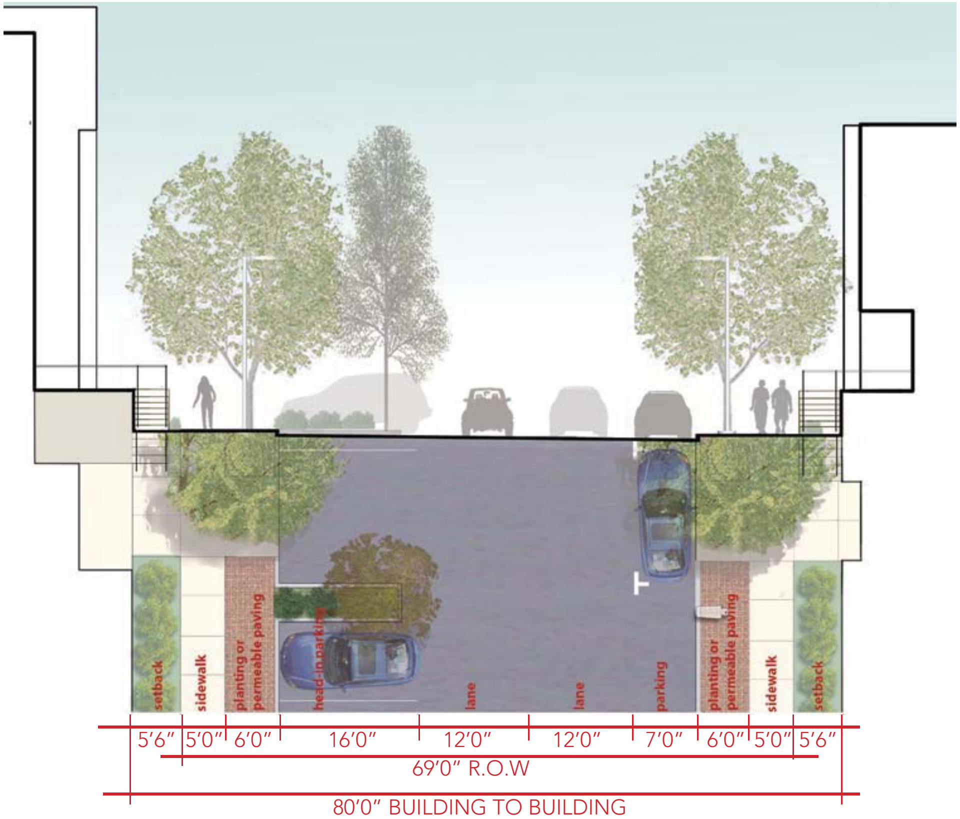
8

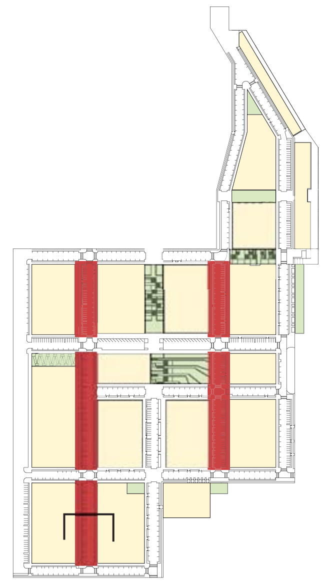
TRANSIT AND BIKE PARKING



ROADWAY CROSS-SECTIONS

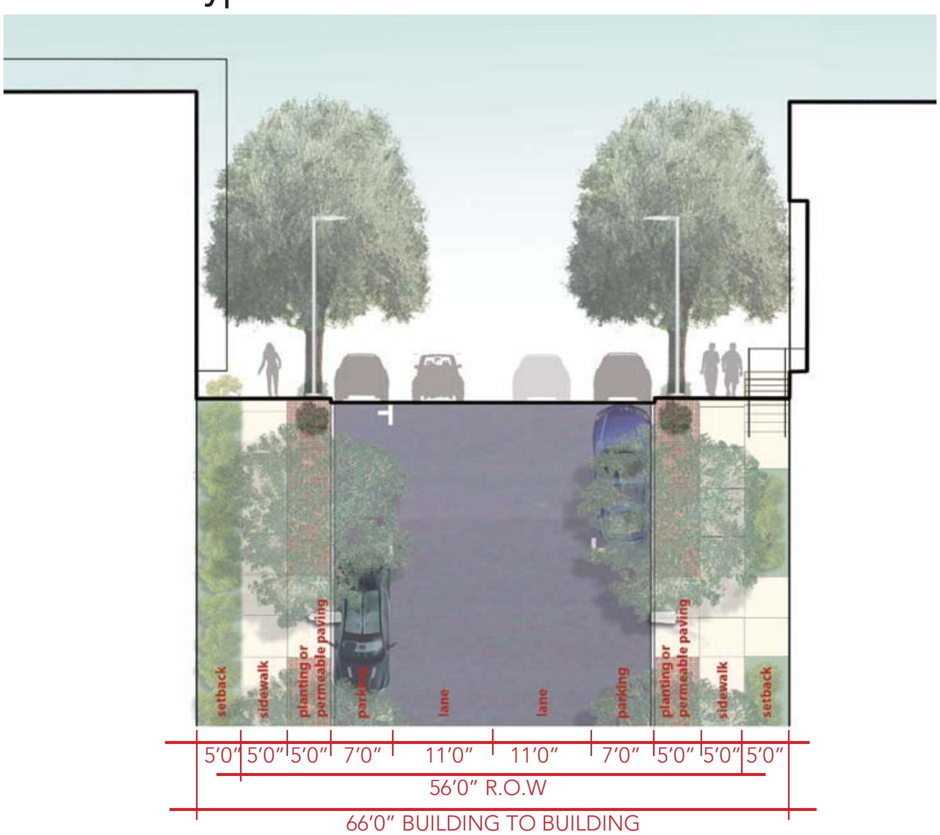
North/South Typical - 69’ ROW

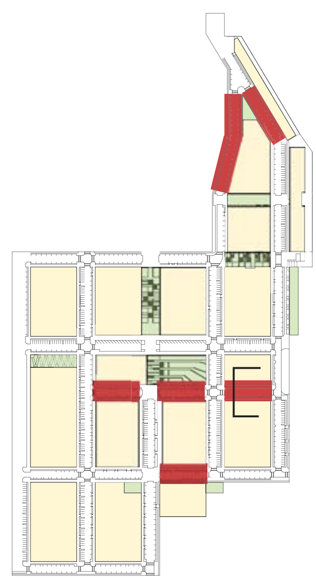




KEY PLAN

East/West Typical - 56’ ROW

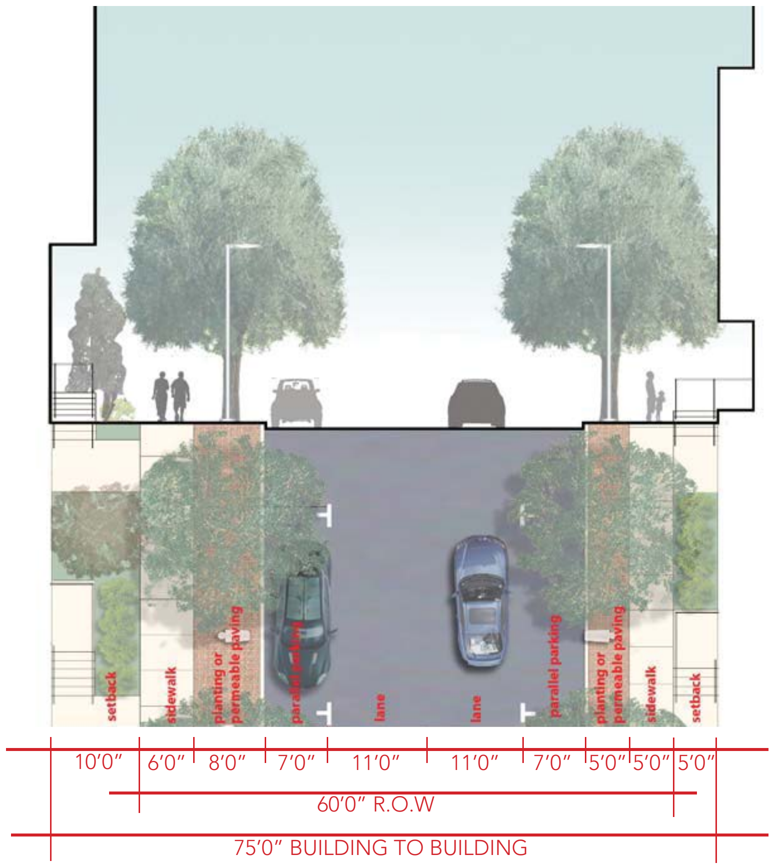


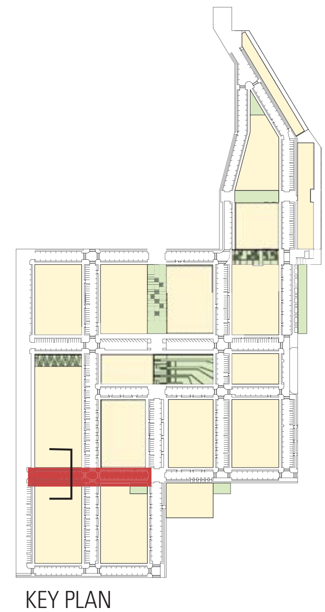


KEY PLAN

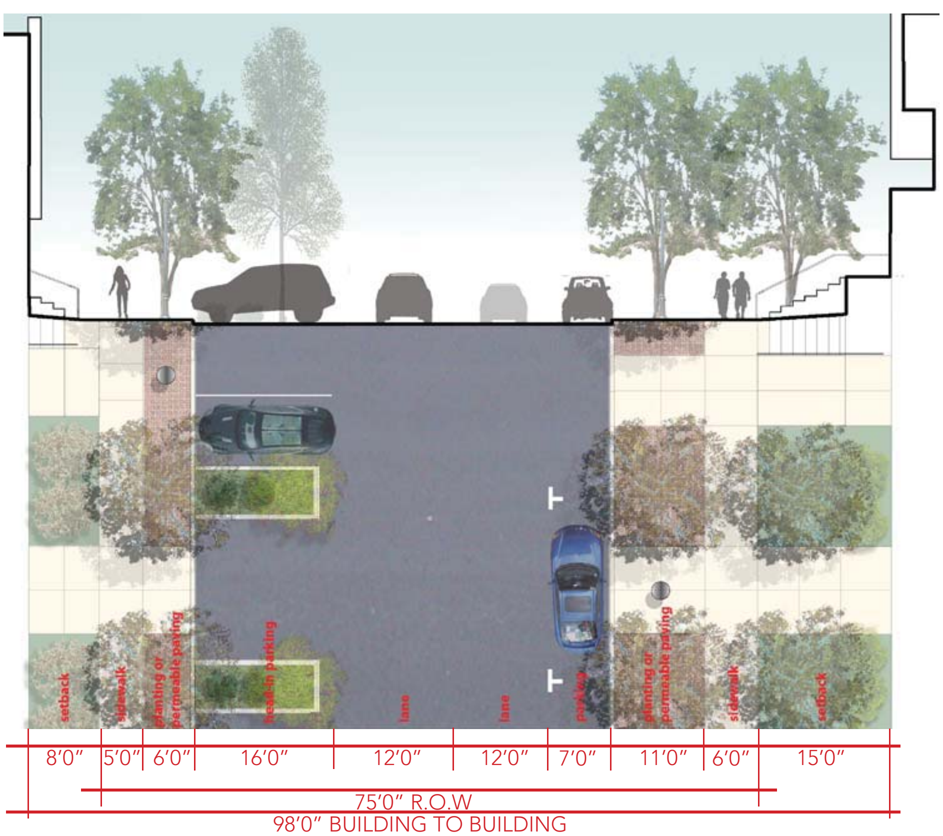
ROADWAY CROSS-SECTIONS

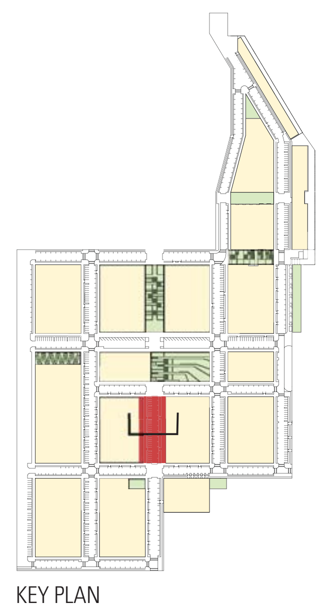
25th Street between Wisconsin and Connecticut





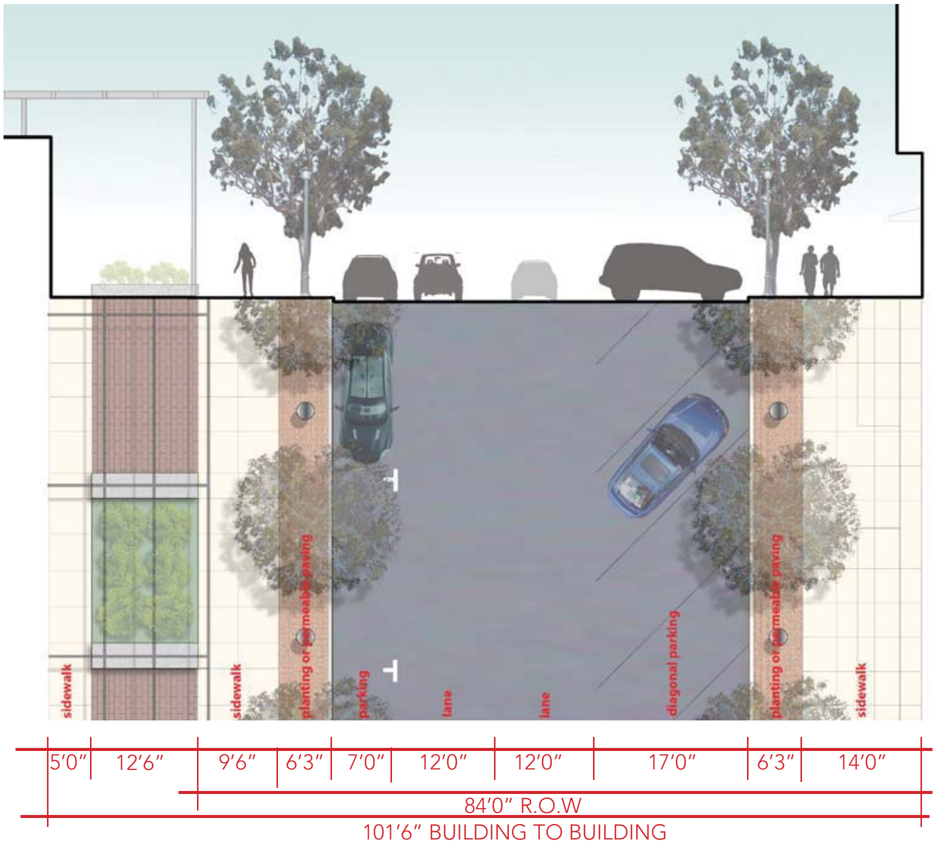
Connecticut Street

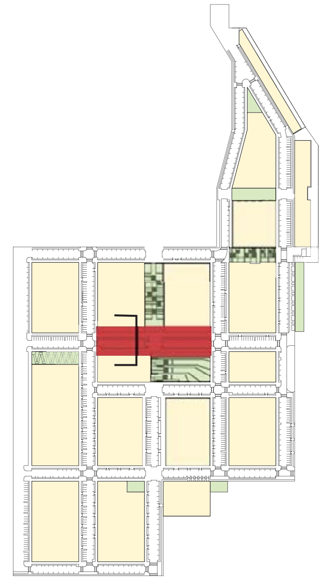




ROADWAY CROSS-SECTIONS

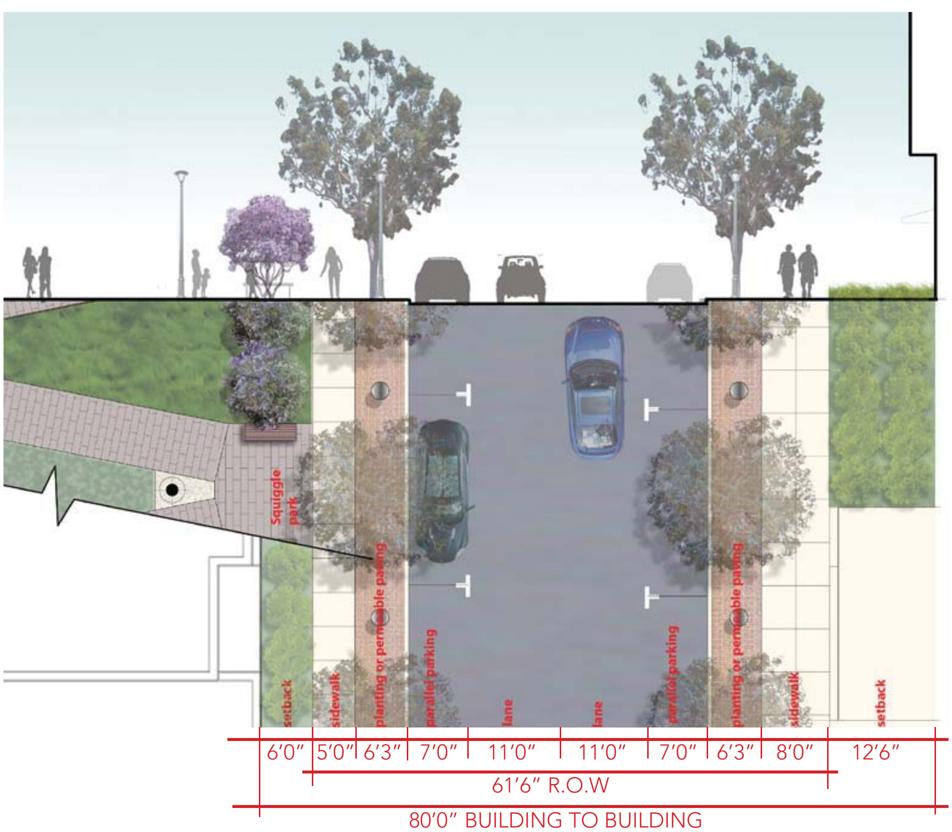
24th Street

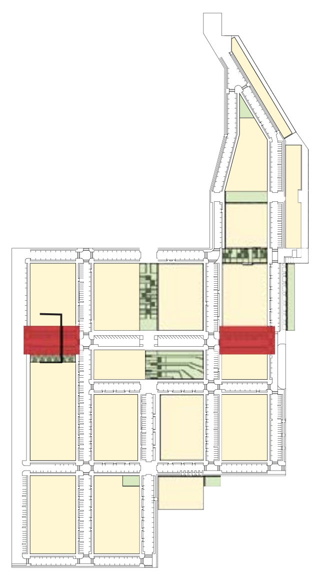




KEY PLAN

24th Street between Arkansas and Missouri

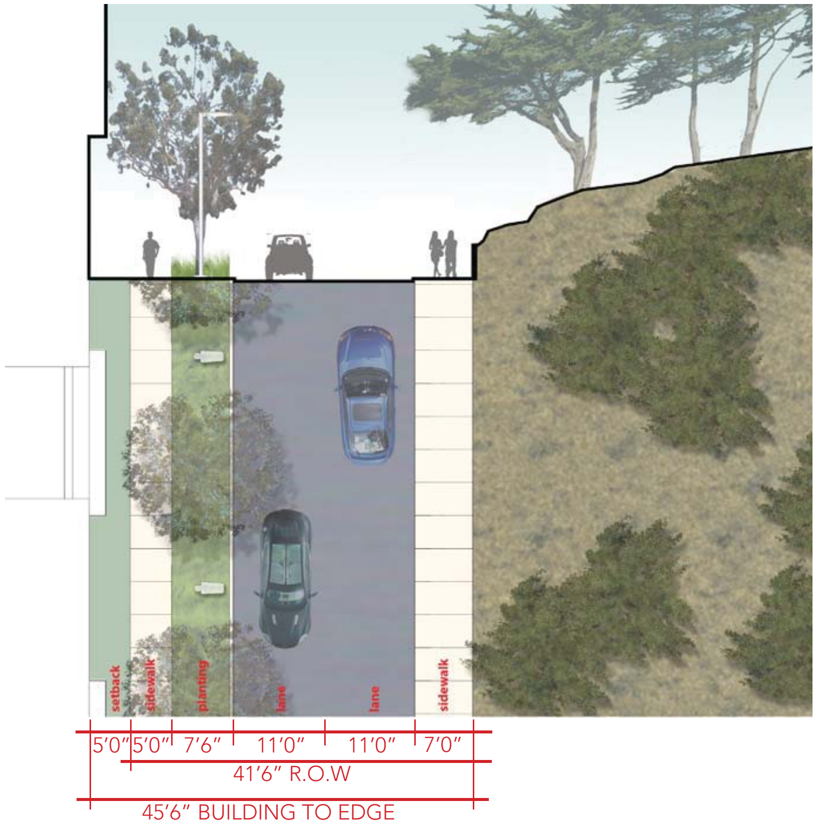


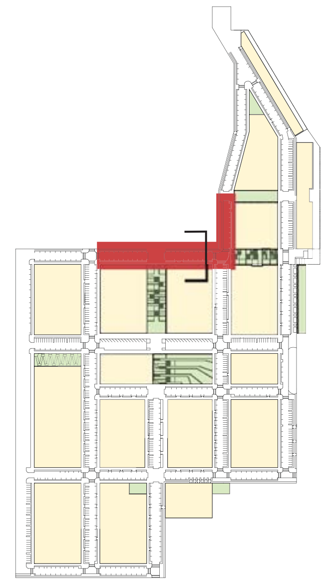


KEY PLAN

ROADWAY CROSS-SECTIONS

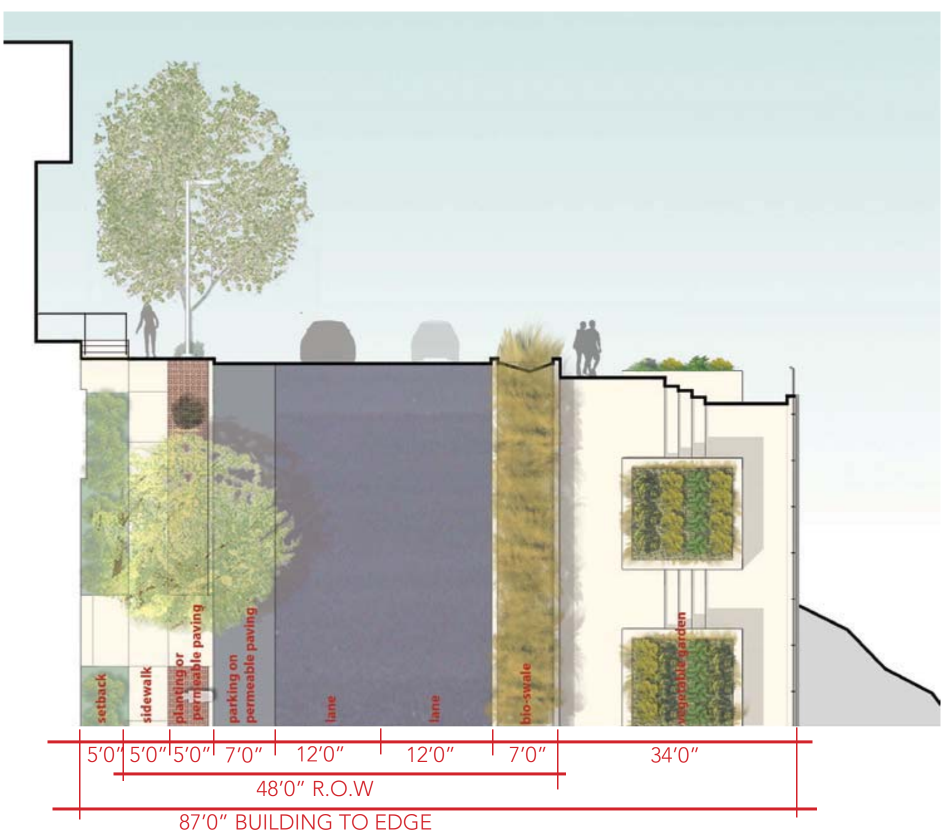
23rd Street and Missouri Street

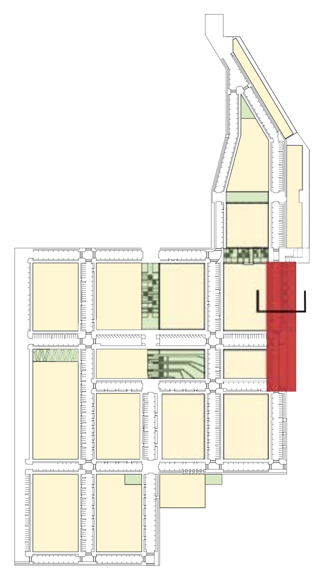




KEY PLAN

Texas Street @ Garden

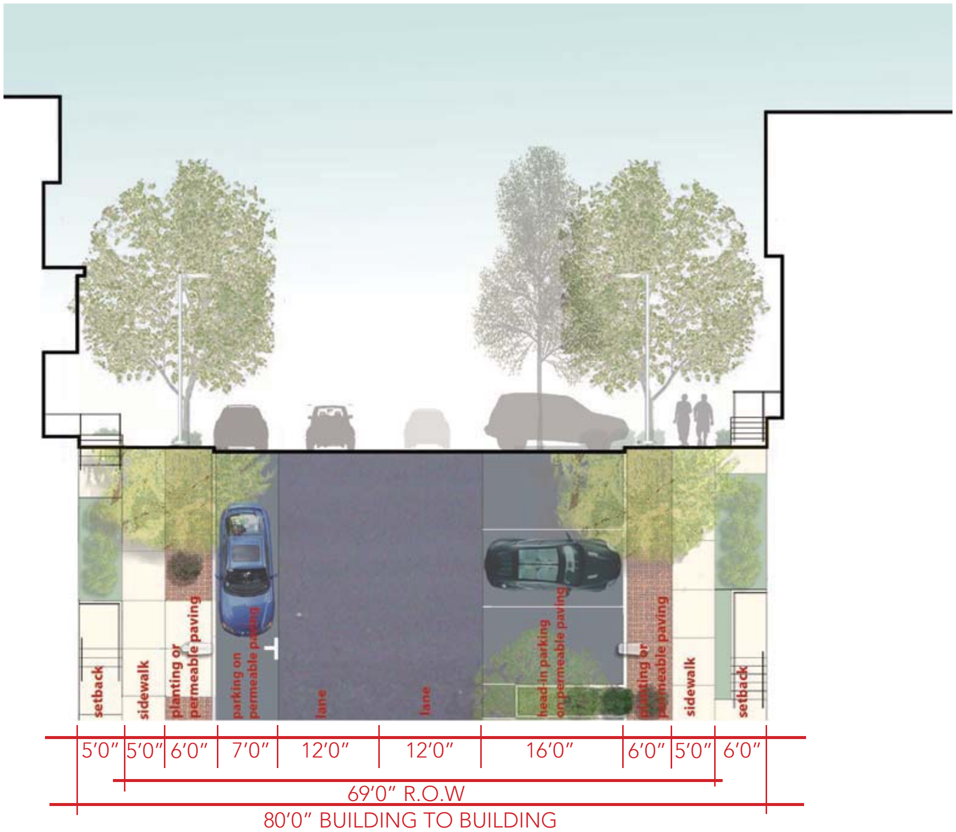


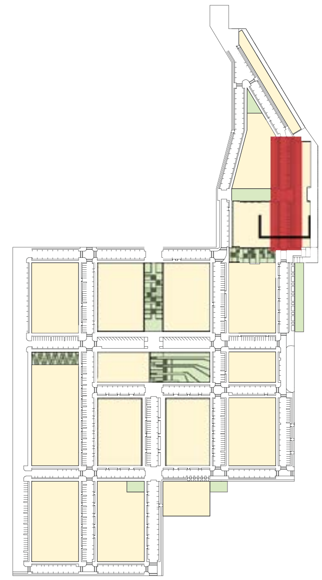


KEY PLAN

ROADWAY CROSS-SECTIONS

Texas Street





KEY PLAN

APPENDIX C
ROADWAY NETWORK DEFINITIONS

ROADWAY CLASSIFICATIONS

The San Francisco Planning Department has developed a street hierarchy system for the City and County of San Francisco, in which the function and design of each street are consistent with the character and use of adjacent land. The major classifications in the Vehicle Circulation Plan of the San Francisco *General Plan* are:

- **Freeways:** Limited access, very high capacity facilities; primary function is to carry intercity traffic; they may, as a result of route location, also serve the secondary function of providing for travel between distant sections in the city.
- **Major Arterials:** Cross-town thoroughfares whose primary function is to link districts within the city and to distribute traffic from and to the freeways; these are routes generally of citywide significance; of varying capacity depending on the travel demand for the specific direction and adjacent land uses.
- **Transit Conflict Streets:** Streets with a primary transit function and are not classified as major arterials but experience significant conflicts with automobile traffic.
- **Secondary Arterials:** Primarily intra-district routes of varying capacity serving as collectors for the major thoroughfares; in some cases supplemental to the major arterial system.
- **Recreational Streets:** A special category of street whose major function is to provide for slow pleasure drives and cyclist and pedestrian use; more highly valued for recreational use than for traffic movement. The order of priority for these streets should be to accommodate: 1) pedestrians, hiking trails or wilderness routes, as appropriate; 2) cyclists; 3) equestrians; 4) automobile scenic driving. This should be slow and consistent with the topography and nature of the area.
- **Collector Streets:** Relatively low-capacity streets serving local distribution functions primarily in large, low-density areas, connecting to major and secondary arterials.
- **Local Streets:** All other streets intended for access to abutting residential and other land uses, rather than for through traffic; generally of lowest capacity.

In addition to the San Francisco Planning Department's roadway classifications, the freeways, major arterials, and transit conflict streets are included in the Congestion Management Program (CMP) Network and Metropolitan Transportation System (MTS) Network (see below).

Transit Preferential Streets

The Transit Preferential Street network classification system takes into consideration all transportation functions, and identifies the major transit routes where general traffic should be routed away from. There are two classifications of transit preferential streets: Primary Transit Streets, which are either transit-oriented or transit-important; and Secondary Transit Streets.

- **Primary Transit Street – Transit-Oriented:** Not major arterials, with either high transit ridership, a high frequency of service, or surface rail. Along these streets, the emphasis should be on moving transit vehicles, and impacts on automobile traffic should be of secondary concern.
- **Primary Transit Street – Transit-Important:** Major arterials, with either high transit ridership, high frequency of service, or surface rail. Along these streets, the goal is to improve the balance between modes of transportation, and the emphasis should be on moving people and goods, rather than on moving vehicles.
- **Secondary Transit Street:** Medium transit ridership and low-to-medium frequency of service, or medium frequency of service and low-to-medium transit ridership, or connects two or more major destinations.

In general, it is City policy that transit preferential treatments should be concentrated on the most important transit streets, and the treatments applied should respond to all transportation needs of the street. For example, on streets that are major arterials for transit and not for automobile traffic, treatments should emphasize transit priority; on streets that are major arterials for both transit and automobiles, treatments should emphasize a balance between the modes. It is also City policy that automobile facility features (such as driveways and loading docks) should be reduced, relocated or prohibited on transit preferential streets in order to avoid traffic conflicts and automobile congestion.

Citywide Pedestrian Network

The Citywide Pedestrian Network is a classification of streets throughout the City used to identify streets devoted to or primarily oriented to pedestrian use. The main classifications are:

- **Citywide Pedestrian Network Street:** An inter-neighborhood connection with "citywide significance" includes both exclusive pedestrian and pedestrian-oriented vehicular streets. These streets include the Bay, Ridge, and Coast trails, are used by commuters, tourists, general public and recreaters, and connect major institutions with transit facilities.
- **Neighborhood Network Street:** A neighborhood commercial, residential or transit street that serves pedestrians from the general vicinity. Some streets may be part of the Citywide network, but are generally oriented towards neighborhood-serving uses. Types include exclusive pedestrian and pedestrian-oriented vehicular streets. As part of the Neighborhood Network Street network, streets are classified as **Neighborhood Commercial Streets**, which are streets that are predominately commercial use with parking and loading conflicts, or **Neighborhood Network Connection Streets**, which are intra-neighborhood connection streets that connect neighborhood destinations.

In general, it is City policy that sufficient pedestrian movement space should be provided to minimize pedestrian congestion, sidewalks should be widened where intensive commercial, recreational or institutional activity is present, and efforts should be made to ensure convenient and safe pedestrian crossings at intersections.

Congestion Management Program (CMP) Network

The CMP Network is the network of freeways, state highways, major arterials and transit conflict streets (see Roadway Classifications, above) established in accordance with state Congestion Management legislation. As part of the CMP, the San Francisco County Transportation Authority is required to determine the level of service (LOS) for the CMP Network streets every two years. The LOS is based on the average travel speed for each roadway segment during both the AM and PM peak periods. The level of service standard is LOS E, except for roadway segments that operated at LOS F in 1991 (when the first study was performed). The CMP requires development of “Deficiency Plans” for any CMP-designated roadway that operates at LOS F. These plans include an analysis of the causes of the deficiency, a list of improvements that would have to be made to prevent the deficiency from occurring (including cost estimates), a list of improvements proposed as part of the plan, and an action plan for implementation of the improvements (including an implementation schedule).

Metropolitan Transportation System (MTS) Network

The MTS Network is defined by Metropolitan Transportation Commission (MTC) as part of its Regional Transportation Plan. The MTS is a regional network of roadways, transit corridors and transfer points, identified by the MTC on the basis of specific criteria. The criteria identified facilities that provide relief to congested corridors, improve connectivity, accommodate travel demand and serve a regional transportation function. The State highways and major thorough-fares designated in San Francisco’s CMP roadway network are all included in the regional MTS network. There are a few instances in which the local CMP network is not identical to the MTS network due to differences in the criteria used to define each network.

APPENDIX D

HCM 2000 METHODOLOGY

Intersection Los Definitions

Table D-1: Level of Service Criteria and Definitions for Signalized Intersections

Level of Service	Stopped Delay (seconds/vehicle)	Typical Traffic Condition
A	≤ 10.0	**Very Low Delays:** Progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all.
B	> 10.0 and ≤ 20.0	**Minimal Delays:** Generally good progression, short cycle lengths, or both. More vehicles stop than with LOS A, causing higher levels of average delay. Drivers begin to feel restricted.
C	> 20.0 and ≤ 35.0	**Acceptable Delays:** Fair progression, longer cycle lengths, or both. Individual cycle failures may begin to appear, though many still pass through the intersection without stopping. Most drivers feel somewhat restricted.
D	> 35.0 and ≤ 55.0	**Tolerable Delays:** The influence of congestion becomes more noticeable. Longer delays may result from some combination of unfavorable progression, long cycle lengths, or high v/c ratios. Many vehicles stop, and the proportion of vehicles not stopping declines. Individual cycle failures are noticeable. Queues may develop but dissipate rapidly, without excessive delays.
E	> 55.0 and ≤ 80.0	**Significant Delays:** Considered by many agencies to be the limit of acceptable delay. These high delay values generally indicate poor progression, long cycle lengths, and high v/c ratios. Individual cycle failures are frequent occurrences. Vehicles may wait through several signal cycles and long queues of vehicles form upstream.
F	> 80.0	**Excessive Delays:** Considered to be unacceptable to most drivers. Often occurs with oversaturation, that is, when arrival flow rates exceed the capacity of the intersection. Poor progression and long cycle lengths may also be major contributing causes to such delay levels. Queues may block upstream intersections.

Source: Highway Capacity Manual2000, Transportation Research Board.

Table D-2: Level of Service Criteria and Definitions for Two-way Stop-controlled Intersections

Level of Service	Average Total Delay (seconds/vehicle)	Typical Traffic Condition
A	≤ 10	Little or no delay
B	> 10 and ≤ 15	Short traffic delays
C	> 15 and ≤ 25	Average traffic delays
D	> 25 and ≤ 35	Long traffic delays
E	> 35 and ≤ 50	Very long traffic delays
F	> 50	*

* Level of Service F exists when there are insufficient gaps of suitable size to allow a side street demand to cross safely through a major street traffic stream. This level of service is generally evident from extremely long total delays experienced by side street traffic and by queuing on the minor approaches

Source: Highway Capacity Manual2000, Transportation Research Board.

Table D-3: Level of Service Criteria for All-way Stop-controlled Intersections

Level of Service	Average Total Delay (seconds/vehicle)
A	≤ 10
B	> 10 and ≤ 15
C	> 15 and ≤ 25
D	> 25 and ≤ 35
E	> 35 and ≤ 50
F	> 50

Source: Highway Capacity Manual2000, Transportation Research Board.

Freeway Segment Los Definitions

Table D-4: Level of Service Criteria – Basic Freeway Segments

Level of Service	Average Density (seconds/vehicle)
A	0.0 – 11.0
B	11.1 – 18.0
C	18.1 – 26.0
D	26.1 – 35.0
E	35.1 – 45.0
F	> 45.0

Source: Highway Capacity Manual2000, Transportation Research Board.

Ramp Junction Los Definitions

Table D-5: Level of Service Criteria – Ramp Junctions

Level of Service	Average Density (seconds/vehicle)
A	≤ 10.0
B	10.1 – 20.0
C	20.1 – 28.0
D	28.1 – 35.0
E	> 35
F	DEC

Source: Highway Capacity Manual, Transportation Research Board, 2000
Notes:
DEC – Demand Exceeds Capacity.

APPENDIX E

TRAFFIC COUNTS

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-011 POTRERO-23RD
Site Code : 00000000
Start Date : 1/4/2011
Page No : 1

Groups Printed- Unshifted

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Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
16:00	20	256	6	282	25	6	47	78	0	159	19	178	8	10	16	34	572
16:15	26	245	7	278	21	5	36	62	0	142	12	154	4	10	13	27	521
16:30	23	251	7	281	21	11	38	70	0	137	16	153	6	11	8	25	529
16:45	16	233	3	252	19	9	40	68	0	132	13	145	9	10	11	30	495
Total	85	985	23	1093	86	31	161	278	0	570	60	630	27	41	48	116	2117
17:00	11	252	5	268	18	13	38	69	0	122	11	133	8	17	16	41	511
17:15	19	239	4	262	22	7	44	73	0	127	15	142	3	17	11	31	508
17:30	19	231	1	251	18	12	44	74	0	139	15	154	10	16	8	34	513
17:45	18	203	5	226	27	7	24	58	0	144	8	152	7	8	10	25	461
Total	67	925	15	1007	85	39	150	274	0	532	49	581	28	58	45	131	1993
Grand Total	152	1910	38	2100	171	70	311	552	0	1102	109	1211	55	99	93	247	4110
Apprch %	7.2	91	1.8		31	12.7	56.3		0	91	9		22.3	40.1	37.7		
Total %	3.7	46.5	0.9	51.1	4.2	1.7	7.6	13.4	0	26.8	2.7	29.5	1.3	2.4	2.3	6	

	POTRERO AVE. Southbound				23RD ST. Westbound				POTRERO AVE. Northbound				23RD ST. Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	20	**256**	6	**282**	**25**	6	**47**	**78**	0	**159**	**19**	**178**	8	10	**16**	**34**	**572**
16:15	**26**	245	**7**	278	21	5	36	62	0	142	12	154	4	10	13	27	521
16:30	23	251	7	281	21	**11**	38	70	0	137	16	153	6	**11**	8	25	529
16:45	16	233	3	252	19	9	40	68	0	132	13	145	**9**	10	11	30	495
Total Volume	85	985	23	1093	86	31	161	278	0	570	60	630	27	41	48	116	2117
% App. Total	7.8	90.1	2.1		30.9	11.2	57.9		0	90.5	9.5		23.3	35.3	41.4		
PHF	.817	.962	.821	.969	.860	.705	.856	.891	.000	.896	.789	.885	.750	.932	.750	.853	.925

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-011 POTRERO-23RD
Site Code : 00000000
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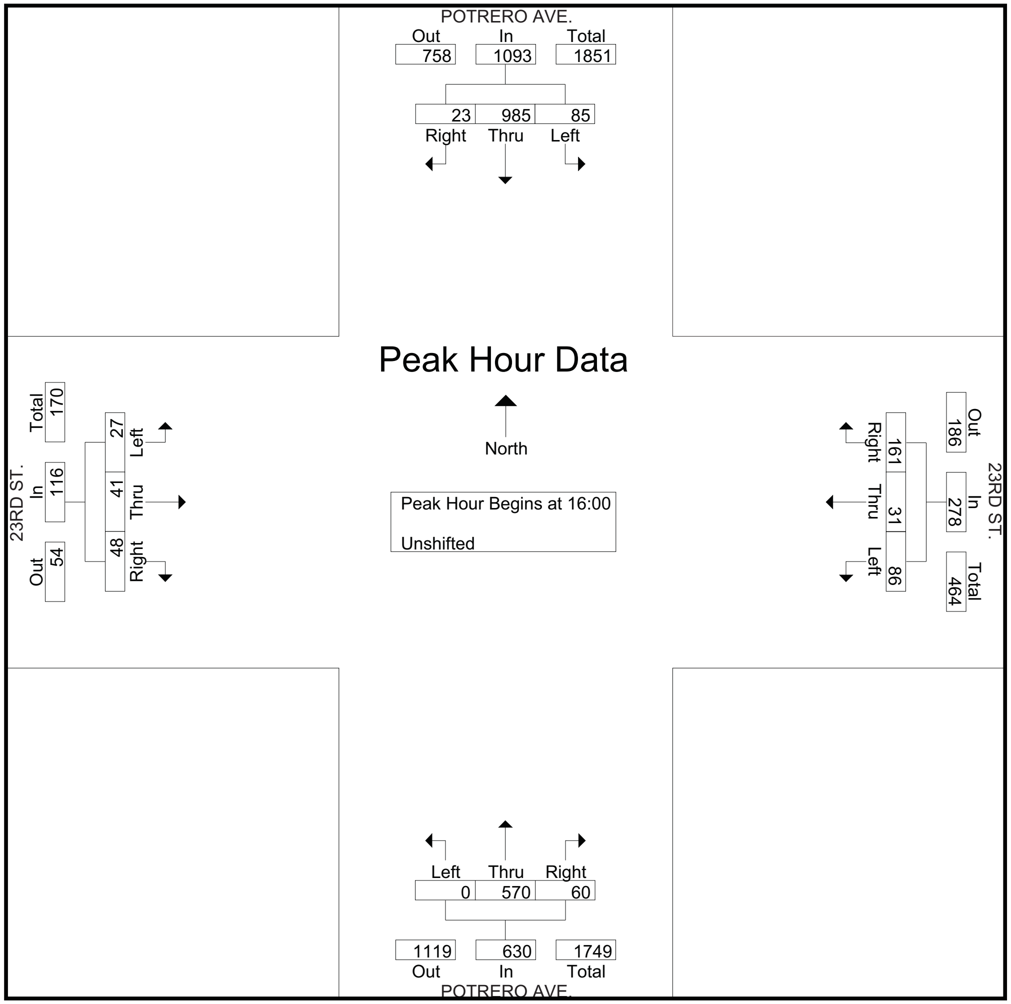
Page No : 2



All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-010 MISSOURI-22nd
Site Code : 00000000
Start Date : 1/18/2011
Page No : 1

Groups Printed- Unshifted

	MISSOURI ST. Southbound				Westbound				MISSOURI ST. Northbound				22nd ST. Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
16:00	0	10	0	10	0	0	0	0	0	12	0	12	0	0	0	0	22
16:15	0	8	0	8	0	0	0	0	0	5	0	5	0	0	0	0	13
16:30	0	6	0	6	0	0	0	0	0	7	0	7	0	0	0	0	13
16:45	0	1	1	2	0	0	0	0	0	6	0	6	0	0	0	0	8
Total	0	25	1	26	0	0	0	0	0	30	0	30	0	0	0	0	56
17:00	0	4	1	5	0	0	0	0	0	3	0	3	1	0	0	1	9
17:15	0	6	2	8	0	0	0	0	0	8	0	8	1	0	0	1	17
17:30	0	7	0	7	0	0	0	0	1	4	0	5	0	0	1	1	13
17:45	0	4	0	4	0	0	0	0	0	4	0	4	0	0	0	0	8
Total	0	21	3	24	0	0	0	0	1	19	0	20	2	0	1	3	47
Grand Total	0	46	4	50	0	0	0	0	1	49	0	50	2	0	1	3	103
Apprch %	0	92	8		0	0	0		2	98	0		66.7	0	33.3		
Total %	0	44.7	3.9	48.5	0	0	0	0	1	47.6	0	48.5	1.9	0	1	2.9	

	MISSOURI ST. Southbound				Westbound				MISSOURI ST. Northbound				22nd ST. Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	**10**	0	**10**	0	0	0	0	0	**12**	0	**12**	0	0	0	0	**22**
16:15	0	8	0	8	0	0	0	0	0	5	0	5	0	0	0	0	13
16:30	0	6	0	6	0	0	0	0	0	7	0	7	0	0	0	0	13
16:45	0	1	**1**	2	0	0	0	0	0	6	0	6	0	0	0	0	8
Total Volume	0	25	1	26	0	0	0	0	0	30	0	30	0	0	0	0	56
% App. Total	0	96.2	3.8		0	0	0		0	100	0		0	0	0		
PHF	.000	.625	.250	.650	.000	.000	.000	.000	.000	.625	.000	.625	.000	.000	.000	.000	.636

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

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Site Code : 00000000
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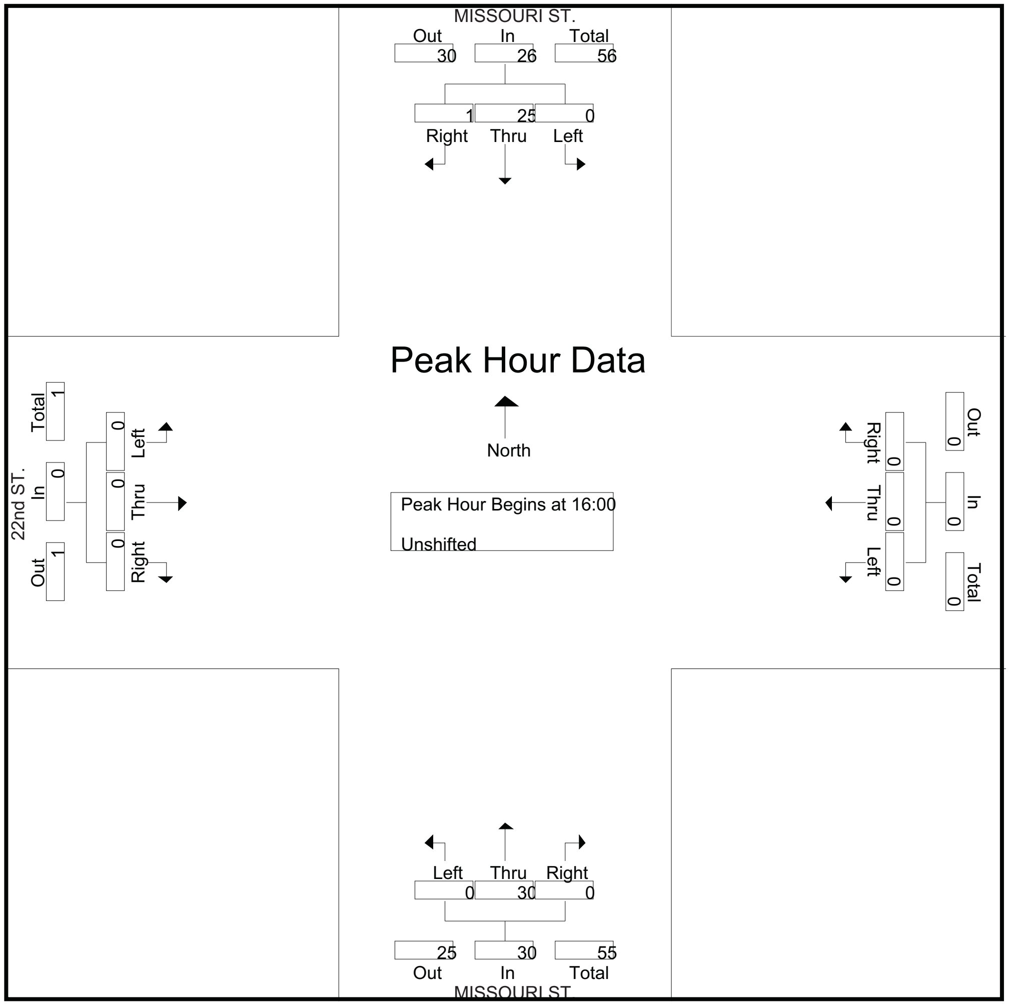

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-010 20TH-MISSOURI
Site Code : 00000000
Start Date : 1/4/2011
Page No : 1

Groups Printed- Unshifted

	MISSOURI ST. Southbound				**20TH ST. Westbound**				**MISSOURI ST. Northbound**				**20TH ST. Eastbound**				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
16:00	3	1	6	10	0	31	2	33	3	5	1	9	6	19	6	31	83
16:15	3	5	9	17	1	17	3	21	4	1	1	6	3	18	3	24	68
16:30	0	3	15	18	2	20	3	25	2	7	1	10	8	19	6	33	86
16:45	4	8	12	24	3	27	1	31	2	4	2	8	12	17	3	32	95
Total	10	17	42	69	6	95	9	110	11	17	5	33	29	73	18	120	332
17:00	3	14	8	25	1	18	5	24	3	6	1	10	4	16	6	26	85
17:15	4	8	11	23	0	35	7	42	5	5	2	12	7	23	5	35	112
17:30	3	5	9	17	1	32	7	40	3	6	2	11	8	28	5	41	109
17:45	1	7	8	16	1	43	5	49	5	3	0	8	6	25	5	36	109
Total	11	34	36	81	3	128	24	155	16	20	5	41	25	92	21	138	415
Grand Total	21	51	78	150	9	223	33	265	27	37	10	74	54	165	39	258	747
Apprch %	14	34	52		3.4	84.2	12.5		36.5	50	13.5		20.9	64	15.1		
Total %	2.8	6.8	10.4	20.1	1.2	29.9	4.4	35.5	3.6	5	1.3	9.9	7.2	22.1	5.2	34.5	

	MISSOURI ST. Southbound				**20TH ST. Westbound**				**MISSOURI ST. Northbound**				**20TH ST. Eastbound**				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	3	**14**	8	**25**	**1**	18	5	24	3	**6**	1	10	4	16	**6**	26	85
17:15	**4**	8	**11**	23	0	35	**7**	42	**5**	5	**2**	**12**	7	23	5	35	**112**
17:30	3	5	9	17	1	32	7	40	3	6	2	11	**8**	**28**	5	**41**	109
17:45	1	7	8	16	1	**43**	5	**49**	5	3	0	8	6	25	5	36	109
Total Volume	11	34	36	81	3	128	24	155	16	20	5	41	25	92	21	138	415
% App. Total	13.6	42	44.4		1.9	82.6	15.5		39	48.8	12.2		18.1	66.7	15.2		
PHF	.688	.607	.818	.810	.750	.744	.857	.791	.800	.833	.625	.854	.781	.821	.875	.841	.926

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-010 20TH-MISSOURI
Site Code : 00000000
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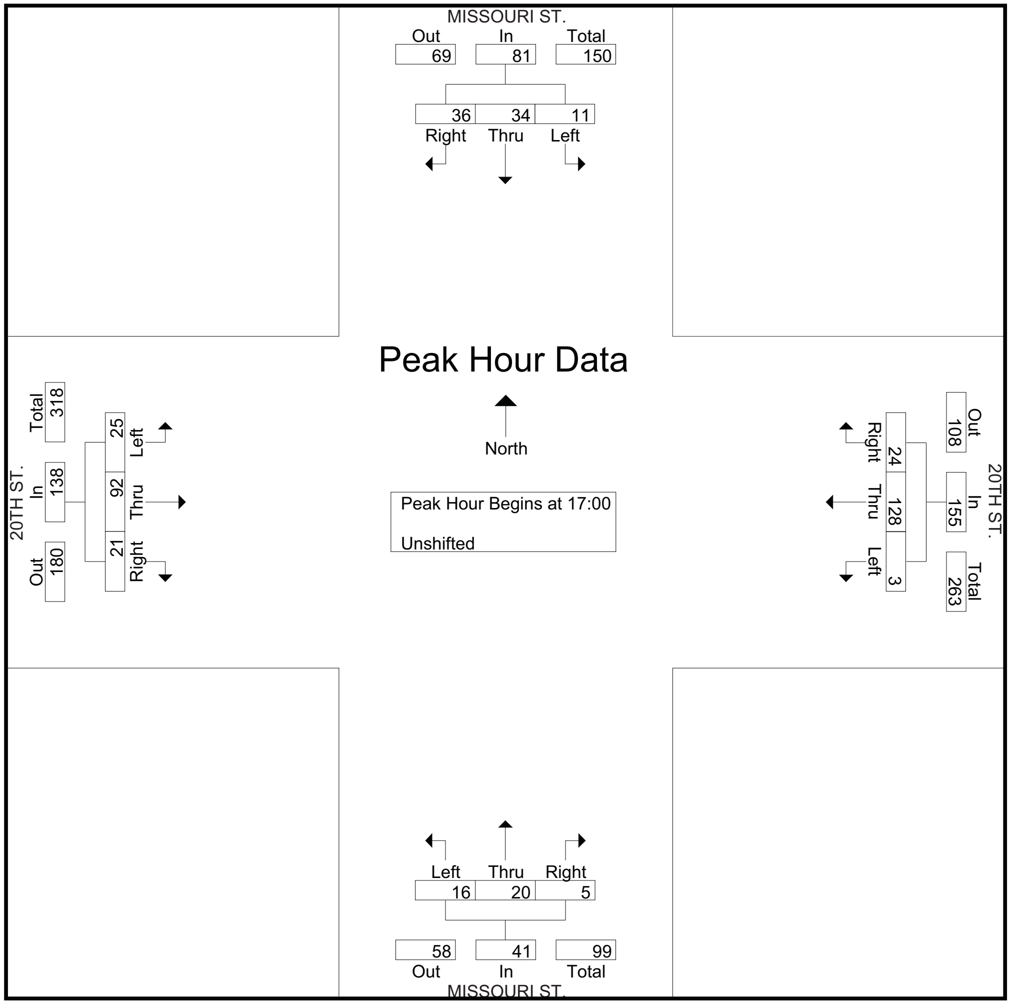

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-009 20TH-ARKANSAS
Site Code : 00000000
Start Date : 1/4/2011
Page No : 1

Groups Printed- Unshifted

	ARKANSAS ST. Southbound				20TH ST. Westbound				ARKANSAS ST. Northbound				20TH ST. Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
16:00	3	3	1	7	4	31	4	39	1	3	1	5	2	30	0	32	83
16:15	4	4	1	9	7	22	3	32	2	2	2	6	1	22	2	25	72
16:30	1	5	7	13	3	30	0	33	0	6	4	10	2	23	1	26	82
16:45	1	5	0	6	10	32	1	43	3	2	4	9	3	22	1	26	84
Total	9	17	9	35	24	115	8	147	6	13	11	30	8	97	4	109	321
17:00	1	5	2	8	5	28	2	35	2	4	0	6	3	21	2	26	75
17:15	0	4	5	9	5	38	6	49	1	4	4	9	0	25	0	25	92
17:30	1	6	4	11	5	32	0	37	0	3	3	6	2	30	2	34	88
17:45	4	6	4	14	5	42	5	52	0	5	2	7	1	28	2	31	104
Total	6	21	15	42	20	140	13	173	3	16	9	28	6	104	6	116	359
Grand Total	15	38	24	77	44	255	21	320	9	29	20	58	14	201	10	225	680
Apprch %	19.5	49.4	31.2		13.8	79.7	6.6		15.5	50	34.5		6.2	89.3	4.4		
Total %	2.2	5.6	3.5	11.3	6.5	37.5	3.1	47.1	1.3	4.3	2.9	8.5	2.1	29.6	1.5	33.1	

	ARKANSAS ST. Southbound				20TH ST. Westbound				ARKANSAS ST. Northbound				20TH ST. Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	1	5	2	8	**5**	28	2	35	**2**	4	0	6	**3**	21	**2**	26	75
17:15	0	4	**5**	9	5	38	**6**	49	1	4	**4**	**9**	0	25	0	25	92
17:30	1	**6**	4	11	5	32	0	37	0	3	3	6	2	**30**	2	**34**	88
17:45	**4**	6	4	**14**	5	**42**	5	**52**	0	**5**	2	7	1	28	2	31	**104**
Total Volume	6	21	15	42	20	140	13	173	3	16	9	28	6	104	6	116	359
% App. Total	14.3	50	35.7		11.6	80.9	7.5		10.7	57.1	32.1		5.2	89.7	5.2		
PHF	.375	.875	.750	.750	1.000	.833	.542	.832	.375	.800	.563	.778	.500	.867	.750	.853	.863

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-009 20TH-ARKANSAS
Site Code : 00000000
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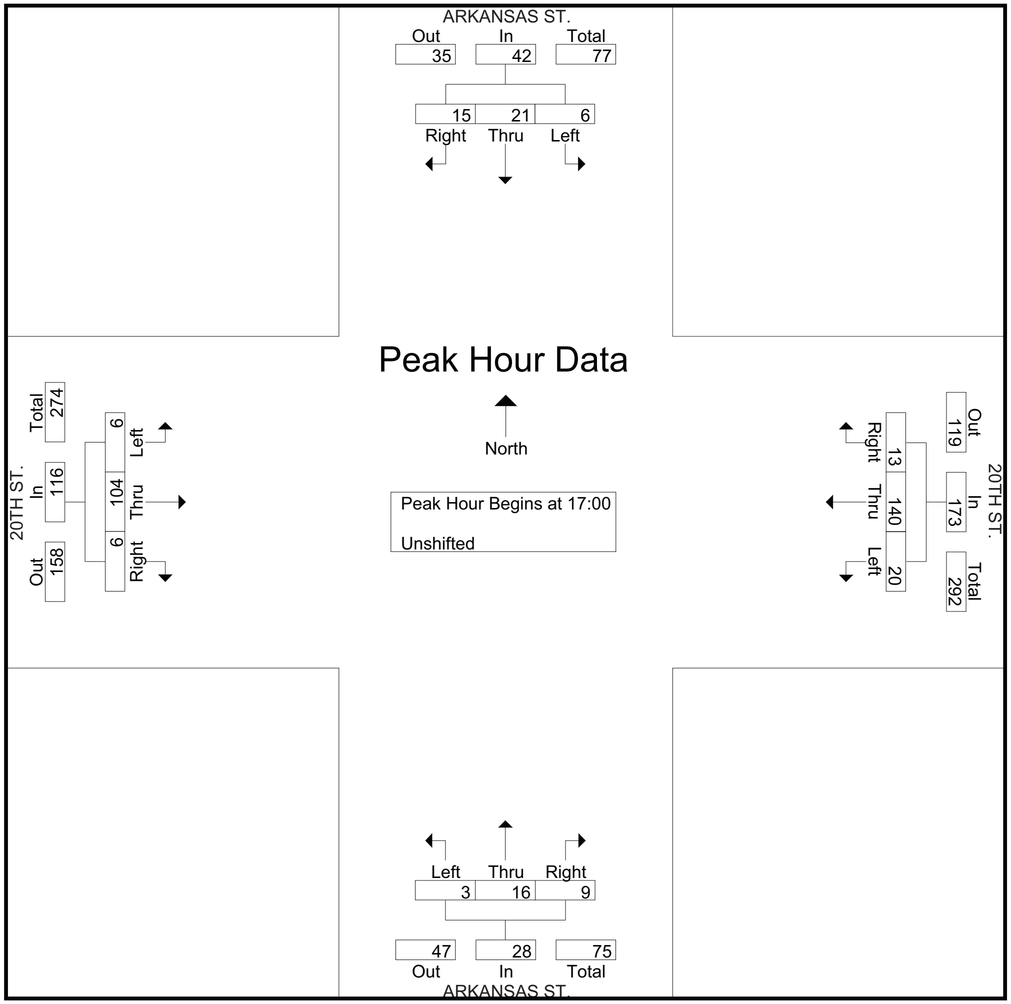

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-008 23RD-WISCONSIN
Site Code : 00000000
Start Date : 1/4/2011
Page No : 1

Groups Printed- Unshifted

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Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
16:00	2	9	0	11	7	0	2	9	0	7	16	23	0	0	0	0	43
16:15	3	3	0	6	5	0	2	7	0	8	18	26	0	0	0	0	39
16:30	4	6	0	10	10	0	6	16	0	16	14	30	0	0	0	0	56
16:45	1	6	0	7	8	0	4	12	0	14	6	20	0	0	0	0	39
Total	10	24	0	34	30	0	14	44	0	45	54	99	0	0	0	0	177
17:00	6	11	0	17	5	0	7	12	0	14	7	21	0	0	0	0	50
17:15	5	12	0	17	5	0	8	13	0	9	5	14	0	0	0	0	44
17:30	5	11	0	16	6	0	4	10	0	17	11	28	0	0	0	0	54
17:45	1	6	0	7	8	0	4	12	0	21	10	31	0	0	0	0	50
Total	17	40	0	57	24	0	23	47	0	61	33	94	0	0	0	0	198
Grand Total	27	64	0	91	54	0	37	91	0	106	87	193	0	0	0	0	375
Apprch %	29.7	70.3	0		59.3	0	40.7		0	54.9	45.1		0	0	0		
Total %	7.2	17.1	0	24.3	14.4	0	9.9	24.3	0	28.3	23.2	51.5	0	0	0	0	

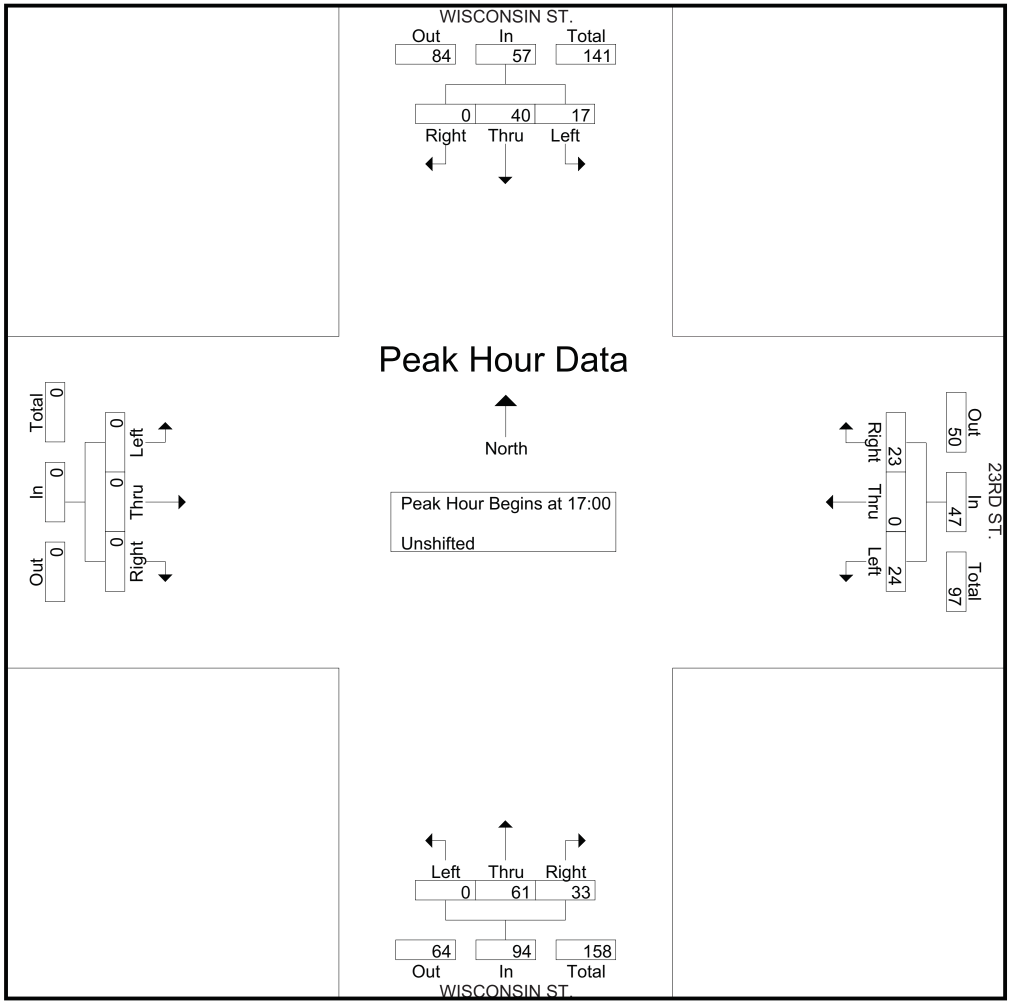
	WISCONSIN ST. Southbound				23RD ST. Westbound				WISCONSIN ST. Northbound				Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 17:00																	
17:00	**6**	11	0	**17**	5	0	7	12	0	14	7	21	0	0	0	0	50
17:15	5	**12**	0	17	5	0	**8**	**13**	0	9	5	14	0	0	0	0	44
17:30	5	11	0	16	6	0	4	10	0	17	**11**	28	0	0	0	0	**54**
17:45	1	6	0	7	**8**	0	4	12	0	**21**	10	**31**	0	0	0	0	50
Total Volume	17	40	0	57	24	0	23	47	0	61	33	94	0	0	0	0	198
% App. Total	29.8	70.2	0		51.1	0	48.9		0	64.9	35.1		0	0	0		
PHF	.708	.833	.000	.838	.750	.000	.719	.904	.000	.726	.750	.758	.000	.000	.000	.000	.917

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-008 23RD-WISCONSIN
Site Code : 00000000
Start Date : 1/4/2011
Page No : 2



All Traffic Data
(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-007 23RD-DAKOTA
Site Code : 00000000
Start Date : 1/4/2011
Page No : 1

Groups Printed- Unshifted

	23RD ST. Southbound				DAKOTA ST. Westbound				Northbound				DAKOTA ST. Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
16:00	6	0	4	10	0	8	6	14	0	0	0	0	5	14	0	19	43
16:15	2	0	3	5	0	9	0	9	0	0	0	0	6	20	0	26	40
16:30	5	0	1	6	0	13	4	17	0	0	0	0	4	17	0	21	44
16:45	5	0	9	14	0	10	5	15	0	0	0	0	4	11	0	15	44
Total	18	0	17	35	0	40	15	55	0	0	0	0	19	62	0	81	171
17:00	8	0	3	11	0	15	6	21	0	0	0	0	3	10	0	13	45
17:15	6	0	2	8	0	5	4	9	0	0	0	0	2	8	0	10	27
17:30	4	0	4	8	0	11	1	12	0	0	0	0	2	18	0	20	40
17:45	12	0	3	15	0	13	4	17	0	0	0	0	4	12	0	16	48
Total	30	0	12	42	0	44	15	59	0	0	0	0	11	48	0	59	160
Grand Total	48	0	29	77	0	84	30	114	0	0	0	0	30	110	0	140	331
Apprch %	62.3	0	37.7		0	73.7	26.3		0	0	0		21.4	78.6	0		
Total %	14.5	0	8.8	23.3	0	25.4	9.1	34.4	0	0	0	0	9.1	33.2	0	42.3	

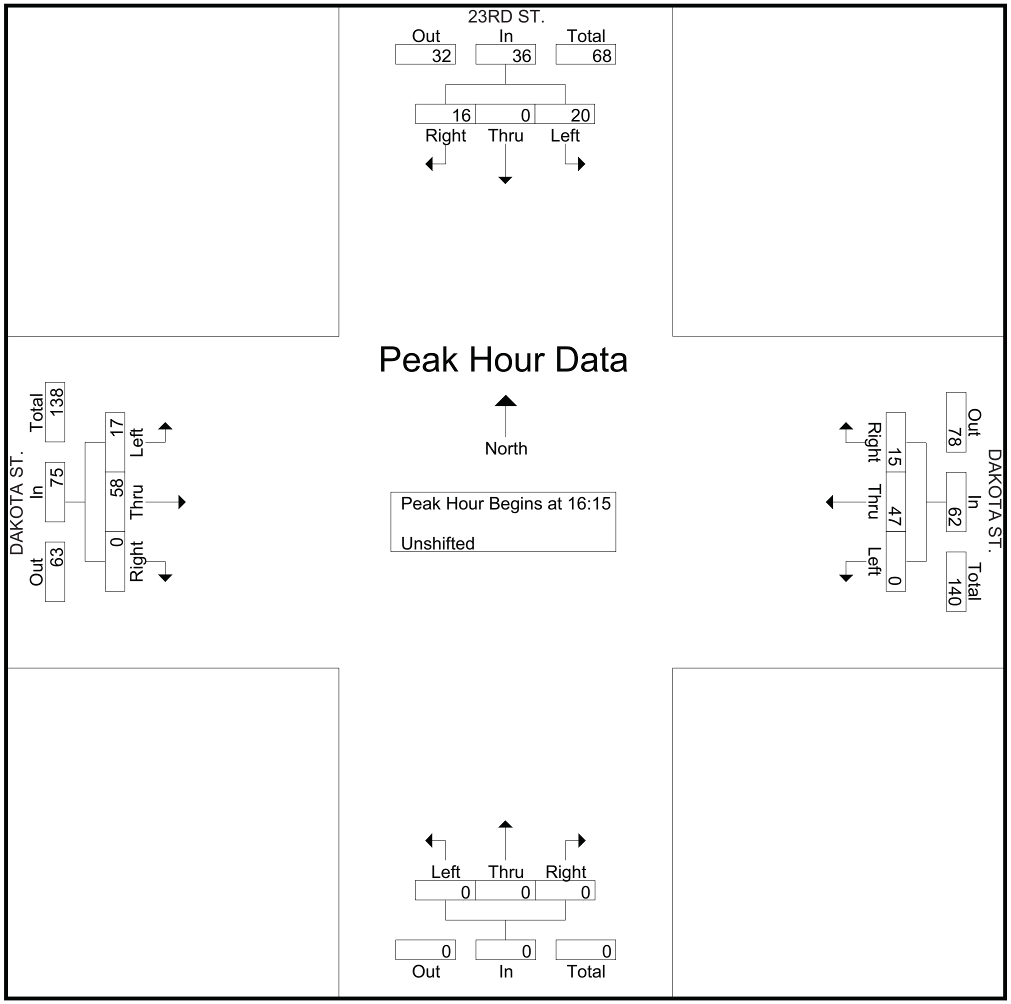
	23RD ST. Southbound				DAKOTA ST. Westbound				Northbound				DAKOTA ST. Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	2	0	3	5	0	9	0	9	0	0	0	0	**6**	**20**	0	**26**	40
16:30	5	0	1	6	0	13	4	17	0	0	0	0	4	17	0	21	44
16:45	5	0	**9**	**14**	0	10	5	15	0	0	0	0	4	11	0	15	44
17:00	**8**	0	3	11	0	**15**	**6**	**21**	0	0	0	0	3	10	0	13	**45**
Total Volume	20	0	16	36	0	47	15	62	0	0	0	0	17	58	0	75	173
% App. Total	55.6	0	44.4		0	75.8	24.2		0	0	0		22.7	77.3	0		
PHF	.625	.000	.444	.643	.000	.783	.625	.738	.000	.000	.000	.000	.708	.725	.000	.721	.961

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-007 23RD-DAKOTA
Site Code : 00000000
Start Date : 1/4/2011
Page No : 2



All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-006 25TH-DAKOTA
Site Code : 00000000
Start Date : 1/4/2011
Page No : 1

Groups Printed- Unshifted

	TEXAS ST. Southbound				25TH ST. Westbound				25TH ST. Eastbound				DAKOTA ST. Southeastbound				
Start Time	Left	Right	Hard Right	App. Total	Thru	Bear Right	Right	App. Total	Hard Left	Left	Thru	App. Total	Hard Left	Bear Left	Hard Right	App. Total	Int. Total
16:00	0	0	0	0	13	8	0	21	11	0	30	41	0	5	15	20	82
16:15	0	1	0	1	10	6	0	16	2	1	34	37	0	9	15	24	78
16:30	0	0	0	0	11	12	0	23	6	0	29	35	0	9	15	24	82
16:45	1	0	0	1	11	9	0	20	6	0	31	37	0	12	7	19	77
Total	1	1	0	2	45	35	0	80	25	1	124	150	0	35	52	87	319
17:00	0	0	0	0	12	14	0	26	9	0	27	36	0	8	10	18	80
17:15	1	0	0	1	14	2	3	19	8	0	22	30	0	10	9	19	69
17:30	1	0	1	2	9	8	1	18	3	0	25	28	0	8	12	20	68
17:45	1	1	0	2	12	7	1	20	12	0	19	31	0	9	13	22	75
Total	3	1	1	5	47	31	5	83	32	0	93	125	0	35	44	79	292
Grand Total	4	2	1	7	92	66	5	163	57	1	217	275	0	70	96	166	611
Apprch %	57.1	28.6	14.3		56.4	40.5	3.1		20.7	0.4	78.9		0	42.2	57.8		
Total %	0.7	0.3	0.2	1.1	15.1	10.8	0.8	26.7	9.3	0.2	35.5	45	0	11.5	15.7	27.2	

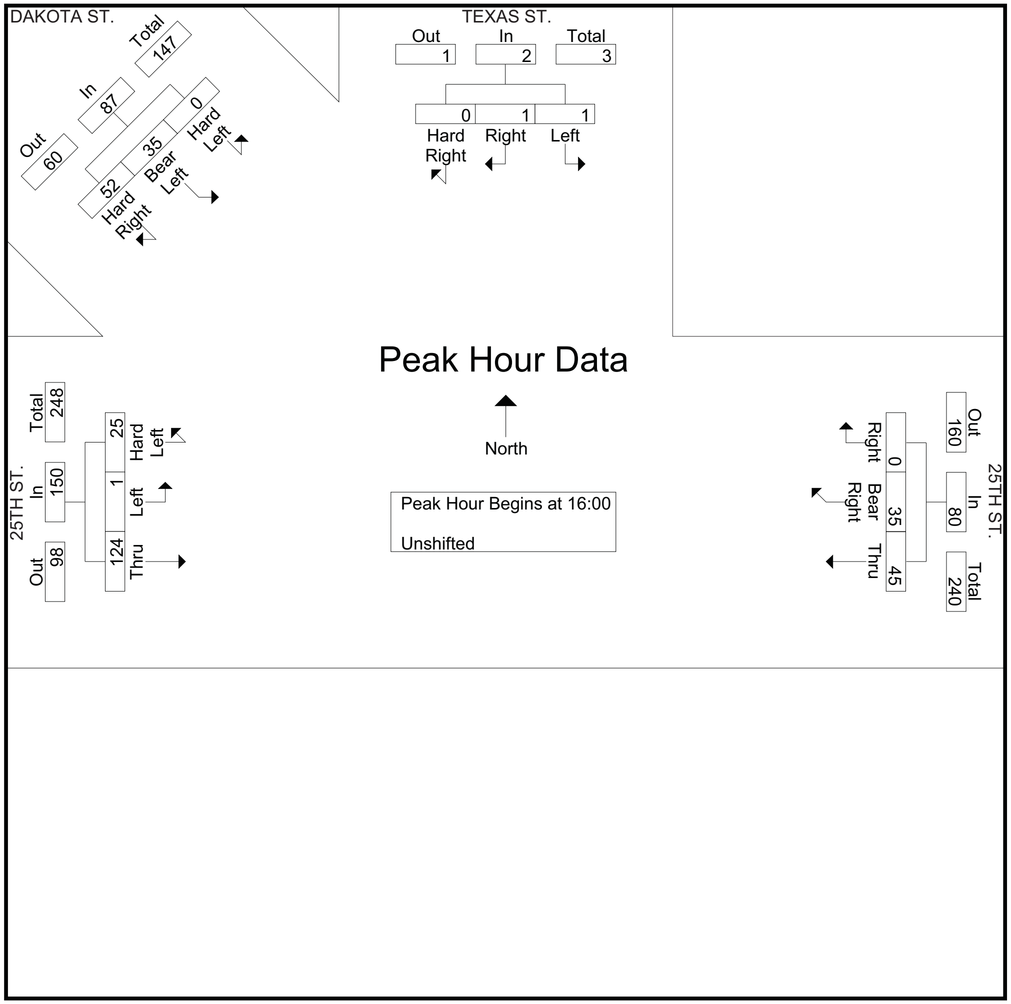
	TEXAS ST. Southbound				25TH ST. Westbound				25TH ST. Eastbound				DAKOTA ST. Southeastbound				
Start Time	Left	Right	Hard Right	App. Total	Thru	Bear Right	Right	App. Total	Hard Left	Left	Thru	App. Total	Hard Left	Bear Left	Hard Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	0	0	0	**13**	8	0	21	**11**	0	30	**41**	0	5	**15**	20	**82**
16:15	0	**1**	0	**1**	10	6	0	16	2	**1**	**34**	37	0	9	15	**24**	78
16:30	0	0	0	0	11	**12**	0	**23**	6	0	29	35	0	9	15	24	82
16:45	**1**	0	0	1	11	9	0	20	6	0	31	37	0	**12**	7	19	77
Total Volume	1	1	0	2	45	35	0	80	25	1	124	150	0	35	52	87	319
% App. Total	50	50	0		56.2	43.8	0		16.7	0.7	82.7		0	40.2	59.8		
PHF	.250	.250	.000	.500	.865	.729	.000	.870	.568	.250	.912	.915	.000	.729	.867	.906	.973

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-006 25TH-DAKOTA
Site Code : 00000000
Start Date : 1/4/2011
Page No : 2



All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-005 25TH-CONNECTICUT
Site Code : 00000000
Start Date : 1/4/2011
Page No : 1

Groups Printed- Unshifted

	CONNECTICUT ST. Southbound				25TH ST. Westbound				CONNECTICUT ST. Northbound				25TH ST. Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
16:00	0	0	0	0	9	13	6	28	1	7	30	38	13	14	7	34	100
16:15	0	0	0	0	11	10	7	28	0	10	20	30	7	19	8	34	92
16:30	0	0	0	0	7	13	6	26	1	7	18	26	3	13	4	20	72
16:45	0	0	0	0	7	7	3	17	1	9	20	30	1	20	3	24	71
Total	0	0	0	0	34	43	22	99	3	33	88	124	24	66	22	112	335
17:00	0	0	0	0	6	10	3	19	5	7	18	30	2	16	5	23	72
17:15	0	0	0	0	8	11	7	26	3	11	16	30	3	13	7	23	79
17:30	0	0	0	0	6	9	6	21	2	8	11	21	8	16	8	32	74
17:45	0	0	0	0	11	9	5	25	0	15	15	30	2	15	0	17	72
Total	0	0	0	0	31	39	21	91	10	41	60	111	15	60	20	95	297
Grand Total	0	0	0	0	65	82	43	190	13	74	148	235	39	126	42	207	632
Apprch %	0	0	0		34.2	43.2	22.6		5.5	31.5	63		18.8	60.9	20.3		
Total %	0	0	0	0	10.3	13	6.8	30.1	2.1	11.7	23.4	37.2	6.2	19.9	6.6	32.8	

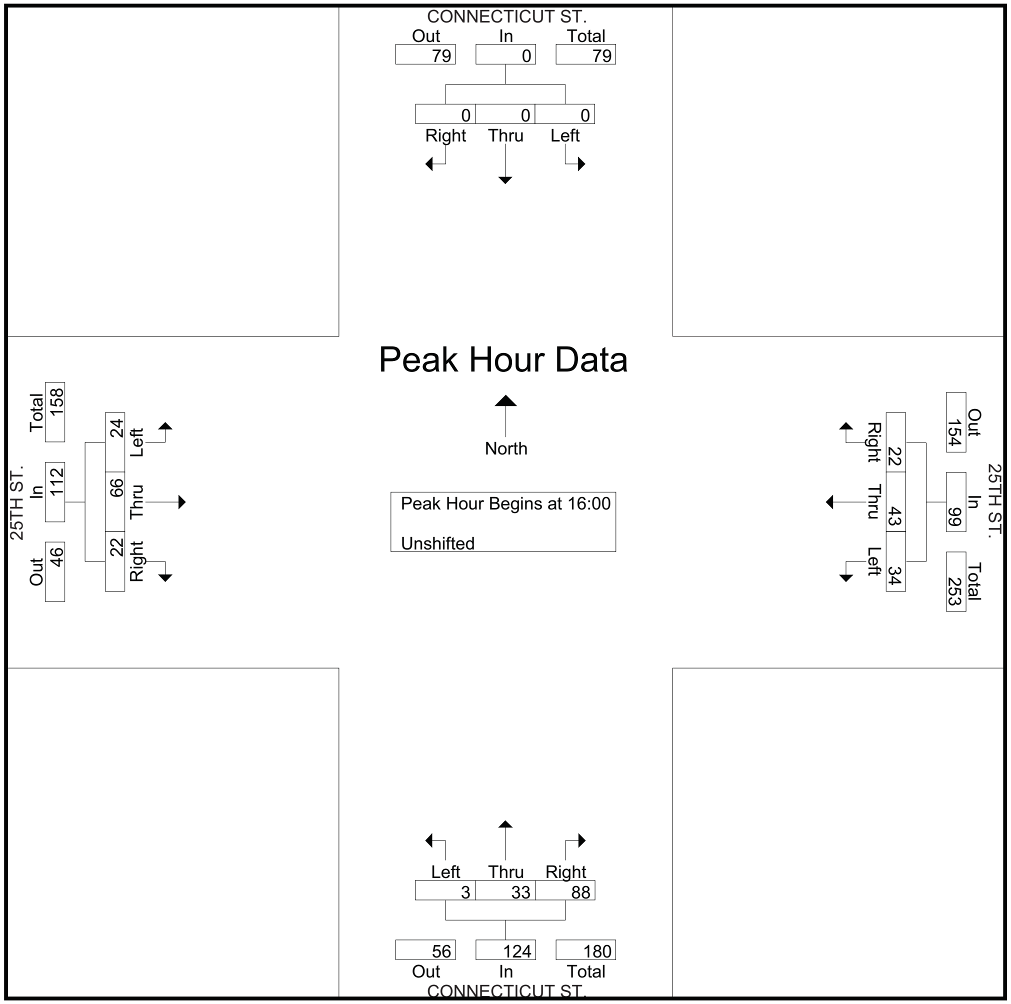
	CONNECTICUT ST. Southbound				25TH ST. Westbound				CONNECTICUT ST. Northbound				25TH ST. Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	0	0	0	9	**13**	6	**28**	**1**	7	**30**	**38**	**13**	14	7	**34**	**100**
16:15	0	0	0	0	**11**	10	**7**	28	0	**10**	20	30	7	19	**8**	34	92
16:30	0	0	0	0	7	13	6	26	1	7	18	26	3	13	4	20	72
16:45	0	0	0	0	7	7	3	17	1	9	20	30	1	**20**	3	24	71
Total Volume	0	0	0	0	34	43	22	99	3	33	88	124	24	66	22	112	335
% App. Total	0	0	0		34.3	43.4	22.2		2.4	26.6	71		21.4	58.9	19.6		
PHF	.000	.000	.000	.000	.773	.827	.786	.884	.750	.825	.733	.816	.462	.825	.688	.824	.838

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-005 25TH-CONNECTICUT
Site Code : 00000000
Start Date : 1/4/2011
Page No : 2



All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-004 25TH-INDIANA
Site Code : 00000000
Start Date : 1/4/2011
Page No : 1

Groups Printed- Unshifted

	INDIANA ST. Southbound					25TH ST. Westbound					INDIANA ST. Northbound					25TH ST. Eastbound					NB I-280 ON-RAMP Southeastbound					
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Int. Total
16:00	0	0	0	0	0	0	47	31	4	82	6	56	14	3	79	24	3	40	0	67	0	0	0	0	0	228
16:15	0	0	0	0	0	0	34	18	0	52	10	65	17	2	94	23	2	36	0	61	0	0	0	0	0	207
16:30	0	0	0	0	0	0	51	27	2	80	7	60	13	4	84	19	3	42	0	64	0	0	0	0	0	228
16:45	0	0	0	0	0	0	47	20	2	69	7	54	10	2	73	16	3	28	0	47	0	0	0	0	0	189
Total	0	0	0	0	0	0	179	96	8	283	30	235	54	11	330	82	11	146	0	239	0	0	0	0	0	852
17:00	0	0	0	0	0	0	58	24	2	84	8	56	18	5	87	17	2	29	0	48	0	0	0	0	0	219
17:15	0	0	0	0	0	0	25	15	1	41	3	41	12	3	59	15	1	21	0	37	0	0	0	0	0	137
17:30	0	0	0	0	0	0	28	15	1	44	7	27	10	1	45	13	1	10	0	24	0	0	0	0	0	113
17:45	0	0	0	0	0	0	30	13	2	45	4	35	17	2	58	9	4	17	0	30	0	0	0	0	0	133
Total	0	0	0	0	0	0	141	67	6	214	22	159	57	11	249	54	8	77	0	139	0	0	0	0	0	602
Grand Total	0	0	0	0	0	0	320	163	14	497	52	394	111	22	579	136	19	223	0	378	0	0	0	0	0	1454
Apprch %	0	0	0	0		0	64.4	32.8	2.8		9	68	19.2	3.8		36	5	59	0		0	0	0	0		
Total %	0	0	0	0	0	0	22	11.2	1	34.2	3.6	27.1	7.6	1.5	39.8	9.4	1.3	15.3	0	26	0	0	0	0	0	

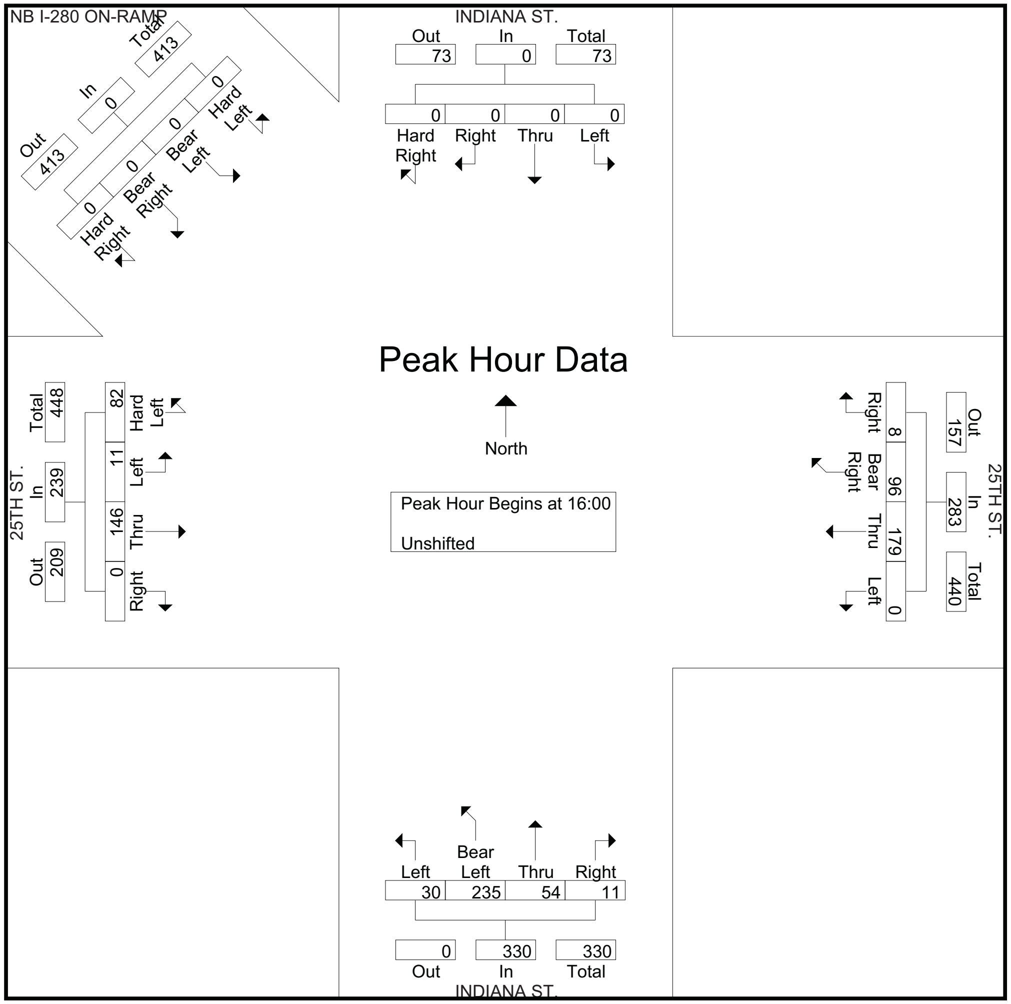
	INDIANA ST. Southbound					25TH ST. Westbound					INDIANA ST. Northbound					25TH ST. Eastbound					NB I-280 ON-RAMP Southeastbound					
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 16:00																										
16:00	0	0	0	0	0	0	47	**31**	**4**	**82**	6	56	14	3	79	**24**	**3**	40	0	**67**	0	0	0	0	0	**228**
16:15	0	0	0	0	0	0	34	18	0	52	**10**	**65**	**17**	2	**94**	23	2	36	0	61	0	0	0	0	0	207
16:30	0	0	0	0	0	0	**51**	27	2	80	7	60	13	**4**	84	19	3	**42**	0	64	0	0	0	0	0	228
16:45	0	0	0	0	0	0	47	20	2	69	7	54	10	2	73	16	3	28	0	47	0	0	0	0	0	189
Total Volume	0	0	0	0	0	0	179	96	8	283	30	235	54	11	330	82	11	146	0	239	0	0	0	0	0	852
% App. Total	0	0	0	0		0	63.3	33.9	2.8		9.1	71.2	16.4	3.3		34.3	4.6	61.1	0		0	0	0	0		
PHF	.000	.000	.000	.000	.000	.000	.877	.774	.500	.863	.750	.904	.794	.688	.878	.854	.917	.869	.000	.892	.000	.000	.000	.000	.000	.934

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-004 25TH-INDIANA
Site Code : 00000000
Start Date : 1/4/2011
Page No : 2



All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-003 PENNSYLVANIA-SB I 280
Site Code : 00000000
Start Date : 1/4/2011
Page No : 1

Groups Printed- Unshifted

	PENNSYLVANIA AVE. Southbound				SB I-280 OFF-RAMP Westbound				PENNSYLVANIA AVE. Northbound				Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
16:00	0	80	0	80	120	0	23	143	0	52	0	52	0	0	0	0	275
16:15	0	58	0	58	126	0	13	139	0	52	0	52	0	0	0	0	249
16:30	0	80	0	80	128	0	10	138	0	42	0	42	0	0	0	0	260
16:45	0	73	0	73	109	0	3	112	0	55	0	55	0	0	0	0	240
Total	0	291	0	291	483	0	49	532	0	201	0	201	0	0	0	0	1024
17:00	0	79	0	79	97	0	7	104	0	52	0	52	0	0	0	0	235
17:15	0	99	0	99	92	0	2	94	0	41	0	41	0	0	0	0	234
17:30	0	102	0	102	65	0	2	67	0	58	0	58	0	0	0	0	227
17:45	0	107	0	107	73	0	8	81	0	57	0	57	0	0	0	0	245
Total	0	387	0	387	327	0	19	346	0	208	0	208	0	0	0	0	941
Grand Total	0	678	0	678	810	0	68	878	0	409	0	409	0	0	0	0	1965
Apprch %	0	100	0		92.3	0	7.7		0	100	0		0	0	0		
Total %	0	34.5	0	34.5	41.2	0	3.5	44.7	0	20.8	0	20.8	0	0	0	0	

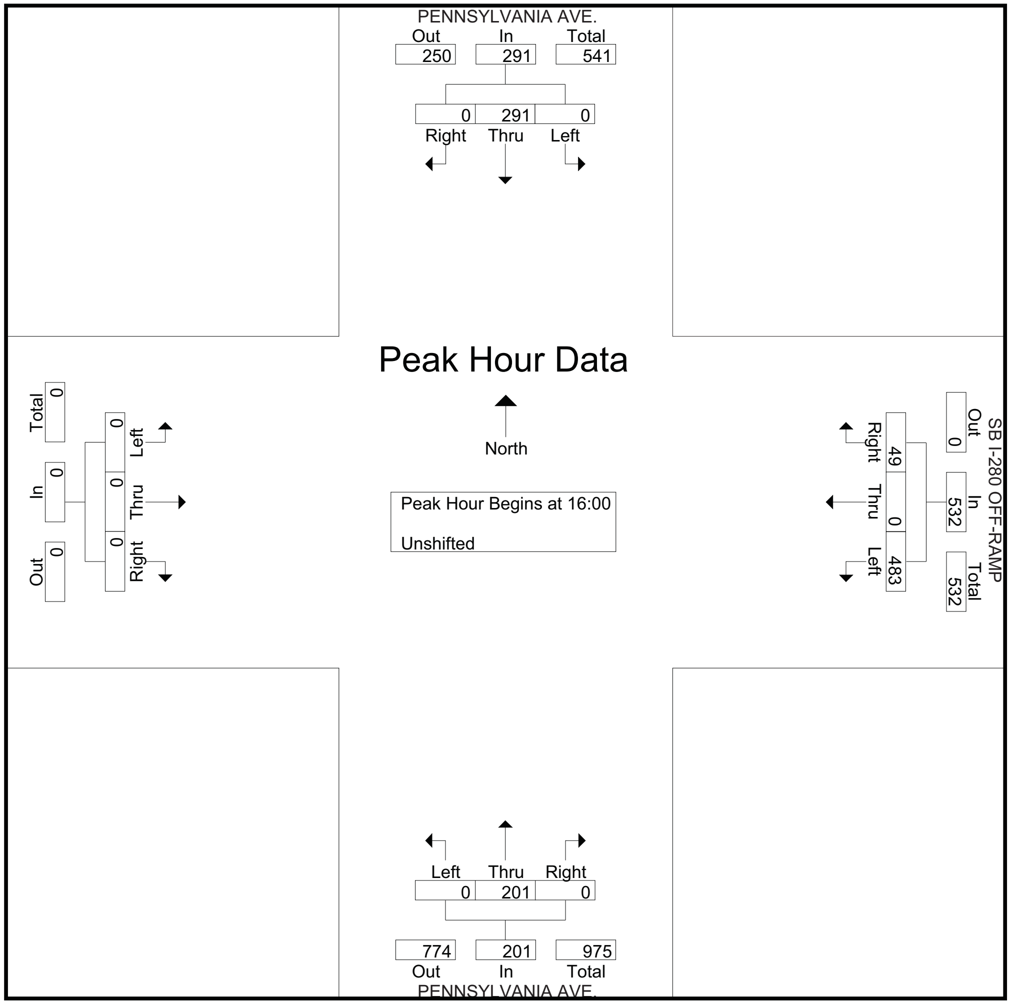
	PENNSYLVANIA AVE. Southbound				SB I-280 OFF-RAMP Westbound				PENNSYLVANIA AVE. Northbound				Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	0	**80**	0	**80**	120	0	**23**	**143**	0	52	0	52	0	0	0	0	**275**
16:15	0	58	0	58	126	0	13	139	0	52	0	52	0	0	0	0	249
16:30	0	80	0	80	**128**	0	10	138	0	42	0	42	0	0	0	0	260
16:45	0	73	0	73	109	0	3	112	0	**55**	0	**55**	0	0	0	0	240
Total Volume	0	291	0	291	483	0	49	532	0	201	0	201	0	0	0	0	1024
% App. Total	0	100	0		90.8	0	9.2		0	100	0		0	0	0		
PHF	.000	.909	.000	.909	.943	.000	.533	.930	.000	.914	.000	.914	.000	.000	.000	.000	.931

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-003 PENNSYLVANIA-SB I 280
Site Code : 00000000
Start Date : 1/4/2011
Page No : 2



All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-002 CESAR CHAVEZ-PENNSYLVANIA
Site Code : 00000000
Start Date : 1/4/2011
Page No : 1

Groups Printed- Unshifted

	PENNSYLVANIA AVE. Southbound				CESAR CHAVEZ ST. Westbound				NB I-280 OFF-RAMP Northbound				CESAR CHAVEZ ST. Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
16:00	19	0	84	103	0	49	98	147	54	32	77	163	100	98	0	198	611
16:15	25	0	103	128	0	36	78	114	54	39	79	172	74	95	0	169	583
16:30	21	0	125	146	0	38	101	139	36	32	61	129	72	102	0	174	588
16:45	19	0	100	119	0	39	88	127	42	40	65	147	68	96	0	164	557
Total	84	0	412	496	0	162	365	527	186	143	282	611	314	391	0	705	2339
17:00	12	0	119	131	0	57	126	183	35	36	53	124	82	88	0	170	608
17:15	12	0	109	121	0	62	84	146	48	26	71	145	57	68	0	125	537
17:30	13	0	106	119	0	63	84	147	43	50	59	152	54	62	0	116	534
17:45	9	0	128	137	0	40	60	100	54	54	62	170	40	53	0	93	500
Total	46	0	462	508	0	222	354	576	180	166	245	591	233	271	0	504	2179
Grand Total	130	0	874	1004	0	384	719	1103	366	309	527	1202	547	662	0	1209	4518
Apprch %	12.9	0	87.1		0	34.8	65.2		30.4	25.7	43.8		45.2	54.8	0		
Total %	2.9	0	19.3	22.2	0	8.5	15.9	24.4	8.1	6.8	11.7	26.6	12.1	14.7	0	26.8	

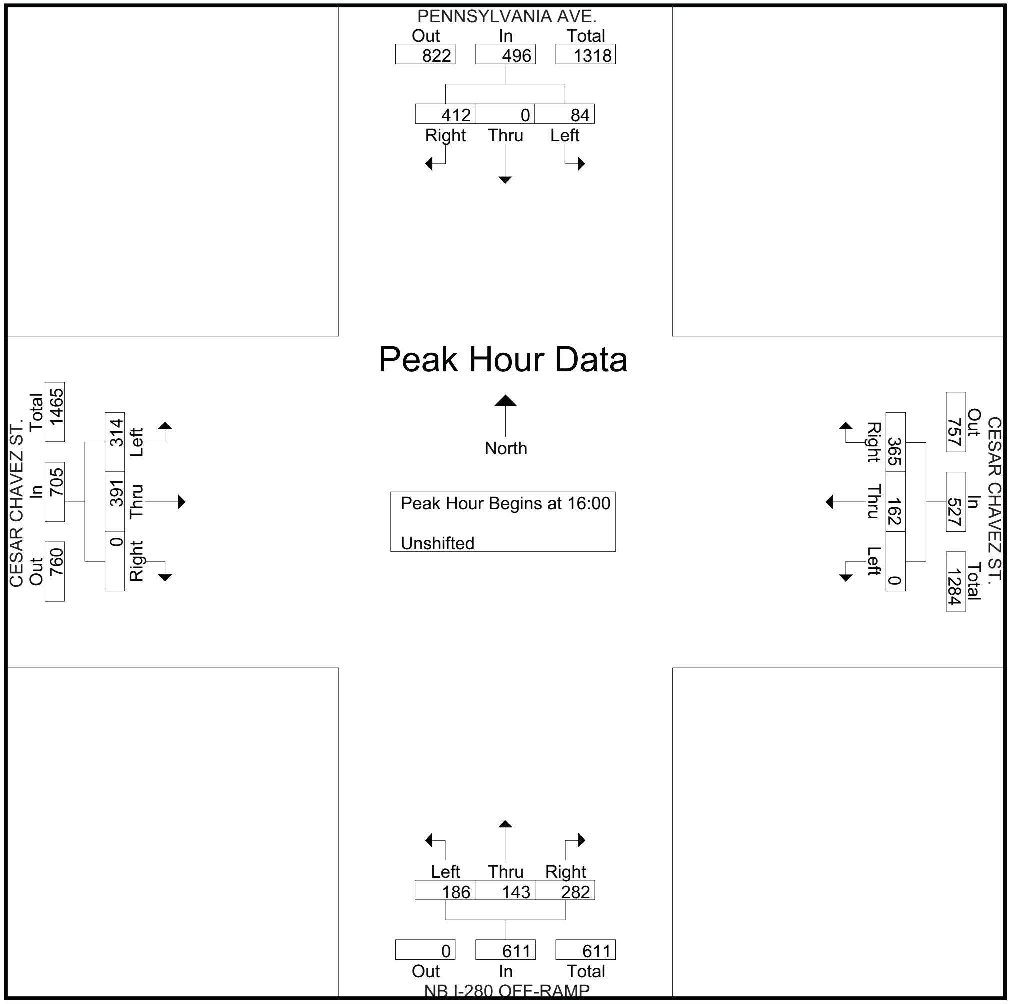
	PENNSYLVANIA AVE. Southbound				CESAR CHAVEZ ST. Westbound				NB I-280 OFF-RAMP Northbound				CESAR CHAVEZ ST. Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:00																	
16:00	19	0	84	103	0	**49**	98	**147**	**54**	32	77	163	**100**	98	0	**198**	**611**
16:15	**25**	0	103	128	0	36	78	114	54	39	**79**	**172**	74	95	0	169	583
16:30	21	0	**125**	**146**	0	38	**101**	139	36	32	61	129	72	**102**	0	174	588
16:45	19	0	100	119	0	39	88	127	42	**40**	65	147	68	96	0	164	557
Total Volume	84	0	412	496	0	162	365	527	186	143	282	611	314	391	0	705	2339
% App. Total	16.9	0	83.1		0	30.7	69.3		30.4	23.4	46.2		44.5	55.5	0		
PHF	.840	.000	.824	.849	.000	.827	.903	.896	.861	.894	.892	.888	.785	.958	.000	.890	.957

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-002 CESAR CHAVEZ-PENNSYLVANIA
Site Code : 00000000
Start Date : 1/4/2011
Page No : 2



All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-001 CESAR CHAVEZ-CONNECTICUT
Site Code : 00000000
Start Date : 1/4/2011
Page No : 1

Groups Printed- Unshifted

	CONNECTICUT ST. Southbound				CESAR CHAVEZ ST. Westbound				Northbound				CESAR CHAVEZ ST. Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
16:00	12	0	29	41	0	157	15	172	0	0	0	0	21	166	0	187	400
16:15	6	0	24	30	0	175	21	196	0	0	0	0	12	147	0	159	385
16:30	4	0	15	19	0	176	16	192	0	0	0	0	20	160	0	180	391
16:45	5	0	20	25	0	173	20	193	0	0	0	0	9	137	0	146	364
Total	27	0	88	115	0	681	72	753	0	0	0	0	62	610	0	672	1540
17:00	5	0	27	32	0	199	21	220	0	0	0	0	15	150	0	165	417
17:15	4	0	23	27	0	220	12	232	0	0	0	0	25	91	0	116	375
17:30	8	0	19	27	0	199	17	216	0	0	0	0	16	95	0	111	354
17:45	8	0	23	31	0	209	19	228	0	0	0	0	23	76	0	99	358
Total	25	0	92	117	0	827	69	896	0	0	0	0	79	412	0	491	1504
Grand Total	52	0	180	232	0	1508	141	1649	0	0	0	0	141	1022	0	1163	3044
Apprch %	22.4	0	77.6		0	91.4	8.6		0	0	0		12.1	87.9	0		
Total %	1.7	0	5.9	7.6	0	49.5	4.6	54.2	0	0	0	0	4.6	33.6	0	38.2	

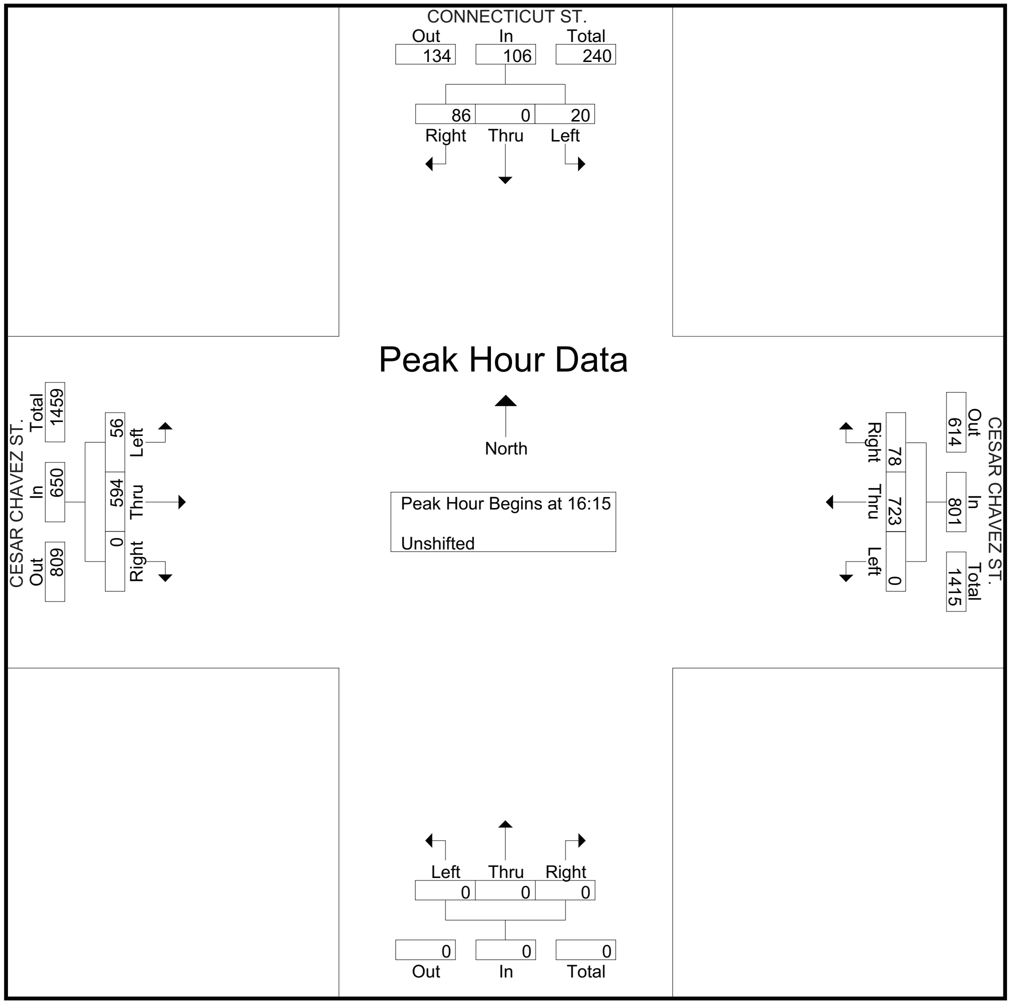
	CONNECTICUT ST. Southbound				CESAR CHAVEZ ST. Westbound				Northbound				CESAR CHAVEZ ST. Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																	
Peak Hour for Entire Intersection Begins at 16:15																	
16:15	**6**	0	24	30	0	175	**21**	196	0	0	0	0	12	147	0	159	385
16:30	4	0	15	19	0	176	16	192	0	0	0	0	**20**	**160**	0	**180**	391
16:45	5	0	20	25	0	173	20	193	0	0	0	0	9	137	0	146	364
17:00	5	0	**27**	**32**	0	**199**	21	**220**	0	0	0	0	15	150	0	165	**417**
Total Volume	20	0	86	106	0	723	78	801	0	0	0	0	56	594	0	650	1557
% App. Total	18.9	0	81.1		0	90.3	9.7		0	0	0		8.6	91.4	0		
PHF	.833	.000	.796	.828	.000	.908	.929	.910	.000	.000	.000	.000	.700	.928	.000	.903	.933

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-001 CESAR CHAVEZ-CONNECTICUT
Site Code : 00000000
Start Date : 1/4/2011
Page No : 2



All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-012 013 CESAR CHAVEZ-VERMONT-US 101
Site Code : 00000000
Start Date : 1/4/2011
Page No : 1

Groups Printed- Unshifted

	VERMONT ST. Southbound					CESAR CHAVEZ ST. Westbound					US-101 OFF-RAMP Northbound					CESAR CHAVEZ ST. Eastbound					US-101 ON-RAMP Southeastbound					
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Int. Total
16:00	4	0	17	16	37	0	143	78	29	250	0	0	0	95	95	4	20	121	0	145	0	0	0	0	0	527
16:15	6	0	20	13	39	0	142	71	19	232	0	0	0	73	73	3	28	107	0	138	0	0	0	0	0	482
16:30	4	0	26	17	47	0	138	93	16	247	0	0	0	72	72	3	15	117	0	135	0	0	0	0	0	501
16:45	9	0	27	12	48	0	159	55	28	242	0	0	0	56	56	4	11	115	0	130	0	0	0	0	0	476
Total	23	0	90	58	171	0	582	297	92	971	0	0	0	296	296	14	74	460	0	548	0	0	0	0	0	1986
17:00	1	0	28	23	52	0	186	77	26	289	0	0	0	46	46	3	13	101	0	117	0	0	0	0	0	504
17:15	2	0	27	16	45	0	186	80	23	289	0	0	0	44	44	3	30	82	0	115	0	0	0	0	0	493
17:30	9	0	33	16	58	0	170	71	15	256	0	0	0	53	53	1	19	87	0	107	0	0	0	0	0	474
17:45	2	0	23	10	35	0	177	48	20	245	0	0	0	56	56	1	22	91	0	114	0	0	0	0	0	450
Total	14	0	111	65	190	0	719	276	84	1079	0	0	0	199	199	8	84	361	0	453	0	0	0	0	0	1921
Grand Total	37	0	201	123	361	0	1301	573	176	2050	0	0	0	495	495	22	158	821	0	1001	0	0	0	0	0	3907
Apprch %	10.2	0	55.7	34.1		0	63.5	28	8.6		0	0	0	100		2.2	15.8	82	0		0	0	0	0		
Total %	0.9	0	5.1	3.1	9.2	0	33.3	14.7	4.5	52.5	0	0	0	12.7	12.7	0.6	4	21	0	25.6	0	0	0	0	0	

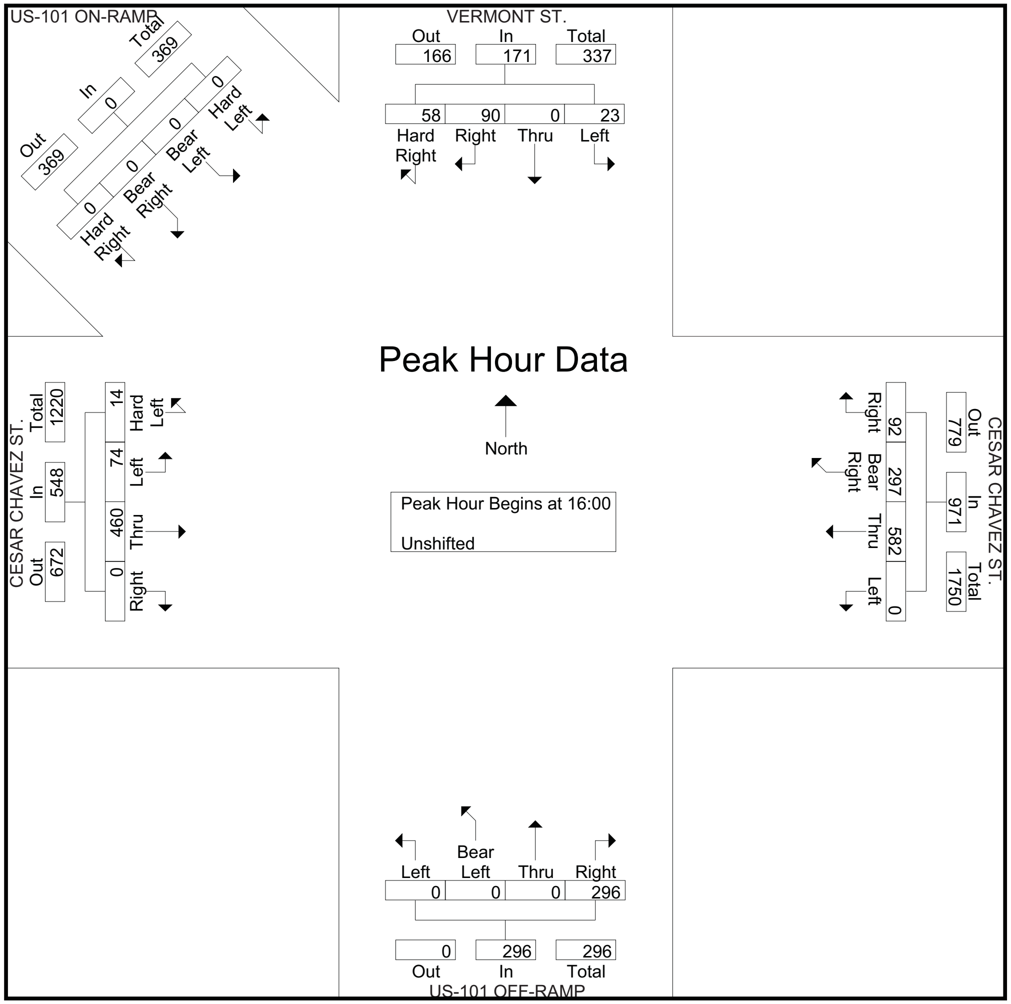
	VERMONT ST. Southbound					CESAR CHAVEZ ST. Westbound					US-101 OFF-RAMP Northbound					CESAR CHAVEZ ST. Eastbound					US-101 ON-RAMP Southeastbound					
Start Time	Left	Thru	Right	Hard Right	App. Total	Left	Thru	Bear Right	Right	App. Total	Left	Bear Left	Thru	Right	App. Total	Hard Left	Left	Thru	Right	App. Total	Hard Left	Bear Left	Bear Right	Hard Right	App. Total	Int. Total
Peak Hour Analysis From 16:00 to 17:45 - Peak 1 of 1																										
Peak Hour for Entire Intersection Begins at 16:00																										
16:00	4	0	17	16	37	0	143	78	**29**	**250**	0	0	0	**95**	**95**	**4**	20	**121**	0	**145**	0	0	0	0	0	**527**
16:15	6	0	20	13	39	0	142	71	19	232	0	0	0	73	73	3	**28**	107	0	138	0	0	0	0	0	482
16:30	4	0	26	**17**	47	0	138	**93**	16	247	0	0	0	72	72	3	15	117	0	135	0	0	0	0	0	501
16:45	**9**	0	**27**	12	**48**	0	**159**	55	28	242	0	0	0	56	56	4	11	115	0	130	0	0	0	0	0	476
Total Volume	23	0	90	58	171	0	582	297	92	971	0	0	0	296	296	14	74	460	0	548	0	0	0	0	0	1986
% App. Total	13.5	0	52.6	33.9		0	59.9	30.6	9.5		0	0	0	100		2.6	13.5	83.9	0		0	0	0	0		
PHF	.639	.000	.833	.853	.891	.000	.915	.798	.793	.971	.000	.000	.000	.779	.779	.875	.661	.950	.000	.945	.000	.000	.000	.000	.000	.942

All Traffic Data

(916) 771-8700

CITY OF SAN FRANCISCO

File Name : 10-7498-012 013 CESAR CHAVEZ-VERMONT-US 101
Site Code : 00000000
Start Date : 1/4/2011
Page No : 2



APPENDIX F

INTERSECTION LOS ANALYSIS

Existing PM Peak

```
Default Scenario          Wed Oct 3, 2012 11:34:47                Page 3-1
--------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
             2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Cesar Chavez/Connecticut
********************************************************************************
Cycle (sec):          75              Critical Vol./Cap.(X):         0.538
Loss Time (sec):       8 (Y+R=4.0 sec) Average Delay (sec/veh):        11.4
Optimal Cycle:        75              Level Of Service:                  B
********************************************************************************
Street Name:          Connecticut Street              Cesar Chavez Street
Approach:        North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase      Permit+Prot       Permitted
Rights:           Include          Include          Include          Include
Min. Green:    0     0     0   19    19    19    8    48    48   36    36    36
Lanes:       0  0  0  0  0    0  0  1! 0  0    0  1  1  0  0    0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0     0     0   20     0    86   56   594     0    0   723    78
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   0     0     0   20     0    86   56   594     0    0   723    78
Added Vol:     0     0     0    0     0     0    0     0     0    0     0     0
PasserByVol:   0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut:   0     0     0   20     0    86   56   594     0    0   723    78
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93
PHF Volume:    0     0     0   22     0    92   60   639     0    0   777    84
Reduct Vol:    0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:   0     0     0   22     0    92   60   639     0    0   777    84
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   0     0     0   22     0    92   60   639     0    0   777    84
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  1.00  1.00  1.00  0.69  1.00  0.69  0.82  0.93  1.00  1.00  0.84  0.84
Lanes:       0.00  0.00  0.00  0.19  0.00  0.81  0.17  1.83  0.00  0.00  2.71  0.29
Final Sat.:    0     0     0   247    0  1061   264  3227    0     0  4304   464
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.00  0.00  0.09  0.00  0.09  0.23  0.20  0.00  0.00  0.18  0.18
Crit Moves:                    ****              ****
Green/Cycle: 0.00  0.00  0.00  0.25  0.00  0.25  0.64  0.64  0.00  0.00  0.48  0.48
Volume/Cap:  0.00  0.00  0.00  0.34  0.00  0.34  0.34  0.31  0.00  0.00  0.38  0.38
Delay/Veh:    0.0   0.0   0.0  25.7   0.0  25.7  15.7   6.4   0.0   0.0  12.8  12.8
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0  25.7   0.0  25.7  15.7   6.4   0.0   0.0  12.8  12.8
LOS by Move:   A     A     A     C     A     C     B     A     A     A     B     B
HCM2kAvgQ:     0     0     0     2     0     2     4     4     0     0     5     5
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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```

```
Default Scenario          Wed Oct 3, 2012 11:34:47                Page 4-1
--------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
             2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Cesar Chavez/Pennsylvania/NB I-280 Off-Ramp
********************************************************************************
Cycle (sec):          90              Critical Vol./Cap.(X):         0.455
Loss Time (sec):      15 (Y+R=5.0 sec) Average Delay (sec/veh):        38.4
Optimal Cycle:        90              Level Of Service:                  D
********************************************************************************
Street Name:        Pennsylvania Avenue               Cesar Chavez Street
Approach:        North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase        Protected        Protected
Rights:           Include            Ovl          Include           Ignore
Min. Green:   22    22    22   12    12    12   18    41    41   18    18    18
Lanes:       1  0  1  0  1    1  0  0  0  1    1  0  2  0  0    0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    186   143   282   84     0   412  314   391     0    0   162   365
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse: 186   143   282   84     0   412  314   391     0    0   162   365
Added Vol:     0     0     0    0     0     0    0     0     0    0     0     0
PasserByVol:   0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut: 186   143   282   84     0   412  314   391     0    0   162   365
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
PHF Adj:     0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.96  0.00
PHF Volume:  194   149   294   88     0   429  327   407     0    0   169     0
Reduct Vol:    0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol: 194   149   294   88     0   429  327   407     0    0   169     0
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  0.00
FinalVolume: 194   149   294   88     0   429  327   407     0    0   169     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  0.94  0.99  0.83  0.94  1.00  0.66  0.94  0.94  1.00  1.00  0.94  1.00
Lanes:       1.00  1.00  1.00  1.00  0.00  1.00  1.00  2.00  0.00  0.00  2.00  1.00
Final Sat.:  1787  1881  1579  1787    0  1263  1787  3574    0     0  3574  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.11  0.08  0.19  0.05  0.00  0.34  0.18  0.11  0.00  0.00  0.05  0.00
Crit Moves:  ****                          ****        ****        ****
Green/Cycle: 0.24  0.24  0.24  0.13  0.00  0.36  0.23  0.46  0.00  0.00  0.23  0.00
Volume/Cap:  0.44  0.32  0.76  0.37  0.00  0.94  0.80  0.25  0.00  0.00  0.21  0.00
Delay/Veh:   32.1  29.8  44.8  39.9   0.0  57.6  48.3  15.4   0.0   0.0  28.7   0.0
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  32.1  29.8  44.8  39.9   0.0  57.6  48.3  15.4   0.0   0.0  28.7   0.0
LOS by Move:   C     C     D     D     A     E     D     B     A     A     C     A
HCM2kAvgQ:     5     4     9     3     0    16    11     4     0     0     2     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

  Traffix 7.9.0415 (c) 2007 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
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```
Default Scenario          Wed Oct 3, 2012 11:34:47                 Page 5-1
--------------------------------------------------------------------------------
                      Potrero HOPE Development EIR
                         Wilbur Smith Associates
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Pennsylvania/SB I-280 Off-Ramp
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.531
Loss Time (sec):       0 (Y+R=4.0 sec) Average Delay (sec/veh):      13.9
Optimal Cycle:         0              Level Of Service:                B
********************************************************************************
Street Name:        Pennsylvania Avenue           SB I-280 Off-Ramp
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Ignore
Min. Green:    0    0    0    0    0    0    0    0    0    0    0    0
Lanes:       0  0  2  0  0   0  0  1  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  201    0    0  291    0    0    0    0  483    0   49
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   0  201    0    0  291    0    0    0    0  483    0   49
Added Vol:     0    0    0    0    0    0    0    0    0    0    0    0
PasserByVol:   0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:   0  201    0    0  291    0    0    0    0  483    0   49
User Adj:   1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
PHF Adj:    0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.00
PHF Volume:    0  216    0    0  313    0    0    0    0  519    0    0
Reduct Vol:    0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:   0  216    0    0  313    0    0    0    0  519    0    0
PCE Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
MLF Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
FinalVolume:   0  216    0    0  313    0    0    0    0  519    0    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:      0.00 2.00 0.00 0.00 1.00 0.00 0.00 0.00 0.00 2.00 0.00 1.00
Final Sat.:    0 1082    0    0  590    0    0    0    0 1096    0  667
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    xxxx 0.20 xxxx xxxx 0.53 xxxx xxxx xxxx xxxx 0.47 xxxx 0.00
Crit Moves:      ****           ****                     ****
Delay/Veh:   0.0 10.6  0.0  0.0 15.2  0.0  0.0  0.0  0.0 14.6  0.0  0.0
Delay Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  0.0 10.6  0.0  0.0 15.2  0.0  0.0  0.0  0.0 14.6  0.0  0.0
LOS by Move:   *    B    *    *    C    *    *    *    *    B    *    *
ApproachDel:      10.6             15.2           xxxxxx            14.6
Delay Adj:        1.00             1.00            xxxxx            1.00
ApprAdjDel:       10.6             15.2           xxxxxx            14.6
LOS by Appr:         B                C                *               B
AllWayAvgQ:  0.0  0.2  0.0  1.0  1.0  1.0  0.0  0.0  0.0  0.8  0.0  0.0
********************************************************************************
Note: Queue reported is the number of cars per lane.

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Default Scenario          Wed Oct 3, 2012 11:34:47                 Page 6-1
--------------------------------------------------------------------------------
                      Potrero HOPE Development EIR
                         Wilbur Smith Associates
--------------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #4 25th/Indiana Streets/NB I-280
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.433
Loss Time (sec):       0 (Y+R=4.0 sec) Average Delay (sec/veh):      11.2
Optimal Cycle:         0              Level Of Service:                B
********************************************************************************
Street Name:            Indiana Street                   25th Street
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0    0    0    0    0    0    0    0    0    0    0
Lanes:       0  1  0  1  0   0  0  0  0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     30  289   11    0    0    0   93  146    0    0  179  104
Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:  30  289   11    0    0    0   93  146    0    0  179  104
Added Vol:     0    0    0    0    0    0    0    0    0    0    0    0
PasserByVol:   0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:  30  289   11    0    0    0   93  146    0    0  179  104
User Adj:   1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:    0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume:   32  311   12    0    0    0  100  157    0    0  192  112
Reduct Vol:    0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:  32  311   12    0    0    0  100  157    0    0  192  112
PCE Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:  32  311   12    0    0    0  100  157    0    0  192  112
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:      0.18 1.75 0.07 0.00 0.00 0.00 0.39 0.61 0.00 0.00 0.63 0.37
Final Sat.:  106 1037   40    0    0    0  256  402    0    0  445  258
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.30 0.30 0.30 xxxx xxxx xxxx 0.39 0.39 xxxx xxxx 0.43 0.43
Crit Moves: ****                               ****                ****
Delay/Veh:  11.0 10.9 10.7  0.0  0.0  0.0 11.4 11.4  0.0  0.0 11.4 11.4
Delay Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh: 11.0 10.9 10.7  0.0  0.0  0.0 11.4 11.4  0.0  0.0 11.4 11.4
LOS by Move:   B    B    B    *    *    *    B    B    *    *    B    B
ApproachDel:      10.9           xxxxxx             11.4            11.4
Delay Adj:        1.00            xxxxx             1.00            1.00
ApprAdjDel:       10.9           xxxxxx             11.4            11.4
LOS by Appr:         B                *                B               B
AllWayAvgQ:  0.4  0.4  0.4  0.0  0.0  0.0  0.6  0.6  0.6  0.7  0.7  0.7
********************************************************************************
Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                          Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #5 25th/Connecticut
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.172
Loss Time (sec):       0 (Y+R=4.0 sec)  Average Delay (sec/veh):        7.9
Optimal Cycle:         0              Level Of Service:                  A
********************************************************************************
Street Name:         Connecticut Street                 25th Street
Approach:        North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:    0     0     0     0     0     0     0     0     0     0     0     0
Lanes:       0  0  1! 0  0    0  0  0  0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      3    33    88     0     0     0    24    66    22    34    43    22
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   3    33    88     0     0     0    24    66    22    34    43    22
Added Vol:     0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:   0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   3    33    88     0     0     0    24    66    22    34    43    22
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.84 0.84  0.84  0.84 0.84  0.84  0.84 0.84  0.84  0.84 0.84  0.84
PHF Volume:    4    39   105     0     0     0    29    79    26    40    51    26
Reduct Vol:    0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   4    39   105     0     0     0    29    79    26    40    51    26
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   4    39   105     0     0     0    29    79    26    40    51    26
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.02 0.27  0.71  0.00 0.00  0.00  0.21 0.59  0.20  0.34 0.44  0.22
Final Sat.:   21   229   610     0     0     0   176   484   161   280   354   181
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.17 0.17  0.17  xxxx xxxx  xxxx  0.16 0.16  0.16  0.14 0.14  0.14
Crit Moves:       ****                         ****                         ****
Delay/Veh:    7.8  7.8   7.8   0.0  0.0   0.0   8.0  8.0   8.0   8.0  8.0   8.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.8  7.8   7.8   0.0  0.0   0.0   8.0  8.0   8.0   8.0  8.0   8.0
LOS by Move:   A     A     A     *     *     *     A     A     A     A     A     A
ApproachDel:        7.8            xxxxxx             8.0              8.0
Delay Adj:         1.00             xxxxx            1.00             1.00
ApprAdjDel:         7.8            xxxxxx             8.0              8.0
LOS by Appr:         A                *                A                A
AllWayAvgQ:   0.2  0.2   0.2   0.0  0.0   0.0   0.2  0.2   0.2   0.2  0.2   0.2
********************************************************************************
Note: Queue reported is the number of cars per lane.

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                          Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #6 25th/Dakota
********************************************************************************
Average Delay (sec/veh):      3.2       Worst Case Level Of Service: A[  9.6]
********************************************************************************
Street Name:              Dakota Street                     25th Street
Approach:        North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled      Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:       0  0  0  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0     0     0    35     0    52    25   125     0     0    45    35
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0     0     0    35     0    52    25   125     0     0    45    35
Added Vol:     0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:   0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   0     0     0    35     0    52    25   125     0     0    45    35
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97
PHF Volume:    0     0     0    36     0    54    26   129     0     0    46    36
Reduct Vol:    0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:   0     0     0    36     0    54    26   129     0     0    46    36
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   245  245    64    82 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   748  661  1005  1528 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   738  649  1005  1528 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.05 0.00  0.05  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:   *     *     *     *     *     *     A     *     *     *     *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  878 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.3 xxxxx   0.1 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  9.6 xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:    *     *     *     *     A     *     A     *     *     *     *     *
ApproachDel:     xxxxxx              9.6            xxxxxx           xxxxxx
ApproachLOS:        *                A                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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Existing PM Peak

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Default Scenario          Wed Oct 3, 2012 11:34:47                  Page 9-1
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                           Potrero HOPE Development EIR
                              Wilbur Smith Associates
--------------------------------------------------------------------------------
                        Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #7 23rd/Dakota
********************************************************************************
Average Delay (sec/veh):      4.2      Worst Case Level Of Service: A[  9.2]
********************************************************************************
Street Name:                 Dakota                              23rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled      Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  1! 0  0   0  0  0  0  0   0  0  0  1  0   0  1  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      47    0    15     0    0     0     0   17    58    20   16     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   47    0    15     0    0     0     0   17    58    20   16     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   47    0    15     0    0     0     0   17    58    20   16     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96
PHF Volume:    49    0    16     0    0     0     0   18    60    21   17     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   49    0    16     0    0     0     0   18    60    21   17     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4  6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5  4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  106  106    48  xxxx xxxx xxxxx  xxxx xxxx xxxxx    78 xxxx xxxxx
Potent Cap.:  896  788  1027  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1533 xxxx xxxxx
Move Cap.:    887  777  1027  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1533 xxxx xxxxx
Volume/Cap:  0.06 0.00  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.01 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     *     A    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx  917 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx  0.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx  9.2 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
Shared LOS:     *    A     *     *    *     *     *    *     *     A    *     *
ApproachDel:        9.2           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         A                *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```



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Default Scenario          Wed Oct 3, 2012 11:34:47                  Page 10-1
--------------------------------------------------------------------------------
                           Potrero HOPE Development EIR
                              Wilbur Smith Associates
--------------------------------------------------------------------------------
                        Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #8 23rd/Wisconsin
********************************************************************************
Cycle (sec):          100               Critical Vol./Cap.(X):         0.111
Loss Time (sec):        0 (Y+R=4.0 sec) Average Delay (sec/veh):         7.4
Optimal Cycle:          0               Level Of Service:                  A
********************************************************************************
Street Name:                Wisconsin                            23rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   61    33    17   40     0     0    0     0    24    0    23
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   61    33    17   40     0     0    0     0    24    0    23
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   61    33    17   40     0     0    0     0    24    0    23
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:     0   66    36    18   43     0     0    0     0    26    0    25
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0   66    36    18   43     0     0    0     0    26    0    25
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0   66    36    18   43     0     0    0     0    26    0    25
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.65  0.35  0.30 0.70  0.00  0.00 0.00  0.00  0.51 0.01  0.48
Final Sat.:     0  598   323   255  599     0     0    0     0   440    0   422
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.11  0.11  0.07 0.07  xxxx  xxxx xxxx  xxxx  0.06 0.00  0.06
Crit Moves:             ****        ****                        ****
Delay/Veh:    0.0  7.3   7.3   7.5  7.5   0.0   0.0  0.0   0.0   7.3  7.3   7.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  7.3   7.3   7.5  7.5   0.0   0.0  0.0   0.0   7.3  7.3   7.3
LOS by Move:    *    A     A     A    A     *     *    *     *     A    A     A
ApproachDel:       7.3              7.5            xxxxxx             7.3
Delay Adj:        1.00             1.00             xxxxx            1.00
ApprAdjDel:        7.3              7.5            xxxxxx             7.3
LOS by Appr:        A                A                *                A
AllWayAvgQ:   0.1  0.1   0.1   0.1  0.1   0.1   0.0  0.0   0.0   0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

Existing PM Peak

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Default Scenario          Wed Oct 3, 2012 11:34:47                Page 11-1
---------------------------------------------------------------------------
                      Potrero HOPE Development EIR
                         Wilbur Smith Associates
---------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
***************************************************************************
Intersection #9 20th/Arkansas
***************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):        0.239
Loss Time (sec):       0 (Y+R=4.0 sec) Average Delay (sec/veh):        8.2
Optimal Cycle:         0              Level Of Service:                 A
***************************************************************************
Street Name:              Arkansas Street                20th Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      3   16     9     6   21    15     6  104     6    20  140    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   3   16     9     6   21    15     6  104     6    20  140    13
Added Vol:     0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   3   16     9     6   21    15     6  104     6    20  140    13
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86
PHF Volume:    3   19    10     7   24    17     7  121     7    23  163    15
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   3   19    10     7   24    17     7  121     7    23  163    15
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   3   19    10     7   24    17     7  121     7    23  163    15
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.11 0.57  0.32  0.14 0.50  0.36  0.05 0.90  0.05  0.12 0.81  0.07
Final Sat.:   80  428   241   108  378   270    43  741    43    97  682    63
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.04 0.04  0.04  0.06 0.06  0.06  0.16 0.16  0.16  0.24 0.24  0.24
Crit Moves:  ****                  ****        ****                   ****
Delay/Veh:    7.7  7.7   7.7   7.7  7.7   7.7   8.1  8.1   8.1   8.5  8.5   8.5
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.7  7.7   7.7   7.7  7.7   7.7   8.1  8.1   8.1   8.5  8.5   8.5
LOS by Move:   A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       7.7              7.7              8.1              8.5
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.7              7.7              8.1              8.5
LOS by Appr:        A                A                A                A
AllWayAvgQ:   0.0  0.0   0.0   0.1  0.1   0.1   0.2  0.2   0.2   0.3  0.3   0.3
***************************************************************************
Note: Queue reported is the number of cars per lane.

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```

```
Default Scenario          Wed Oct 3, 2012 11:34:47                Page 12-1
---------------------------------------------------------------------------
                      Potrero HOPE Development EIR
                         Wilbur Smith Associates
---------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM Unsignalized Method (Future Volume Alternative)
***************************************************************************
Intersection #10 22nd/Missouri Street
***************************************************************************
Average Delay (sec/veh):      0.1      Worst Case Level Of Service: A[  8.5]
***************************************************************************
Street Name:          Missouri Street                      22nd Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:       0  0  1  0  0    0  0  0  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0   30     0     0   25     1     0    0     1     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0   30     0     0   25     1     0    0     1     0    0     0
Added Vol:     0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   0   30     0     0   25     1     0    0     1     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.64 0.64  0.64  0.64 0.64  0.64  0.64 0.64  0.64  0.64 0.64  0.64
PHF Volume:    0   47     0     0   39     2     0    0     2     0    0     0
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   0   47     0     0   39     2     0    0     2     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx    40  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  1037  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  1037  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   8.5 xxxxx xxxx xxxxx
LOS by Move:   *    *     *     *    *     *     *    *     A     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:    *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx             8.5           xxxxxx
ApproachLOS:        *                *                A                *
***************************************************************************
Note: Queue reported is the number of cars per lane.
***************************************************************************

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```

```
Default Scenario          Wed Oct 3, 2012 11:34:47                Page 13-1
--------------------------------------------------------------------------------
                          Potrero HOPE Development EIR
                             Wilbur Smith Associates
--------------------------------------------------------------------------------
                        Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #11 Potrero/23rd
********************************************************************************
Cycle (sec):          90               Critical Vol./Cap.(X):         0.557
Loss Time (sec):      15 (Y+R=6.0 sec) Average Delay (sec/veh):        22.2
Optimal Cycle:        90               Level Of Service:                  C
********************************************************************************
Street Name:          Potrero Avenue                      23rd Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Protected       Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:     0   39    39     7   49    49    10   10    10    16   16    16
Lanes:        0  0  2  0  1    1  0  1  1  0    0  0  1! 0  0    0  1  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  570    60    85  985    23    27   41    48    86   31   161
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  570    60    85  985    23    27   41    48    86   31   161
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  570    60    85  985    23    27   41    48    86   31   161
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93
PHF Volume:     0  613    65    91 1059    25    29   44    52    92   33   173
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  613    65    91 1059    25    29   44    52    92   33   173
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  613    65    91 1059    25    29   44    52    92   33   173
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.93  0.75  0.93 0.91  0.91  0.93 0.93  0.93  0.82 0.82  0.82
Lanes:       0.00 2.00  1.00  1.00 1.95  0.05  0.23 0.35  0.42  0.74 0.26  1.00
Final Sat.:     0 3538  1422  1769 3378    79   412  626   733  1151  415  1565
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.17  0.05  0.05 0.31  0.31  0.07 0.07  0.07  0.08 0.08  0.11
Crit Moves:                        ****              ****              ****
Green/Cycle: 0.00 0.43  0.43  0.11 0.54  0.54  0.11 0.11  0.11  0.18 0.18  0.18
Volume/Cap:  0.00 0.40  0.10  0.47 0.58  0.58  0.63 0.63  0.63  0.45 0.45  0.62
Delay/Veh:    0.0 18.3  15.5  45.2 14.9  14.9  52.8 52.8  52.8  35.3 35.3  40.2
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 18.3  15.5  45.2 14.9  14.9  52.8 52.8  52.8  35.3 35.3  40.2
LOS by Move:    A    B     B     D    B     B     D    D     D     D    D     D
HCM2kAvgQ:      0    6     1     3   11    11     4    4     4     4    4     6
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```



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Default Scenario          Wed Oct 3, 2012 11:34:47                Page 14-1
--------------------------------------------------------------------------------
                          Potrero HOPE Development EIR
                             Wilbur Smith Associates
--------------------------------------------------------------------------------
                        Level Of Service Computation Report
            2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #12 Cesar Chavez/Vermont
********************************************************************************
Average Delay (sec/veh):      3.2      Worst Case Level Of Service: D[ 25.8]
********************************************************************************
Street Name:           Vermont Street                 Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Yield Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    23    0   148    88  460     0     0  879    92
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    23    0   148    88  460     0     0  879    92
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    23    0   148    88  460     0     0  879    92
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:     0    0     0    24    0   157    94  489     0     0  935    98
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    24    0   157    94  489     0     0  935    98
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1416 1661   516  1033 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   131   98   509   681 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   117   85   509   681 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.21 0.00  0.31  0.14 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.1 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  351 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.9 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 25.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    D     *     *    *     *     *    *     *
ApproachDel:      xxxxxx             25.8            xxxxxx           xxxxxx
ApproachLOS:         *                 D                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

Existing PM Peak

```
Default Scenario          Wed Oct 3, 2012 11:34:47                 Page 15-1
---------------------------------------------------------------------------
                       Potrero HOPE Development EIR
                          Wilbur Smith Associates
---------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Future Volume Alternative)
***************************************************************************
Intersection #13 Cesar Chavez/US 101 Off-Ramp
***************************************************************************
Average Delay (sec/veh):      2.2       Worst Case Level Of Service: B[ 13.3]
***************************************************************************
Street Name:         US 101 Off-Ramp              Cesar Chavez Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Yield Sign       Yield Sign      Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  0  0  1   0  0  0  0  0   0  0  2  0  0   0  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0   296     0    0     0     0  483     0     0  971     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0   296     0    0     0     0  483     0     0  971     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0   296     0    0     0     0  483     0     0  971     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:     0    0   315     0    0     0     0  514     0     0 1033     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0   315     0    0     0     0  514     0     0 1033     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx   257  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx   748  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx   748  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  0.42  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   2.1  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  13.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     B     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      13.3            xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         B               *                *                *
***************************************************************************
Note: Queue reported is the number of cars per lane.
***************************************************************************
```



```
Default Scenario          Wed Oct 3, 2012 11:34:47                 Page 16-1
---------------------------------------------------------------------------
                       Potrero HOPE Development EIR
                          Wilbur Smith Associates
---------------------------------------------------------------------------
                    Level Of Service Computation Report
          2000 HCM Unsignalized Method (Future Volume Alternative)
***************************************************************************
Intersection #1001 25th/Texas Street
***************************************************************************
Average Delay (sec/veh):      0.1       Worst Case Level Of Service: A[  9.3]
***************************************************************************
Street Name:            Texas Street                      25th Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign      Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  0  0  0   0  0  1! 0  0   0  1  0  0  0   0  0  1  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0     1    0     1     1  159     0     0   80     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0     1    0     1     1  159     0     0   80     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0     1    0     1     1  159     0     0   80     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97
PHF Volume:     0    0     0     1    0     1     1  164     0     0   82     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0     1    0     1     1  164     0     0   82     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   248  248    82    82 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   744  658   983  1528 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   744  657   983  1528 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00 0.00  0.00  0.00 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  847 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.0 xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  9.3 xxxxx   7.4 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    A     *     A    *     *     *    *     *
ApproachDel:     xxxxxx              9.3           xxxxxx           xxxxxx
ApproachLOS:        *                 A               *                *
***************************************************************************
Note: Queue reported is the number of cars per lane.
***************************************************************************
```

Existing plus Proposed Project – PM Peak

```
Existing + Proj PM        Mon Jan 30, 2012 15:19:44                  Page 3-1
-------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
-------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
*******************************************************************************
Intersection #1 Cesar Chavez/Connecticut
*******************************************************************************
Cycle (sec):          75              Critical Vol./Cap.(X):         1.537
Loss Time (sec):       8 (Y+R=4.0 sec) Average Delay (sec/veh):        13.5
Optimal Cycle:        75              Level Of Service:                  B
*******************************************************************************
Street Name:          Connecticut Street              Cesar Chavez Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase      Permit+Prot        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0   19   19    19    8   48    48   36   36    36
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  1  1  0  0    0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   20    0    86   56  594     0    0  723    78
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0   20    0    86   56  594     0    0  723    78
Added Vol:      0    0     0    2    0    76  240    1     0    0    0    30
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:    0    0     0   22    0   162  296  595     0    0  723   108
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.93  0.93
PHF Volume:     0    0     0   24    0   174  318  640     0    0  777   116
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0   24    0   174  318  640     0    0  777   116
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    0    0     0   24    0   174  318  640     0    0  777   116
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  1.00 1.00  1.00 0.68 1.00  0.68 0.73 0.92  1.00 1.00 0.83  0.83
Lanes:       0.00 0.00  0.00 0.12 0.00  0.88 0.66 1.34  0.00 0.00 2.61  0.39
Final Sat.:     0    0     0  155    0  1141  921 2329     0    0 4131   617
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.15 0.00  0.15 0.35 0.27  0.00 0.00 0.19  0.19
Crit Moves:                  ****             ****                   ****
Green/Cycle: 0.00 0.00  0.00 0.25 0.00  0.25 0.64 0.64  0.00 0.00 0.48  0.48
Volume/Cap:  0.00 0.00  0.00 0.60 0.00  0.60 0.62 0.43  0.00 0.00 0.39  0.39
Delay/Veh:    0.0  0.0   0.0 32.6  0.0  32.6 15.6  7.3   0.0  0.0 13.0  13.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0 32.6  0.0  32.6 15.6  7.3   0.0  0.0 13.0  13.0
LOS by Move:    A    A     A    C    A     C    B    A     A    A    B     B
HCM2kAvgQ:      0    0     0    5    0     5    8    6     0    0    5     5
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************

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                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
-------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
*******************************************************************************
Intersection #2 Cesar Chavez/Pennsylvania/NB I-280 Off-Ramp
*******************************************************************************
Cycle (sec):          90              Critical Vol./Cap.(X):         0.475
Loss Time (sec):      15 (Y+R=5.0 sec) Average Delay (sec/veh):        38.5
Optimal Cycle:        90              Level Of Service:                  D
*******************************************************************************
Street Name:          Pennsylvania Avenue             Cesar Chavez Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include            Ovl            Include           Ignore
Min. Green:    22   22    22   12   12    12   18   41    41   18   18    18
Lanes:        1  0  1  0  1    1  0  0  0  1    1  0  2  0  0    0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     186  143   282   84    0   412  314  391     0    0  162   365
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  186  143   282   84    0   412  314  391     0    0  162   365
Added Vol:     28   43     0    5    0     0    1    2     0    0    2     3
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  214  186   282   89    0   412  315  393     0    0  164   368
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00
PHF Adj:     0.96 0.96  0.96 0.96 0.96  0.96 0.96 0.96  0.96 0.96 0.96  0.00
PHF Volume:   223  194   294   93    0   429  328  409     0    0  171     0
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  223  194   294   93    0   429  328  409     0    0  171     0
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  0.00
FinalVolume:  223  194   294   93    0   429  328  409     0    0  171     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  0.94 0.99  0.83 0.94 1.00  0.66 0.94 0.94  1.00 1.00 0.94  1.00
Lanes:       1.00 1.00  1.00 1.00 0.00  1.00 1.00 2.00  0.00 0.00 2.00  1.00
Final Sat.:  1787 1881  1579 1787    0  1263 1787 3574     0    0 3574  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.12 0.10  0.19 0.05 0.00  0.34 0.18 0.11  0.00 0.00 0.05  0.00
Crit Moves:  ****                       ****      ****       ****
Green/Cycle: 0.24 0.24  0.24 0.13 0.00  0.36 0.23 0.46  0.00 0.00 0.23  0.00
Volume/Cap:  0.51 0.42  0.76 0.39 0.00  0.94 0.81 0.25  0.00 0.00 0.21  0.00
Delay/Veh:   33.6 31.5  44.8 40.4  0.0  57.6 48.5 15.4   0.0  0.0 28.8   0.0
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  33.6 31.5  44.8 40.4  0.0  57.6 48.5 15.4   0.0  0.0 28.8   0.0
LOS by Move:    C    C     D    D    A     E    D    B     A    A    C     A
HCM2kAvgQ:      6    5     9    3    0    16   11    4     0    0    2     0
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************

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                      Potrero HOPE Development EIR
                         Wilbur Smith Associates
----------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
****************************************************************************
Intersection #3 Pennsylvania/SB I-280 Off-Ramp
****************************************************************************
Cycle (sec):        100              Critical Vol./Cap.(X):        0.588
Loss Time (sec):      0 (Y+R=4.0 sec) Average Delay (sec/veh):      15.2
Optimal Cycle:        0              Level Of Service:                C
****************************************************************************
Street Name:      Pennsylvania Avenue            SB I-280 Off-Ramp
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Ignore
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        0  0  2  0  0   0  0  1  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  151    0     0  218    0     0    0    0   483    0   49
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0  151    0     0  218    0     0    0    0   483    0   49
Added Vol:      0    1    0     0    1    0     0    0    0   151    0    3
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  152    0     0  219    0     0    0    0   634    0   52
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 0.00
PHF Adj:     0.93 0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.00
PHF Volume:     0  163    0     0  235    0     0    0    0   682    0    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  163    0     0  235    0     0    0    0   682    0    0
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 0.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 0.00
FinalVolume:    0  163    0     0  235    0     0    0    0   682    0    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.00 2.00 0.00  0.00 1.00 0.00  0.00 0.00 0.00  2.00 0.00 1.00
Final Sat.:     0 1044    0     0  574    0     0    0    0  1159    0  715
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.16 xxxx  xxxx 0.41 xxxx  xxxx xxxx xxxx  0.59 xxxx 0.00
Crit Moves:       ****            ****                       ****
Delay/Veh:    0.0 10.5  0.0   0.0 13.1  0.0   0.0  0.0  0.0  17.0  0.0  0.0
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0 10.5  0.0   0.0 13.1  0.0   0.0  0.0  0.0  17.0  0.0  0.0
LOS by Move:    *    B    *     *    B    *     *    *    *     C    *    *
ApproachDel:      10.5             13.1            xxxxxx           17.0
Delay Adj:        1.00             1.00             xxxxx           1.00
ApprAdjDel:       10.5             13.1            xxxxxx           17.0
LOS by Appr:        B                B                *                C
AllWayAvgQ:   0.0  0.2  0.0   0.6  0.6  0.6   0.0  0.0  0.0   1.3  0.0  0.0
****************************************************************************
Note: Queue reported is the number of cars per lane.

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                      Potrero HOPE Development EIR
                         Wilbur Smith Associates
----------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
****************************************************************************
Intersection #4 25th/Indiana Streets/NB I-280
****************************************************************************
Cycle (sec):        100              Critical Vol./Cap.(X):        0.540
Loss Time (sec):      0 (Y+R=4.0 sec) Average Delay (sec/veh):      12.6
Optimal Cycle:        0              Level Of Service:                B
****************************************************************************
Street Name:          Indiana Street                   25th Street
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        0  1  0  1  0   0  0  0  0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      30  289   11     0    0    0    93  146    0     0  179  104
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:   30  289   11     0    0    0    93  146    0     0  179  104
Added Vol:      1    0    0     0    0    0    78   10    0     0   12    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:   31  289   11     0    0    0   171  156    0     0  191  104
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     0.93 0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.93
PHF Volume:    33  311   12     0    0    0   184  168    0     0  205  112
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:   33  311   12     0    0    0   184  168    0     0  205  112
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:   33  311   12     0    0    0   184  168    0     0  205  112
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Lanes:       0.19 1.74 0.07  0.00 0.00 0.00  0.52 0.48 0.00  0.00 0.65 0.35
Final Sat.:   105  986   38     0    0    0   341  311    0     0  439  239
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.32 0.32 0.31  xxxx xxxx xxxx  0.54 0.54 xxxx  xxxx 0.47 0.47
Crit Moves:  ****                            ****                  ****
Delay/Veh:   11.6 11.4 11.3   0.0  0.0  0.0  14.2 14.2  0.0   0.0 12.3 12.3
Delay Adj:   1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:  11.6 11.4 11.3   0.0  0.0  0.0  14.2 14.2  0.0   0.0 12.3 12.3
LOS by Move:    B    B    B     *    *    *     B    B    *     *    B    B
ApproachDel:      11.4            xxxxxx            14.2            12.3
Delay Adj:        1.00             xxxxx            1.00            1.00
ApprAdjDel:       11.4            xxxxxx            14.2            12.3
LOS by Appr:        B                *                B               B
AllWayAvgQ:   0.4  0.4  0.4   0.0  0.0  0.0   1.1  1.1  1.1   0.8  0.8  0.8
****************************************************************************
Note: Queue reported is the number of cars per lane.

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Existing plus Proposed Project – PM Peak

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                        Potrero HOPE Development EIR
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                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
*******************************************************************************
Intersection #5 25th/Connecticut
*******************************************************************************
Cycle (sec):         100           Critical Vol./Cap.(X):        0.539
Loss Time (sec):       0 (Y+R=4.0 sec)  Average Delay (sec/veh):   11.5
Optimal Cycle:         0           Level Of Service:                 B
*******************************************************************************
Street Name:          Connecticut Street                25th Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:    0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      3    33    88    0     0     0   24    61    22   34    36    22
Growth Adj: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse:   3    33    88    0     0     0   24    61    22   34    36    22
Added Vol:    44    25   140    3    19     1    3    50     9   46    65     4
PasserByVol:   0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut:  47    58   228    3    19     1   27   111    31   80   101    26
User Adj:   1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
PHF Adj:    0.84  0.84  0.84 0.84  0.84  0.84 0.84  0.84  0.84 0.84  0.84  0.84
PHF Volume:   56    69   271    4    23     1   32   132    37   95   120    31
Reduct Vol:    0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:  56    69   271    4    23     1   32   132    37   95   120    31
PCE Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
MLF Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
FinalVolume:  56    69   271    4    23     1   32   132    37   95   120    31
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Lanes:      0.14  0.17  0.69 0.13  0.83  0.04 0.16  0.66  0.18 0.39  0.49  0.12
Final Sat.:  104   128   504   75   472    25  104   426   119  252   318    82
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.54  0.54  0.54 0.05  0.05  0.05 0.31  0.31  0.31 0.38  0.38  0.38
Crit Moves:       ****                    **** ****                    ****
Delay/Veh:  12.5  12.5  12.5  8.8   8.8   8.8 10.3  10.3  10.3 11.0  11.0  11.0
Delay Adj:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh: 12.5  12.5  12.5  8.8   8.8   8.8 10.3  10.3  10.3 11.0  11.0  11.0
LOS by Move:   B     B     B    A     A     A    B     B     B    B     B     B
ApproachDel:      12.5              8.8             10.3             11.0
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       12.5              8.8             10.3             11.0
LOS by Appr:         B                A                B                B
AllWayAvgQ:   1.0   1.0   1.0  0.0   0.0   0.0  0.4   0.4   0.4  0.5   0.5   0.5
*******************************************************************************
Note: Queue reported is the number of cars per lane.

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                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Future Volume Alternative)
*******************************************************************************
Intersection #6 25th/Texas Street
*******************************************************************************
Average Delay (sec/veh):     3.4      Worst Case Level Of Service: C[ 17.0]
*******************************************************************************
Street Name:             Texas Street                     25th Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0     0     0   68     0     6    2   159     0    0    80    48
Growth Adj: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse:   0     0     0   68     0     6    2   159     0    0    80    48
Added Vol:     0     0     0   58     0     8   37   114     0    0   143    69
PasserByVol:   0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut:   0     0     0  126     0    14   39   273     0    0   223   117
User Adj:   1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
PHF Adj:    0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97  0.97
PHF Volume:    0     0     0  130     0    14   40   281     0    0   230   121
Reduct Vol:    0     0     0    0     0     0    0     0     0    0     0     0
FinalVolume:   0     0     0  130     0    14   40   281     0    0   230   121
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4   6.5   6.2  4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5   4.0   3.3  2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   652   652   290  351 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   436   390   754 1220 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   424   377   754 1220 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.31  0.00  0.02 0.03 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:   *     *     *     *     *     *    A     *     *    *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx   444 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx   1.4 xxxxx   0.1 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  17.0 xxxxx   8.1 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:    *     *     *     *     C     *    A     *     *    *     *     *
ApproachDel:     xxxxxx             17.0            xxxxxx           xxxxxx
ApproachLOS:        *                 C                *                *
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************

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Existing plus Proposed Project – PM Peak

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---------------------------------------------------------------------------
                      Potrero HOPE Development EIR
                        Wilbur Smith Associates
---------------------------------------------------------------------------
                   Level Of Service Computation Report
         2000 HCM Unsignalized Method (Future Volume Alternative)
***************************************************************************
Intersection #7 23rd/Missouri
***************************************************************************
Average Delay (sec/veh):      8.2      Worst Case Level Of Service: B[ 10.6]
***************************************************************************
Street Name:           Missouri St                      23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  1  0  0  0   0  0  0  1  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      35   15    0     0   20   16    17    0   44     0    0    0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   35   15    0     0   20   16    17    0   44     0    0    0
Added Vol:      8   47    0     0   38    8    17    0   12     0    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:   43   62    0     0   58   24    34    0   56     0    0    0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96
PHF Volume:    45   65    0     0   60   25    35    0   58     0    0    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
FinalVolume:   45   65    0     0   60   25    35    0   58     0    0    0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5 xxxxx xxxxx  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0 xxxxx xxxxx  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  143  100 xxxxx  xxxx  129     0     0 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  831  794 xxxxx  xxxx  765   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    734  762 xxxxx  xxxx  734   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.06 0.08  xxxx  xxxx 0.08  0.03  0.04 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT   LT - LTR - RT    LT - LTR - RT
Shared Cap.:  750 xxxx xxxxx  xxxx xxxx   776  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.5 xxxx xxxxx xxxxx xxxx   0.4 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 10.6 xxxx xxxxx xxxxx xxxx  10.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     *    *     B     *    *     *     *    *     *
ApproachDel:      10.6             10.2            xxxxxx            xxxxxx
ApproachLOS:         B                B                *                 *
***************************************************************************
Note: Queue reported is the number of cars per lane.
***************************************************************************

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                      Potrero HOPE Development EIR
                        Wilbur Smith Associates
---------------------------------------------------------------------------
                   Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
***************************************************************************
Intersection #8 23rd/Wisconsin
***************************************************************************
Cycle (sec):        100                Critical Vol./Cap.(X):        0.123
Loss Time (sec):      0 (Y+R=4.0 sec)  Average Delay (sec/veh):        7.6
Optimal Cycle:        0                Level Of Service:                 A
***************************************************************************
Street Name:             Wisconsin                         23rd
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:        0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   61   33    17   40    0     0    0    0    24    0   23
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   61   33    17   40    0     0    0    0    24    0   23
Added Vol:      0    8    0    31    5    0     0    0    0     0    0   12
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0   69   33    48   45    0     0    0    0    24    0   35
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:     0   75   36    52   49    0     0    0    0    26    0   38
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0   75   36    52   49    0     0    0    0    26    0   38
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0   75   36    52   49    0     0    0    0    26    0   38
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.68  0.32  0.52 0.48  0.00  0.00 0.00  0.00  0.41 0.00  0.59
Final Sat.:     0  608   291   431  404     0     0    0     0   346    0   505
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.12  0.12  0.12 0.12  xxxx  xxxx xxxx  xxxx  0.08 xxxx  0.08
Crit Moves:       ****        ****                             ****
Delay/Veh:    0.0  7.5   7.5   7.8  7.8   0.0   0.0  0.0   0.0   7.4  0.0   7.4
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  7.5   7.5   7.8  7.8   0.0   0.0  0.0   0.0   7.4  0.0   7.4
LOS by Move:    *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:       7.5              7.8            xxxxxx             7.4
Delay Adj:        1.00             1.00             xxxxx            1.00
ApprAdjDel:        7.5              7.8            xxxxxx             7.4
LOS by Appr:         A                A                *                A
AllWayAvgQ:   0.1  0.1   0.1   0.1  0.1   0.1   0.0  0.0   0.0   0.1  0.1   0.1
***************************************************************************
Note: Queue reported is the number of cars per lane.

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Existing plus Proposed Project – PM Peak

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                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
---------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
***************************************************************************
Intersection #9 20th/Arkansas
***************************************************************************
Cycle (sec):        100             Critical Vol./Cap.(X):         0.251
Loss Time (sec):      0 (Y+R=4.0 sec) Average Delay (sec/veh):       8.3
Optimal Cycle:        0             Level Of Service:                  A
***************************************************************************
Street Name:          Arkansas Street                 20th Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      3   16     9     6   21    15     6  104     6    20  140    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   3   16     9     6   21    15     6  104     6    20  140    13
Added Vol:     2    4     1     4    8     0     0    2     4     2    1     3
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   5   20    10    10   29    15     6  106    10    22  141    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86
PHF Volume:    6   23    12    12   34    17     7  123    12    26  164    19
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   6   23    12    12   34    17     7  123    12    26  164    19
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   6   23    12    12   34    17     7  123    12    26  164    19
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.14 0.57  0.29  0.18 0.54  0.28  0.05 0.87  0.08  0.12 0.79  0.09
Final Sat.:   105  419   210   137  397   205    40  706    67   102  652    74
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06 0.06  0.06  0.08 0.08  0.08  0.17 0.17  0.17  0.25 0.25  0.25
Crit Moves:  ****                  ****             ****              ****
Delay/Veh:    7.8  7.8   7.8   8.0  8.0   8.0   8.2  8.2   8.2   8.6  8.6   8.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   7.8  7.8   7.8   8.0  8.0   8.0   8.2  8.2   8.2   8.6  8.6   8.6
LOS by Move:   A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       7.8              8.0              8.2              8.6
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        7.8              8.0              8.2              8.6
LOS by Appr:        A                A                A                A
AllWayAvgQ:   0.1  0.1   0.1   0.1  0.1   0.1   0.2  0.2   0.2   0.3  0.3   0.3
***************************************************************************
Note: Queue reported is the number of cars per lane.
```



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                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
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                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
***************************************************************************
Intersection #10 Missouri/22nd
***************************************************************************
Average Delay (sec/veh):      0.1      Worst Case Level Of Service: A[  8.5]
***************************************************************************
Street Name:           Missouri Street                  22nd Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Lanes:       0  0  1  0  0    0  0  0  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0   30     0     0   25     1     0    0     1     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0   30     0     0   25     1     0    0     1     0    0     0
Added Vol:     0   16     0     0   31     0     0    0     0     0    0     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   0   46     0     0   56     1     0    0     1     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Volume:    0   46     0     0   56     1     0    0     1     0    0     0
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   0   46     0     0   56     1     0    0     1     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx    57  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  1016  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  1016  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   8.5 xxxxx xxxx xxxxx
LOS by Move:   *    *     *     *    *     *     *    *     A     *    *     *
Movement:    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:    *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx              8.5           xxxxxx
ApproachLOS:        *                *                A                *
***************************************************************************
Note: Queue reported is the number of cars per lane.
***************************************************************************
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Existing plus Proposed Project – PM Peak

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                       Potrero HOPE Development EIR
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                     Level Of Service Computation Report
           2000 HCM Operations Method (Future Volume Alternative)
***************************************************************************
Intersection #11 Potrero/23rd
***************************************************************************
Cycle (sec):         90              Critical Vol./Cap.(X):         0.574
Loss Time (sec):     15 (Y+R=6.0 sec) Average Delay (sec/veh):       24.3
Optimal Cycle:       90              Level Of Service:                  C
***************************************************************************
Street Name:         Potrero Avenue                  23rd Street
Approach:      North Bound     South Bound     East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted       Protected      Split Phase     Split Phase
Rights:           Include         Include         Include         Include
Min. Green:    0   39    39    7   49    49   10   10    10   16   16    16
Lanes:        0  0  2  0  1   1  0  1  1  0   0  0  1! 0  0   0  1  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  570    60   85  985    23   27   41    48   86   31   161
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   0  570    60   85  985    23   27   41    48   86   31   161
Added Vol:     0    0     6   43    0     0    0   12     0    3    7    24
PasserByVol:   0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   0  570    66  128  985    23   27   53    48   89   38   185
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.93  0.93
PHF Volume:    0  613    71  138 1059    25   29   57    52   96   41   199
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:   0  613    71  138 1059    25   29   57    52   96   41   199
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:   0  613    71  138 1059    25   29   57    52   96   41   199
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  1.00 0.93  0.75 0.93 0.91  0.91 0.94 0.94  0.94 0.82 0.82  0.82
Lanes:       0.00 2.00  1.00 1.00 1.95  0.05 0.21 0.42  0.37 0.70 0.30  1.00
Final Sat.:    0 3538  1422 1769 3378    79  377  739   669 1096  468  1563
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.17  0.05 0.08 0.31  0.31 0.08 0.08  0.08 0.09 0.09  0.13
Crit Moves:                       ****       ****            ****
Green/Cycle: 0.00 0.43  0.43 0.11 0.54  0.54 0.11 0.11  0.11 0.18 0.18  0.18
Volume/Cap:  0.00 0.40  0.12 0.70 0.58  0.58 0.69 0.69  0.69 0.49 0.49  0.72
Delay/Veh:    0.0 18.3  15.6 57.3 14.9  14.9 56.7 56.7  56.7 35.8 35.8  43.9
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0 18.3  15.6 57.3 14.9  14.9 56.7 56.7  56.7 35.8 35.8  43.9
LOS by Move:    A    B     B    E    B     B    E    E     E    D    D     D
HCM2kAvgQ:      0    6     1    5   11    11    5    5     5    4    4     7
***************************************************************************
Note: Queue reported is the number of cars per lane.
***************************************************************************

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                       Potrero HOPE Development EIR
                          Wilbur Smith Associates
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                     Level Of Service Computation Report
          2000 HCM Unsignalized Method (Future Volume Alternative)
***************************************************************************
Intersection #12 Cesar Chavez/Vermont
***************************************************************************
Average Delay (sec/veh):      4.4       Worst Case Level Of Service: D[ 34.5]
***************************************************************************
Street Name:              Vermont Street                  Cesar Chavez Street
Approach:       North Bound     South Bound      East Bound      West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign       Stop Sign      Uncontrolled    Uncontrolled
Rights:           Include         Include         Include         Include
Lanes:        0  0  0  0  0   0  0  1! 0  0   1  0  2  0  0   0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0    0     0   23    0   148   88  460     0    0  879    92
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   0    0     0   23    0   148   88  460     0    0  879    92
Added Vol:     0    0     0    0    0    29   12   31     0    0   76     0
PasserByVol:   0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   0    0     0   23    0   177  100  491     0    0  955    92
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94 0.94 0.94  0.94 0.94 0.94  0.94 0.94 0.94  0.94
PHF Volume:    0    0     0   24    0   188  106  522     0    0 1016    98
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
FinalVolume:   0    0     0   24    0   188  106  522     0    0 1016    98
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1539 1800   557  1114 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   108   81   479   634 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    94   67   479   634 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.26 0.00  0.39  0.17 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  326 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  4.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 34.5 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    D     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            34.5            xxxxxx          xxxxxx
ApproachLOS:        *                D                *               *
***************************************************************************
Note: Queue reported is the number of cars per lane.
***************************************************************************

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Existing + Proj PM        Mon Jan 30, 2012 15:19:45              Page 15-1
--------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #13 Cesar Chavez/US 101 Off-Ramp
********************************************************************************
Average Delay (sec/veh):      5.5       Worst Case Level Of Service: C[ 22.4]
********************************************************************************
Street Name:          US 101 Off-Ramp                Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Yield Sign       Yield Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  1   0  0  0  0  0   0  0  2  0  0   0  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0   296     0    0     0     0  483     0     0  971     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0   296     0    0     0     0  483     0     0  971     0
Added Vol:      0    0   210     0    0     0     0   31     0     0   76     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0   506     0    0     0     0  514     0     0 1047     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:     0    0   538     0    0     0     0  547     0     0 1114     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0   538     0    0     0     0  547     0     0 1114     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx   273  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx   730  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx   730  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  0.74  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   6.6  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  22.4 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     C     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      22.4            xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         C                 *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************


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Existing plus Alternative 1 – PM Peak

Existing + Proj PM   Fri Jan 13, 2012 11:03:43   Page 3-1

Potrero HOPE Development EIR
Wilbur Smith Associates

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #1 Cesar Chavez/Connecticut

Cycle (sec):	75	Critical Vol./Cap.(X):	1.218
Loss Time (sec):	8 (Y+R=4.0 sec)	Average Delay (sec/veh):	12.5
Optimal Cycle:	75	Level Of Service:	B

Street Name:	Connecticut Street						Cesar Chavez Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permit+Prot			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	19	19	19	8	48	48	36	36	36
Lanes:	0 0 0 0 0			0 0 1! 0 0			0 1 1 0 0			0 0 2 1 0		
Volume Module:												
Base Vol:	0	0	0	20	0	86	56	594	0	0	723	78
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	20	0	86	56	594	0	0	723	78
Added Vol:	0	0	0	1	0	50	153	0	0	0	0	21
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	21	0	136	209	594	0	0	723	99
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	0	0	0	23	0	146	225	639	0	0	777	106
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	0	23	0	146	225	639	0	0	777	106
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	0	23	0	146	225	639	0	0	777	106
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	1.00	0.68	1.00	0.68	0.70	0.92	1.00	1.00	0.83	0.83
Lanes:	0.00	0.00	0.00	0.13	0.00	0.87	0.52	1.48	0.00	0.00	2.64	0.36
Final Sat.:	0	0	0	174	0	1124	691	2588	0	0	4181	572
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.00	0.13	0.00	0.13	0.33	0.25	0.00	0.00	0.19	0.19
Crit Moves:				****			****					
Green/Cycle:	0.00	0.00	0.00	0.25	0.00	0.25	0.64	0.64	0.00	0.00	0.48	0.48
Volume/Cap:	0.00	0.00	0.00	0.51	0.00	0.51	0.54	0.39	0.00	0.00	0.39	0.39
Delay/Veh:	0.0	0.0	0.0	29.7	0.0	29.7	13.7	7.0	0.0	0.0	13.0	13.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	0.0	29.7	0.0	29.7	13.7	7.0	0.0	0.0	13.0	13.0
LOS by Move:	A	A	A	C	A	C	B	A	A	A	B	B
HCM2kAvgQ:	0	0	0	4	0	4	6	5	0	0	5	5

Note: Queue reported is the number of cars per lane.

Existing + Proj PM   Fri Jan 13, 2012 11:03:43   Page 4-1

Potrero HOPE Development EIR
Wilbur Smith Associates

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #2 Cesar Chavez/Pennsylvania/NB I-280 Off-Ramp

Cycle (sec):	90	Critical Vol./Cap.(X):	0.469
Loss Time (sec):	15 (Y+R=5.0 sec)	Average Delay (sec/veh):	38.4
Optimal Cycle:	90	Level Of Service:	D

Street Name:	Pennsylvania Avenue						Cesar Chavez Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Ovl			Include			Ignore		
Min. Green:	22	22	22	12	12	12	18	41	41	18	18	18
Lanes:	1 0 1 0 1			1 0 0 0 1			1 0 2 0 0			0 0 2 0 1		
Volume Module:												
Base Vol:	186	143	282	84	0	412	314	391	0	0	162	365
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	186	143	282	84	0	412	314	391	0	0	162	365
Added Vol:	20	26	0	3	0	0	0	1	0	0	2	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	206	169	282	87	0	412	314	392	0	0	164	367
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.00
PHF Volume:	215	176	294	91	0	429	327	408	0	0	171	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	215	176	294	91	0	429	327	408	0	0	171	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	215	176	294	91	0	429	327	408	0	0	171	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.94	0.99	0.83	0.94	1.00	0.66	0.94	0.94	1.00	1.00	0.94	1.00
Lanes:	1.00	1.00	1.00	1.00	0.00	1.00	1.00	2.00	0.00	0.00	2.00	1.00
Final Sat.:	1787	1881	1579	1787	0	1263	1787	3574	0	0	3574	1900
Capacity Analysis Module:												
Vol/Sat:	0.12	0.09	0.19	0.05	0.00	0.34	0.18	0.11	0.00	0.00	0.05	0.00
Crit Moves:	****					****		****		****		
Green/Cycle:	0.24	0.24	0.24	0.13	0.00	0.36	0.23	0.46	0.00	0.00	0.23	0.00
Volume/Cap:	0.49	0.38	0.76	0.38	0.00	0.94	0.80	0.25	0.00	0.00	0.21	0.00
Delay/Veh:	33.1	30.7	44.8	40.2	0.0	57.6	48.3	15.4	0.0	0.0	28.8	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	33.1	30.7	44.8	40.2	0.0	57.6	48.3	15.4	0.0	0.0	28.8	0.0
LOS by Move:	C	C	D	D	A	E	D	B	A	A	C	A
HCM2kAvgQ:	6	4	9	3	0	16	11	4	0	0	2	0

Note: Queue reported is the number of cars per lane.

Existing plus Alternative 1 – PM Peak

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Existing + Proj PM        Fri Jan 13, 2012 11:03:44              Page 5-1
--------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Pennsylvania/SB I-280 Off-Ramp
********************************************************************************
Cycle (sec):        100            Critical Vol./Cap.(X):        0.537
Loss Time (sec):      0 (Y+R=4.0 sec) Average Delay (sec/veh):    14.1
Optimal Cycle:        0            Level Of Service:                B
********************************************************************************
Street Name:          Pennsylvania Avenue              SB I-280 Off-Ramp
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Ignore
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       0  0  2  0  0    0  0  1  0  0    0  0  0  0  0    2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  151     0     0  218     0     0    0     0   483    0    49
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0  151     0     0  218     0     0    0     0   483    0    49
Added Vol:     0    1     0     0    0     0     0    0     0    97    0     2
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   0  152     0     0  218     0     0    0     0   580    0    51
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.00
PHF Volume:    0  163     0     0  234     0     0    0     0   624    0     0
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   0  163     0     0  234     0     0    0     0   624    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:   0  163     0     0  234     0     0    0     0   624    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 2.00  0.00  0.00 1.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:    0 1064     0     0  582     0     0    0     0  1162    0   716
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.15  xxxx  xxxx 0.40  xxxx  xxxx xxxx  xxxx  0.54 xxxx  0.00
Crit Moves:       ****             ****                         ****
Delay/Veh:    0.0 10.3   0.0   0.0 12.9   0.0   0.0  0.0   0.0  15.5  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 10.3   0.0   0.0 12.9   0.0   0.0  0.0   0.0  15.5  0.0   0.0
LOS by Move:    *    B     *     *    B     *     *    *     *     C    *     *
ApproachDel:      10.3             12.9            xxxxxx            15.5
Delay Adj:        1.00             1.00             xxxxx            1.00
ApprAdjDel:       10.3             12.9            xxxxxx            15.5
LOS by Appr:         B                B                 *               C
AllWayAvgQ:   0.0  0.2   0.0   0.6  0.6   0.6   0.0  0.0   0.0   1.1  0.0   0.0
********************************************************************************
Note: Queue reported is the number of cars per lane.

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Existing + Proj PM        Fri Jan 13, 2012 11:03:44              Page 6-1
--------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #4 25th/Indiana Streets/NB I-280
********************************************************************************
Cycle (sec):        100            Critical Vol./Cap.(X):        0.490
Loss Time (sec):      0 (Y+R=4.0 sec) Average Delay (sec/veh):    12.1
Optimal Cycle:        0            Level Of Service:                B
********************************************************************************
Street Name:             Indiana Street                     25th Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       0  1  0  1  0    0  0  0  0  0    0  1  0  0  0    0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     30  289    11     0    0     0    93  146     0     0  179   104
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  30  289    11     0    0     0    93  146     0     0  179   104
Added Vol:     0    0     0     0    0     0    52    7     0     0    8     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  30  289    11     0    0     0   145  153     0     0  187   104
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93
PHF Volume:   32  311    12     0    0     0   156  165     0     0  201   112
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  32  311    12     0    0     0   156  165     0     0  201   112
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  32  311    12     0    0     0   156  165     0     0  201   112
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.18 1.75  0.07  0.00 0.00  0.00  0.49 0.51  0.00  0.00 0.64  0.36
Final Sat.:  103 1004    39     0    0     0   318  336     0     0  441   246
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.31 0.31  0.31  xxxx xxxx  xxxx  0.49 0.49  xxxx  xxxx 0.46  0.46
Crit Moves:  ****                                   ****              ****
Delay/Veh:   11.4 11.2  11.1   0.0  0.0   0.0  13.1 13.1   0.0   0.0 12.0  12.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  11.4 11.2  11.1   0.0  0.0   0.0  13.1 13.1   0.0   0.0 12.0  12.0
LOS by Move:    B    B     B     *    *     *     B    B     *     *    B     B
ApproachDel:      11.2            xxxxxx             13.1             12.0
Delay Adj:        1.00             xxxxx             1.00             1.00
ApprAdjDel:       11.2            xxxxxx             13.1             12.0
LOS by Appr:         B                *                 B                B
AllWayAvgQ:   0.4  0.4   0.4   0.0  0.0   0.0   0.9  0.9   0.9   0.8  0.8   0.8
********************************************************************************
Note: Queue reported is the number of cars per lane.

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Existing plus Alternative 1 – PM Peak

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---------------------------------------------------------------------------
                     Potrero HOPE Development EIR
                        Wilbur Smith Associates
---------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
***************************************************************************
Intersection #5 25th/Connecticut
***************************************************************************
Cycle (sec):         100             Critical Vol./Cap.(X):        0.388
Loss Time (sec):       0 (Y+R=4.0 sec)  Average Delay (sec/veh):      9.7
Optimal Cycle:         0             Level Of Service:                 A
***************************************************************************
Street Name:        Connecticut Street               25th Street
Approach:       North Bound      South Bound      East Bound      West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:         0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       3   33    88     0    0     0    24   61    22    34   36    22
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    3   33    88     0    0     0    24   61    22    34   36    22
Added Vol:     22   20    86     2   13     1     3   36     5    30   44     4
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   25   53   174     2   13     1    27   97    27    64   80    26
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.84 0.84  0.84  0.84 0.84  0.84  0.84 0.84  0.84  0.84 0.84  0.84
PHF Volume:    30   63   207     2   15     1    32  115    32    76   95    31
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   30   63   207     2   15     1    32  115    32    76   95    31
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   30   63   207     2   15     1    32  115    32    76   95    31
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.10 0.21  0.69  0.12 0.82  0.06  0.18 0.64  0.18  0.38 0.47  0.15
Final Sat.:    77  162   533    79  515    40   127  455   127   266  333   108
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.39 0.39  0.39  0.03 0.03  0.03  0.25 0.25  0.25  0.29 0.29  0.29
Crit Moves:       ****        ****             ****             ****
Delay/Veh:   10.0 10.0  10.0   8.3  8.3   8.3   9.3  9.3   9.3   9.6  9.6   9.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  10.0 10.0  10.0   8.3  8.3   8.3   9.3  9.3   9.3   9.6  9.6   9.6
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:      10.0              8.3              9.3              9.6
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       10.0              8.3              9.3              9.6
LOS by Appr:        A                A                A                A
AllWayAvgQ:   0.6  0.6   0.6   0.0  0.0   0.0   0.3  0.3   0.3   0.4  0.4   0.4
***************************************************************************
Note: Queue reported is the number of cars per lane.

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                     Potrero HOPE Development EIR
                        Wilbur Smith Associates
---------------------------------------------------------------------------
                   Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
***************************************************************************
Intersection #6 25th/Texas Street
***************************************************************************
Average Delay (sec/veh):      2.7       Worst Case Level Of Service: B[ 13.6]
***************************************************************************
Street Name:             Texas Street                    25th Street
Approach:       North Bound      South Bound      East Bound      West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:         0  0  0  0  0   0  0  1! 0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    68    0     6     2  159     0     0   80    48
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    68    0     6     2  159     0     0   80    48
Added Vol:      0    0     0    34    0     4    20   80     0     0   93    40
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   102    0    10    22  239     0     0  173    88
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97
PHF Volume:     0    0     0   105    0    10    23  246     0     0  178    91
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   105    0    10    23  246     0     0  178    91
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   515  515   224   269 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   523  466   821  1306 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   516  458   821  1306 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.20 0.00  0.01  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  534 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.8 xxxxx   0.1 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 13.6 xxxxx   7.8 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     A    *     *     *    *     *
ApproachDel:     xxxxxx             13.6            xxxxxx           xxxxxx
ApproachLOS:        *                B                *                *
***************************************************************************
Note: Queue reported is the number of cars per lane.
***************************************************************************

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Existing plus Alternative 1 – PM Peak

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                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #7 23rd/Missouri
********************************************************************************
Average Delay (sec/veh):      7.6       Worst Case Level Of Service: B[ 10.1]
********************************************************************************
Street Name:             Missouri St                        23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  1  0  0  0   0  0  0  1  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       35   15     0     0   20    16    17    0    44     0    0     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    35   15     0     0   20    16    17    0    44     0    0     0
Added Vol:       4   27     0     0   22     5    10    0     7     0    0     0
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    39   42     0     0   42    21    27    0    51     0    0     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96
PHF Volume:     41   44     0     0   44    22    28    0    53     0    0     0
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    41   44     0     0   44    22    28    0    53     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5 xxxxx xxxxx  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0 xxxxx xxxxx  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  116   83 xxxxx  xxxx  109     0     0 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  866  811 xxxxx  xxxx  785   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    788  785 xxxxx  xxxx  760   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.05 0.06  xxxx  xxxx 0.06  0.02  0.03 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.1 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT   LT - LTR - RT    LT - LTR - RT
Shared Cap.:  787 xxxx xxxxx  xxxx xxxx   801  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.4 xxxx xxxxx xxxxx xxxx   0.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 10.1 xxxx xxxxx xxxxx xxxx   9.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     *    *     A     *    *     *     *    *     *
ApproachDel:      10.1              9.9            xxxxxx           xxxxxx
ApproachLOS:         B                A               *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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--------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #8 23rd/Wisconsin
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):         0.118
Loss Time (sec):       0 (Y+R=4.0 sec) Average Delay (sec/veh):         7.5
Optimal Cycle:         0               Level Of Service:                  A
********************************************************************************
Street Name:              Wisconsin                         23rd
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0   61    33    17   40     0     0    0     0    24    0    23
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0   61    33    17   40     0     0    0     0    24    0    23
Added Vol:       0    5     0    18    3     0     0    0     0     0    0     7
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:     0   66    33    35   43     0     0    0     0    24    0    30
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:      0   72    36    38   47     0     0    0     0    26    0    33
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:     0   72    36    38   47     0     0    0     0    26    0    33
PCE Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:      1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:     0   72    36    38   47     0     0    0     0    26    0    33
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:        0.00 0.67  0.33  0.45 0.55  0.00  0.00 0.00  0.00  0.44 0.01  0.55
Final Sat.:      0  606   303   378  464     0     0    0     0   380    0   476
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:      xxxx 0.12  0.12  0.10 0.10  xxxx  xxxx xxxx  xxxx  0.07 0.00  0.07
Crit Moves:        ****              ****                         ****
Delay/Veh:     0.0  7.4   7.4   7.7  7.7   0.0   0.0  0.0   0.0   7.3  7.3   7.3
Delay Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:    0.0  7.4   7.4   7.7  7.7   0.0   0.0  0.0   0.0   7.3  7.3   7.3
LOS by Move:     *    A     A     A    A     *     *    *     *     A    A     A
ApproachDel:       7.4               7.7            xxxxxx             7.3
Delay Adj:        1.00              1.00             xxxxx            1.00
ApprAdjDel:        7.4               7.7            xxxxxx             7.3
LOS by Appr:         A                 A               *                 A
AllWayAvgQ:    0.1  0.1   0.1   0.1  0.1   0.1   0.0  0.0   0.0   0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.
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Existing plus Alternative 1 – PM Peak

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                      Potrero HOPE Development EIR
                         Wilbur Smith Associates
---------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
***************************************************************************
Intersection #9 20th/Arkansas
***************************************************************************
Cycle (sec):         100            Critical Vol./Cap.(X):         0.247
Loss Time (sec):       0 (Y+R=4.0 sec)  Average Delay (sec/veh):      8.3
Optimal Cycle:         0            Level Of Service:                  A
***************************************************************************
Street Name:            Arkansas Street                20th Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:    0     0     0     0     0     0     0     0     0     0     0     0
Lanes:       0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      3    16     9     6    21    15     6   104     6    20   140    13
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   3    16     9     6    21    15     6   104     6    20   140    13
Added Vol:     1     3     1     2     6     0     0     1     3     1     1     2
PasserByVol:   0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   4    19    10     8    27    15     6   105     9    21   141    15
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.86  0.86  0.86  0.86  0.86  0.86  0.86  0.86  0.86  0.86  0.86  0.86
PHF Volume:    5    22    12     9    31    17     7   122    10    24   164    17
Reduct Vol:    0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   5    22    12     9    31    17     7   122    10    24   164    17
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   5    22    12     9    31    17     7   122    10    24   164    17
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.12  0.58  0.30  0.16  0.54  0.30  0.05  0.87  0.08  0.12  0.80  0.08
Final Sat.:   90   425   224   119   402   223    41   715    61    99   663    71
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05  0.05  0.05  0.08  0.08  0.08  0.17  0.17  0.17  0.25  0.25  0.25
Crit Moves:  ****                    ****        ****                    ****
Delay/Veh:    7.8   7.8   7.8   7.9   7.9   7.9   8.1   8.1   8.1   8.6   8.6   8.6
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   7.8   7.8   7.8   7.9   7.9   7.9   8.1   8.1   8.1   8.6   8.6   8.6
LOS by Move:   A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:       7.8               7.9               8.1               8.6
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:        7.8               7.9               8.1               8.6
LOS by Appr:         A                 A                 A                 A
AllWayAvgQ:   0.0   0.0   0.0   0.1   0.1   0.1   0.2   0.2   0.2   0.3   0.3   0.3
***************************************************************************
Note: Queue reported is the number of cars per lane.

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                      Potrero HOPE Development EIR
                         Wilbur Smith Associates
---------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
***************************************************************************
Intersection #10 Missouri/22nd
***************************************************************************
Average Delay (sec/veh):      1.7      Worst Case Level Of Service: A[  8.5]
***************************************************************************
Street Name:          Missouri Street                 22nd Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:       0  1  0  0  0    0  0  0  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     25    30     0     0    25     1     0     0     1     0     0     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:  25    30     0     0    25     1     0     0     1     0     0     0
Added Vol:     0    10     0     0    19     0     0     0     0     0     0     0
PasserByVol:   0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:  25    40     0     0    44     1     0     0     1     0     0     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:   25    40     0     0    44     1     0     0     1     0     0     0
Reduct Vol:    0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:  25    40     0     0    44     1     0     0     1     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  4.1 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:  2.2 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  45 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx    45  xxxx xxxx xxxxx
Potent Cap.: 1576 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  1031  xxxx xxxx xxxxx
Move Cap.:   1576 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx  1031  xxxx xxxx xxxxx
Volume/Cap:  0.02 xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:    0.0 xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:  7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   8.5 xxxxx xxxx xxxxx
LOS by Move:   A     *     *     *     *     *     *     *     A     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.0 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:  7.3 xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:    A     *     *     *     *     *     *     *     *     *     *     *
ApproachDel:     xxxxxx           xxxxxx             8.5           xxxxxx
ApproachLOS:        *                *                A                *
***************************************************************************
Note: Queue reported is the number of cars per lane.
***************************************************************************

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Existing plus Alternative 1 – PM Peak

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Existing + Proj PM        Fri Jan 13, 2012 11:03:44             Page 13-1
--------------------------------------------------------------------------------
                          Potrero HOPE Development EIR
                             Wilbur Smith Associates
--------------------------------------------------------------------------------
                        Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #11 Potrero/23rd
********************************************************************************
Cycle (sec):          90              Critical Vol./Cap.(X):         0.568
Loss Time (sec):      15 (Y+R=6.0 sec) Average Delay (sec/veh):        23.4
Optimal Cycle:        90              Level Of Service:                 C
********************************************************************************
Street Name:                Potrero Avenue                  23rd Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Protected       Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:     0   39    39     7   49    49    10   10    10    16   16    16
Lanes:        0  0  2  0  1    1  0  1  1  0    0  0  1! 0  0    0  1  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  570    60    85  985    23    27   41    48    86   31   161
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  570    60    85  985    23    27   41    48    86   31   161
Added Vol:      0    0     4    28    0     0     0    8     0     2    5    16
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  570    64   113  985    23    27   49    48    88   36   177
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93
PHF Volume:     0  613    69   122 1059    25    29   53    52    95   39   190
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  613    69   122 1059    25    29   53    52    95   39   190
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  613    69   122 1059    25    29   53    52    95   39   190
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.93  0.75  0.93 0.91  0.91  0.94 0.94  0.94  0.82 0.82  0.82
Lanes:       0.00 2.00  1.00  1.00 1.95  0.05  0.22 0.39  0.39  0.71 0.29  1.00
Final Sat.:     0 3538  1422  1769 3378    79   388  704   690  1111  454  1565
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.17  0.05  0.07 0.31  0.31  0.07 0.07  0.07  0.09 0.09  0.12
Crit Moves:                        ****             ****        ****
Green/Cycle: 0.00 0.43  0.43  0.11 0.54  0.54  0.11 0.11  0.11  0.18 0.18  0.18
Volume/Cap:  0.00 0.40  0.11  0.62 0.58  0.58  0.67 0.67  0.67  0.48 0.48  0.68
Delay/Veh:    0.0 18.3  15.6  51.9 14.9  14.9  55.3 55.3  55.3  35.7 35.7  42.4
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 18.3  15.6  51.9 14.9  14.9  55.3 55.3  55.3  35.7 35.7  42.4
LOS by Move:    A    B     B     D    B     B     E    E     E     D    D     D
HCM2kAvgQ:      0    6     1     4   11    11     5    5     5     4    4     7
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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Existing + Proj PM        Fri Jan 13, 2012 11:03:44             Page 14-1
--------------------------------------------------------------------------------
                          Potrero HOPE Development EIR
                             Wilbur Smith Associates
--------------------------------------------------------------------------------
                        Level Of Service Computation Report
            2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #12 Cesar Chavez/Vermont
********************************************************************************
Average Delay (sec/veh):      3.9      Worst Case Level Of Service: D[ 31.0]
********************************************************************************
Street Name:                Vermont Street              Cesar Chavez Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    23    0   148    88  460     0     0  879    92
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    23    0   148    88  460     0     0  879    92
Added Vol:      0    0     0     0    0    20     8   20     0     0   50     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    23    0   168    96  480     0     0  929    92
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:     0    0     0    24    0   179   102  511     0     0  988    98
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    24    0   179   102  511     0     0  988    98
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1497 1752   543  1086 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   116   86   489   650 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   102   73   489   650 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.24 0.00  0.37  0.16 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.6 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  11.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  335 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.8 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 31.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    D     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            31.0             xxxxxx           xxxxxx
ApproachLOS:        *                D                 *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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```
Existing + Proj PM        Fri Jan 13, 2012 11:03:44              Page 15-1
--------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #13 Cesar Chavez/US 101 Off-Ramp
********************************************************************************
Average Delay (sec/veh):      3.9       Worst Case Level Of Service: C[ 17.6]
********************************************************************************
Street Name:         US 101 Off-Ramp                  Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Yield Sign       Yield Sign      Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  1   0  0  0  0  0   0  0  2  0  0   0  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0   296     0    0     0     0  483     0     0  971     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0   296     0    0     0     0  483     0     0  971     0
Added Vol:      0    0   134     0    0     0     0   20     0     0   50     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0   430     0    0     0     0  503     0     0 1021     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:     0    0   457     0    0     0     0  535     0     0 1086     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0   457     0    0     0     0  535     0     0 1086     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx   268  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx   737  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx   737  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  0.62  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   4.4  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  17.6 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     C     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      17.6           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         C                *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

2030 Cumulative – PM Peak

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Default Scenario          Thu Jan 19, 2012 13:27:54                Page 3-1
--------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Cesar Chavez/Connecticut
********************************************************************************
Cycle (sec):          75              Critical Vol./Cap.(X):        1.411
Loss Time (sec):       8 (Y+R=4.0 sec) Average Delay (sec/veh):       25.3
Optimal Cycle:        90              Level Of Service:                 C
********************************************************************************
Street Name:          Connecticut Street              Cesar Chavez Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase      Permit+Prot       Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0   19    19    19     8    48    48   36    36    36
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  1  1  0  0    0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0     0     0   35     0   298   227  1129     0    0  1337   164
Growth Adj:  1.00  1.00  1.00 1.00  1.00  1.00  1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse:    0     0     0   35     0   298   227  1129     0    0  1337   164
Added Vol:      0     0     0    0     0     0     0     0     0    0     0     0
PasserByVol:    0     0     0    0     0     0     0     0     0    0     0     0
Initial Fut:    0     0     0   35     0   298   227  1129     0    0  1337   164
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00  1.00  1.00  1.00 1.00  1.00  1.00
PHF Adj:     0.93  0.93  0.93 0.93  0.93  0.93  0.93  0.93  0.93 0.93  0.93  0.93
PHF Volume:     0     0     0   38     0   320   244  1214     0    0  1438   176
Reduct Vol:     0     0     0    0     0     0     0     0     0    0     0     0
Reduced Vol:    0     0     0   38     0   320   244  1214     0    0  1438   176
PCE Adj:     1.00  1.00  1.00 1.00  1.00  1.00  1.00  1.00  1.00 1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00 1.00  1.00  1.00  1.00  1.00  1.00 1.00  1.00  1.00
FinalVolume:    0     0     0   38     0   320   244  1214     0    0  1438   176
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900 1900  1900  1900  1900  1900  1900 1900  1900  1900
Adjustment:  1.00  1.00  1.00 0.68  1.00  0.68  0.67  0.93  1.00 1.00  0.84  0.83
Lanes:       0.00  0.00  0.00 0.11  0.00  0.89  0.33  1.67  0.00 0.00  2.67  0.33
Final Sat.:     0     0     0  136     0  1159   422  2928     0    0  4243   520
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.00  0.00 0.28  0.00  0.28  0.58  0.41  0.00 0.00  0.34  0.34
Crit Moves:                   ****              ****
Green/Cycle: 0.00  0.00  0.00 0.25  0.00  0.25  0.64  0.64  0.00 0.00  0.48  0.48
Volume/Cap:  0.00  0.00  0.00 1.09  0.00  1.09  0.97  0.65  0.00 0.00  0.71  0.71
Delay/Veh:    0.0   0.0   0.0 104.5  0.0 104.5  39.3   9.8   0.0  0.0  17.2  17.2
User DelAdj: 1.00  1.00  1.00 1.00  1.00  1.00  1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0 104.5  0.0 104.5  39.3   9.8   0.0  0.0  17.2  17.2
LOS by Move:    A     A     A    F     A     F     D     A     A    A     B     B
HCM2kAvgQ:      0     0     0   16     0    16    24    12     0    0    12    12
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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Default Scenario          Thu Jan 19, 2012 13:27:54                Page 4-1
--------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Cesar Chavez/Pennsylvania/NB I-280 Off-Ramp
********************************************************************************
Cycle (sec):          90              Critical Vol./Cap.(X):        1.070
Loss Time (sec):      15 (Y+R=5.0 sec) Average Delay (sec/veh):       82.9
Optimal Cycle:        90              Level Of Service:                 F
********************************************************************************
Street Name:         Pennsylvania Avenue              Cesar Chavez Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include            Ovl            Include           Ignore
Min. Green:    22    22    22   12    12    12    18    41    41   18    18    18
Lanes:        1  0  1  0  1    1  0  0  0  1    1  0  2  0  0    0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     410   260   450   90     0   400   560   820     0    0   740   501
Growth Adj:  1.00  1.00  1.00 1.00  1.00  1.00  1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse:  410   260   450   90     0   400   560   820     0    0   740   501
Added Vol:      0     0     0    0     0     0     0     0     0    0     0     0
PasserByVol:    0     0     0    0     0     0     0     0     0    0     0     0
Initial Fut:  410   260   450   90     0   400   560   820     0    0   740   501
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00  1.00  1.00  1.00 1.00  1.00  0.00
PHF Adj:     0.96  0.96  0.96 0.96  0.96  0.96  0.96  0.96  0.96 0.96  0.96  0.00
PHF Volume:   427   271   469   94     0   417   583   854     0    0   771     0
Reduct Vol:     0     0     0    0     0     0     0     0     0    0     0     0
Reduced Vol:  427   271   469   94     0   417   583   854     0    0   771     0
PCE Adj:     1.00  1.00  1.00 1.00  1.00  1.00  1.00  1.00  1.00 1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00 1.00  1.00  1.00  1.00  1.00  1.00 1.00  1.00  0.00
FinalVolume:  427   271   469   94     0   417   583   854     0    0   771     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900 1900  1900  1900  1900  1900  1900 1900  1900  1900
Adjustment:  0.94  0.99  0.83 0.94  1.00  0.66  0.94  0.94  1.00 1.00  0.94  1.00
Lanes:       1.00  1.00  1.00 1.00  0.00  1.00  1.00  2.00  0.00 0.00  2.00  1.00
Final Sat.:  1787  1881  1579 1787     0  1263  1787  3574     0    0  3574  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.24  0.14  0.30 0.05  0.00  0.33  0.33  0.24  0.00 0.00  0.22  0.00
Crit Moves:              **** ****              ****                    ****
Green/Cycle: 0.24  0.24  0.24 0.13  0.00  0.39  0.26  0.46  0.00 0.00  0.20  0.00
Volume/Cap:  0.98  0.59  1.21 0.39  0.00  0.85  1.28  0.52  0.00 0.00  1.08  0.00
Delay/Veh:   71.6  35.5 152.2 40.5   0.0  41.6 174.4  18.7   0.0  0.0  92.8   0.0
User DelAdj: 1.00  1.00  1.00 1.00  1.00  1.00  1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:  71.6  35.5 152.2 40.5   0.0  41.6 174.4  18.7   0.0  0.0  92.8   0.0
LOS by Move:    E     D     F    D     A     D     F     B     A    A     F     A
HCM2kAvgQ:     17     7    26    3     0    13    34     9     0    0    19     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2030 Cumulative – PM Peak

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Default Scenario          Thu Jan 19, 2012 13:27:54                Page 5-1
--------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
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                       Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Pennsylvania/SB I-280 Off-Ramp
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):          1.096
Loss Time (sec):       0 (Y+R=4.0 sec) Average Delay (sec/veh):         50.6
Optimal Cycle:         0              Level Of Service:                   F
********************************************************************************
Street Name:          Pennsylvania Avenue              SB I-280 Off-Ramp
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Ignore
Min. Green:    0    0    0      0    0    0      0    0    0      0    0    0
Lanes:       0  0  2  0  0    0  0  1  0  0    0  0  0  0  0    2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  301    0      0  549    0      0    0    0    728    0   55
Growth Adj:  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
Initial Bse:   0  301    0      0  549    0      0    0    0    728    0   55
Added Vol:     0    0    0      0    0    0      0    0    0      0    0    0
PasserByVol:   0    0    0      0    0    0      0    0    0      0    0    0
Initial Fut:   0  301    0      0  549    0      0    0    0    728    0   55
User Adj:    1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 0.00
PHF Adj:     0.93 0.93 0.93   0.93 0.93 0.93   0.93 0.93 0.93   0.93 0.93 0.00
PHF Volume:    0  324    0      0  590    0      0    0    0    783    0    0
Reduct Vol:    0    0    0      0    0    0      0    0    0      0    0    0
Reduced Vol:   0  324    0      0  590    0      0    0    0    783    0    0
PCE Adj:     1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 0.00
MLF Adj:     1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 0.00
FinalVolume:   0  324    0      0  590    0      0    0    0    783    0    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
Lanes:       0.00 2.00 0.00   0.00 1.00 0.00   0.00 0.00 0.00   2.00 0.00 1.00
Final Sat.:    0  957    0      0  538    0      0    0    0    972    0  574
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.34 xxxx   xxxx 1.10 xxxx   xxxx xxxx xxxx   0.80 xxxx 0.00
Crit Moves:       ****             ****                          ****
Delay/Veh:    0.0 13.9  0.0    0.0 92.8  0.0    0.0  0.0  0.0   33.9  0.0  0.0
Delay Adj:   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
AdjDel/Veh:   0.0 13.9  0.0    0.0 92.8  0.0    0.0  0.0  0.0   33.9  0.0  0.0
LOS by Move:    *    B    *      *    F    *      *    *    *      D    *    *
ApproachDel:      13.9             92.8            xxxxxx            33.9
Delay Adj:        1.00             1.00             xxxxx            1.00
ApprAdjDel:       13.9             92.8            xxxxxx            33.9
LOS by Appr:         B                F                 *               D
AllWayAvgQ:   0.0  0.5  0.0   12.4 12.4 12.4    0.0  0.0  0.0    3.2  0.0  0.0
********************************************************************************
Note: Queue reported is the number of cars per lane.

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                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #4 25th/Indiana Streets/NB I-280
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):          0.694
Loss Time (sec):       0 (Y+R=4.0 sec) Average Delay (sec/veh):         20.2
Optimal Cycle:         0              Level Of Service:                   C
********************************************************************************
Street Name:             Indiana Street                    25th Street
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0    0      0    0    0      0    0    0      0    0    0
Lanes:       0  1  0  1  0    0  0  0  0  0    0  1  0  0  0    0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     45  635   23      0    0    0    145  224    0      0  184  110
Growth Adj:  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
Initial Bse:  45  635   23      0    0    0    145  224    0      0  184  110
Added Vol:     0    0    0      0    0    0      0    0    0      0    0    0
PasserByVol:   0    0    0      0    0    0      0    0    0      0    0    0
Initial Fut:  45  635   23      0    0    0    145  224    0      0  184  110
User Adj:    1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
PHF Adj:     0.93 0.93 0.93   0.93 0.93 0.93   0.93 0.93 0.93   0.93 0.93 0.93
PHF Volume:   48  683   25      0    0    0    156  241    0      0  198  118
Reduct Vol:    0    0    0      0    0    0      0    0    0      0    0    0
Reduced Vol:  48  683   25      0    0    0    156  241    0      0  198  118
PCE Adj:     1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
FinalVolume:  48  683   25      0    0    0    156  241    0      0  198  118
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
Lanes:       0.13 1.81 0.06   0.00 0.00 0.00   0.39 0.61 0.00   0.00 0.63 0.37
Final Sat.:   70 1003   37      0    0    0    225  347    0      0  363  217
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.69 0.68 0.68   xxxx xxxx xxxx   0.69 0.69 xxxx   xxxx 0.54 0.54
Crit Moves:  ****                                   ****              ****
Delay/Veh:   21.8 21.4 20.9    0.0  0.0  0.0   21.5 21.5  0.0    0.0 15.7 15.7
Delay Adj:   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00   1.00 1.00 1.00
AdjDel/Veh:  21.8 21.4 20.9    0.0  0.0  0.0   21.5 21.5  0.0    0.0 15.7 15.7
LOS by Move:    C    C    C      *    *    *      C    C    *      *    C    C
ApproachDel:      21.4            xxxxxx             21.5            15.7
Delay Adj:        1.00             xxxxx             1.00            1.00
ApprAdjDel:       21.4            xxxxxx             21.5            15.7
LOS by Appr:         C                *                 C               C
AllWayAvgQ:   1.9  1.8  1.8    0.0  0.0  0.0    2.0  2.0  2.0    1.1  1.1  1.1
********************************************************************************
Note: Queue reported is the number of cars per lane.

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2030 Cumulative – PM Peak

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Default Scenario          Thu Jan 19, 2012 13:27:54                Page 7-1
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                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #5 25th/Connecticut
********************************************************************************
Cycle (sec):          100              Critical Vol./Cap.(X):         0.386
Loss Time (sec):        0 (Y+R=4.0 sec) Average Delay (sec/veh):       10.0
Optimal Cycle:          0              Level Of Service:                 B
********************************************************************************
Street Name:           Connecticut Street                  25th Street
Approach:        North Bound      South Bound       East Bound       West Bound
Movement:       L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:            Include          Include          Include          Include
Min. Green:     0     0     0    0     0     0    0     0     0    0     0     0
Lanes:        0  0  1! 0  0    0  0  0  0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20   105   112     0     0     0    26    67    92   124    54    24
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:   20   105   112     0     0     0    26    67    92   124    54    24
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   20   105   112     0     0     0    26    67    92   124    54    24
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.84  0.84  0.84  0.84  0.84  0.84  0.84  0.84  0.84  0.84  0.84  0.84
PHF Volume:    24   125   133     0     0     0    31    80   110   148    64    29
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   24   125   133     0     0     0    31    80   110   148    64    29
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   24   125   133     0     0     0    31    80   110   148    64    29
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.08  0.44  0.48  0.00  0.00  0.00  0.14  0.36  0.50  0.61  0.27  0.12
Final Sat.:    62   324   346     0     0     0   105   270   371   434   189    84
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.39  0.39  0.39  xxxx  xxxx  xxxx  0.30  0.30  0.30  0.34  0.34  0.34
Crit Moves:        ****                          ****                    ****
Delay/Veh:   10.3  10.3  10.3   0.0   0.0   0.0   9.4   9.4   9.4  10.2  10.2  10.2
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  10.3  10.3  10.3   0.0   0.0   0.0   9.4   9.4   9.4  10.2  10.2  10.2
LOS by Move:    B     B     B     *     *     *     A     A     A     B     B     B
ApproachDel:       10.3            xxxxxx             9.4              10.2
Delay Adj:         1.00             xxxxx            1.00              1.00
ApprAdjDel:        10.3            xxxxxx             9.4              10.2
LOS by Appr:          B                 *               A                 B
AllWayAvgQ:   0.5   0.5   0.5   0.0   0.0   0.0   0.4   0.4   0.4   0.5   0.5   0.5
********************************************************************************
Note: Queue reported is the number of cars per lane.

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                        Potrero HOPE Development EIR
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                       Level Of Service Computation Report
            2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #6 25th/Dakota
********************************************************************************
Average Delay (sec/veh):      3.6      Worst Case Level Of Service: B[ 11.0]
********************************************************************************
Street Name:             Dakota Street                      25th Street
Approach:        North Bound      South Bound       East Bound       West Bound
Movement:       L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:            Include          Include          Include          Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0     0     0    74     0    61    27   146     0     0   114    47
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0    74     0    61    27   146     0     0   114    47
Added Vol:      0     0     0     0     0     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    0     0     0    74     0    61    27   146     0     0   114    47
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.97  0.97  0.97  0.97  0.97  0.97  0.97  0.97  0.97  0.97  0.97  0.97
PHF Volume:     0     0     0    76     0    63    28   151     0     0   118    48
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0    76     0    63    28   151     0     0   118    48
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  xxxx xxxxx   6.4   6.5   6.2   4.1  xxxx xxxxx xxxxx  xxxx xxxxx
FollowUpTim:xxxxx  xxxx xxxxx   3.5   4.0   3.3   2.2  xxxx xxxxx xxxxx  xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx  xxxx xxxxx   348   348   142   166  xxxx xxxxx  xxxx  xxxx xxxxx
Potent Cap.: xxxx  xxxx xxxxx   653   579   911  1424  xxxx xxxxx  xxxx  xxxx xxxxx
Move Cap.:   xxxx  xxxx xxxxx   643   567   911  1424  xxxx xxxxx  xxxx  xxxx xxxxx
Volume/Cap:  xxxx  xxxx  xxxx  0.12  0.00  0.07  0.02  xxxx  xxxx  xxxx  xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx  xxxx xxxxx  xxxx  xxxx xxxxx   0.1  xxxx xxxxx  xxxx  xxxx xxxxx
Control Del:xxxxx  xxxx xxxxx xxxxx  xxxx xxxxx   7.6  xxxx xxxxx xxxxx  xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     A     *     *     *     *     *
Movement:      LT  - LTR  - RT    LT  - LTR  - RT    LT  - LTR  - RT    LT  - LTR  - RT
Shared Cap.: xxxx  xxxx xxxxx  xxxx   742 xxxxx  xxxx  xxxx xxxxx  xxxx  xxxx xxxxx
SharedQueue:xxxxx  xxxx xxxxx xxxxx   0.7 xxxxx   0.1  xxxx xxxxx xxxxx  xxxx xxxxx
Shrd ConDel:xxxxx  xxxx xxxxx xxxxx  11.0 xxxxx   7.6  xxxx xxxxx xxxxx  xxxx xxxxx
Shared LOS:     *     *     *     *     B     *     A     *     *     *     *     *
ApproachDel:     xxxxxx              11.0            xxxxxx            xxxxxx
ApproachLOS:          *                 B                 *                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2030 Cumulative – PM Peak

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                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #7 23rd/Dakota
********************************************************************************
Average Delay (sec/veh):      5.9       Worst Case Level Of Service: B[ 10.1]
********************************************************************************
Street Name:                 Dakota                              23rd
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:       0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      61   15    0     0   24   36    17    0  103     0    0    0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   61   15    0     0   24   36    17    0  103     0    0    0
Added Vol:      0    0    0     0    0    0     0    0    0     0    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:   61   15    0     0   24   36    17    0  103     0    0    0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96
PHF Volume:    64   16    0     0   25   38    18    0  107     0    0    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
FinalVolume:   64   16    0     0   25   38    18    0  107     0    0    0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5 xxxxx xxxxx  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0 xxxxx xxxxx  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  120   89 xxxxx  xxxx  143     0     0 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  860  805 xxxxx  xxxx  752   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    790  789 xxxxx  xxxx  737   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.08 0.02  xxxx  xxxx 0.03  0.04  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.1 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  790 xxxx xxxxx  xxxx xxxx   827  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.3 xxxx xxxxx xxxxx xxxx   0.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 10.1 xxxx xxxxx xxxxx xxxx   9.7 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     *    *     A     *    *     *     *    *     *
ApproachDel:      10.1              9.7            xxxxxx           xxxxxx
ApproachLOS:        B                A                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
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                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #8 23rd/Wisconsin
********************************************************************************
Cycle (sec):          100               Critical Vol./Cap.(X):        0.230
Loss Time (sec):        0 (Y+R=4.0 sec) Average Delay (sec/veh):        8.1
Optimal Cycle:          0               Level Of Service:                 A
********************************************************************************
Street Name:                Wisconsin                            23rd
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:       0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  123   66    17  107    0     0    0    0    37    0   23
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  123   66    17  107    0     0    0    0    37    0   23
Added Vol:      0    0    0     0    0    0     0    0    0     0    0    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0  123   66    17  107    0     0    0    0    37    0   23
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:     0  134   72    18  116    0     0    0    0    40    0   25
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0  134   72    18  116    0     0    0    0    40    0   25
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  134   72    18  116    0     0    0    0    40    0   25
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.65  0.35  0.14 0.86  0.00  0.00 0.00  0.00  0.62 0.00  0.38
Final Sat.:     0  580   311   114  715     0     0    0     0   468    0   291
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.23  0.23  0.16 0.16  xxxx  xxxx xxxx  xxxx  0.09 xxxx  0.09
Crit Moves:       ****        ****                                          ****
Delay/Veh:    0.0  8.1   8.1   8.1  8.1   0.0   0.0  0.0   0.0   7.9  0.0   7.9
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  8.1   8.1   8.1  8.1   0.0   0.0  0.0   0.0   7.9  0.0   7.9
LOS by Move:    *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:       8.1              8.1            xxxxxx             7.9
Delay Adj:        1.00             1.00             xxxxx            1.00
ApprAdjDel:        8.1              8.1            xxxxxx             7.9
LOS by Appr:        A                A                *                A
AllWayAvgQ:   0.3  0.3   0.3   0.2  0.2   0.2   0.0  0.0   0.0   0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.

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2030 Cumulative – PM Peak

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                          Potrero HOPE Development EIR
                             Wilbur Smith Associates
--------------------------------------------------------------------------------
                        Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #9 20th/Arkansas
********************************************************************************
Cycle (sec):        100              Critical Vol./Cap.(X):        0.376
Loss Time (sec):      0 (Y+R=4.0 sec) Average Delay (sec/veh):       9.2
Optimal Cycle:        0              Level Of Service:                A
********************************************************************************
Street Name:             Arkansas Street                  20th Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10   33     9    12   36    30    11  107    14    27  214    16
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   10   33     9    12   36    30    11  107    14    27  214    16
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   10   33     9    12   36    30    11  107    14    27  214    16
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86
PHF Volume:    12   38    10    14   42    35    13  124    16    31  249    19
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   12   38    10    14   42    35    13  124    16    31  249    19
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   12   38    10    14   42    35    13  124    16    31  249    19
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.19 0.64  0.17  0.15 0.47  0.38  0.08 0.81  0.11  0.11 0.83  0.06
Final Sat.:   129  424   116   107  321   267    64  619    81    83  662    49
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.09 0.09  0.09  0.13 0.13  0.13  0.20 0.20  0.20  0.38 0.38  0.38
Crit Moves:       ****        ****                  ****              ****
Delay/Veh:    8.4  8.4   8.4   8.4  8.4   8.4   8.6  8.6   8.6  10.0 10.0  10.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.4  8.4   8.4   8.4  8.4   8.4   8.6  8.6   8.6  10.0 10.0  10.0
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       8.4              8.4              8.6             10.0
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.4              8.4              8.6             10.0
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.1  0.1   0.1   0.1  0.1   0.1   0.2  0.2   0.2   0.6  0.6   0.6
********************************************************************************
Note: Queue reported is the number of cars per lane.

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```
Default Scenario          Thu Jan 19, 2012 13:27:55               Page 12-1
--------------------------------------------------------------------------------
                          Potrero HOPE Development EIR
                             Wilbur Smith Associates
--------------------------------------------------------------------------------
                        Level Of Service Computation Report
             2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #10 22nd/Missouri Street
********************************************************************************
Average Delay (sec/veh):      0.0      Worst Case Level Of Service: A[  8.9]
********************************************************************************
Street Name:            Missouri Street                   22nd Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  1  0  0    0  0  0  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  107     0     0   77     1     0    0     1     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  107     0     0   77     1     0    0     1     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  107     0     0   77     1     0    0     1     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.64 0.64  0.64  0.64 0.64  0.64  0.64 0.64  0.64  0.64 0.64  0.64
PHF Volume:     0  167     0     0  120     2     0    0     2     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  167     0     0  120     2     0    0     2     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   121  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   936  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   936  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   8.9 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     A     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx              8.9           xxxxxx
ApproachLOS:        *                *                A                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2030 Cumulative – PM Peak

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Default Scenario          Thu Jan 19, 2012 13:27:55                Page 13-1
--------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
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                      Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #11 Potrero/23rd
********************************************************************************
Cycle (sec):          90              Critical Vol./Cap.(X):         0.654
Loss Time (sec):      15 (Y+R=6.0 sec) Average Delay (sec/veh):        24.3
Optimal Cycle:        90              Level Of Service:                  C
********************************************************************************
Street Name:                Potrero Avenue                  23rd Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Protected       Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:     0    39    39     7    49    49    10    10    10    16    16    16
Lanes:        0  0  2  0  1    1  0  1  1  0    0  0  1! 0  0    0  1  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  983   100    105 1256    19     24   37    43     96   29   179
Growth Adj:  1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:    0  983   100    105 1256    19     24   37    43     96   29   179
Added Vol:      0    0     0      0    0     0      0    0     0      0    0     0
PasserByVol:    0    0     0      0    0     0      0    0     0      0    0     0
Initial Fut:    0  983   100    105 1256    19     24   37    43     96   29   179
User Adj:    1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93   0.93 0.93  0.93   0.93 0.93  0.93   0.93 0.93  0.93
PHF Volume:     0 1057   108    113 1351    20     26   40    46    103   31   192
Reduct Vol:     0    0     0      0    0     0      0    0     0      0    0     0
Reduced Vol:    0 1057   108    113 1351    20     26   40    46    103   31   192
PCE Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
FinalVolume:    0 1057   108    113 1351    20     26   40    46    103   31   192
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900   1900 1900  1900   1900 1900  1900   1900 1900  1900
Adjustment:  1.00 0.93  0.75   0.93 0.91  0.91   0.93 0.93  0.93   0.82 0.82  0.82
Lanes:       0.00 2.00  1.00   1.00 1.97  0.03   0.23 0.36  0.41   0.77 0.23  1.00
Final Sat.:     0 3538  1422   1769 3409    52    409  631   733   1200  362  1562
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.30  0.08   0.06 0.40  0.40   0.06 0.06  0.06   0.09 0.09  0.12
Crit Moves:                         ****         ****               ****
Green/Cycle: 0.00 0.43  0.43   0.11 0.54  0.54   0.11 0.11  0.11   0.18 0.18  0.18
Volume/Cap:  0.00 0.69  0.17   0.57 0.73  0.73   0.57 0.57  0.57   0.48 0.48  0.69
Delay/Veh:    0.0 23.2  16.2   49.6 18.0  18.0   49.3 49.3  49.3   35.8 35.8  42.8
User DelAdj: 1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
AdjDel/Veh:   0.0 23.2  16.2   49.6 18.0  18.0   49.3 49.3  49.3   35.8 35.8  42.8
LOS by Move:    A    C     B      D    B     B      D    D     D      D    D     D
HCM2kAvgQ:      0   13     2      4   16    16      4    4     4      4    4     7
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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Default Scenario          Thu Jan 19, 2012 13:27:55                Page 14-1
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                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
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                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #12 Cesar Chavez/Vermont
********************************************************************************
Average Delay (sec/veh):    248.2      Worst Case Level Of Service: F[2187.5]
********************************************************************************
Street Name:              Vermont Street                 Cesar Chavez Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    148    0   148     88  560     0      0 1539   132
Growth Adj:  1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:    0    0     0    148    0   148     88  560     0      0 1539   132
Added Vol:      0    0     0      0    0     0      0    0     0      0    0     0
PasserByVol:    0    0     0      0    0     0      0    0     0      0    0     0
Initial Fut:    0    0     0    148    0   148     88  560     0      0 1539   132
User Adj:    1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94   0.94 0.94  0.94   0.94 0.94  0.94   0.94 0.94  0.94
PHF Volume:     0    0     0    157    0   157     94  596     0      0 1637   140
Reduct Vol:     0    0     0      0    0     0      0    0     0      0    0     0
FinalVolume:    0    0     0    157    0   157     94  596     0      0 1637   140
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx    6.8  6.5   6.9    4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx    3.5  4.0   3.3    2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   2193 2490   889   1778 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx     40   30   290    354 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx     31   22   290    354 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx   5.00 0.00  0.54   0.26 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx    1.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   18.8 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *      *    *     *      C    *     *      *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx   57 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 35.6 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 2188 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *      *    F     *      *    *     *      *    *     *
ApproachDel:     xxxxxx            2187.5            xxxxxx           xxxxxx
ApproachLOS:        *                 F                 *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

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2030 Cumulative – PM Peak

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Default Scenario           Thu Jan 19, 2012 13:27:55                Page 15-1
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                       Potrero HOPE Development EIR
                          Wilbur Smith Associates
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #13 Cesar Chavez/US 101 Off-Ramp
********************************************************************************
Average Delay (sec/veh):     23.0       Worst Case Level Of Service: F[104.6]
********************************************************************************
Street Name:          US 101 Off-Ramp                Cesar Chavez Street
Approach:       North Bound       South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Yield Sign        Yield Sign       Uncontrolled      Uncontrolled
Rights:           Include           Include           Include           Include
Lanes:        0  0  0  0  1    0  0  0  0  0    0  0  2  0  0    0  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0    0   671     0    0     0     0  708     0     0 1671     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0    0   671     0    0     0     0  708     0     0 1671     0
Added Vol:       0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:     0    0   671     0    0     0     0  708     0     0 1671     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:      0    0   714     0    0     0     0  753     0     0 1778     0
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:     0    0   714     0    0     0     0  753     0     0 1778     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx   377  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx   627  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx   627  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  1.14  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  22.7  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx 104.6 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:     *    *     F     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:      104.6            xxxxxx            xxxxxx            xxxxxx
ApproachLOS:          F                 *                 *                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```



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Default Scenario           Thu Jan 19, 2012 13:27:55                Page 16-1
--------------------------------------------------------------------------------
                       Potrero HOPE Development EIR
                          Wilbur Smith Associates
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #1001 25th/Texas Street
********************************************************************************
Average Delay (sec/veh):      0.1       Worst Case Level Of Service: B[ 10.3]
********************************************************************************
Street Name:            Texas Street                       25th Street
Approach:       North Bound       South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign         Stop Sign       Uncontrolled      Uncontrolled
Rights:           Include           Include           Include           Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  1  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0    0     0     2    0     1     1  219     0     0  161     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0    0     0     2    0     1     1  219     0     0  161     0
Added Vol:       0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:     0    0     0     2    0     1     1  219     0     0  161     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97
PHF Volume:      0    0     0     2    0     1     1  226     0     0  166     0
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:     0    0     0     2    0     1     1  226     0     0  166     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   394  394   166   166 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   615  546   884  1424 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   614  545   884  1424 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00 0.00  0.00  0.00 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  684 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.0 xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 10.3 xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    B     *     A    *     *     *    *     *
ApproachDel:     xxxxxx              10.3            xxxxxx            xxxxxx
ApproachLOS:          *                 B                 *                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

2030 Cumulative Plus Proposed Project – PM Peak

```
2030 Cumulative + Proj PM  Mon Feb 6, 2012 14:14:53             Page 3-1
-------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
*******************************************************************************
Intersection #1 Cesar Chavez/Connecticut
*******************************************************************************
Cycle (sec):          75                Critical Vol./Cap.(X):         1.637
Loss Time (sec):       8 (Y+R=4.0 sec)  Average Delay (sec/veh):        47.1
Optimal Cycle:        90                Level Of Service:                  D
*******************************************************************************
Street Name:         Connecticut Street              Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase     Permit+Prot        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0   19    19    19    8    48    48   36    36    36
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  1  1  0  0    0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0     0     0   35     0   298  227  1129     0    0  1337   164
Growth Adj:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse:    0     0     0   35     0   298  227  1129     0    0  1337   164
Added Vol:      0     0     0    2     0    77  253     1     0    0     0    34
PasserByVol:    0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut:    0     0     0   37     0   375  480  1130     0    0  1337   198
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
PHF Adj:     0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93
PHF Volume:     0     0     0   40     0   403  516  1215     0    0  1438   213
Reduct Vol:     0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:    0     0     0   40     0   403  516  1215     0    0  1438   213
PCE Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
FinalVolume:    0     0     0   40     0   403  516  1215     0    0  1438   213
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900  1900
Adjustment:  1.00  1.00  1.00 0.68  1.00  0.68 0.78  0.92  1.00 1.00  0.83  0.83
Lanes:       0.00  0.00  0.00 0.09  0.00  0.91 0.60  1.40  0.00 0.00  2.61  0.39
Final Sat.:     0     0     0  116     0  1177  893  2451     0    0  4136   612
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.00  0.00 0.34  0.00  0.34 0.58  0.50  0.00 0.00  0.35  0.35
Crit Moves:                               ****  ****                  ****
Green/Cycle: 0.00  0.00  0.00 0.25  0.00  0.25 0.64  0.64  0.00 0.00  0.48  0.48
Volume/Cap:  0.00  0.00  0.00 1.35  0.00  1.35 1.12  0.77  0.00 0.00  0.72  0.72
Delay/Veh:    0.0   0.0   0.0 205.4  0.0 205.4 87.3  12.3   0.0  0.0  17.6  17.6
User DelAdj: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0 205.4  0.0 205.4 87.3  12.3   0.0  0.0  17.6  17.6
LOS by Move:    A     A     A    F     A     F    F     B     A    A     B     B
HCM2kAvgQ:      0     0     0   27     0    27   38    17     0    0    12    12
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************

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                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
*******************************************************************************
Intersection #2 Cesar Chavez/Pennsylvania/NB I-280 Off-Ramp
*******************************************************************************
Cycle (sec):          90                Critical Vol./Cap.(X):         1.075
Loss Time (sec):      15 (Y+R=5.0 sec)  Average Delay (sec/veh):        85.2
Optimal Cycle:        90                Level Of Service:                  F
*******************************************************************************
Street Name:         Pennsylvania Avenue             Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include            Ovl           Include           Ignore
Min. Green:    22    22    22   12    12    12   18    41    41   18    18    18
Lanes:        1  0  1  0  1    1  0  0  0  1    1  0  2  0  0    0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     410   260   450   90     0   400  560   820     0    0   740   501
Growth Adj:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse:  410   260   450   90     0   400  560   820     0    0   740   501
Added Vol:     31    44     0    5     0     0    1     2     0    0     3     3
PasserByVol:    0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut:  441   304   450   95     0   400  561   822     0    0   743   504
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00
PHF Adj:     0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.00
PHF Volume:   459   317   469   99     0   417  584   856     0    0   774     0
Reduct Vol:     0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:  459   317   469   99     0   417  584   856     0    0   774     0
PCE Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00
FinalVolume:  459   317   469   99     0   417  584   856     0    0   774     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900  1900
Adjustment:  0.94  0.99  0.83 0.94  1.00  0.66 0.94  0.94  1.00 1.00  0.94  1.00
Lanes:       1.00  1.00  1.00 1.00  0.00  1.00 1.00  2.00  0.00 0.00  2.00  1.00
Final Sat.:  1787  1881  1579 1787     0  1263 1787  3574     0    0  3574  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.26  0.17  0.30 0.06  0.00  0.33 0.33  0.24  0.00 0.00  0.22  0.00
Crit Moves:               ****  ****             ****                 ****
Green/Cycle: 0.24  0.24  0.24 0.13  0.00  0.39 0.26  0.46  0.00 0.00  0.20  0.00
Volume/Cap:  1.05  0.69  1.21 0.42  0.00  0.85 1.28  0.53  0.00 0.00  1.08  0.00
Delay/Veh:   91.3  39.1 152.2 41.0   0.0  41.6 175.3 18.8   0.0  0.0  94.3   0.0
User DelAdj: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:  91.3  39.1 152.2 41.0   0.0  41.6 175.3 18.8   0.0  0.0  94.3   0.0
LOS by Move:    F     D     F    D     A     D    F     B     A    A     F     A
HCM2kAvgQ:     21     9    26    3     0    13   34     9     0    0    20     0
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************

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2030 Cumulative Plus Proposed Project – PM Peak

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-------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
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                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
*******************************************************************************
Intersection #3 Pennsylvania/SB I-280 Off-Ramp
*******************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.929
Loss Time (sec):       0 (Y+R=4.0 sec) Average Delay (sec/veh):       39.8
Optimal Cycle:         0              Level Of Service:                 E
*******************************************************************************
Street Name:       Pennsylvania Avenue             SB I-280 Off-Ramp
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Ignore
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       0  0  2  0  0   0  0  1  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  226     0     0  412     0     0    0     0   728    0    55
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0  226     0     0  412     0     0    0     0   728    0    55
Added Vol:     0    1     0     0    1     0     0    0     0   160    0     3
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   0  227     0     0  413     0     0    0     0   888    0    58
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.00
PHF Volume:    0  244     0     0  444     0     0    0     0   955    0     0
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   0  244     0     0  444     0     0    0     0   955    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:   0  244     0     0  444     0     0    0     0   955    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 2.00  0.00  0.00 1.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:    0  951     0     0  542     0     0    0     0  1028    0   612
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.26  xxxx  xxxx 0.82  xxxx  xxxx xxxx  xxxx  0.93 xxxx  0.00
Crit Moves:       ****             ****                         ****
Delay/Veh:    0.0 12.7   0.0   0.0 32.8   0.0   0.0  0.0   0.0  50.1  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 12.7   0.0   0.0 32.8   0.0   0.0  0.0   0.0  50.1  0.0   0.0
LOS by Move:    *    B     *     *    D     *     *    *     *     F    *     *
ApproachDel:       12.7             32.8            xxxxxx             50.1
Delay Adj:         1.00             1.00             xxxxx             1.00
ApprAdjDel:        12.7             32.8            xxxxxx             50.1
LOS by Appr:          B                D                 *                F
AllWayAvgQ:   0.0  0.3   0.0   3.5  3.5   3.5   0.0  0.0   0.0   5.8  0.0   0.0
*******************************************************************************
Note: Queue reported is the number of cars per lane.
```



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-------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
*******************************************************************************
Intersection #4 25th/Indiana Streets/NB I-280
*******************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.876
Loss Time (sec):       0 (Y+R=4.0 sec) Average Delay (sec/veh):       27.1
Optimal Cycle:         0              Level Of Service:                 D
*******************************************************************************
Street Name:            Indiana Street                   25th Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       0  1  0  1  0   0  0  0  0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     45  635    23     0    0     0   145  224     0     0  184   110
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  45  635    23     0    0     0   145  224     0     0  184   110
Added Vol:     1    0     0     0    0     0    82   11     0     0   13     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  46  635    23     0    0     0   227  235     0     0  197   110
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93
PHF Volume:   49  683    25     0    0     0   244  253     0     0  212   118
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  49  683    25     0    0     0   244  253     0     0  212   118
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  49  683    25     0    0     0   244  253     0     0  212   118
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.13 1.80  0.07  0.00 0.00  0.00  0.49 0.51  0.00  0.00 0.64  0.36
Final Sat.:   69  956    35     0    0     0   279  288     0     0  358   200
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.72 0.71  0.71  xxxx xxxx  xxxx  0.88 0.88  xxxx  xxxx 0.59  0.59
Crit Moves:  ****                                   ****                  ****
Delay/Veh:   24.6 24.1  23.6   0.0  0.0   0.0  37.9 37.9   0.0   0.0 17.6  17.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.6 24.1  23.6   0.0  0.0   0.0  37.9 37.9   0.0   0.0 17.6  17.6
LOS by Move:    C    C     C     *    *     *     E    E     *     *    C     C
ApproachDel:       24.1            xxxxxx             37.9             17.6
Delay Adj:         1.00             xxxxx             1.00             1.00
ApprAdjDel:        24.1            xxxxxx             37.9             17.6
LOS by Appr:          C                *                 E                C
AllWayAvgQ:   2.2  2.1   2.1   0.0  0.0   0.0   4.5  4.5   4.5   1.3  1.3   1.3
*******************************************************************************
Note: Queue reported is the number of cars per lane.
```

2030 Cumulative Plus Proposed Project – PM Peak

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---------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
---------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
***************************************************************************
Intersection #5 25th/Connecticut
***************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.832
Loss Time (sec):       0 (Y+R=4.0 sec) Average Delay (sec/veh):       21.7
Optimal Cycle:         0              Level Of Service:                 C
***************************************************************************
Street Name:        Connecticut Street                 25th Street
Approach:       North Bound      South Bound      East Bound      West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:    0    0    0      0    0    0      0    0    0      0    0    0
Lanes:       0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     20  105   112      0    0     0     26   61    92    124   44    24
Growth Adj:  1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:  20  105   112      0    0     0     26   61    92    124   44    24
Added Vol:    44   25   140      3   19     1      3   59     9     46   76     4
PasserByVol:   0    0     0      0    0     0      0    0     0      0    0     0
Initial Fut:  64  130   252      3   19     1     29  120   101    170  120    28
User Adj:    1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:     0.84 0.84  0.84   0.84 0.84  0.84   0.84 0.84  0.84   0.84 0.84  0.84
PHF Volume:   76  155   300      4   23     1     35  143   120    202  143    33
Reduct Vol:    0    0     0      0    0     0      0    0     0      0    0     0
Reduced Vol:  76  155   300      4   23     1     35  143   120    202  143    33
PCE Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
FinalVolume:  76  155   300      4   23     1     35  143   120    202  143    33
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Lanes:       0.14 0.29  0.57   0.13 0.83  0.04   0.12 0.48  0.40   0.53 0.38  0.09
Final Sat.:   92  186   361     57  361    19     66  273   230    305  215    50
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.83 0.83  0.83   0.06 0.06  0.06   0.52 0.52  0.52   0.66 0.66  0.66
Crit Moves:       ****         ****                   ****         ****
Delay/Veh:   28.0 28.0  28.0   10.3 10.3  10.3   14.6 14.6  14.6   19.1 19.1  19.1
Delay Adj:   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
AdjDel/Veh:  28.0 28.0  28.0   10.3 10.3  10.3   14.6 14.6  14.6   19.1 19.1  19.1
LOS by Move:    D    D     D      B    B     B      B    B     B      C    C     C
ApproachDel:      28.0              10.3              14.6              19.1
Delay Adj:        1.00              1.00              1.00              1.00
ApprAdjDel:       28.0              10.3              14.6              19.1
LOS by Appr:        D                 B                 B                 C
AllWayAvgQ:   3.5  3.5   3.5    0.0  0.0   0.0    0.9  0.9   0.9    1.6  1.6   1.6
***************************************************************************
Note: Queue reported is the number of cars per lane.
```



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---------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
---------------------------------------------------------------------------
                     Level Of Service Computation Report
            2000 HCM Unsignalized Method (Future Volume Alternative)
***************************************************************************
Intersection #6 25th/Texas Street
***************************************************************************
Average Delay (sec/veh):     6.2      Worst Case Level Of Service: D[ 30.1]
***************************************************************************
Street Name:            Texas Street                   25th Street
Approach:       North Bound      South Bound      East Bound      West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:       0  0  0  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0    0     0    128    0    11      3  219     0      0  161    73
Growth Adj:  1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
Initial Bse:   0    0     0    128    0    11      3  219     0      0  161    73
Added Vol:     0    0     0     58    0     8     37  122     0      0  153    69
PasserByVol:   0    0     0      0    0     0      0    0     0      0    0     0
Initial Fut:   0    0     0    186    0    19     40  341     0      0  314   142
User Adj:    1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00   1.00 1.00  1.00
PHF Adj:     0.97 0.97  0.97   0.97 0.97  0.97   0.97 0.97  0.97   0.97 0.97  0.97
PHF Volume:    0    0     0    192    0    20     41  352     0      0  324   146
Reduct Vol:    0    0     0      0    0     0      0    0     0      0    0     0
FinalVolume:   0    0     0    192    0    20     41  352     0      0  324   146
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx    6.4  6.5   6.2    4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx    3.5  4.0   3.3    2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx    831  831   397    470 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    342  307   657   1102 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    332  296   657   1102 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx   0.58 0.00  0.03   0.04 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx    0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx    8.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *      *    *     *      A    *     *      *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx   xxxx  348 xxxxx   xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  3.8 xxxxx    0.1 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 30.1 xxxxx    8.4 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *      *    D     *      A    *     *      *    *     *
ApproachDel:     xxxxxx             30.1             xxxxxx           xxxxxx
ApproachLOS:        *                 D                 *                 *
***************************************************************************
Note: Queue reported is the number of cars per lane.
***************************************************************************
```

2030 Cumulative Plus Proposed Project – PM Peak

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--------------------------------------------------------------------------------
                          Potrero HOPE Development EIR
                             Wilbur Smith Associates
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #7 23rd/Missouri
********************************************************************************
Average Delay (sec/veh):      7.8       Worst Case Level Of Service: B[ 11.1]
********************************************************************************
Street Name:           Missouri St                          23rd St
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  1  0  0  0   0  0  0  1  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      46   15     0     0   24    36    17    0    77     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   46   15     0     0   24    36    17    0    77     0    0     0
Added Vol:      8   48     0     0   38     8    17    0    12     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   54   63     0     0   62    44    34    0    89     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96
PHF Volume:    56   66     0     0   65    46    35    0    93     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   56   66     0     0   65    46    35    0    93     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5 xxxxx xxxxx  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0 xxxxx xxxxx  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  172  117 xxxxx  xxxx  164     0     0 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  795  777 xxxxx  xxxx  733   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    680  746 xxxxx  xxxx  703   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.08 0.09  xxxx  xxxx 0.09  0.05  0.04 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT   LT - LTR - RT    LT - LTR - RT
Shared Cap.:  714 xxxx xxxxx  xxxx xxxx   773  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.6 xxxx xxxxx xxxxx xxxx   0.5 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 11.1 xxxx xxxxx xxxxx xxxx  10.4 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     *    *     B     *    *     *     *    *     *
ApproachDel:      11.1             10.4            xxxxxx           xxxxxx
ApproachLOS:        B                B                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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--------------------------------------------------------------------------------
                          Potrero HOPE Development EIR
                             Wilbur Smith Associates
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #8 23rd/Wisconsin
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):         0.246
Loss Time (sec):       0 (Y+R=4.0 sec) Average Delay (sec/veh):         8.3
Optimal Cycle:         0               Level Of Service:                  A
********************************************************************************
Street Name:             Wisconsin                           23rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  0  1  0   0  1  0  0  0   0  0  0  0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  123    66    17  107     0     0    0     0    37    0    23
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  123    66    17  107     0     0    0     0    37    0    23
Added Vol:      0    8     0    31    5     0     0    0     0     1    0    12
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  131    66    48  112     0     0    0     0    38    0    35
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:     0  142    72    52  122     0     0    0     0    41    0    38
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  142    72    52  122     0     0    0     0    41    0    38
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  142    72    52  122     0     0    0     0    41    0    38
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.66  0.34  0.30 0.70  0.00  0.00 0.00  0.00  0.52 0.00  0.48
Final Sat.:     0  579   292   244  569     0     0    0     0   390    0   359
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.25  0.25  0.21 0.21  xxxx  xxxx xxxx  xxxx  0.11 xxxx  0.11
Crit Moves:       ****              ****                         ****
Delay/Veh:    0.0  8.3   8.3   8.5  8.5   0.0   0.0  0.0   0.0   8.0  0.0   8.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  8.3   8.3   8.5  8.5   0.0   0.0  0.0   0.0   8.0  0.0   8.0
LOS by Move:    *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:        8.3              8.5            xxxxxx            8.0
Delay Adj:         1.00             1.00             xxxxx           1.00
ApprAdjDel:         8.3              8.5            xxxxxx            8.0
LOS by Appr:          A                A                *                A
AllWayAvgQ:   0.3  0.3   0.3   0.3  0.3   0.3   0.0  0.0   0.0   0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.

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2030 Cumulative Plus Proposed Project – PM Peak

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--------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #9 20th/Arkansas
********************************************************************************
Cycle (sec):         100           Critical Vol./Cap.(X):        0.394
Loss Time (sec):       0 (Y+R=4.0 sec)  Average Delay (sec/veh):     9.4
Optimal Cycle:         0           Level Of Service:                 A
********************************************************************************
Street Name:              Arkansas Street                 20th Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:    0    0     0    0    0     0    0    0     0    0    0     0
Lanes:        0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     10   33     9   12   36    30   11  107    14   27  214    16
Growth Adj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:  10   33     9   12   36    30   11  107    14   27  214    16
Added Vol:     2    4     1    4    9     0    0    2     4    3    1     3
PasserByVol:   0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:  12   37    10   16   45    30   11  109    18   30  215    19
User Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:    0.86 0.86  0.86 0.86 0.86  0.86 0.86 0.86  0.86 0.86 0.86  0.86
PHF Volume:   14   43    12   19   52    35   13  127    21   35  250    22
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:  14   43    12   19   52    35   13  127    21   35  250    22
PCE Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:  14   43    12   19   52    35   13  127    21   35  250    22
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Lanes:      0.20 0.63  0.17 0.18 0.49  0.33 0.08 0.79  0.13 0.11 0.82  0.07
Final Sat.:  134  412   111  120  337   225   60  592    98   88  634    56
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:    0.10 0.10  0.10 0.16 0.16  0.16 0.21 0.21  0.21 0.39 0.39  0.39
Crit Moves:      ****             ****             ****             ****
Delay/Veh:   8.5  8.5   8.5  8.7  8.7   8.7  8.8  8.8   8.8 10.2 10.2  10.2
Delay Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:  8.5  8.5   8.5  8.7  8.7   8.7  8.8  8.8   8.8 10.2 10.2  10.2
LOS by Move:   A    A     A    A    A     A    A    A     A    B    B     B
ApproachDel:      8.5              8.7              8.8             10.2
Delay Adj:       1.00             1.00             1.00             1.00
ApprAdjDel:       8.5              8.7              8.8             10.2
LOS by Appr:        A                A                A                B
AllWayAvgQ:   0.1  0.1   0.1  0.2  0.2   0.2  0.2  0.2   0.2  0.6  0.6   0.6
********************************************************************************
Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
             2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #10 Missouri/22nd
********************************************************************************
Average Delay (sec/veh):      0.0      Worst Case Level Of Service: A[  8.8]
********************************************************************************
Street Name:            Missouri Street                 22nd Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  1  0  0    0  0  0  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  107     0    0   77     1    0    0     1    0    0     0
Growth Adj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:   0  107     0    0   77     1    0    0     1    0    0     0
Added Vol:     0   16     0    0   32     0    0    0     0    0    0     0
PasserByVol:   0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:   0  123     0    0  109     1    0    0     1    0    0     0
User Adj:   1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Volume:    0  123     0    0  109     1    0    0     1    0    0     0
Reduct Vol:    0    0     0    0    0     0    0    0     0    0    0     0
FinalVolume:   0  123     0    0  109     1    0    0     1    0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   110  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   950  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   950  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   8.8 xxxxx xxxx xxxxx
LOS by Move:     *    *     *    *    *     *    *    *     A    *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:    *    *     *    *    *     *    *    *     *    *    *     *
ApproachDel:     xxxxxx           xxxxxx              8.8           xxxxxx
ApproachLOS:        *                *                A                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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--------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
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                       Level Of Service Computation Report
             2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #11 Potrero/23rd
********************************************************************************
Cycle (sec):          90             Critical Vol./Cap.(X):         0.672
Loss Time (sec):      15 (Y+R=6.0 sec) Average Delay (sec/veh):       26.6
Optimal Cycle:        90             Level Of Service:                  C
********************************************************************************
Street Name:          Potrero Avenue                   23rd Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Protected        Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:     0   39    39    7   49    49   10   10    10   16   16    16
Lanes:        0  0  2  0  1    1  0  1  1  0    0  0  1! 0  0    0  1  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  983   100  105 1256    19   24   37    43   96   29   179
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0  983   100  105 1256    19   24   37    43   96   29   179
Added Vol:      0    0     7   46    0     0    0   13     0    4    7    25
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:    0  983   107  151 1256    19   24   50    43  100   36   204
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.93  0.93
PHF Volume:     0 1057   115  162 1351    20   26   54    46  108   39   219
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0 1057   115  162 1351    20   26   54    46  108   39   219
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    0 1057   115  162 1351    20   26   54    46  108   39   219
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  1.00 0.93  0.75 0.93 0.91  0.91 0.94 0.94  0.94 0.82 0.82  0.82
Lanes:       0.00 2.00  1.00 1.00 1.97  0.03 0.20 0.43  0.37 0.74 0.26  1.00
Final Sat.:     0 3538  1422 1769 3409    52  367  764   657 1148  413  1562
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.30  0.08 0.09 0.40  0.40 0.07 0.07  0.07 0.09 0.09  0.14
Crit Moves:                       ****              ****              ****
Green/Cycle: 0.00 0.43  0.43 0.11 0.54  0.54 0.11 0.11  0.11 0.18 0.18  0.18
Volume/Cap:  0.00 0.69  0.19 0.83 0.73  0.73 0.63 0.63  0.63 0.53 0.53  0.79
Delay/Veh:    0.0 23.2  16.4 70.3 18.0  18.0 52.7 52.7  52.7 36.4 36.4  48.3
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0 23.2  16.4 70.3 18.0  18.0 52.7 52.7  52.7 36.4 36.4  48.3
LOS by Move:    A    C     B    E    B     B    D    D     D    D    D     D
HCM2kAvgQ:      0   13     2    7   16    16    4    4     4    5    5     8
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
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                       Level Of Service Computation Report
             2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #12 Cesar Chavez/Vermont
********************************************************************************
Average Delay (sec/veh):    355.1       Worst Case Level Of Service: F[2976.5]
********************************************************************************
Street Name:          Vermont Street                Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  148    0   148   88  560     0    0 1539   132
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0  148    0   148   88  560     0    0 1539   132
Added Vol:      0    0     0    0    0    34   14   32     0    0   77     0
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:    0    0     0  148    0   182  102  592     0    0 1616   132
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94 0.94 0.94  0.94 0.94 0.94  0.94 0.94 0.94  0.94
PHF Volume:     0    0     0  157    0   194  109  630     0    0 1719   140
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
FinalVolume:    0    0     0  157    0   194  109  630     0    0 1719   140
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  2321 2636   930  1860 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    32   24   273   329 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    24   16   273   329 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  6.54 0.00  0.71  0.33 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  21.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     C    *     *     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx   48 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 41.0 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 2976 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:     xxxxxx            2976.5            xxxxxx            xxxxxx
ApproachLOS:        *                 F                 *                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2030 Cumulative Plus Proposed Project – PM Peak

```
2030 Cumulative + Proj PM  Mon Feb 6, 2012 14:14:54                Page 15-1
-------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
*******************************************************************************
Intersection #13 Cesar Chavez/US 101 Off-Ramp
*******************************************************************************
Average Delay (sec/veh):     72.9       Worst Case Level Of Service: F[276.0]
*******************************************************************************
Street Name:         US 101 Off-Ramp                 Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Yield Sign       Yield Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  1    0  0  0  0  0    0  0  2  0  0    0  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0   671     0    0     0     0  708     0     0 1671     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0   671     0    0     0     0  708     0     0 1671     0
Added Vol:      0    0   222     0    0     0     0   32     0     0   77     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0   893     0    0     0     0  740     0     0 1748     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:     0    0   950     0    0     0     0  787     0     0 1860     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0   950     0    0     0     0  787     0     0 1860     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx   394  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx   611  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx   611  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  1.55  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  49.5  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx 276.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     F     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     276.0           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:        F                *                *                *
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
```

```
2030 Cumulative + Proj PM  Wed Oct 3, 2012 11:39:11              Page 3-1
--------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Cesar Chavez/Connecticut
********************************************************************************
Cycle (sec):          75              Critical Vol./Cap.(X):         1.613
Loss Time (sec):       8 (Y+R=4.0 sec) Average Delay (sec/veh):       38.2
Optimal Cycle:        90              Level Of Service:                 D
********************************************************************************
Street Name:         Connecticut Street              Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase      Permit+Prot       Permitted
Rights:           Include          Include          Include          Include
Min. Green:    0     0     0   19    19    19    8    48    48   36    36    36
Lanes:       0  0  0  0  0    0  0  1! 0  0    0  1  1  0  0    0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0     0     0   35     0   298  227  1129     0    0  1337   164
Growth Adj:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse:   0     0     0   35     0   298  227  1129     0    0  1337   164
Added Vol:     0     0     0    2     0    51  165     0     0    0     0    25
PasserByVol:   0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut:   0     0     0   37     0   349  392  1129     0    0  1337   189
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
PHF Adj:     0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93
PHF Volume:    0     0     0   40     0   375  422  1214     0    0  1438   203
Reduct Vol:    0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:   0     0     0   40     0   375  422  1214     0    0  1438   203
PCE Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
FinalVolume:   0     0     0   40     0   375  422  1214     0    0  1438   203
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900  1900
Adjustment:  1.00  1.00  1.00 0.68  1.00  0.68 0.75  0.92  1.00 1.00  0.83  0.83
Lanes:       0.00  0.00  0.00 0.10  0.00  0.90 0.52  1.48  0.00 0.00  2.63  0.37
Final Sat.:    0     0     0  124     0  1169  745  2597     0    0  4160   588
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.00  0.00 0.32  0.00  0.32 0.57  0.47  0.00 0.00  0.35  0.35
Crit Moves:                   ****             ****                   ****
Green/Cycle: 0.00  0.00  0.00 0.25  0.00  0.25 0.64  0.64  0.00 0.00  0.48  0.48
Volume/Cap:  0.00  0.00  0.00 1.27  0.00  1.27 1.07  0.73  0.00 0.00  0.72  0.72
Delay/Veh:    0.0   0.0   0.0 170.1  0.0 170.1 66.7  11.3   0.0  0.0  17.5  17.5
User DelAdj: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0 170.1  0.0 170.1 66.7  11.3   0.0  0.0  17.5  17.5
LOS by Move:   A     A     A    F     A     F    E     B     A    A     B     B
HCM2kAvgQ:     0     0     0   23     0    23   32    15     0    0    12    12
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2030 Cumulative + Proj PM  Wed Oct 3, 2012 11:39:11              Page 4-1
--------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Cesar Chavez/Pennsylvania/NB I-280 Off-Ramp
********************************************************************************
Cycle (sec):          90              Critical Vol./Cap.(X):         1.073
Loss Time (sec):      15 (Y+R=5.0 sec) Average Delay (sec/veh):       84.4
Optimal Cycle:        90              Level Of Service:                 F
********************************************************************************
Street Name:       Pennsylvania Avenue               Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include            Ovl           Include           Ignore
Min. Green:   22    22    22   12    12    12   18    41    41   18    18    18
Lanes:       1  0  1  0  1    1  0  0  0  1    1  0  2  0  0    0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    410   260   450   90     0   400  560   820     0    0   740   501
Growth Adj:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse: 410   260   450   90     0   400  560   820     0    0   740   501
Added Vol:    23    27     0    3     0     0    0     2     0    0     2     2
PasserByVol:   0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut: 433   287   450   93     0   400  560   822     0    0   742   503
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00
PHF Adj:     0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.00
PHF Volume:  451   299   469   97     0   417  583   856     0    0   773     0
Reduct Vol:    0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol: 451   299   469   97     0   417  583   856     0    0   773     0
PCE Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00
FinalVolume: 451   299   469   97     0   417  583   856     0    0   773     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900  1900
Adjustment:  0.94  0.99  0.83 0.94  1.00  0.66 0.94  0.94  1.00 1.00  0.94  1.00
Lanes:       1.00  1.00  1.00 1.00  0.00  1.00 1.00  2.00  0.00 0.00  2.00  1.00
Final Sat.:  1787  1881  1579 1787     0  1263 1787  3574     0    0  3574  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.25  0.16  0.30 0.05  0.00  0.33 0.33  0.24  0.00 0.00  0.22  0.00
Crit Moves:              **** ****             ****                   ****
Green/Cycle: 0.24  0.24  0.24 0.13  0.00  0.39 0.26  0.46  0.00 0.00  0.20  0.00
Volume/Cap:  1.03  0.65  1.21 0.41  0.00  0.85 1.28  0.53  0.00 0.00  1.08  0.00
Delay/Veh:   85.7  37.5 152.2 40.8   0.0  41.6 174.4 18.8  0.0  0.0  93.8   0.0
User DelAdj: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:  85.7  37.5 152.2 40.8   0.0  41.6 174.4 18.8  0.0  0.0  93.8   0.0
LOS by Move:   F     D     F    D     A     D    F     B     A    A     F     A
HCM2kAvgQ:    20     8    26    3     0    13   34     9     0    0    19     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2030 Cumulative plus Alternative 1 – PM Peak

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2030 Cumulative + Proj PM  Wed Oct 3, 2012 11:39:11            Page 5-1
--------------------------------------------------------------------------------
                       Potrero HOPE Development EIR
                          Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Pennsylvania/SB I-280 Off-Ramp
********************************************************************************
Cycle (sec):          100              Critical Vol./Cap.(X):         0.871
Loss Time (sec):        0 (Y+R=4.0 sec) Average Delay (sec/veh):       33.7
Optimal Cycle:          0              Level Of Service:                  D
********************************************************************************
Street Name:       Pennsylvania Avenue            SB I-280 Off-Ramp
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include           Ignore
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Lanes:        0  0  2  0  0   0  0  1  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  226    0    0  412    0    0    0    0  728    0   55
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:    0  226    0    0  412    0    0    0    0  728    0   55
Added Vol:      0    1    0    0    0    0    0    0    0  105    0    2
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:    0  227    0    0  412    0    0    0    0  833    0   57
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
PHF Adj:     0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.00
PHF Volume:     0  244    0    0  443    0    0    0    0  896    0    0
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:    0  244    0    0  443    0    0    0    0  896    0    0
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00
FinalVolume:    0  244    0    0  443    0    0    0    0  896    0    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       0.00 2.00 0.00 0.00 1.00 0.00 0.00 0.00 0.00 2.00 0.00 1.00
Final Sat.:     0  953    0    0  544    0    0    0    0 1028    0  613
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.26 xxxx xxxx 0.81 xxxx xxxx xxxx xxxx 0.87 xxxx 0.00
Crit Moves:       ****             ****                       ****
Delay/Veh:    0.0 12.6  0.0  0.0 32.1  0.0  0.0  0.0  0.0 40.3  0.0  0.0
Delay Adj:   1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:   0.0 12.6  0.0  0.0 32.1  0.0  0.0  0.0  0.0 40.3  0.0  0.0
LOS by Move:    *    B    *    *    D    *    *    *    *    E    *    *
ApproachDel:       12.6             32.1            xxxxxx            40.3
Delay Adj:         1.00             1.00             xxxxx            1.00
ApprAdjDel:        12.6             32.1            xxxxxx            40.3
LOS by Appr:          B                D                 *               E
AllWayAvgQ:   0.0  0.3  0.0  3.4  3.4  3.4  0.0  0.0  0.0  4.4  0.0  0.0
********************************************************************************
Note: Queue reported is the number of cars per lane.
```



```
2030 Cumulative + Proj PM  Wed Oct 3, 2012 11:39:11            Page 6-1
--------------------------------------------------------------------------------
                       Potrero HOPE Development EIR
                          Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #4 25th/Indiana Streets/NB I-280
********************************************************************************
Cycle (sec):          100              Critical Vol./Cap.(X):         0.817
Loss Time (sec):        0 (Y+R=4.0 sec) Average Delay (sec/veh):       24.1
Optimal Cycle:          0              Level Of Service:                  C
********************************************************************************
Street Name:          Indiana Street                    25th Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Lanes:        0  1  0  1  0   0  0  0  0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      45  635   23    0    0    0  145  224    0    0  184  110
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   45  635   23    0    0    0  145  224    0    0  184  110
Added Vol:      0    0    0    0    0    0   56    7    0    0    9    0
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:   45  635   23    0    0    0  201  231    0    0  193  110
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93
PHF Volume:    48  683   25    0    0    0  216  248    0    0  208  118
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:   48  683   25    0    0    0  216  248    0    0  208  118
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   48  683   25    0    0    0  216  248    0    0  208  118
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       0.13 1.81 0.06 0.00 0.00 0.00 0.47 0.53 0.00 0.00 0.64 0.36
Final Sat.:    68  971   35    0    0    0  265  304    0    0  360  205
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.71 0.70 0.70 xxxx xxxx xxxx 0.82 0.82 xxxx xxxx 0.58 0.58
Crit Moves:  ****                                ****                     ****
Delay/Veh:   23.6 23.1 22.7  0.0  0.0  0.0 30.7 30.7  0.0  0.0 17.0 17.0
Delay Adj:   1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:  23.6 23.1 22.7  0.0  0.0  0.0 30.7 30.7  0.0  0.0 17.0 17.0
LOS by Move:    C    C    C    *    *    *    D    D    *    *    C    C
ApproachDel:       23.2            xxxxxx             30.7            17.0
Delay Adj:         1.00             xxxxx             1.00            1.00
ApprAdjDel:        23.2            xxxxxx             30.7            17.0
LOS by Appr:          C                *                 D               C
AllWayAvgQ:   2.1  2.0  2.0  0.0  0.0  0.0  3.4  3.4  3.4  1.2  1.2  1.2
********************************************************************************
Note: Queue reported is the number of cars per lane.
```

2030 Cumulative plus Alternative 1 – PM Peak

```
2030 Cumulative + Proj PM  Wed Oct 3, 2012 11:39:11              Page 7-1
--------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #5 25th/Connecticut
********************************************************************************
Cycle (sec):         100             Critical Vol./Cap.(X):        0.654
Loss Time (sec):       0 (Y+R=4.0 sec)  Average Delay (sec/veh):      14.6
Optimal Cycle:         0             Level Of Service:                 B
********************************************************************************
Street Name:          Connecticut Street                25th Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      20  105   112     0    0     0    26   61    92   124   44    24
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   20  105   112     0    0     0    26   61    92   124   44    24
Added Vol:     22   20    86     2   13     1     3   45     5    30   55     4
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   42  125   198     2   13     1    29  106    97   154   99    28
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.84 0.84  0.84  0.84 0.84  0.84  0.84 0.84  0.84  0.84 0.84  0.84
PHF Volume:    50  149   236     2   15     1    35  126   115   183  118    33
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   50  149   236     2   15     1    35  126   115   183  118    33
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   50  149   236     2   15     1    35  126   115   183  118    33
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.12 0.34  0.54  0.12 0.82  0.06  0.12 0.46  0.42  0.55 0.35  0.10
Final Sat.:    76  228   361    60  388    30    78  287   262   338  217    61
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.65 0.65  0.65  0.04 0.04  0.04  0.44 0.44  0.44  0.54 0.54  0.54
Crit Moves:  ****              ****                   ****        ****
Delay/Veh:   16.6 16.6  16.6   9.5  9.5   9.5  12.2 12.2  12.2  14.4 14.4  14.4
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  16.6 16.6  16.6   9.5  9.5   9.5  12.2 12.2  12.2  14.4 14.4  14.4
LOS by Move:    C    C     C     A    A     A     B    B     B     B    B     B
ApproachDel:      16.6              9.5             12.2             14.4
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:       16.6              9.5             12.2             14.4
LOS by Appr:         C                A                B                B
AllWayAvgQ:   1.5  1.5   1.5   0.0  0.0   0.0   0.7  0.7   0.7   1.0  1.0   1.0
********************************************************************************
Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #6 25th/Texas Street
********************************************************************************
Average Delay (sec/veh):      4.2      Worst Case Level Of Service: C[ 20.0]
********************************************************************************
Street Name:            Texas Street                    25th Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   128    0    11     3  219     0     0  161    73
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   128    0    11     3  219     0     0  161    73
Added Vol:      0    0     0    34    0     4    20   89     0     0  104    40
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   162    0    15    23  308     0     0  265   113
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97
PHF Volume:     0    0     0   167    0    15    24  318     0     0  273   116
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   167    0    15    24  318     0     0  273   116
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   696  696   331   390 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   411  368   715  1180 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   404  360   715  1180 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.41 0.00  0.02  0.02 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   8.1 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  420 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  2.2 xxxxx   0.1 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 20.0 xxxxx   8.1 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    C     *     A    *     *     *    *     *
ApproachDel:     xxxxxx            20.0            xxxxxx           xxxxxx
ApproachLOS:        *                C                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2030 Cumulative plus Alternative 1 – PM Peak

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2030 Cumulative + Proj PM  Wed Oct 3, 2012 11:39:12            Page 9-1
--------------------------------------------------------------------------------
                      Potrero HOPE Development EIR
                         Wilbur Smith Associates
--------------------------------------------------------------------------------
                   Level Of Service Computation Report
         2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #7 23rd/Missouri
********************************************************************************
Average Delay (sec/veh):      7.2       Worst Case Level Of Service: B[ 10.5]
********************************************************************************
Street Name:           Missouri St                         23rd St
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:       0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      46   15     0     0   24    36    17    0    77     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   46   15     0     0   24    36    17    0    77     0    0     0
Added Vol:      4   27     0     0   23     5    10    0     7     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   50   42     0     0   47    41    27    0    84     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96
PHF Volume:    52   44     0     0   49    43    28    0    88     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   52   44     0     0   49    43    28    0    88     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5 xxxxx xxxxx  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0 xxxxx xxxxx  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  146  100 xxxxx  xxxx  144     0     0 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  827  794 xxxxx  xxxx  751   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    730  769 xxxxx  xxxx  727   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.07 0.06  xxxx  xxxx 0.07  0.05  0.03 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.1 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  747 xxxx xxxxx  xxxx xxxx   799  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.4 xxxx xxxxx xxxxx xxxx   0.4 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 10.5 xxxx xxxxx xxxxx xxxx  10.1 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     *    *     B     *    *     *     *    *     *
ApproachDel:      10.5             10.1            xxxxxx           xxxxxx
ApproachLOS:        B                B                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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--------------------------------------------------------------------------------
                      Potrero HOPE Development EIR
                         Wilbur Smith Associates
--------------------------------------------------------------------------------
                   Level Of Service Computation Report
         2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #8 23rd/Wisconsin
********************************************************************************
Cycle (sec):         100                Critical Vol./Cap.(X):        0.240
Loss Time (sec):       0 (Y+R=4.0 sec)  Average Delay (sec/veh):        8.2
Optimal Cycle:         0                Level Of Service:                 A
********************************************************************************
Street Name:             Wisconsin                          23rd
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  123    66    17  107     0     0    0     0    37    0    23
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  123    66    17  107     0     0    0     0    37    0    23
Added Vol:      0    5     0    18    4     0     0    0     0     1    0     7
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  128    66    35  111     0     0    0     0    38    0    30
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:     0  139    72    38  121     0     0    0     0    41    0    33
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  139    72    38  121     0     0    0     0    41    0    33
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  139    72    38  121     0     0    0     0    41    0    33
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.66  0.34  0.24 0.76  0.00  0.00 0.00  0.00  0.56 0.00  0.44
Final Sat.:     0  580   299   196  622     0     0    0     0   420    0   332
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.24  0.24  0.19 0.19  xxxx  xxxx xxxx  xxxx  0.10 xxxx  0.10
Crit Moves:       ****              ****                          ****
Delay/Veh:    0.0  8.3   8.3   8.3  8.3   0.0   0.0  0.0   0.0   7.9  0.0   7.9
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  8.3   8.3   8.3  8.3   0.0   0.0  0.0   0.0   7.9  0.0   7.9
LOS by Move:    *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:       8.3              8.3            xxxxxx             7.9
Delay Adj:        1.00             1.00             xxxxx            1.00
ApprAdjDel:        8.3              8.3            xxxxxx             7.9
LOS by Appr:        A                A                *                A
AllWayAvgQ:   0.3  0.3   0.3   0.2  0.2   0.2   0.0  0.0   0.0   0.1  0.1   0.1
********************************************************************************
Note: Queue reported is the number of cars per lane.

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2030 Cumulative plus Alternative 1 – PM Peak

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                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
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                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #9 20th/Arkansas
********************************************************************************
Cycle (sec):        100               Critical Vol./Cap.(X):        0.388
Loss Time (sec):      0 (Y+R=4.0 sec) Average Delay (sec/veh):        9.4
Optimal Cycle:        0               Level Of Service:                 A
********************************************************************************
Street Name:            Arkansas Street                  20th Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0    0    0    0    0    0    0    0    0    0    0    0
Lanes:        0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      10   33    9   12   36   30   11  107   14   27  214   16
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:   10   33    9   12   36   30   11  107   14   27  214   16
Added Vol:      2    3    1    2    6    0    0    1    3    2    1    2
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:   12   36   10   14   42   30   11  108   17   29  215   18
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86 0.86
PHF Volume:    14   42   12   16   49   35   13  126   20   34  250   21
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
Reduced Vol:   14   42   12   16   49   35   13  126   20   34  250   21
PCE Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
FinalVolume:   14   42   12   16   49   35   13  126   20   34  250   21
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes:       0.21 0.62 0.17 0.16 0.49 0.35 0.08 0.80 0.12 0.11 0.82 0.07
Final Sat.:   137  410  114  112  335  239   61  599   94   87  644   54
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.10 0.10 0.10 0.15 0.15 0.15 0.21 0.21 0.21 0.39 0.39 0.39
Crit Moves:       ****      ****                  ****      ****
Delay/Veh:    8.5  8.5  8.5  8.6  8.6  8.6  8.7  8.7  8.7 10.2 10.2 10.2
Delay Adj:   1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
AdjDel/Veh:   8.5  8.5  8.5  8.6  8.6  8.6  8.7  8.7  8.7 10.2 10.2 10.2
LOS by Move:    A    A    A    A    A    A    A    A    A    B    B    B
ApproachDel:       8.5              8.6              8.7             10.2
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.5              8.6              8.7             10.2
LOS by Appr:         A                A                A                B
AllWayAvgQ:   0.1  0.1  0.1  0.1  0.1  0.1  0.2  0.2  0.2  0.6  0.6  0.6
********************************************************************************
Note: Queue reported is the number of cars per lane.

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                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
              2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #10 Missouri/22nd
********************************************************************************
Average Delay (sec/veh):      0.0      Worst Case Level Of Service: A[  8.7]
********************************************************************************
Street Name:          Missouri Street                   22nd Street
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  1  0  0   0  0  0  1  0   0  0  0  0  1   0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  107    0    0   77    1    0    0    1    0    0    0
Growth Adj:  1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse:    0  107    0    0   77    1    0    0    1    0    0    0
Added Vol:      0   11    0    0   20    0    0    0    0    0    0    0
PasserByVol:    0    0    0    0    0    0    0    0    0    0    0    0
Initial Fut:    0  118    0    0   97    1    0    0    1    0    0    0
User Adj:    1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj:     1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Volume:     0  118    0    0   97    1    0    0    1    0    0    0
Reduct Vol:     0    0    0    0    0    0    0    0    0    0    0    0
FinalVolume:    0  118    0    0   97    1    0    0    1    0    0    0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx    98  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   964  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   964  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   8.7 xxxxx xxxx xxxxx
LOS by Move:    *    *    *    *    *    *    *    *     A    *    *    *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *    *    *    *    *    *    *    *    *    *    *
ApproachDel:     xxxxxx           xxxxxx              8.7           xxxxxx
ApproachLOS:        *                *                A                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2030 Cumulative + Proj PM  Wed Oct 3, 2012 11:39:12              Page 13-1
--------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #11 Potrero/23rd
********************************************************************************
Cycle (sec):          90              Critical Vol./Cap.(X):        0.666
Loss Time (sec):      15 (Y+R=6.0 sec) Average Delay (sec/veh):       25.6
Optimal Cycle:        90              Level Of Service:                C
********************************************************************************
Street Name:              Potrero Avenue                  23rd Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Permitted        Protected       Split Phase      Split Phase
Rights:          Include          Include          Include          Include
Min. Green:     0   39    39     7   49    49    10   10    10    16   16    16
Lanes:        0  0  2  0  1    1  0  1  1  0    0  0  1! 0  0    0  1  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  983   100   105 1256    19    24   37    43    96   29   179
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  983   100   105 1256    19    24   37    43    96   29   179
Added Vol:      0    0     4    30    0     0     0    9     0     2    5    17
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  983   104   135 1256    19    24   46    43    98   34   196
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93
PHF Volume:     0 1057   112   145 1351    20    26   49    46   105   37   211
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0 1057   112   145 1351    20    26   49    46   105   37   211
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0 1057   112   145 1351    20    26   49    46   105   37   211
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.93  0.75  0.93 0.91  0.91  0.94 0.94  0.94  0.82 0.82  0.82
Lanes:       0.00 2.00  1.00  1.00 1.97  0.03  0.21 0.41  0.38  0.74 0.26  1.00
Final Sat.:     0 3538  1422  1769 3409    52   379  727   679  1158  402  1560
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.30  0.08  0.08 0.40  0.40  0.07 0.07  0.07  0.09 0.09  0.14
Crit Moves:                        ****        ****              ****
Green/Cycle: 0.00 0.43  0.43  0.11 0.54  0.54  0.11 0.11  0.11  0.18 0.18  0.18
Volume/Cap:  0.00 0.69  0.18  0.74 0.73  0.73  0.61 0.61  0.61  0.51 0.51  0.76
Delay/Veh:    0.0 23.2  16.3  60.6 18.0  18.0  51.5 51.5  51.5  36.2 36.2  46.3
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 23.2  16.3  60.6 18.0  18.0  51.5 51.5  51.5  36.2 36.2  46.3
LOS by Move:    A    C     B     E    B     B     D    D     D     D    D     D
HCM2kAvgQ:      0   13     2     6   16    16     4    4     4     4    4     8
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2030 Cumulative + Proj PM  Wed Oct 3, 2012 11:39:12              Page 14-1
--------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #12 Cesar Chavez/Vermont
********************************************************************************
Average Delay (sec/veh):    317.9      Worst Case Level Of Service: F[2695.6]
********************************************************************************
Street Name:              Vermont Street                Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   148    0   148    88  560     0     0 1539   132
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   148    0   148    88  560     0     0 1539   132
Added Vol:      0    0     0     0    0    24    10   20     0     0   51     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   148    0   172    98  580     0     0 1590   132
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:     0    0     0   157    0   183   104  617     0     0 1691   140
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0   157    0   183   104  617     0     0 1691   140
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  2279 2587   916  1832 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    35   26   279   338 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    26   18   279   338 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  5.99 0.00  0.66  0.31 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   1.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  20.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     C    *     *     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx   51 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 39.4 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 2696 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      xxxxxx           2695.6            xxxxxx           xxxxxx
ApproachLOS:        *                F                 *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2030 Cumulative + Proj PM  Wed Oct 3, 2012 11:39:12              Page 15-1
-------------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                            Wilbur Smith Associates
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
*******************************************************************************
Intersection #13 Cesar Chavez/US 101 Off-Ramp
*******************************************************************************
Average Delay (sec/veh):     53.3       Worst Case Level Of Service: F[213.1]
*******************************************************************************
Street Name:         US 101 Off-Ramp                 Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Yield Sign       Yield Sign      Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  1    0  0  0  0  0    0  0  2  0  0    0  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0   671     0    0     0     0  708     0     0 1671     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0   671     0    0     0     0  708     0     0 1671     0
Added Vol:      0    0   146     0    0     0     0   20     0     0   51     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0   817     0    0     0     0  728     0     0 1722     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:     0    0   869     0    0     0     0  774     0     0 1832     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0   869     0    0     0     0  774     0     0 1832     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx   387  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx   617  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx   617  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  1.41  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  39.7  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx 213.1 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     F     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     213.1            xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         F                *                *                *
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************
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2030 Cumulative plus Proposed Project plus Mitigations – PM Peak

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2030 Cumulative + Proj + MiWed Oct 3, 2012 12:37:20              Page 3-1
-------------------------------------------------------------------------------
                          Potrero HOPE Development EIR
                             Wilbur Smith Associates
-------------------------------------------------------------------------------
                         Level Of Service Computation Report
             2000 HCM Operations Method (Future Volume Alternative)
*******************************************************************************
Intersection #1 Cesar Chavez/Connecticut
*******************************************************************************
Cycle (sec):          75               Critical Vol./Cap.(X):        1.762
Loss Time (sec):       8 (Y+R=4.0 sec) Average Delay (sec/veh):       82.3
Optimal Cycle:        90               Level Of Service:                 F
*******************************************************************************
Street Name:          Connecticut Street              Cesar Chavez Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase      Permit+Prot       Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0   19   19    19    8   48    48   36   36    36
Lanes:         0  0  0  0  0   0  0  1! 0  0   0  1  1  0  0   0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0  183    0   298  227 1129     0    0 1337   164
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0    0     0  183    0   298  227 1129     0    0 1337   164
Added Vol:      0    0     0    2    0    77  253    1     0    0    0    34
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:    0    0     0  185    0   375  480 1130     0    0 1337   198
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.93  0.93
PHF Volume:     0    0     0  199    0   403  516 1215     0    0 1438   213
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0    0     0  199    0   403  516 1215     0    0 1438   213
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    0    0     0  199    0   403  516 1215     0    0 1438   213
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  1.00 1.00  1.00 0.70 1.00  0.70 0.78 0.92  1.00 1.00 0.83  0.83
Lanes:       0.00 0.00  0.00 0.33 0.00  0.67 0.60 1.40  0.00 0.00 2.61  0.39
Final Sat.:     0    0     0  438    0   888  893 2451     0    0 4136   612
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00 0.45 0.00  0.45 0.58 0.50  0.00 0.00 0.35  0.35
Crit Moves:                             ****  ****                  ****
Green/Cycle: 0.00 0.00  0.00 0.25 0.00  0.25 0.64 0.64  0.00 0.00 0.48  0.48
Volume/Cap:  0.00 0.00  0.00 1.79 0.00  1.79 1.12 0.77  0.00 0.00 0.72  0.72
Delay/Veh:    0.0  0.0   0.0 396.6  0.0 396.6 87.3 12.3   0.0  0.0 17.6  17.6
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0 396.6  0.0 396.6 87.3 12.3   0.0  0.0 17.6  17.6
LOS by Move:    A    A     A    F    A     F    F    B     A    A    B     B
HCM2kAvgQ:      0    0     0   48    0    48   38   17     0    0   12    12
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************

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2030 Cumulative + Proj + MiWed Oct 3, 2012 12:37:20              Page 4-1
-------------------------------------------------------------------------------
                          Potrero HOPE Development EIR
                             Wilbur Smith Associates
-------------------------------------------------------------------------------
                         Level Of Service Computation Report
             2000 HCM Operations Method (Future Volume Alternative)
*******************************************************************************
Intersection #3 Pennsylvania/SB I-280 Off-Ramp
*******************************************************************************
Cycle (sec):          90               Critical Vol./Cap.(X):        0.556
Loss Time (sec):       8 (Y+R=4.0 sec) Average Delay (sec/veh):       17.3
Optimal Cycle:        35               Level Of Service:                 B
*******************************************************************************
Street Name:         Pennsylvania Avenue               SB I-280 Off-Ramp
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted       Split Phase      Split Phase
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    0    0     0    0    0     0    0    0     0
Lanes:         0  0  2  0  0   0  0  1  0  0   0  0  0  0  0   2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  226     0    0  412     0    0    0     0  728    0    55
Growth Adj:  1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
Initial Bse:    0  226     0    0  412     0    0    0     0  728    0    55
Added Vol:      0    1     0    0    1     0    0    0     0  160    0     3
PasserByVol:    0    0     0    0    0     0    0    0     0    0    0     0
Initial Fut:    0  227     0    0  413     0    0    0     0  888    0    58
User Adj:    1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.93  0.93 0.93 0.93  0.93
PHF Volume:     0  244     0    0  444     0    0    0     0  955    0    62
Reduct Vol:     0    0     0    0    0     0    0    0     0    0    0     0
Reduced Vol:    0  244     0    0  444     0    0    0     0  955    0    62
PCE Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
FinalVolume:    0  244     0    0  444     0    0    0     0  955    0    62
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900  1900
Adjustment:  1.00 0.95  1.00 1.00 1.00  1.00 1.00 1.00  1.00 0.92 1.00  0.85
Lanes:       0.00 2.00  0.00 0.00 1.00  0.00 0.00 0.00  0.00 2.00 0.00  1.00
Final Sat.:     0 3610     0    0 1900     0    0    0     0 3502    0  1615
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.07  0.00 0.00 0.23  0.00 0.00 0.00  0.00 0.27 0.00  0.04
Crit Moves:                       ****                         ****
Green/Cycle: 0.00 0.42  0.00 0.00 0.42  0.00 0.00 0.00  0.00 0.49 0.00  0.49
Volume/Cap:  0.00 0.16  0.00 0.00 0.56  0.00 0.00 0.00  0.00 0.56 0.00  0.08
Delay/Veh:    0.0 16.3   0.0  0.0 20.6   0.0  0.0  0.0   0.0 16.5  0.0  12.2
User DelAdj: 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00
AdjDel/Veh:   0.0 16.3   0.0  0.0 20.6   0.0  0.0  0.0   0.0 16.5  0.0  12.2
LOS by Move:    A    B     A    A    C     A    A    A     A    B    A     B
HCM2kAvgQ:      0    2     0    0   10     0    0    0     0   10    0     1
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************

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2030 Cumulative plus Proposed Project plus Mitigations – PM Peak

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2030 Cumulative + Proj + MiWed Oct 3, 2012 12:37:20            Page 5-1
-------------------------------------------------------------------------------
                     Potrero HOPE Development EIR
                        Wilbur Smith Associates
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
*******************************************************************************
Intersection #4 25th/Indiana Streets/NB I-280
*******************************************************************************
Cycle (sec):        100               Critical Vol./Cap.(X):        0.719
Loss Time (sec):      0 (Y+R=4.0 sec) Average Delay (sec/veh):       21.1
Optimal Cycle:        0               Level Of Service:                 C
*******************************************************************************
Street Name:          Indiana Street                  25th Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:    0    0    0    0    0    0    0    0    0    0    0    0
Lanes:        0  1  0  1  0   0  0  0  0  0   1  0  1  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     45  635    23     0    0     0   145  224     0     0  184   110
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  45  635    23     0    0     0   145  224     0     0  184   110
Added Vol:     1    0     0     0    0     0    82   11     0     0   13     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  46  635    23     0    0     0   227  235     0     0  197   110
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93
PHF Volume:   49  683    25     0    0     0   244  253     0     0  212   118
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  49  683    25     0    0     0   244  253     0     0  212   118
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  49  683    25     0    0     0   244  253     0     0  212   118
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.13 1.80  0.07  0.00 0.00  0.00  1.00 1.00  0.00  0.00 0.64  0.36
Final Sat.:   69  957    35     0    0     0   470  503     0     0  336   188
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.72 0.71  0.71  xxxx xxxx  xxxx  0.52 0.50  xxxx  xxxx 0.63  0.63
Crit Moves:  ****                              ****                   ****
Delay/Veh:   24.6 24.1  23.6   0.0  0.0   0.0  17.9 16.5   0.0   0.0 20.3  20.3
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  24.6 24.1  23.6   0.0  0.0   0.0  17.9 16.5   0.0   0.0 20.3  20.3
LOS by Move:    C    C     C     *    *     *     C    C     *     *    C     C
ApproachDel:      24.1            xxxxxx             17.2             20.3
Delay Adj:        1.00             xxxxx             1.00             1.00
ApprAdjDel:       24.1            xxxxxx             17.2             20.3
LOS by Appr:         C                 *                C                C
AllWayAvgQ:   2.2  2.1   2.1   0.0  0.0   0.0   1.0  0.9   0.0   1.5  1.5   1.5
*******************************************************************************
Note: Queue reported is the number of cars per lane.

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2030 Cumulative + Proj + MiWed Oct 3, 2012 12:37:20            Page 6-1
-------------------------------------------------------------------------------
                     Potrero HOPE Development EIR
                        Wilbur Smith Associates
-------------------------------------------------------------------------------
                      Level Of Service Computation Report
            2000 HCM Unsignalized Method (Future Volume Alternative)
*******************************************************************************
Intersection #12 Cesar Chavez/Vermont
*******************************************************************************
Average Delay (sec/veh):     3.9      Worst Case Level Of Service: E[ 45.0]
*******************************************************************************
Street Name:           Vermont Street               Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  0   0  0  0  0  1   1  0  2  0  0   0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0    0     0     0    0   148    88  560     0     0 1539   132
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0    0     0     0    0   148    88  560     0     0 1539   132
Added Vol:     0    0     0     0    0    34    14   32     0     0   77     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   0    0     0     0    0   182   102  592     0     0 1616   132
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:    0    0     0     0    0   194   109  630     0     0 1719   140
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   0    0     0     0    0   194   109  630     0     0 1719   140
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   930  1860 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   273   329 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   273   329 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.71  0.33 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   4.9   1.4 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  45.0  21.2 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     E     C    *     *     *    *     *
Movement:    LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:    xxxxxx             45.0           xxxxxx           xxxxxx
ApproachLOS:         *                E                *                *
*******************************************************************************
Note: Queue reported is the number of cars per lane.
*******************************************************************************

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2030 Cumulative plus Proposed Project plus Mitigations – PM Peak

Potrero HOPE Development EIR
Wilbur Smith Associates

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #13 Cesar Chavez/US 101 Off-Ramp

Cycle (sec):	90	Critical Vol./Cap.(X):	0.932
Loss Time (sec):	8 (Y+R=4.0 sec)	Average Delay (sec/veh):	27.8
Optimal Cycle:	90	Level Of Service:	C

Street Name:	US 101 Off-Ramp						Cesar Chavez Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	0 0	0 0	2	0 0	0 0	0	0 0	2 0	0	0 0	2 0	0
Volume Module:												
Base Vol:	0	0	671	0	0	0	0	708	0	0	1671	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	671	0	0	0	0	708	0	0	1671	0
Added Vol:	0	0	222	0	0	0	0	32	0	0	77	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	893	0	0	0	0	740	0	0	1748	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
PHF Volume:	0	0	950	0	0	0	0	787	0	0	1860	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	0	950	0	0	0	0	787	0	0	1860	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	0	950	0	0	0	0	787	0	0	1860	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	1.00	0.75	1.00	1.00	1.00	1.00	0.95	1.00	1.00	0.95	1.00
Lanes:	0.00	0.00	2.00	0.00	0.00	0.00	0.00	2.00	0.00	0.00	2.00	0.00
Final Sat.:	0	0	2842	0	0	0	0	3610	0	0	3610	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.00	0.33	0.00	0.00	0.00	0.00	0.22	0.00	0.00	0.52	0.00
Crit Moves:			****								****	
Green/Cycle:	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.55	0.00	0.00	0.55	0.00
Volume/Cap:	0.00	0.00	0.93	0.00	0.00	0.00	0.00	0.39	0.00	0.00	0.93	0.00
Delay/Veh:	0.0	0.0	42.4	0.0	0.0	0.0	0.0	11.6	0.0	0.0	27.2	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	0.0	42.4	0.0	0.0	0.0	0.0	11.6	0.0	0.0	27.2	0.0
LOS by Move:	A	A	D	A	A	A	A	B	A	A	C	A
HCM2kAvgQ:	0	0	19	0	0	0	0	7	0	0	30	0

Note: Queue reported is the number of cars per lane.

2030 Cumulative plus Alternative 1 plus Mitigations – PM Peak

```
2030 Cumulative + Proj + MiWed Oct 3, 2012 12:41:33            Page 3-1
--------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Cesar Chavez/Connecticut
********************************************************************************
Cycle (sec):          75                Critical Vol./Cap.(X):        1.738
Loss Time (sec):       8 (Y+R=4.0 sec)  Average Delay (sec/veh):       71.8
Optimal Cycle:        90                Level Of Service:                 E
********************************************************************************
Street Name:          Connecticut Street               Cesar Chavez Street
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase      Permit+Prot        Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0    0     0    19   19    19     8   48    48    36   36    36
Lanes:        0  0  0  0  0    0  0  1! 0  0    0  1  1  0  0    0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0   183    0   298   227 1129     0     0 1337   164
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0   183    0   298   227 1129     0     0 1337   164
Added Vol:      0    0     0     2    0    51   165    0     0     0    0    25
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0   185    0   349   392 1129     0     0 1337   189
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93
PHF Volume:     0    0     0   199    0   375   422 1214     0     0 1438   203
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0    0     0   199    0   375   422 1214     0     0 1438   203
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0    0     0   199    0   375   422 1214     0     0 1438   203
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 1.00  1.00  0.70 1.00  0.70  0.75 0.92  1.00  1.00 0.83  0.83
Lanes:       0.00 0.00  0.00  0.35 0.00  0.65  0.52 1.48  0.00  0.00 2.63  0.37
Final Sat.:     0    0     0   460    0   867   745 2597     0     0 4160   588
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00  0.00  0.43 0.00  0.43  0.57 0.47  0.00  0.00 0.35  0.35
Crit Moves:                               ****  ****                  ****
Green/Cycle: 0.00 0.00  0.00  0.25 0.00  0.25  0.64 0.64  0.00  0.00 0.48  0.48
Volume/Cap:  0.00 0.00  0.00  1.71 0.00  1.71  1.07 0.73  0.00  0.00 0.72  0.72
Delay/Veh:    0.0  0.0   0.0 358.9  0.0 358.9  66.7 11.3   0.0   0.0 17.5  17.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  0.0   0.0 358.9  0.0 358.9  66.7 11.3   0.0   0.0 17.5  17.5
LOS by Move:    A    A     A     F    A     F     E    B     A     A    B     B
HCM2kAvgQ:      0    0     0    44    0    44    32   15     0     0   12    12
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2030 Cumulative + Proj + MiWed Oct 3, 2012 12:41:33            Page 4-1
--------------------------------------------------------------------------------
                        Potrero HOPE Development EIR
                           Wilbur Smith Associates
--------------------------------------------------------------------------------
                      Level Of Service Computation Report
           2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #3 Pennsylvania/SB I-280 Off-Ramp
********************************************************************************
Cycle (sec):          90                Critical Vol./Cap.(X):        0.537
Loss Time (sec):       8 (Y+R=4.0 sec)  Average Delay (sec/veh):       17.4
Optimal Cycle:        34                Level Of Service:                 B
********************************************************************************
Street Name:         Pennsylvania Avenue               SB I-280 Off-Ramp
Approach:       North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Permitted        Permitted       Split Phase      Split Phase
Rights:           Include          Include          Include           Ignore
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  2  0  0    0  0  1  0  0    0  0  0  0  0    2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  226     0     0  412     0     0    0     0   728    0    55
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  226     0     0  412     0     0    0     0   728    0    55
Added Vol:      0    1     0     0    0     0     0    0     0   105    0     2
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  227     0     0  412     0     0    0     0   833    0    57
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.00
PHF Volume:     0  244     0     0  443     0     0    0     0   896    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  244     0     0  443     0     0    0     0   896    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:    0  244     0     0  443     0     0    0     0   896    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.95  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.92 1.00  1.00
Lanes:       0.00 2.00  0.00  0.00 1.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:     0 3610     0     0 1900     0     0    0     0  3502    0  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.07  0.00  0.00 0.23  0.00  0.00 0.00  0.00  0.26 0.00  0.00
Crit Moves:                        ****                          ****
Green/Cycle: 0.00 0.43  0.00  0.00 0.43  0.00  0.00 0.00  0.00  0.48 0.00  0.00
Volume/Cap:  0.00 0.16  0.00  0.00 0.54  0.00  0.00 0.00  0.00  0.54 0.00  0.00
Delay/Veh:    0.0 15.5   0.0   0.0 19.5   0.0   0.0  0.0   0.0  16.9  0.0   0.0
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 15.5   0.0   0.0 19.5   0.0   0.0  0.0   0.0  16.9  0.0   0.0
LOS by Move:    A    B     A     A    B     A     A    A     A     B    A     A
HCM2kAvgQ:      0    2     0     0    9     0     0    0     0     9    0     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2030 Cumulative plus Alternative 1 plus Mitigations – PM Peak

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2030 Cumulative + Proj + MiWed Oct 3, 2012 12:41:33              Page 5-1
---------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                           Wilbur Smith Associates
---------------------------------------------------------------------------
                      Level Of Service Computation Report
          2000 HCM Unsignalized Method (Future Volume Alternative)
***************************************************************************
Intersection #12 Cesar Chavez/Vermont
***************************************************************************
Average Delay (sec/veh):      3.4      Worst Case Level Of Service: E[ 39.6]
***************************************************************************
Street Name:           Vermont Street              Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:       0  0  0  0  0   0  0  0  0  1   1  0  2  0  0   0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0    0     0    0  148    88  560    0     0 1539  132
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0    0    0     0    0  148    88  560    0     0 1539  132
Added Vol:      0    0    0     0    0   24    10   20    0     0   51    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0    0    0     0    0  172    98  580    0     0 1590  132
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     0.94 0.94 0.94  0.94 0.94 0.94  0.94 0.94 0.94  0.94 0.94 0.94
PHF Volume:     0    0    0     0    0  183   104  617    0     0 1691  140
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
FinalVolume:    0    0    0     0    0  183   104  617    0     0 1691  140
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx   916  1832 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx   279   338 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx   279   338 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  0.66  0.31 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx   4.2   1.3 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx  39.6  20.4 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *    *     *    *     E     C    *    *     *    *     *
Movement:    LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *    *     *    *    *     *    *    *     *    *     *
ApproachDel:      xxxxxx            39.6           xxxxxx           xxxxxx
ApproachLOS:         *                E                *                *
***************************************************************************
Note: Queue reported is the number of cars per lane.
***************************************************************************

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2030 Cumulative + Proj + MiWed Oct 3, 2012 12:41:33              Page 6-1
---------------------------------------------------------------------------
                         Potrero HOPE Development EIR
                           Wilbur Smith Associates
---------------------------------------------------------------------------
                      Level Of Service Computation Report
          2000 HCM Operations Method (Future Volume Alternative)
***************************************************************************
Intersection #13 Cesar Chavez/US 101 Off-Ramp
***************************************************************************
Cycle (sec):         90              Critical Vol./Cap.(X):        0.893
Loss Time (sec):      8 (Y+R=4.0 sec) Average Delay (sec/veh):      23.8
Optimal Cycle:       90              Level Of Service:                C
***************************************************************************
Street Name:          US 101 Off-Ramp              Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Split Phase      Split Phase       Permitted        Permitted
Rights:          Include          Include          Include          Include
Min. Green:     0    0    0     0    0    0     0    0    0     0    0    0
Lanes:       0  0  0  0  2   0  0  0  0  0   0  0  2  0  0   0  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0  671     0    0    0     0  708    0     0 1671    0
Growth Adj:  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
Initial Bse:    0    0  671     0    0    0     0  708    0     0 1671    0
Added Vol:      0    0  146     0    0    0     0   20    0     0   51    0
PasserByVol:    0    0    0     0    0    0     0    0    0     0    0    0
Initial Fut:    0    0  817     0    0    0     0  728    0     0 1722    0
User Adj:    1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
PHF Adj:     0.94 0.94 0.94  0.94 0.94 0.94  0.94 0.94 0.94  0.94 0.94 0.94
PHF Volume:     0    0  869     0    0    0     0  774    0     0 1832    0
Reduct Vol:     0    0    0     0    0    0     0    0    0     0    0    0
Reduced Vol:    0    0  869     0    0    0     0  774    0     0 1832    0
PCE Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
MLF Adj:     1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
FinalVolume:    0    0  869     0    0    0     0  774    0     0 1832    0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900 1900  1900 1900 1900  1900 1900 1900  1900 1900 1900
Adjustment:  1.00 1.00 0.75  1.00 1.00 1.00  1.00 0.95 1.00  1.00 0.95 1.00
Lanes:       0.00 0.00 2.00  0.00 0.00 0.00  0.00 2.00 0.00  0.00 2.00 0.00
Final Sat.:     0    0 2842     0    0    0     0 3610    0     0 3610    0
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.00 0.31  0.00 0.00 0.00  0.00 0.21 0.00  0.00 0.51 0.00
Crit Moves:            ****                                         ****
Green/Cycle: 0.00 0.00 0.34  0.00 0.00 0.00  0.00 0.57 0.00  0.00 0.57 0.00
Volume/Cap:  0.00 0.00 0.89  0.00 0.00 0.00  0.00 0.38 0.00  0.00 0.89 0.00
Delay/Veh:    0.0  0.0 38.5   0.0  0.0  0.0   0.0 10.8  0.0   0.0 22.4  0.0
User DelAdj: 1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00  1.00 1.00 1.00
AdjDel/Veh:   0.0  0.0 38.5   0.0  0.0  0.0   0.0 10.8  0.0   0.0 22.4  0.0
LOS by Move:    A    A    D     A    A    A     A    B    A     A    C    A
HCM2kAvgQ:      0    0   17     0    0    0     0    6    0     0   27    0
***************************************************************************
Note: Queue reported is the number of cars per lane.
***************************************************************************

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APPENDIX G

FREEWAY AND RAMP ANALYSIS

FREEWAY ANALYSIS

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	THuynh
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**NB I-280**
From/To:	**South of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	5123	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1392	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1884	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1884	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	54.8	mi/h
Number of lanes, N	3	
Density, D	34.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	THuynh
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**NB I-280**
From/To:	**North of Indiana On-Ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	4644	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1262	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1281	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1281	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	56.0	mi/h
Number of lanes, N	4	
Density, D	22.9	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	THuynh
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**NB US 101**
From/To:	**North of Cesar Chavez on-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6170	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1677	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1702	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1702	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	56.0	mi/h
Number of lanes, N	4	
Density, D	30.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	THuynh
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**SB US 101**
From/To:	**North of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	8274	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2248	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2282	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2282	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	THuynh
Agency or Company:	Wilbur Smith Associates
Date Performed:	1/21/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB I-280**
From/To:	**South of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	2394	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	651	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	880	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	880	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	16.0	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	THuynh
Agency or Company:	Wilbur Smith Associates
Date Performed:	1/21/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**SB I-280**
From/To:	**South of Pennsylvania off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	4375	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1189	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1609	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1609	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	29.3	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	THuynh
Agency or Company:	Wilbur Smith Associates
Date Performed:	1/21/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB I-280**
From/To:	**North of Indiana On-Ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	2669	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	725	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	736	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	736	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	56.0	mi/h
Number of lanes, N	4	
Density, D	13.1	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	THuynh
Agency or Company:	Wilbur Smith Associates
Date Performed:	1/21/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**SB I-280**
From/To:	**North of Pennsylvania off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	4877	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1325	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1794	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1794	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	32.6	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	THuynh
Agency or Company:	Wilbur Smith Associates
Date Performed:	1/21/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB US 101**
From/To:	**North of Cesar Chavez on-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	8426	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2290	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2324	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2324	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	THuynh
Agency or Company:	Wilbur Smith Associates
Date Performed:	1/21/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**SB US 101**
From/To:	**North of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6754	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1835	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1863	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1863	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	55.8	mi/h
Number of lanes, N	4	
Density, D	33.4	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**NB I-280**
From/To:	**South of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+ Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	5197	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1412	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1911	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1911	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	54.7	mi/h
Number of lanes, N	3	
Density, D	34.9	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**NB I-280**
From/To:	**North of Indiana On-Ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+ Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	4786	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1301	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1320	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1320	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	56.0	mi/h
Number of lanes, N	4	
Density, D	23.6	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**NB US 101**
From/To:	**North of Cesar Chavez on-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+ Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6316	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1716	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1742	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1742	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	56.0	mi/h
Number of lanes, N	4	
Density, D	31.1	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**SB US 101**
From/To:	**North of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+ Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	8351	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2269	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2303	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2303	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: CDM Smith
Date Performed: 5/29/2012
Analysis Time Period: AM Peak
Freeway/Direction: NB I-280
From/To: South of Cesar Chavez off-ramp
Jurisdiction: City of San Francisco
Analysis Year: Existing (2010)+ Alt 1
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	5172	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1405	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1902	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1902	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	54.8	mi/h
Number of lanes, N	3	
Density, D	34.7	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**NB I-280**
From/To:	**North of Indiana On-Ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+Alt 1

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	4728	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1285	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1304	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1304	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	56.0	mi/h
Number of lanes, N	4	
Density, D	23.3	pc/mi/ln
Level of service, LOS	C	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**NB US 101**
From/To:	**North of Cesar Chavez on-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+Alt 1

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6258	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1701	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1726	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1726	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	56.0	mi/h
Number of lanes, N	4	
Density, D	30.8	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**SB US 101**
From/To:	**North of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+Alt 1

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	8322	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2261	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2295	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2295	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB I-280**
From/To:	**South of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+ Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	2468	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	671	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	908	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	908	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	16.5	pc/mi/ln
Level of service, LOS	**B**	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**SB I-280**
From/To:	**South of Pennsylvania off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+ Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	4449	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1209	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1636	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1636	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	29.7	pc/mi/ln
Level of service, LOS	**D**	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB I-280**
From/To:	**North of Indiana On-Ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+ Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	2742	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	745	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	756	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	756	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	56.0	mi/h
Number of lanes, N	4	
Density, D	13.5	pc/mi/ln
Level of service, LOS	**B**	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**SB I-280**
From/To:	**North of Pennsylvania off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+ Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	5019	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1364	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1846	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1846	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	54.9	mi/h
Number of lanes, N	3	
Density, D	33.6	pc/mi/ln
Level of service, LOS	**D**	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: Wilbur Smith Associates
Date Performed: 10/20/2011
Analysis Time Period: PM Peak
Freeway/Direction: NB US 101
From/To: North of Cesar Chavez on-ramp
Jurisdiction: City of San Francisco
Analysis Year: Existing (2010)+ Proposed Proj
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	8503	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2311	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2345	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2345	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	**F**	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**SB US 101**
From/To:	**North of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+ Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6900	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1875	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1903	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1903	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	55.7	mi/h
Number of lanes, N	4	
Density, D	34.2	pc/mi/ln
Level of service, LOS	**D**	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: Wilbur Smith Associates
Date Performed: 10/20/2011
Analysis Time Period: PM Peak
Freeway/Direction: NB I-280
From/To: South of Cesar Chavez off-ramp
Jurisdiction: City of San Francisco
Analysis Year: Existing (2010)+ Alt 1
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	2440	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	663	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	897	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	897	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	16.3	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: Wilbur Smith Associates
Date Performed: 10/20/2011
Analysis Time Period: PM Peak
Freeway/Direction: SB I-280
From/To: South of Pennsylvania off-ramp
Jurisdiction: City of San Francisco
Analysis Year: Existing (2010)+Alt 1
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	4424	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1202	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1627	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1627	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	29.6	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: Wilbur Smith Associates
Date Performed: 10/20/2011
Analysis Time Period: PM Peak
Freeway/Direction: NB I-280
From/To: North of Indiana On-Ramp
Jurisdiction: City of San Francisco
Analysis Year: Existing (2010)+Alt 1
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	2713	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	737	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	748	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	748	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	56.0	mi/h
Number of lanes, N	4	
Density, D	13.4	pc/mi/ln
Level of service, LOS	B	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**SB I-280**
From/To:	**North of Pennsylvania off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+Alt 1

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	4961	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1348	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1824	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1824	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S	55.0	mi/h
Number of lanes, N	3	
Density, D	33.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB US 101**
From/To:	**North of Cesar Chavez on-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+Alt 1

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	8474	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2303	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2337	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2337	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**SB US 101**
From/To:	**North of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+Alt 1

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6842	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1859	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1887	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1887	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	55.7	mi/h
Number of lanes, N	4	
Density, D	33.9	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**NB I-280**
From/To:	**South of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	7110	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1932	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2615	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2615	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**NB I-280**
From/To:	**North of Indiana On-Ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6450	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1753	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1779	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1779	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	56.0	mi/h
Number of lanes, N	4	
Density, D	31.8	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: CDM Smith
Date Performed: 5/29/2012
Analysis Time Period: AM Peak
Freeway/Direction: NB US 101
From/To: North of Cesar Chavez on-ramp
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	11550	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	3139	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	3186	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	3186	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: CDM Smith
Date Performed: 5/29/2012
Analysis Time Period: AM Peak
Freeway/Direction: SB US 101
From/To: North of Cesar Chavez off-ramp
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	10910	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2965	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	3009	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	3009	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	BPK
Agency or Company:	Wilbur Smith Associates
Date Performed:	1/21/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB I-280**
From/To:	**South of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6670	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1812	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2453	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2453	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: BPK
Agency or Company: Wilbur Smith Associates
Date Performed: 1/21/2011
Analysis Time Period: PM Peak
Freeway/Direction: SB I-280
From/To: South of Pennsylvania off-ramp
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	7500	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2038	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2758	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2758	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	BPK
Agency or Company:	Wilbur Smith Associates
Date Performed:	1/21/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB I-280**
From/To:	**North of Indiana On-Ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6730	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1829	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1856	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1856	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	55.8	mi/h
Number of lanes, N	4	
Density, D	33.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	BPK
Agency or Company:	Wilbur Smith Associates
Date Performed:	1/21/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**SB I-280**
From/To:	**North of Pennsylvania off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6760	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1837	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2486	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2486	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	BPK
Agency or Company:	Wilbur Smith Associates
Date Performed:	1/21/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB US 101**
From/To:	**North of Cesar Chavez on-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	10740	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2918	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2962	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2962	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: BPK
Agency or Company: Wilbur Smith Associates
Date Performed: 1/21/2011
Analysis Time Period: PM Peak
Freeway/Direction: SB US 101
From/To: North of Cesar Chavez off-ramp
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	10980	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2984	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	3028	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	3028	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**NB I-280**
From/To:	**South of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	7184	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1952	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2642	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2642	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**NB I-280**
From/To:	**North of Indiana On-Ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6592	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1791	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1818	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1818	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	55.9	mi/h
Number of lanes, N	4	
Density, D	32.5	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: CDM Smith
Date Performed: 5/29/2012
Analysis Time Period: AM Peak
Freeway/Direction: NB US 101
From/To: North of Cesar Chavez on-ramp
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative+Proposed Proj
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	11696	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	3178	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	3226	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	3226	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**SB US 101**
From/To:	**North of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	10987	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2986	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	3030	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	3030	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: CDM Smith
Date Performed: 5/29/2012
Analysis Time Period: AM Peak
Freeway/Direction: NB I-280
From/To: South of Cesar Chavez off-ramp
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative+Alt 1
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	7159	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1945	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2633	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2633	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**NB I-280**
From/To:	**North of Indiana On-Ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Alt 1

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6534	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1776	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1802	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1802	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	56.0	mi/h
Number of lanes, N	4	
Density, D	32.2	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: CDM Smith
Date Performed: 5/29/2012
Analysis Time Period: AM Peak
Freeway/Direction: NB US 101
From/To: North of Cesar Chavez on-ramp
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative+Alt 1
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	11638	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	3162	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	3210	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	3210	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	CDM Smith
Date Performed:	5/29/2012
Analysis Time Period:	AM Peak
Freeway/Direction:	**SB US 101**
From/To:	**North of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Alt 1

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	10958	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2978	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	3022	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	3022	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB I-280**
From/To:	**South of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6744	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1833	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2480	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2480	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	**F**	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: Wilbur Smith Associates
Date Performed: 10/20/2011
Analysis Time Period: PM Peak
Freeway/Direction: SB I-280
From/To: South of Pennsylvania off-ramp
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative+Proposed Proj
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	7574	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2058	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2785	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2785	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	**F**	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB I-280**
From/To:	**North of Indiana On-Ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6803	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1849	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1876	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1876	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	55.8	mi/h
Number of lanes, N	4	
Density, D	33.6	pc/mi/ln
Level of service, LOS	**D**	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**SB I-280**
From/To:	**North of Pennsylvania off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6902	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1876	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2538	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2538	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	**F**	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB US 101**
From/To:	**North of Cesar Chavez on-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	10817	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2939	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2983	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2983	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	**F**	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**SB US 101**
From/To:	**North of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Proposed Proj

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	11126	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	3023	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	3069	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	3069	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	**F**	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB I-280**
From/To:	**South of Cesar Chavez off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Alt 1

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6716	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1825	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2470	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2470	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**SB I-280**
From/To:	**South of Pennsylvania off-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Alt 1

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	7549	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2051	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2776	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2776	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: Wilbur Smith Associates
Date Performed: 10/20/2011
Analysis Time Period: PM Peak
Freeway/Direction: NB I-280
From/To: North of Indiana On-Ramp
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative+Alt 1
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6774	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1841	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	1868	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	1868	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S	55.8	mi/h
Number of lanes, N	4	
Density, D	33.5	pc/mi/ln
Level of service, LOS	D	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: Wilbur Smith Associates
Date Performed: 10/20/2011
Analysis Time Period: PM Peak
Freeway/Direction: SB I-280
From/To: North of Pennsylvania off-ramp
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative+Alt 1
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	6844	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	1860	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2517	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	3	
Free-flow speed:	Base	
FFS or BFFS	60.5	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	3.0	mi/h
Free-flow speed, FFS	55.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2517	pc/h/ln
Free-flow speed, FFS	55.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	3	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst:	TCH
Agency or Company:	Wilbur Smith Associates
Date Performed:	10/20/2011
Analysis Time Period:	PM Peak
Freeway/Direction:	**NB US 101**
From/To:	**North of Cesar Chavez on-ramp**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Alt 1

Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	10788	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	2932	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	2975	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	2975	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

HCS+: Basic Freeway Segments Release 5.3

Operational Analysis

Analyst: TCH
Agency or Company: Wilbur Smith Associates
Date Performed: 10/20/2011
Analysis Time Period: PM Peak
Freeway/Direction: SB US 101
From/To: North of Cesar Chavez off-ramp
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative+Alt 1
Description: Potrero HOPE TIAR

Flow Inputs and Adjustments

Volume, V	11068	veh/h
Peak-hour factor, PHF	0.92	
Peak 15-min volume, v15	3008	v
Trucks and buses	3	%
Recreational vehicles	0	%
Terrain type:	Level	
Grade	0.00	%
Segment length	0.00	mi
Trucks and buses PCE, ET	1.5	
Recreational vehicle PCE, ER	1.2	
Heavy vehicle adjustment, fHV	0.985	
Driver population factor, fp	1.00	
Flow rate, vp	3053	pc/h/ln

Speed Inputs and Adjustments

Lane width	12.0	ft
Right-shoulder lateral clearance	6.0	ft
Interchange density	1.00	interchange/mi
Number of lanes, N	4	
Free-flow speed:	Base	
FFS or BFFS	60.0	mi/h
Lane width adjustment, fLW	0.0	mi/h
Lateral clearance adjustment, fLC	0.0	mi/h
Interchange density adjustment, fID	2.5	mi/h
Number of lanes adjustment, fN	1.5	mi/h
Free-flow speed, FFS	56.0	mi/h
	Urban Freeway	

LOS and Performance Measures

Flow rate, vp	3053	pc/h/ln
Free-flow speed, FFS	56.0	mi/h
Average passenger-car speed, S		mi/h
Number of lanes, N	4	
Density, D		pc/mi/ln
Level of service, LOS	F	

Overall results are not computed when free-flow speed is less than 55 mph.

RAMP ANALYSIS

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                 HCS+: Ramps and Ramp Junctions Release 5.3

_________________________________Diverge Analysis______________________________

Analyst:                THuynh
Agency/Co.:             Wilbur Smith Associates
Date performed:         1/21/2011
Analysis time period:   PM Peak
Freeway/Dir of Travel:  NB I-280
Junction:               Off-Ramp to C Chavez
Jurisdiction:           City of San Francisco
Analysis Year:          Existing (2010)
Description:  Potrero HOPE TIAR

__________________________________Freeway Data________________________________

Type of analysis                            Diverge
Number of lanes in freeway                  3
Free-flow speed on freeway                  60.0           mph
Volume on freeway                           2394           vph

_________________________________Off Ramp Data________________________________

Side of freeway                             Right
Number of lanes in ramp                     2
Free-Flow speed on ramp                     45.0           mph
Volume on ramp                              731            vph
Length of first accel/decel lane            500            ft
Length of second accel/decel lane           500            ft

________________________Adjacent Ramp Data (if one exists)____________________

Does adjacent ramp exist?                   No
Volume on adjacent ramp                                    vph
Position of adjacent ramp
Type of adjacent ramp
Distance to adjacent ramp                                  ft

____________________Conversion to pc/h Under Base Conditions__________________

Junction Components                    Freeway     Ramp        Adjacent
                                                               Ramp
Volume, V (vph)                        2394        731                   vph
Peak-hour factor, PHF                  0.92        0.92
Peak 15-min volume, v15                651         199                   v
Trucks and buses                       3           3                     %
Recreational vehicles                  0           0                     %
Terrain type:                          Level       Level
     Grade                             0.00    %   0.00    %           %
     Length                            0.00    mi  0.00    mi          mi
Trucks and buses PCE, ET               1.5         1.5
Recreational vehicle PCE, ER           1.2         1.2
Heavy vehicle adjustment, fHV          0.985       0.985
Driver population factor, fP           1.00        1.00
Flow rate, vp                          2641        806                   pcph
```

```
_________________________Estimation of V12 Diverge Areas______________________

                  L  =           (Equation 25-8 or 25-9)
                   EQ
                  P  =    0.450   Using Equation  0
                   FD
                  v  = v  + (v - v ) P  =  1632   pc/h
                   12   R     F   R   FD

_______________________________Capacity Checks________________________________

                           Actual        Maximum         LOS F?
     v  = v                2641          6900            No
      Fi   F
     v  = v - v            1835          6900            No
      FO   F   R
     v                     806           4100            No
      R
     v     v               1009 pc/h     (Equation 25-15 or 25-16)
      3 or  av34
Is   v     v      > 2700 pc/h?           No
      3 or  av34
Is   v     v      > 1.5 v  /2            No
      3 or  av34        12
If yes, v    = 1632                      (Equation 25-18)
         12A

______________________Flow Entering Diverge Influence Area___________________
                      Actual        Max Desirable         Violation?
     v                1632          4400                  No
      12
_________________Level of Service Determination (if not F)___________________

Density,               D = 4.252 + 0.0086 v  - 0.009  L   =   4.8     pc/mi/ln
                        R                 12          D
Level of service for ramp-freeway junction areas of influence A

_____________________________Speed Estimation_________________________________

Intermediate speed variable,             D  = 0.371
                                          S
Space mean speed in ramp influence area,  S  = 53.3    mph
                                          R
Space mean speed in outer lanes,         S  = 65.8    mph
                                          0
Space mean speed for all vehicles,       S  = 57.5    mph
_____________________________________________________________________________
```

HCS+: Ramps and Ramp Junctions Release 5.3

Diverge Analysis

Analyst: THuynh
Agency/Co.: Wilbur Smith Associates
Date performed: 1/21/2011
Analysis time period: PM Peak
Freeway/Dir of Travel: SB I-280
Junction: Off-Ramp to Pennsylvania
Jurisdiction: City of San Francisco
Analysis Year: Existing (2010)
Description: Potrero HOPE TIAR

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	60.0	mph
Volume on freeway	4877	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	482	vph
Length of first accel/decel lane	500	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	4877		482			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1325		131			v
Trucks and buses	3		3			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			
Heavy vehicle adjustment, fHV	0.985		0.985			
Driver population factor, fP	1.00		1.00			
Flow rate, vp	5381		532			pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.601 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3446 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5381	6900	No
$v_{FO} = v_F - v_R$	4849	6900	No
v_R	532	2100	No
v_{3} or v_{av34}	1935 pc/h	(Equation 25-15 or 25-16)	
Is v_{3} or v_{av34} > 2700 pc/h?		No	
Is v_{3} or v_{av34} > 1.5 v_{12}/2		No	
If yes, v_{12A} = 3446		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3446	4400	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 29.4 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	D_S = 0.346	
Space mean speed in ramp influence area,	S_R = 53.8	mph
Space mean speed in outer lanes,	S_0 = 62.2	mph
Space mean speed for all vehicles,	S = 56.5	mph

```
                    HCS+: Ramps and Ramp Junctions Release 5.3

_________________________________Merge Analysis______________________________

Analyst:                THuynh
Agency/Co.:             Wilbur Smith Associates
Date performed:         1/21/2011
Analysis time period:   PM Peak
Freeway/Dir of Travel:  NB I-280
Junction:               On-Ramp from Indiana
Jurisdiction:           City of San Francisco
Analysis Year:          Existing (2010)
Description:  Potrero HOPE TIAR

__________________________________Freeway Data_______________________________

Type of analysis                            Merge
Number of lanes in freeway                  3
Free-flow speed on freeway                  60.0          mph
Volume on freeway                           2303          vph

__________________________________On Ramp Data_______________________________

Side of freeway                             Right
Number of lanes in ramp                     1
Free-flow speed on ramp                     45.0          mph
Volume on ramp                              366           vph
Length of first accel/decel lane            500           ft
Length of second accel/decel lane                         ft

_________________________Adjacent Ramp Data (if one exists)__________________

Does adjacent ramp exist?                   No
Volume on adjacent Ramp                                   vph
Position of adjacent Ramp
Type of adjacent Ramp
Distance to adjacent Ramp                                 ft

____________________Conversion to pc/h Under Base Conditions_________________

Junction Components                    Freeway     Ramp        Adjacent
                                                               Ramp
Volume, V (vph)                        2303        366                   vph
Peak-hour factor, PHF                  0.92        0.92
Peak 15-min volume, v15                626         99                    v
Trucks and buses                       3           3                     %
Recreational vehicles                  0           0                     %
Terrain type:                          Level       Level
     Grade                                     %           %           %
     Length                                    mi          mi          mi
Trucks and buses PCE, ET               1.5         1.5
Recreational vehicle PCE, ER           1.2         1.2
Heavy vehicle adjustment, fHV          0.985       0.985
Driver population factor, fP           1.00        1.00
Flow rate, vp                          2541        404                   pcph
```

```
_________________________Estimation of V12 Merge Areas_______________________

                  L  =           (Equation 25-2 or 25-3)
                   EQ
                  P  =    0.591   Using Equation  1
                   FM
                  v  = v  (P  ) =  1503   pc/h
                   12   F   FM

_______________________________Capacity Checks_______________________________

                           Actual        Maximum         LOS F?
     v                     2945          6900            No
      FO
     v     v               1038 pc/h     (Equation 25-4 or 25-5)
      3 or  av34
Is   v     v      > 2700 pc/h?           No
      3 or  av34
Is   v     v      > 1.5 v  /2            No
      3 or  av34          12
If yes, v    = 1503                      (Equation 25-8)
         12A

________________________Flow Entering Merge Influence Area___________________
                      Actual        Max Desirable        Violation?
     v                1503          4600                 No
      R12
_________________Level of Service Determination (if not F)___________________

Density, D = 5.475 + 0.00734 v  + 0.0078 v   - 0.00627 L   =   17.0    pc/mi/ln
          R                   R           12            A
Level of service for ramp-freeway junction areas of influence  B

_____________________________Speed Estimation________________________________

Intermediate speed variable,                 M  = 0.302
                                              S
Space mean speed in ramp influence area,     S  = 54.6    mph
                                              R
Space mean speed in outer lanes,             S  = 58.1    mph
                                              0
Space mean speed for all vehicles,           S  = 55.7    mph
_____________________________________________________________________________
```

HCS+: Ramps and Ramp Junctions Release 5.3

Merge Analysis

Analyst: THuynh
Agency/Co.: Wilbur Smith Associates
Date performed: 1/21/2011
Analysis time period: PM Peak
Freeway/Dir of Travel: SB I-280
Junction: On-Ramp from Pennsylvania
Jurisdiction: City of San Francisco
Analysis Year: Existing (2010)
Description: Potrero HOPE TIAR

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	60.0	mph
Volume on freeway	3605	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	45.0	mph
Volume on ramp	770	vph
Length of first accel/decel lane	500	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	3605		770			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	980		209			v
Trucks and buses	3		3			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade		%		%		%
Length		mi		mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			
Heavy vehicle adjustment, fHV	0.985		0.985			
Driver population factor, fP	1.00		1.00			
Flow rate, vp	3977		850			pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.591 Using Equation 1
$v_{12} = v_F (P_{FM})$ = 2352 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	4827	6900	No
v_3 or v_{av34}	1625 pc/h	(Equation 25-4 or 25-5)	
Is v_3 or v_{av34} > 2700 pc/h?		No	
Is v_3 or v_{av34} > 1.5 v_{12}/2		No	
If yes, v_{12A} = 2352		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{R12}	2352	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 26.9 pc/mi/ln
Level of service for ramp-freeway junction areas of influence C

Speed Estimation

Intermediate speed variable, M_S = 0.372
Space mean speed in ramp influence area, S_R = 53.3 mph
Space mean speed in outer lanes, S_0 = 56.0 mph
Space mean speed for all vehicles, S = 54.2 mph

HCS+: Ramps and Ramp Junctions Release 5.3

Diverge Analysis

Analyst:	TCH
Agency/Co.:	Wilbur Smith Associates
Date performed:	10/20/2011
Analysis time period:	PM Peak
Freeway/Dir of Travel:	**NB I-280**
Junction:	**Off-Ramp to C Chavez**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+Proposed Proj

Description: Potrero HOPE TIAR

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	60.0	mph
Volume on freeway	2468	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	805	vph
Length of first accel/decel lane	500	ft
Length of second accel/decel lane	500	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	2468		805			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	671		219			v
Trucks and buses	3		3			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%	%	
Length	0.00	mi	0.00	mi	mi	
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			
Heavy vehicle adjustment, fHV	0.985		0.985			
Driver population factor, fP	1.00		1.00			
Flow rate, vp	2723		888			pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.450 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 1714 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2723	6900	No
$v_{FO} = v_F - v_R$	1835	6900	No
v_R	888	4100	No
v_3 or v_{av34}	1009 pc/h	(Equation 25-15 or 25-16)	
Is v_3 or v_{av34} > 2700 pc/h?		No	
Is v_3 or v_{av34} > 1.5 v_{12}/2		No	
If yes, v_{12A} = 1714		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	1714	4400	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086 v_{12} - 0.009 L_D$ = 5.5 pc/mi/ln

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable,	D_S = 0.378	
Space mean speed in ramp influence area,	S_R = 53.2	mph
Space mean speed in outer lanes,	S_0 = 65.8	mph
Space mean speed for all vehicles,	S = 57.3	mph

HCS+: Ramps and Ramp Junctions Release 5.3

Diverge Analysis

Analyst: TCH
Agency/Co.: Wilbur Smith Associates
Date performed: 10/20/2011
Analysis time period: PM Peak
Freeway/Dir of Travel: SB I-280
Junction: Off-Ramp to Pennsylvania
Jurisdiction: City of San Francisco
Analysis Year: Existing (2010)+Proposed Proj
Description: Potrero HOPE TIAR

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	60.0	mph
Volume on freeway	5019	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	624	vph
Length of first accel/decel lane	500	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	5019		624			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1364		170			v
Trucks and buses	3		3			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			
Heavy vehicle adjustment, fHV	0.985		0.985			
Driver population factor, fP	1.00		1.00			
Flow rate, vp	5537		688			pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.590 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3549 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	5537	6900	No
$v_{FO} = v_F - v_R$	4849	6900	No
v_R	688	2100	No
v_{3} or v_{av34}	1988 pc/h	(Equation 25-15 or 25-16)	
Is v_{3} or v_{av34} > 2700 pc/h?		No	
Is v_{3} or v_{av34} > 1.5 v_{12}/2		No	
If yes, v_{12A} = 3549		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	3549	4400	No

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v_R - 0.009 L_D$ = 30.3 pc/mi/ln

Level of service for ramp-freeway junction areas of influence D

Speed Estimation

Intermediate speed variable,	D_S = 0.360	
Space mean speed in ramp influence area,	S_R = 53.5	mph
Space mean speed in outer lanes,	S_0 = 62.0	mph
Space mean speed for all vehicles,	S = 56.3	mph

```
                     HCS+: Ramps and Ramp Junctions Release 5.3

_________________________________Merge Analysis________________________________

Analyst:                TCH
Agency/Co.:             Wilbur Smith Associates
Date performed:         10/20/2011
Analysis time period:   PM Peak
Freeway/Dir of Travel:  NB I-280
Junction:               On-Ramp from Indiana
Jurisdiction:           City of San Francisco
Analysis Year:          Existing (2010)+Proposed Proj
Description:  Potrero HOPE TIAR

__________________________________Freeway Data_________________________________

Type of analysis                            Merge
Number of lanes in freeway                  3
Free-flow speed on freeway                  60.0           mph
Volume on freeway                           2303           vph

__________________________________On Ramp Data_________________________________

Side of freeway                             Right
Number of lanes in ramp                     1
Free-flow speed on ramp                     45.0           mph
Volume on ramp                              439            vph
Length of first accel/decel lane            500            ft
Length of second accel/decel lane                          ft

_________________________Adjacent Ramp Data (if one exists)____________________

Does adjacent ramp exist?                   No
Volume on adjacent Ramp                                    vph
Position of adjacent Ramp
Type of adjacent Ramp
Distance to adjacent Ramp                                  ft

____________________Conversion to pc/h Under Base Conditions___________________

Junction Components                     Freeway     Ramp        Adjacent
                                                                Ramp
Volume, V (vph)                         2303        439                   vph
Peak-hour factor, PHF                   0.92        0.92
Peak 15-min volume, v15                 626         119                   v
Trucks and buses                        3           3                     %
Recreational vehicles                   0           0                     %
Terrain type:                           Level       Level
     Grade                                      %           %           %
     Length                                     mi          mi          mi
Trucks and buses PCE, ET                1.5         1.5
Recreational vehicle PCE, ER            1.2         1.2
Heavy vehicle adjustment, fHV           0.985       0.985
Driver population factor, fP            1.00        1.00
Flow rate, vp                           2541        484                   pcph
```

```
_________________________Estimation of V12 Merge Areas_________________________

                  L  =           (Equation 25-2 or 25-3)
                   EQ
                  P  =    0.591   Using Equation  1
                   FM
                  v  = v  (P  ) =  1503   pc/h
                   12   F   FM

_______________________________Capacity Checks_________________________________

                           Actual        Maximum         LOS F?
     v                     3025          6900            No
      FO
     v     v               1038 pc/h     (Equation 25-4 or 25-5)
      3 or  av34
Is   v     v      > 2700 pc/h?           No
      3 or  av34
Is   v     v      > 1.5 v  /2            No
      3 or  av34         12
If yes, v    = 1503                      (Equation 25-8)
         12A

________________________Flow Entering Merge Influence Area_____________________
                      Actual        Max Desirable        Violation?
     v                1503          4600                 No
      R12
_________________Level of Service Determination (if not F)_____________________

Density, D = 5.475 + 0.00734 v  + 0.0078 v   - 0.00627 L   =   17.6    pc/mi/ln
          R                   R           12            A
Level of service for ramp-freeway junction areas of influence  B

_____________________________Speed Estimation__________________________________

Intermediate speed variable,                M  = 0.304
                                             S
Space mean speed in ramp influence area,    S  = 54.5    mph
                                             R
Space mean speed in outer lanes,            S  = 58.1    mph
                                             0
Space mean speed for all vehicles,          S  = 55.7    mph
_______________________________________________________________________________
```

```
                    HCS+: Ramps and Ramp Junctions Release 5.3
________________________________Merge Analysis________________________________

Analyst:                TCH
Agency/Co.:             Wilbur Smith Associates
Date performed:         10/20/2011
Analysis time period:   PM Peak
Freeway/Dir of Travel:  SB I-280
Junction:               On-Ramp from Pennsylvania
Jurisdiction:           City of San Francisco
Analysis Year:          Existing (2010)+Proposed Proj
Description:  Potrero HOPE TIAR
_________________________________Freeway Data_________________________________

Type of analysis                            Merge
Number of lanes in freeway                  3
Free-flow speed on freeway                  60.0          mph
Volume on freeway                           3605          vph
_________________________________On Ramp Data_________________________________

Side of freeway                             Right
Number of lanes in ramp                     1
Free-flow speed on ramp                     45.0          mph
Volume on ramp                              844           vph
Length of first accel/decel lane            500           ft
Length of second accel/decel lane                         ft
_________________________Adjacent Ramp Data (if one exists)___________________

Does adjacent ramp exist?                   No
Volume on adjacent Ramp                                   vph
Position of adjacent Ramp
Type of adjacent Ramp
Distance to adjacent Ramp                                 ft
____________________Conversion to pc/h Under Base Conditions__________________

Junction Components                    Freeway     Ramp        Adjacent
                                                               Ramp
Volume, V (vph)                        3605        844                   vph
Peak-hour factor, PHF                  0.92        0.92
Peak 15-min volume, v15                980         229                   v
Trucks and buses                       3           3                     %
Recreational vehicles                  0           0                     %
Terrain type:                          Level       Level
     Grade                                     %           %           %
     Length                                    mi          mi          mi
Trucks and buses PCE, ET               1.5         1.5
Recreational vehicle PCE, ER           1.2         1.2
Heavy vehicle adjustment, fHV          0.985       0.985
Driver population factor, fP           1.00        1.00
Flow rate, vp                          3977        931                   pcph
```

```
_________________________Estimation of V12 Merge Areas________________________

                  L  =           (Equation 25-2 or 25-3)
                   EQ
                  P  =    0.591   Using Equation  1
                   FM
                  v  = v  (P  ) =  2352   pc/h
                   12   F   FM
_______________________________Capacity Checks________________________________

                           Actual        Maximum         LOS F?
     v                     4908          6900            No
      FO
     v     v               1625 pc/h     (Equation 25-4 or 25-5)
      3 or  av34
Is   v     v      > 2700 pc/h?           No
      3 or  av34
Is   v     v      > 1.5 v  /2            No
      3 or  av34        12
If yes, v    = 2352                      (Equation 25-8)
         12A
________________________Flow Entering Merge Influence Area____________________
                      Actual        Max Desirable         Violation?
     v                2352          4600                  No
      R12
_________________Level of Service Determination (if not F)____________________

Density, D = 5.475 + 0.00734 v  + 0.0078 v   - 0.00627 L   =   27.5    pc/mi/ln
          R                   R          12            A
Level of service for ramp-freeway junction areas of influence  C
_____________________________Speed Estimation_________________________________

Intermediate speed variable,                  M  = 0.380
                                               S
Space mean speed in ramp influence area,      S  = 53.2    mph
                                               R
Space mean speed in outer lanes,              S  = 56.0    mph
                                               0
Space mean speed for all vehicles,            S  = 54.1    mph
______________________________________________________________________________
```

HCS+: Ramps and Ramp Junctions Release 5.3

Diverge Analysis

Analyst: TCH
Agency/Co.: Wilbur Smith Associates
Date performed: 10/20/2011
Analysis time period: PM Peak
Freeway/Dir of Travel: NB I-280
Junction: Off-Ramp to C Chavez
Jurisdiction: City of San Francisco
Analysis Year: Existing (2010)+Alt 1
Description: Potrero HOPE TIAR

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	60.0	mph
Volume on freeway	2440	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	777	vph
Length of first accel/decel lane	500	ft
Length of second accel/decel lane	500	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	2440		777			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	663		211			v
Trucks and buses	3		3			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%	%	
Length	0.00	mi	0.00	mi	mi	
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			
Heavy vehicle adjustment, fHV	0.985		0.985			
Driver population factor, fP	1.00		1.00			
Flow rate, vp	2692		857			pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.450 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 1683 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	2692	6900	No
$v_{FO} = v_F - v_R$	1835	6900	No
v_R	857	4100	No
v_{3} or v_{av34}	1009 pc/h	(Equation 25-15 or 25-16)	

Is v_3 or v_{av34} > 2700 pc/h? No

Is v_3 or v_{av34} > 1.5 v_{12}/2 No

If yes, v_{12A} = 1683 (Equation 25-18)

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12}	1683	4400	No

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\, v_{12} - 0.009\, L_D$ = 5.2 pc/mi/ln

Level of service for ramp-freeway junction areas of influence A

Speed Estimation

Intermediate speed variable,	D_S = 0.375	
Space mean speed in ramp influence area,	S_R = 53.2	mph
Space mean speed in outer lanes,	S_0 = 65.8	mph
Space mean speed for all vehicles,	S = 57.3	mph

```
                    HCS+: Ramps and Ramp Junctions Release 5.3

_________________________________Diverge Analysis______________________________

Analyst:                TCH
Agency/Co.:             Wilbur Smith Associates
Date performed:         10/20/2011
Analysis time period:   PM Peak
Freeway/Dir of Travel:  SB I-280
Junction:               Off-Ramp to Pennsylvania
Jurisdiction:           City of San Francisco
Analysis Year:          Existing (2010)+Alt 1
Description:  Potrero HOPE TIAR

__________________________________Freeway Data_________________________________

Type of analysis                            Diverge
Number of lanes in freeway                  3
Free-flow speed on freeway                  60.0           mph
Volume on freeway                           4961           vph

_________________________________Off Ramp Data_________________________________

Side of freeway                             Right
Number of lanes in ramp                     1
Free-Flow speed on ramp                     45.0           mph
Volume on ramp                              566            vph
Length of first accel/decel lane            500            ft
Length of second accel/decel lane                          ft

_________________________Adjacent Ramp Data (if one exists)____________________

Does adjacent ramp exist?                   No
Volume on adjacent ramp                                    vph
Position of adjacent ramp
Type of adjacent ramp
Distance to adjacent ramp                                  ft

____________________Conversion to pc/h Under Base Conditions___________________

Junction Components                    Freeway     Ramp        Adjacent
                                                               Ramp
Volume, V (vph)                        4961        566                   vph
Peak-hour factor, PHF                  0.92        0.92
Peak 15-min volume, v15                1348        154                   v
Trucks and buses                       3           3                     %
Recreational vehicles                  0           0                     %
Terrain type:                          Level       Level
     Grade                             0.00    %   0.00    %          %
     Length                            0.00    mi  0.00    mi         mi
Trucks and buses PCE, ET               1.5         1.5
Recreational vehicle PCE, ER           1.2         1.2
Heavy vehicle adjustment, fHV          0.985       0.985
Driver population factor, fP           1.00        1.00
Flow rate, vp                          5473        624                   pcph
```

```
_________________________Estimation of V12 Diverge Areas______________________

                  L  =           (Equation 25-8 or 25-9)
                   EQ
                  P  =    0.594   Using Equation  5
                   FD
                  v  = v  + (v - v ) P  =  3507   pc/h
                   12   R     F   R   FD

_______________________________Capacity Checks_________________________________

                           Actual        Maximum         LOS F?
     v  = v                5473          6900            No
      Fi   F
     v  = v - v            4849          6900            No
      FO   F   R
     v                     624           2100            No
      R
     v     v               1966 pc/h     (Equation 25-15 or 25-16)
      3 or  av34
Is   v     v      > 2700 pc/h?           No
      3 or  av34
Is   v     v      > 1.5 v  /2            No
      3 or  av34         12
If yes, v    = 3507                      (Equation 25-18)
         12A

______________________Flow Entering Diverge Influence Area_____________________
                      Actual        Max Desirable         Violation?
     v                3507          4400                  No
      12
_________________Level of Service Determination (if not F)____________________

Density,               D = 4.252 + 0.0086 v  - 0.009  L   =   29.9    pc/mi/ln
                        R                 12          D
Level of service for ramp-freeway junction areas of influence D

_____________________________Speed Estimation__________________________________

Intermediate speed variable,             D  = 0.354
                                          S
Space mean speed in ramp influence area, S  = 53.6    mph
                                          R
Space mean speed in outer lanes,         S  = 62.1    mph
                                          0
Space mean speed for all vehicles,       S  = 56.4    mph
_______________________________________________________________________________
```

HCS+: Ramps and Ramp Junctions Release 5.3

Merge Analysis

Analyst:	TCH
Agency/Co.:	Wilbur Smith Associates
Date performed:	10/20/2011
Analysis time period:	PM Peak
Freeway/Dir of Travel:	**NB I-280**
Junction:	**On-Ramp from Indiana**
Jurisdiction:	City of San Francisco
Analysis Year:	Existing (2010)+Alt 1

Description: Potrero HOPE TIAR

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	60.0	mph
Volume on freeway	2303	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	45.0	mph
Volume on ramp	410	vph
Length of first accel/decel lane	500	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	2303	410		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	626	111		v
Trucks and buses	3	3		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		
Heavy vehicle adjustment, fHV	0.985	0.985		
Driver population factor, fP	1.00	1.00		
Flow rate, vp	2541	452		pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.591 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 1503 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	2993	6900	No
v_3 or v_{av34}	1038 pc/h	(Equation 25-4 or 25-5)	
Is v_3 or v_{av34} > 2700 pc/h?		No	
Is v_3 or v_{av34} > 1.5 v_{12}/2		No	
If yes, v_{12A} = 1503		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{R12}	1503	4600	No

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 17.4 pc/mi/ln

Level of service for ramp-freeway junction areas of influence B

Speed Estimation

Intermediate speed variable,	M_S = 0.304	
Space mean speed in ramp influence area,	S_R = 54.5	mph
Space mean speed in outer lanes,	S_0 = 58.1	mph
Space mean speed for all vehicles,	S = 55.7	mph

```
                      HCS+: Ramps and Ramp Junctions Release 5.3

_________________________________Merge Analysis________________________________

Analyst:                TCH
Agency/Co.:             Wilbur Smith Associates
Date performed:         10/20/2011
Analysis time period:   PM Peak
Freeway/Dir of Travel:  SB I-280
Junction:               On-Ramp from Pennsylvania
Jurisdiction:           City of San Francisco
Analysis Year:          Existing (2010)+Alt 1
Description:  Potrero HOPE TIAR

__________________________________Freeway Data_________________________________

Type of analysis                            Merge
Number of lanes in freeway                  3
Free-flow speed on freeway                  60.0           mph
Volume on freeway                           3605           vph

__________________________________On Ramp Data_________________________________

Side of freeway                             Right
Number of lanes in ramp                     1
Free-flow speed on ramp                     45.0           mph
Volume on ramp                              819            vph
Length of first accel/decel lane            500            ft
Length of second accel/decel lane                          ft

_________________________Adjacent Ramp Data (if one exists)____________________

Does adjacent ramp exist?                   No
Volume on adjacent Ramp                                    vph
Position of adjacent Ramp
Type of adjacent Ramp
Distance to adjacent Ramp                                  ft

____________________Conversion to pc/h Under Base Conditions___________________

Junction Components                     Freeway     Ramp        Adjacent
                                                                Ramp
Volume, V (vph)                         3605        819                   vph
Peak-hour factor, PHF                   0.92        0.92
Peak 15-min volume, v15                 980         223                   v
Trucks and buses                        3           3                     %
Recreational vehicles                   0           0                     %
Terrain type:                           Level       Level
     Grade                                      %           %           %
     Length                                     mi          mi          mi
Trucks and buses PCE, ET                1.5         1.5
Recreational vehicle PCE, ER            1.2         1.2
Heavy vehicle adjustment, fHV           0.985       0.985
Driver population factor, fP            1.00        1.00
Flow rate, vp                           3977        904                   pcph


_________________________Estimation of V12 Merge Areas_________________________

                  L  =            (Equation 25-2 or 25-3)
                   EQ
                  P  =    0.591   Using Equation  1
                   FM
                  v  = v  (P  ) =  2352   pc/h
                   12   F   FM

______________________________Capacity Checks__________________________________

                           Actual        Maximum         LOS F?
     v                     4881          6900            No
      FO
     v     v               1625 pc/h     (Equation 25-4 or 25-5)
      3 or  av34
Is   v     v      > 2700 pc/h?           No
      3 or  av34
Is   v     v      > 1.5 v  /2            No
      3 or  av34        12
If yes, v    = 2352                      (Equation 25-8)
         12A

________________________Flow Entering Merge Influence Area_____________________
                      Actual        Max Desirable        Violation?
     v                2352          4600                 No
      R12
_________________Level of Service Determination (if not F)____________________

Density, D = 5.475 + 0.00734 v  + 0.0078 v   - 0.00627 L   =   27.3    pc/mi/ln
          R                   R           12            A
Level of service for ramp-freeway junction areas of influence  C

_____________________________Speed Estimation__________________________________

Intermediate speed variable,                M  = 0.377
                                             S
Space mean speed in ramp influence area,    S  = 53.2    mph
                                             R
Space mean speed in outer lanes,            S  = 56.0    mph
                                             0
Space mean speed for all vehicles,          S  = 54.1    mph
_______________________________________________________________________________
```

HCS+: Ramps and Ramp Junctions Release 5.3

Diverge Analysis

Analyst: BPK
Agency/Co.: Wilbur Smith Associates
Date performed: 1/21/2011
Analysis time period: PM Peak
Freeway/Dir of Travel: NB I-280
Junction: Off-Ramp to C Chavez
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative
Description: Potrero HOPE TIAR

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	60.0	mph
Volume on freeway	6670	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	2	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	930	vph
Length of first accel/decel lane	500	ft
Length of second accel/decel lane	500	ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	6670		930			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1812		253			v
Trucks and buses	3		3			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%	%	
Length	0.00	mi	0.00	mi	mi	
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			
Heavy vehicle adjustment, fHV	0.985		0.985			
Driver population factor, fP	1.00		1.00			
Flow rate, vp	7359		1026			pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.450 Using Equation 0

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 3876 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	7359	6900	Yes
$v_{FO} = v_F - v_R$	6333	6900	No
v_R	1026	4100	No
v_3 or v_{av34}	3483 pc/h	(Equation 25-15 or 25-16)	
Is v_3 or v_{av34} > 2700 pc/h?		Yes	
Is v_3 or v_{av34} > 1.5 v_{12}/2		No	
If yes, v_{12A} = 4659		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12A}	4659	4400	No

Level of Service Determination (if not F)

Density, $D = 4.252 + 0.0086 v_R - 0.009 L_D$ = 30.8 pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable,	D_S = 0.390	
Space mean speed in ramp influence area,	S_R = 53.0	mph
Space mean speed in outer lanes,	S_0 = 59.2	mph
Space mean speed for all vehicles,	S = 55.1	mph

```
                      HCS+: Ramps and Ramp Junctions Release 5.3

_________________________________Diverge Analysis______________________________

Analyst:                BPK
Agency/Co.:             Wilbur Smith Associates
Date performed:         1/21/2011
Analysis time period:   PM Peak
Freeway/Dir of Travel:  SB I-280
Junction:               Off-Ramp to Pennsylvania
Jurisdiction:           City of San Francisco
Analysis Year:          2030 Cumulative
Description:  Potrero HOPE TIAR

__________________________________Freeway Data_________________________________

Type of analysis                            Diverge
Number of lanes in freeway                  3
Free-flow speed on freeway                  60.0           mph
Volume on freeway                           6760           vph

_________________________________Off Ramp Data_________________________________

Side of freeway                             Right
Number of lanes in ramp                     1
Free-Flow speed on ramp                     45.0           mph
Volume on ramp                              870            vph
Length of first accel/decel lane            500            ft
Length of second accel/decel lane                          ft

_________________________Adjacent Ramp Data (if one exists)____________________

Does adjacent ramp exist?                   No
Volume on adjacent ramp                                    vph
Position of adjacent ramp
Type of adjacent ramp
Distance to adjacent ramp                                  ft

____________________Conversion to pc/h Under Base Conditions___________________

Junction Components                     Freeway     Ramp        Adjacent
                                                                Ramp
Volume, V (vph)                         6760        870                   vph
Peak-hour factor, PHF                   0.92        0.92
Peak 15-min volume, v15                 1837        236                   v
Trucks and buses                        3           3                     %
Recreational vehicles                   0           0                     %
Terrain type:                           Level       Level
     Grade                              0.00    %   0.00    %           %
     Length                             0.00    mi  0.00    mi          mi
Trucks and buses PCE, ET                1.5         1.5
Recreational vehicle PCE, ER            1.2         1.2
Heavy vehicle adjustment, fHV           0.985       0.985
Driver population factor, fP            1.00        1.00
Flow rate, vp                           7458        960                   pcph
```

```
_________________________Estimation of V12 Diverge Areas______________________

                  L  =           (Equation 25-8 or 25-9)
                   EQ
                  P  =    0.529   Using Equation  5
                   FD
                  v  = v  + (v - v ) P  =  4400   pc/h
                   12   R     F   R   FD

_______________________________Capacity Checks________________________________

                           Actual        Maximum         LOS F?
     v  = v                7458          6900            Yes
      Fi   F
     v  = v - v            6498          6900            No
      FO   F   R
     v                     960           2100            No
      R
     v     v               3058 pc/h     (Equation 25-15 or 25-16)
      3 or  av34
Is   v     v      > 2700 pc/h?           Yes
      3 or  av34
Is   v     v      > 1.5 v  /2            No
      3 or  av34         12
If yes, v    = 4758                      (Equation 25-18)
         12A

______________________Flow Entering Diverge Influence Area____________________
                      Actual        Max Desirable         Violation?
     v                4758          4400                  No
      12A
_________________Level of Service Determination (if not F)____________________

Density,               D = 4.252 + 0.0086 v  - 0.009  L   =   40.7    pc/mi/ln
                                           R                12         D
Level of service for ramp-freeway junction areas of influence F

_____________________________Speed Estimation_________________________________

Intermediate speed variable,              D  = 0.384
                                           S
Space mean speed in ramp influence area,  S  = 53.1    mph
                                           R
Space mean speed in outer lanes,          S  = 59.2    mph
                                           0
Space mean speed for all vehicles,        S  = 55.1    mph
______________________________________________________________________________
```

```
                      HCS+: Ramps and Ramp Junctions Release 5.3

_________________________________Merge Analysis________________________________

Analyst:                BPK
Agency/Co.:             Wilbur Smith Associates
Date performed:         1/21/2011
Analysis time period:   PM Peak
Freeway/Dir of Travel:  NB I-280
Junction:               On-Ramp from Indiana
Jurisdiction:           City of San Francisco
Analysis Year:          2030 Cumulative
Description:  Potrero HOPE TIAR

__________________________________Freeway Data_________________________________

Type of analysis                            Merge
Number of lanes in freeway                  3
Free-flow speed on freeway                  60.0          mph
Volume on freeway                           5740          vph

__________________________________On Ramp Data_________________________________

Side of freeway                             Right
Number of lanes in ramp                     1
Free-flow speed on ramp                     45.0          mph
Volume on ramp                              990           vph
Length of first accel/decel lane            500           ft
Length of second accel/decel lane                         ft

_________________________Adjacent Ramp Data (if one exists)____________________

Does adjacent ramp exist?                   No
Volume on adjacent Ramp                                   vph
Position of adjacent Ramp
Type of adjacent Ramp
Distance to adjacent Ramp                                 ft

____________________Conversion to pc/h Under Base Conditions___________________

Junction Components                    Freeway     Ramp        Adjacent
                                                               Ramp
Volume, V (vph)                        5740        990                   vph
Peak-hour factor, PHF                  0.92        0.92
Peak 15-min volume, v15                1560        269                   v
Trucks and buses                       3           3                     %
Recreational vehicles                  0           0                     %
Terrain type:                          Level       Level
     Grade                                     %           %           %
     Length                                    mi          mi          mi
Trucks and buses PCE, ET               1.5         1.5
Recreational vehicle PCE, ER           1.2         1.2
Heavy vehicle adjustment, fHV          0.985       0.985
Driver population factor, fP           1.00        1.00
Flow rate, vp                          6333        1092                  pcph
```

```
_________________________Estimation of V12 Merge Areas________________________

                  L  =           (Equation 25-2 or 25-3)
                   EQ
                  P  =    0.591   Using Equation  1
                   FM
                  v  = v  (P  ) =  3746   pc/h
                   12   F   FM

_______________________________Capacity Checks________________________________

                           Actual        Maximum         LOS F?
     v                     7425          6900            Yes
      FO
     v     v               2587 pc/h     (Equation 25-4 or 25-5)
      3 or  av34
Is   v     v      > 2700 pc/h?           No
      3 or  av34
Is   v     v      > 1.5 v  /2            No
      3 or  av34         12
If yes, v    = 3746                      (Equation 25-8)
         12A

________________________Flow Entering Merge Influence Area____________________
                      Actual        Max Desirable        Violation?
     v                3746          4600                 Yes
      R12
_________________Level of Service Determination (if not F)____________________

Density, D = 5.475 + 0.00734 v  + 0.0078 v   - 0.00627 L   =   39.6    pc/mi/ln
          R                   R           12            A
Level of service for ramp-freeway junction areas of influence  F

_____________________________Speed Estimation_________________________________

Intermediate speed variable,                 M  = 0.768
                                              S
Space mean speed in ramp influence area,     S  = 46.2    mph
                                              R
Space mean speed in outer lanes,             S  = 51.7    mph
                                              0
Space mean speed for all vehicles,           S  = 48.0    mph
______________________________________________________________________________
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                      HCS+: Ramps and Ramp Junctions Release 5.3

_________________________________Merge Analysis________________________________

Analyst:                BPK
Agency/Co.:             Wilbur Smith Associates
Date performed:         1/21/2011
Analysis time period:   PM Peak
Freeway/Dir of Travel:  SB I-280
Junction:               On-Ramp from Pennsylvania
Jurisdiction:           City of San Francisco
Analysis Year:          2030 Cumulative
Description:  Potrero HOPE TIAR

__________________________________Freeway Data_________________________________

Type of analysis                            Merge
Number of lanes in freeway                  3
Free-flow speed on freeway                  60.0          mph
Volume on freeway                           5890          vph

__________________________________On Ramp Data_________________________________

Side of freeway                             Right
Number of lanes in ramp                     1
Free-flow speed on ramp                     45.0          mph
Volume on ramp                              1610          vph
Length of first accel/decel lane            500           ft
Length of second accel/decel lane                         ft

_________________________Adjacent Ramp Data (if one exists)____________________

Does adjacent ramp exist?                   No
Volume on adjacent Ramp                                   vph
Position of adjacent Ramp
Type of adjacent Ramp
Distance to adjacent Ramp                                 ft

____________________Conversion to pc/h Under Base Conditions___________________

Junction Components                    Freeway     Ramp        Adjacent
                                                               Ramp
Volume, V (vph)                        5890        1610                  vph
Peak-hour factor, PHF                  0.92        0.92
Peak 15-min volume, v15                1601        437                   v
Trucks and buses                       3           3                     %
Recreational vehicles                  0           0                     %
Terrain type:                          Level       Level
     Grade                                     %           %           %
     Length                                    mi          mi          mi
Trucks and buses PCE, ET               1.5         1.5
Recreational vehicle PCE, ER           1.2         1.2
Heavy vehicle adjustment, fHV          0.985       0.985
Driver population factor, fP           1.00        1.00
Flow rate, vp                          6498        1776                  pcph

_________________________Estimation of V12 Merge Areas_________________________

                  L  =           (Equation 25-2 or 25-3)
                   EQ
                  P  =    0.591   Using Equation  1
                   FM
                  v  = v  (P  ) =  3844   pc/h
                   12   F   FM

_______________________________Capacity Checks_________________________________

                           Actual        Maximum         LOS F?
     v                     8274          6900            Yes
      FO
     v     v               2654 pc/h     (Equation 25-4 or 25-5)
      3 or  av34
Is   v     v      > 2700 pc/h?           No
      3 or  av34
Is   v     v      > 1.5 v  /2            No
      3 or  av34        12
If yes, v    = 3844                      (Equation 25-8)
         12A

________________________Flow Entering Merge Influence Area_____________________
                      Actual        Max Desirable        Violation?
     v                3844          4600                 Yes
      R12
_________________Level of Service Determination (if not F)_____________________

Density, D = 5.475 + 0.00734 v  + 0.0078 v   - 0.00627 L   =   45.4    pc/mi/ln
          R                   R           12            A
Level of service for ramp-freeway junction areas of influence  F

_____________________________Speed Estimation__________________________________

Intermediate speed variable,                  M  = 1.352
                                               S
Space mean speed in ramp influence area,      S  = 35.7    mph
                                               R
Space mean speed in outer lanes,              S  = 51.3    mph
                                               0
Space mean speed for all vehicles,            S  = 39.5    mph
_______________________________________________________________________________
```

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                  HCS+: Ramps and Ramp Junctions Release 5.3
_________________________________Diverge Analysis______________________________

Analyst:                TCH
Agency/Co.:             Wilbur Smith Associates
Date performed:         10/20/2011
Analysis time period:   PM Peak
Freeway/Dir of Travel:  NB I-280
Junction:               Off-Ramp to C Chavez
Jurisdiction:           City of San Francisco
Analysis Year:          2030 Cumulative+Proposed Proj
Description:  Potrero HOPE TIAR

__________________________________Freeway Data_________________________________

Type of analysis                            Diverge
Number of lanes in freeway                  3
Free-flow speed on freeway                  60.0           mph
Volume on freeway                           6744           vph

_________________________________Off Ramp Data_________________________________

Side of freeway                             Right
Number of lanes in ramp                     2
Free-Flow speed on ramp                     45.0           mph
Volume on ramp                              1004           vph
Length of first accel/decel lane            500            ft
Length of second accel/decel lane           500            ft

________________________Adjacent Ramp Data (if one exists)____________________

Does adjacent ramp exist?                   No
Volume on adjacent ramp                                    vph
Position of adjacent ramp
Type of adjacent ramp
Distance to adjacent ramp                                  ft

____________________Conversion to pc/h Under Base Conditions___________________

Junction Components                     Freeway     Ramp        Adjacent
                                                                Ramp
Volume, V (vph)                         6744        1004                  vph
Peak-hour factor, PHF                   0.92        0.92
Peak 15-min volume, v15                 1833        273                   v
Trucks and buses                        3           3                     %
Recreational vehicles                   0           0                     %
Terrain type:                           Level       Level
     Grade                              0.00    %   0.00    %           %
     Length                             0.00    mi  0.00    mi          mi
Trucks and buses PCE, ET                1.5         1.5
Recreational vehicle PCE, ER            1.2         1.2
Heavy vehicle adjustment, fHV           0.985       0.985
Driver population factor, fP            1.00        1.00
Flow rate, vp                           7440        1108                  pcph
```

```
_________________________Estimation of V12 Diverge Areas______________________

                  L  =            (Equation 25-8 or 25-9)
                   EQ
                  P  =    0.450   Using Equation  0
                   FD
                  v  = v  + (v - v ) P  =  3957   pc/h
                   12   R     F   R   FD

_______________________________Capacity Checks_________________________________

                           Actual        Maximum         LOS F?
     v  = v                7440          6900            Yes
      Fi   F
     v  = v - v            6332          6900            No
      FO   F   R
     v                     1108          4100            No
      R
     v     v               3483 pc/h     (Equation 25-15 or 25-16)
      3 or  av34
Is   v     v      > 2700 pc/h?           Yes
      3 or  av34
Is   v     v      > 1.5 v  /2            No
      3 or  av34         12
If yes, v    = 4740                      (Equation 25-18)
         12A

______________________Flow Entering Diverge Influence Area____________________
                      Actual        Max Desirable         Violation?
     v                4740          4400                  No
      12A
_________________Level of Service Determination (if not F)_____________________

Density,               D = 4.252 + 0.0086 v  - 0.009  L   =   31.5    pc/mi/ln
                        R                  12          D
Level of service for ramp-freeway junction areas of influence F

_____________________________Speed Estimation_________________________________

Intermediate speed variable,                D  = 0.398
                                             S
Space mean speed in ramp influence area,    S  = 52.8    mph
                                             R
Space mean speed in outer lanes,            S  = 59.2    mph
                                             0
Space mean speed for all vehicles,          S  = 55.0    mph
_______________________________________________________________________________
```

HCS+: Ramps and Ramp Junctions Release 5.3

Diverge Analysis

Analyst: TCH
Agency/Co.: Wilbur Smith Associates
Date performed: 10/20/2011
Analysis time period: PM Peak
Freeway/Dir of Travel: SB I-280
Junction: Off-Ramp to Pennsylvania
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative+Proposed Proj
Description: Potrero HOPE TIAR

Freeway Data

Type of analysis	Diverge	
Number of lanes in freeway	3	
Free-flow speed on freeway	60.0	mph
Volume on freeway	6902	vph

Off Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-Flow speed on ramp	45.0	mph
Volume on ramp	1012	vph
Length of first accel/decel lane	500	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent ramp		vph
Position of adjacent ramp		
Type of adjacent ramp		
Distance to adjacent ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway		Ramp		Adjacent Ramp	
Volume, V (vph)	6902		1012			vph
Peak-hour factor, PHF	0.92		0.92			
Peak 15-min volume, v15	1876		275			v
Trucks and buses	3		3			%
Recreational vehicles	0		0			%
Terrain type:	Level		Level			
Grade	0.00	%	0.00	%		%
Length	0.00	mi	0.00	mi		mi
Trucks and buses PCE, ET	1.5		1.5			
Recreational vehicle PCE, ER	1.2		1.2			
Heavy vehicle adjustment, fHV	0.985		0.985			
Driver population factor, fP	1.00		1.00			
Flow rate, vp	7615		1116			pcph

Estimation of V12 Diverge Areas

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.518 Using Equation 5

$v_{12} = v_R + (v_F - v_R) P_{FD}$ = 4484 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$v_{Fi} = v_F$	7615	6900	Yes
$v_{FO} = v_F - v_R$	6499	6900	No
v_R	1116	2100	No
v_3 or v_{av34}	3131 pc/h	(Equation 25-15 or 25-16)	
Is v_3 or v_{av34} > 2700 pc/h?		Yes	
Is v_3 or v_{av34} > 1.5 v_{12}/2		No	
If yes, v_{12A} = 4915		(Equation 25-18)	

Flow Entering Diverge Influence Area

	Actual	Max Desirable	Violation?
v_{12A}	4915	4400	Yes

Level of Service Determination (if not F)

Density, $D_R = 4.252 + 0.0086\ v_{12} - 0.009\ L_D$ = 42.0 pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable,	D_S = 0.398	
Space mean speed in ramp influence area,	S_R = 52.8	mph
Space mean speed in outer lanes,	S_0 = 59.2	mph
Space mean speed for all vehicles,	S = 54.9	mph

HCS+: Ramps and Ramp Junctions Release 5.3

Merge Analysis

Analyst: TCH
Agency/Co.: Wilbur Smith Associates
Date performed: 10/20/2011
Analysis time period: PM Peak
Freeway/Dir of Travel: NB I-280
Junction: On-Ramp from Indiana
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative+Proposed Proj
Description: Potrero HOPE TIAR

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	60.0	mph
Volume on freeway	5740	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	45.0	mph
Volume on ramp	1063	vph
Length of first accel/decel lane	500	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5740	1063		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1560	289		v
Trucks and buses	3	3		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		
Heavy vehicle adjustment, fHV	0.985	0.985		
Driver population factor, fP	1.00	1.00		
Flow rate, vp	6333	1173		pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.591 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3746 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	7506	6900	Yes
v_3 or v_{av34}	2587 pc/h	(Equation 25-4 or 25-5)	
Is v_3 or v_{av34} > 2700 pc/h?		No	
Is v_3 or v_{av34} > 1.5 v_{12}/2		No	
If yes, v_{12A} = 3746		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{R12}	3746	4600	Yes

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 40.2 pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable, M_S = 0.810

Space mean speed in ramp influence area, S_R = 45.4 mph

Space mean speed in outer lanes, S_0 = 51.7 mph

Space mean speed for all vehicles, S = 47.4 mph

HCS+: Ramps and Ramp Junctions Release 5.3

Merge Analysis

Analyst:	TCH
Agency/Co.:	Wilbur Smith Associates
Date performed:	10/20/2011
Analysis time period:	PM Peak
Freeway/Dir of Travel:	**SB I-280**
Junction:	**On-Ramp from Pennsylvania**
Jurisdiction:	City of San Francisco
Analysis Year:	2030 Cumulative+Proposed Proj

Description: Potrero HOPE TIAR

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	60.0	mph
Volume on freeway	5890	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	45.0	mph
Volume on ramp	1684	vph
Length of first accel/decel lane	500	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5890	1684		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1601	458		v
Trucks and buses	3	3		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		
Heavy vehicle adjustment, fHV	0.985	0.985		
Driver population factor, fP	1.00	1.00		
Flow rate, vp	6498	1858		pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.591 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3844 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	8356	6900	Yes
v_3 or v_{av34}	2654 pc/h	(Equation 25-4 or 25-5)	
Is v_3 or v_{av34} > 2700 pc/h?		No	
Is v_3 or v_{av34} > 1.5 v_{12}/2		No	
If yes, v_{12A} = 3844		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{R12}	3844	4600	Yes

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ = 46.0 pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable,	M_S = 1.444	
Space mean speed in ramp influence area,	S_R = 34.0	mph
Space mean speed in outer lanes,	S_0 = 51.3	mph
Space mean speed for all vehicles,	S = 38.1	mph

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                    HCS+: Ramps and Ramp Junctions Release 5.3

_________________________________Diverge Analysis______________________________

Analyst:                TCH
Agency/Co.:             Wilbur Smith Associates
Date performed:         10/20/2011
Analysis time period:   PM Peak
Freeway/Dir of Travel:  NB I-280
Junction:               Off-Ramp to C Chavez
Jurisdiction:           City of San Francisco
Analysis Year:          2030 Cumulative+Alt 1
Description:  Potrero HOPE TIAR

__________________________________Freeway Data__________________________________

Type of analysis                            Diverge
Number of lanes in freeway                  3
Free-flow speed on freeway                  60.0          mph
Volume on freeway                           6716          vph

_________________________________Off Ramp Data__________________________________

Side of freeway                             Right
Number of lanes in ramp                     2
Free-Flow speed on ramp                     45.0          mph
Volume on ramp                              976           vph
Length of first accel/decel lane            500           ft
Length of second accel/decel lane           500           ft

_________________________Adjacent Ramp Data (if one exists)____________________

Does adjacent ramp exist?                   No
Volume on adjacent ramp                                   vph
Position of adjacent ramp
Type of adjacent ramp
Distance to adjacent ramp                                 ft

____________________Conversion to pc/h Under Base Conditions___________________

Junction Components                    Freeway     Ramp        Adjacent
                                                               Ramp
Volume, V (vph)                        6716        976                   vph
Peak-hour factor, PHF                  0.92        0.92
Peak 15-min volume, v15                1825        265                   v
Trucks and buses                       3           3                     %
Recreational vehicles                  0           0                     %
Terrain type:                          Level       Level
     Grade                             0.00    %   0.00    %           %
     Length                            0.00    mi  0.00    mi          mi
Trucks and buses PCE, ET               1.5         1.5
Recreational vehicle PCE, ER           1.2         1.2
Heavy vehicle adjustment, fHV          0.985       0.985
Driver population factor, fP           1.00        1.00
Flow rate, vp                          7409        1077                  pcph

_________________________Estimation of V12 Diverge Areas______________________

                  L  =           (Equation 25-8 or 25-9)
                   EQ
                  P  =    0.450   Using Equation  0
                   FD
                  v  = v  + (v - v ) P  =  3926   pc/h
                   12   R     F   R   FD

_______________________________Capacity Checks________________________________

                           Actual        Maximum         LOS F?
     v  = v                7409          6900            Yes
      Fi   F
     v  = v - v            6332          6900            No
      FO   F   R
     v                     1077          4100            No
      R
     v     v               3483 pc/h     (Equation 25-15 or 25-16)
      3 or  av34
Is   v     v      > 2700 pc/h?           Yes
      3 or  av34
Is   v     v      > 1.5 v  /2            No
      3 or  av34         12
If yes, v    = 4709                      (Equation 25-18)
         12A

______________________Flow Entering Diverge Influence Area____________________
                      Actual        Max Desirable        Violation?
     v                4709          4400                 No
      12A
_________________Level of Service Determination (if not F)____________________

Density,               D = 4.252 + 0.0086 v  - 0.009  L   =   31.2    pc/mi/ln
                                          R               12         D
Level of service for ramp-freeway junction areas of influence F

_____________________________Speed Estimation_________________________________

Intermediate speed variable,                D  = 0.395
                                             S
Space mean speed in ramp influence area,    S  = 52.9    mph
                                             R
Space mean speed in outer lanes,            S  = 59.2    mph
                                             0
Space mean speed for all vehicles,          S  = 55.0    mph
______________________________________________________________________________
```

```
                 HCS+: Ramps and Ramp Junctions Release 5.3

_________________________________Diverge Analysis______________________________

Analyst:                TCH
Agency/Co.:             Wilbur Smith Associates
Date performed:         10/20/2011
Analysis time period:   PM Peak
Freeway/Dir of Travel:  SB I-280
Junction:               Off-Ramp to Pennsylvania
Jurisdiction:           City of San Francisco
Analysis Year:          2030 Cumulative+Alt 1
Description:  Potrero HOPE TIAR

__________________________________Freeway Data_________________________________

Type of analysis                            Diverge
Number of lanes in freeway                  3
Free-flow speed on freeway                  60.0           mph
Volume on freeway                           6844           vph

_________________________________Off Ramp Data_________________________________

Side of freeway                             Right
Number of lanes in ramp                     1
Free-Flow speed on ramp                     45.0           mph
Volume on ramp                              954            vph
Length of first accel/decel lane            500            ft
Length of second accel/decel lane                          ft

_________________________Adjacent Ramp Data (if one exists)____________________

Does adjacent ramp exist?                   No
Volume on adjacent ramp                                    vph
Position of adjacent ramp
Type of adjacent ramp
Distance to adjacent ramp                                  ft

____________________Conversion to pc/h Under Base Conditions___________________

Junction Components                    Freeway     Ramp        Adjacent
                                                               Ramp
Volume, V (vph)                        6844        954                   vph
Peak-hour factor, PHF                  0.92        0.92
Peak 15-min volume, v15                1860        259                   v
Trucks and buses                       3           3                     %
Recreational vehicles                  0           0                     %
Terrain type:                          Level       Level
     Grade                             0.00    %   0.00    %           %
     Length                            0.00    mi  0.00    mi          mi
Trucks and buses PCE, ET               1.5         1.5
Recreational vehicle PCE, ER           1.2         1.2
Heavy vehicle adjustment, fHV          0.985       0.985
Driver population factor, fP           1.00        1.00
Flow rate, vp                          7551        1053                  pcph
```

```
_________________________Estimation of V12 Diverge Areas_______________________

                  L  =           (Equation 25-8 or 25-9)
                   EQ
                  P  =    0.523   Using Equation  5
                   FD
                  v  = v  + (v - v ) P  =  4450   pc/h
                   12   R     F   R   FD

_______________________________Capacity Checks_________________________________

                           Actual        Maximum         LOS F?
     v  = v                7551          6900            Yes
      Fi   F
     v  = v - v            6498          6900            No
      FO   F   R
     v                     1053          2100            No
      R
     v     v               3101 pc/h     (Equation 25-15 or 25-16)
      3 or  av34
Is   v     v      > 2700 pc/h?           Yes
      3 or  av34
Is   v     v      > 1.5 v  /2            No
      3 or  av34         12
If yes, v    = 4851                      (Equation 25-18)
         12A

______________________Flow Entering Diverge Influence Area_____________________
                      Actual        Max Desirable        Violation?
     v                4851          4400                 Yes
      12A
_________________Level of Service Determination (if not F)_____________________

Density,               D = 4.252 + 0.0086 v  - 0.009  L   =   41.5    pc/mi/ln
                        R                  12          D
Level of service for ramp-freeway junction areas of influence F

_____________________________Speed Estimation__________________________________

Intermediate speed variable,                 D  = 0.393
                                              S
Space mean speed in ramp influence area,     S  = 52.9    mph
                                              R
Space mean speed in outer lanes,             S  = 59.2    mph
                                              0
Space mean speed for all vehicles,           S  = 55.0    mph
_______________________________________________________________________________
```

HCS+: Ramps and Ramp Junctions Release 5.3

Merge Analysis

Analyst: TCH
Agency/Co.: Wilbur Smith Associates
Date performed: 10/20/2011
Analysis time period: PM Peak
Freeway/Dir of Travel: NB I-280
Junction: On-Ramp from Indiana
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative+Alt 1
Description: Potrero HOPE TIAR

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	60.0	mph
Volume on freeway	5740	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	45.0	mph
Volume on ramp	1034	vph
Length of first accel/decel lane	500	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5740	1034		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1560	281		v
Trucks and buses	3	3		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		
Heavy vehicle adjustment, fHV	0.985	0.985		
Driver population factor, fP	1.00	1.00		
Flow rate, vp	6333	1141		pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.591 Using Equation 1

$v_{12} = v_F (P_{FM})$ = 3746 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	7474	6900	Yes
v_3 or v_{av34}	2587 pc/h	(Equation 25-4 or 25-5)	
Is v_3 or v_{av34} > 2700 pc/h?		No	
Is v_3 or v_{av34} > 1.5 v_{12}/2		No	
If yes, v_{12A} = 3746		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{R12}	3746	4600	Yes

Level of Service Determination (if not F)

Density, $D = 5.475 + 0.00734 v_R + 0.0078 v_{12} - 0.00627 L_A$ = 39.9 pc/mi/ln

Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable,	M_S = 0.793
Space mean speed in ramp influence area,	S_R = 45.7 mph
Space mean speed in outer lanes,	S_0 = 51.7 mph
Space mean speed for all vehicles,	S = 47.6 mph

HCS+: Ramps and Ramp Junctions Release 5.3

Merge Analysis

Analyst: TCH
Agency/Co.: Wilbur Smith Associates
Date performed: 10/20/2011
Analysis time period: PM Peak
Freeway/Dir of Travel: SB I-280
Junction: On-Ramp from Pennsylvania
Jurisdiction: City of San Francisco
Analysis Year: 2030 Cumulative+Alt 1
Description: Potrero HOPE TIAR

Freeway Data

Type of analysis	Merge	
Number of lanes in freeway	3	
Free-flow speed on freeway	60.0	mph
Volume on freeway	5890	vph

On Ramp Data

Side of freeway	Right	
Number of lanes in ramp	1	
Free-flow speed on ramp	45.0	mph
Volume on ramp	1659	vph
Length of first accel/decel lane	500	ft
Length of second accel/decel lane		ft

Adjacent Ramp Data (if one exists)

Does adjacent ramp exist?	No	
Volume on adjacent Ramp		vph
Position of adjacent Ramp		
Type of adjacent Ramp		
Distance to adjacent Ramp		ft

Conversion to pc/h Under Base Conditions

Junction Components	Freeway	Ramp	Adjacent Ramp	
Volume, V (vph)	5890	1659		vph
Peak-hour factor, PHF	0.92	0.92		
Peak 15-min volume, v15	1601	451		v
Trucks and buses	3	3		%
Recreational vehicles	0	0		%
Terrain type:	Level	Level		
Grade	%	%	%	
Length	mi	mi	mi	
Trucks and buses PCE, ET	1.5	1.5		
Recreational vehicle PCE, ER	1.2	1.2		
Heavy vehicle adjustment, fHV	0.985	0.985		
Driver population factor, fP	1.00	1.00		
Flow rate, vp	6498	1830		pcph

Estimation of V12 Merge Areas

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = 0.591 Using Equation 1
$v_{12} = v_F (P_{FM})$ = 3844 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
v_{FO}	8328	6900	Yes
v_3 or v_{av34}	2654 pc/h	(Equation 25-4 or 25-5)	
Is v_3 or v_{av34} > 2700 pc/h?		No	
Is v_3 or v_{av34} > 1.5 v_{12}/2		No	
If yes, v_{12A} = 3844		(Equation 25-8)	

Flow Entering Merge Influence Area

	Actual	Max Desirable	Violation?
v_{R12}	3844	4600	Yes

Level of Service Determination (if not F)

Density, $D_R = 5.475 + 0.00734\, v_R + 0.0078\, v_{12} - 0.00627\, L_A$ = 45.8 pc/mi/ln
Level of service for ramp-freeway junction areas of influence F

Speed Estimation

Intermediate speed variable,	M_S = 1.412	
Space mean speed in ramp influence area,	S_R = 34.6	mph
Space mean speed in outer lanes,	S_0 = 51.3	mph
Space mean speed for all vehicles,	S = 38.6	mph

APPENDIX H

TRANSIT DATA AND ANALYSIS

TRANSIT SCREENLINES

FIGURE F-1
MUNI TRANSIT SCREENLINES

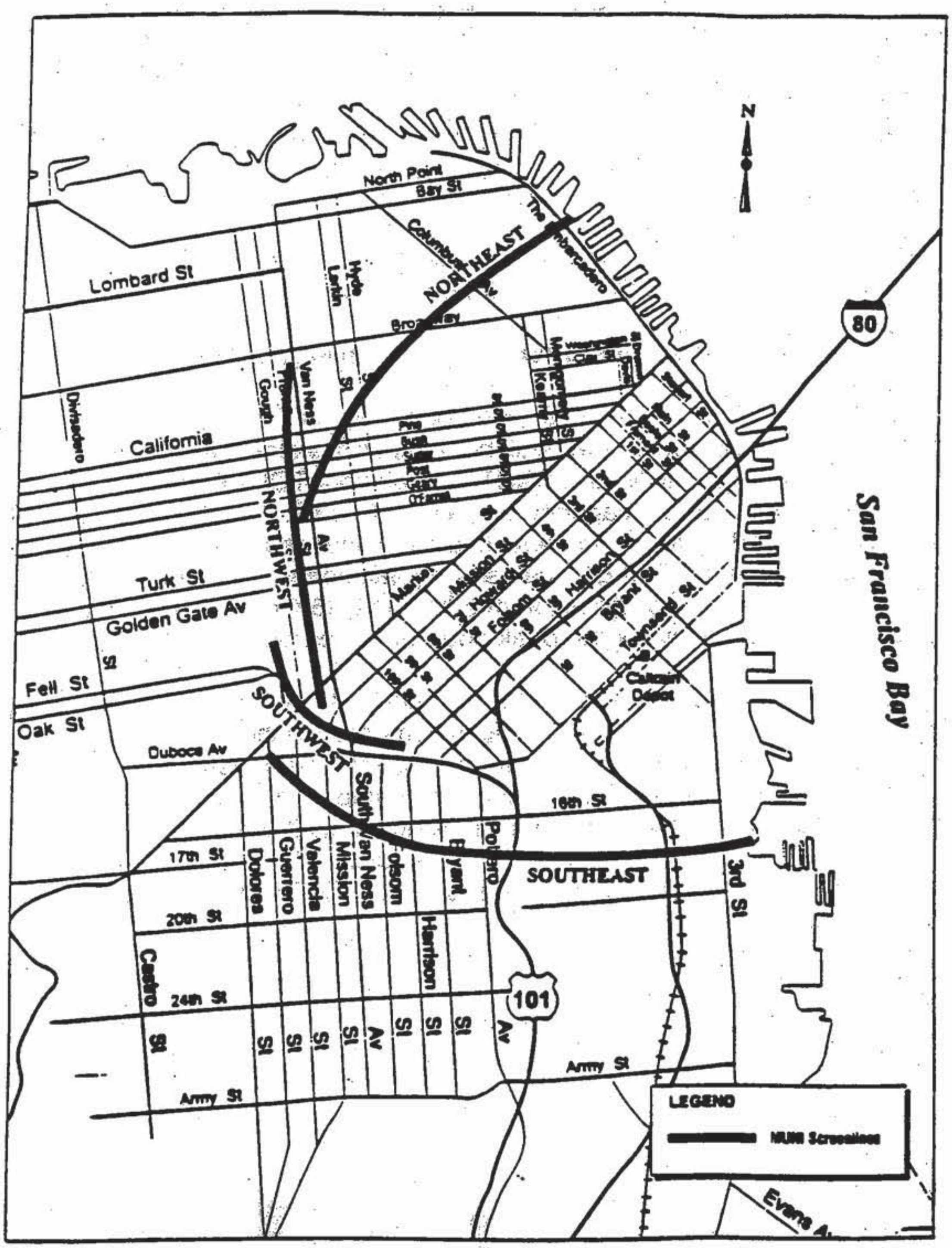
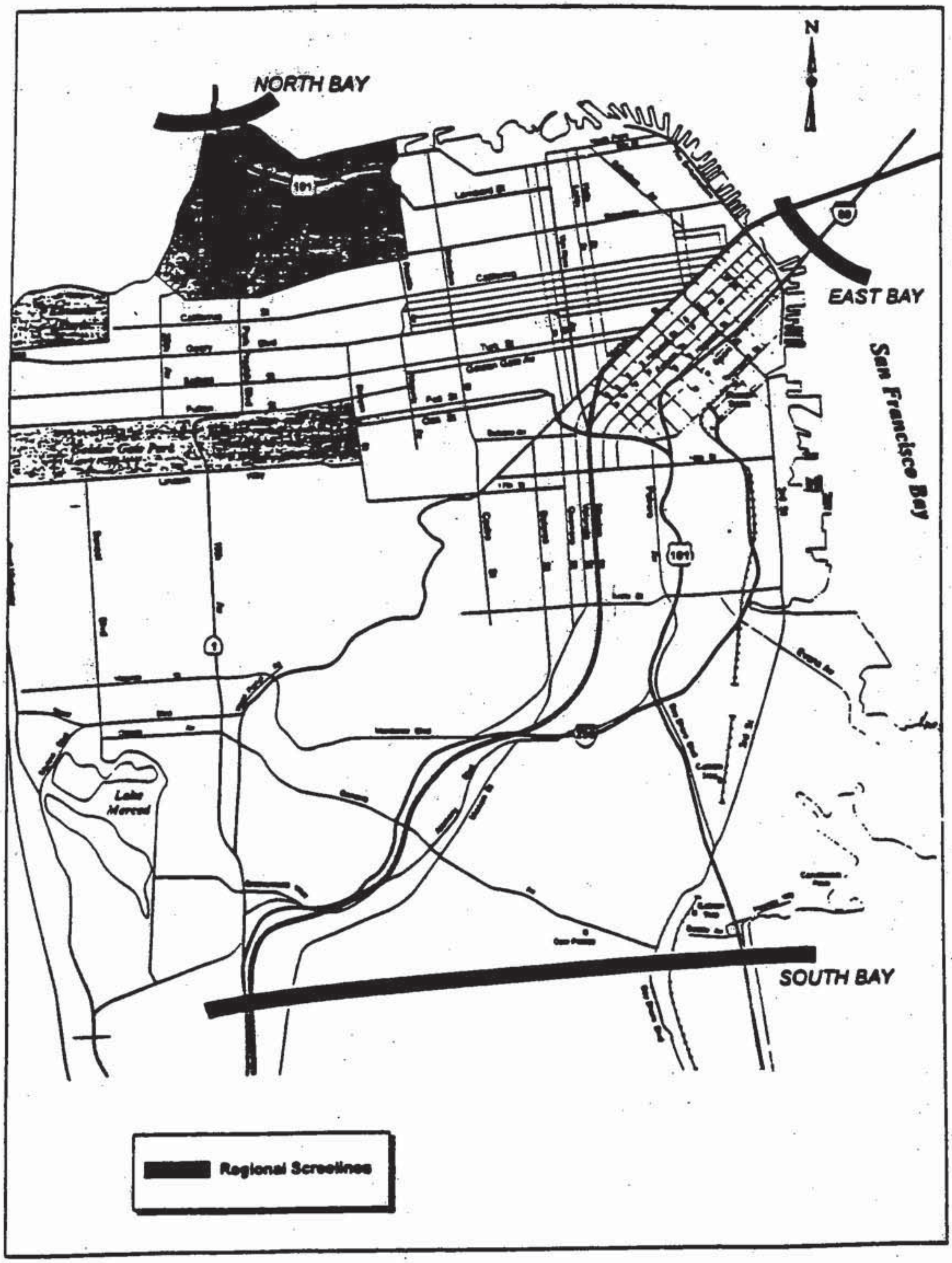


FIGURE F-2
REGIONAL TRANSIT SCREENLINES



TRANSIT ANALYSIS

Potrero HOPE Transportation Study

Existing MUNI Line-by-Line Analysis (Weekday PM Peak Hour)

Route	Direction	Vehicle Type	Veh Capacity	Veh/Peak Hour	Peak Hour	Hourly Load	Capacity	Utilization	MLP
10 Townsend*	Inbound	MCS	63	3	2011 APC	186	189	**98%**	Sansome/Filbert
10 Townsend*	Outbound	MCS	63	3	2011 APC	171	189	**90%**	Sansome/California
19 Polk*	Inbound	MCS	63	4	2011 APC	172	252	68%	7th/Howard
19 Polk*	Outbound	MCS	63	4	2011 APC	124	252	49%	Polk/Sutter
22 Fillmore	Inbound	TCS	63	9	4PM - 5PM	328	567	58%	16th/Folsom
22 Fillmore	Outbound	TCS	63	9	4PM - 5PM	327	567	58%	Fillmore/Hayes
48 Quintara-24th Street	Inbound	MCS	63	6	2011 APC	175	378	46%	24th/Folsom
48 Quintara-24th Street	Outbound	MCS	63	6	2011 APC	180	378	48%	24th/Mission
T Third St	Inbound	LRV-1	119	6	4PM - 5PM	656	714	**92%**	Embarcadero/Folsom
T Third St	Outbound	LRV-1	119	6	5PM - 6PM	554	714	78%	Van Ness Station
53 Southern Heights	*Inbound*	*MCS*	*63*	*2*	*4PM - 5PM*	*39*	*126*	*31%*	*16th/Harrison*
53 Southern Heights	*Outbound*	*MCS*	*63*	*2*	*4PM - 5PM*	*38*	*126*	*30%*	*16th/San Bruno*

Vehicle Type	Capacity
ARTIC BUS (60')	94
COMBO BUS (40')	79
LRV (per train car)	119
NEIGHB. BUS (30')	45
STANDARD BUS (40')	63
STREETCAR	70

Notes: Source: SFMTA Fall 2006 - Spring 2007 TEP Monitoring Data, 2011 APC Data
For lines 10, 19, and 48, 2011 SFMTA APC Data was used.
Vehicles per peak hour - based on 2007 and 2011 Muni Timetable, TripActivity_RT_XX.xls; The number of vehicles operating during the identified peak hour was used based on the maximum load point (MLP) during the PM peak.
Hourly Load - calculated from PassengerActivity_ByHour_RT_XX.xls;. PM peak hour determined by analyzing MLP ridership between the hours of 4-5 PM and 5-6 PM. For 2011 APC Data, only the highest peak hour of passenger activity was shown.
Capacity is calculated by number of seats per transit vehicles multiplied by the frequency of buses/trains per one PM peak hour
Utilization is calculated by dividing the hourly load by hourly capacity.
*As 2011 APC data was used for the 10 Townsend and 19 Polk lines, 53 Southern Heights ridership in the TEP was not accounted for in this analysis (as the original assumption was that 53 ridership would be split between the 10 and 19 using 2007 TEP data). 2011 APC data should inherently account for this shift. The 53 Southern Heights ridership is included for reference and is italicized.

Potrero HOPE Transportation Study

Existing Muni Screenline Analysis (Weekday PM Peak Hour)

Screenline	Corridor	Existing Ridership		Existing Capacity	Existing Utilization
Northeast	Kearny/Stockton Corridor	1,129	60%	2,010	56%
	All Other Lines	757	40%	1,589	48%
	Subtotal	*1,886*	*100%*	*3,599*	*52%*
Northwest	Geary Corridor	1,684	25%	2,230	76%
	California	1,413	21%	2,050	69%
	Sutter/Clement	565	9%	1,008	56%
	Fulton/Hayes	861	13%	1,260	68%
	Balboa	615	9%	1,247	49%
	Chestnut/Union	1,483	22%	2,328	64%
	Subtotal	*6,621*	*100%*	*10,123*	*65%*
Southeast	Third Street	554	12%	714	78%
	Mission Street	1,254	27%	2,350	53%
	San Bruno/Bayshore	1,671	36%	2,256	74%
	All Other Lines	1,189	25%	1,708	70%
	Subtotal	*4,668*	*100%*	*7,028*	*66%*
Southwest	Subway Lines	5,883	79%	6,783	87%
	Haight/Noriega	1,247	17%	2,140	58%
	All Other Lines	304	4%	700	43%
	Subtotal	*7,434*	*100%*	*9,623*	*77%*
Total All SFMUNI Screenlines		**20,609**		**30,373**	**68%**

Source: SFMTA TEP, July 2008; SF Planning Department, 2009

Potrero HOPE Transportation Study

Existing Regional Screenline Analysis (Weekday PM Peak Hour)

Screenline Location		Existing Ridership		Existing Capacity	Existing Utilization
East Bay	BART	20,067	86%	24,150	83%
	AC Transit	2,517	11%	4,193	60%
	Ferries	702	3%	1,519	46%
	Subtotal	*23,286*	*100%*	*29,862*	*78%*
North Bay	GGT buses	1,397	61%	2,205	63%
	GGT ferries	906	39%	1,700	53%
	Subtotal	*2,303*	*100%*	*3,905*	*59%*
South Bay	BART	10,202	80%	16,800	61%
	Caltrain	1,986	16%	3,250	61%
	SamTrans	575	5%	940	61%
	Subtotal	*12,763*	*100%*	*20,990*	*61%*
Total All Regional Screenlines		**38,352**		**54,757**	**70%**

Source: SFMTA TEP, July 2008; SF Planning Department, 2009, 2012

Potrero HOPE Transportation Study

Existing plus Proposed Project MUNI Line-by-Line Analysis (Weekday PM Peak Hour)

Route	Direction	Hourly Load	Project Trips	Existing plus Project Ridership	Utilization	MLP
10-Townsend*	Inbound	186	27	213	**113%**	Sansome/Filbert
10-Townsend*	Outbound	171	52	223	**118%**	Sansome/California
19-Polk*	Inbound	172	22	194	77%	7th/Howard
19-Polk*	Outbound	124	39	163	65%	Polk/Sutter
48-Quintara-24th Street	Inbound	175	28	203	54%	24th/Folsom
48-Quintara-24th Street	Outbound	180	17	197	52%	24th/Mission

Vehicle Type	Capacity
ARTIC BUS (60')	94
COMBO BUS (40')	79
LRV (per train car)	119
NEIGHB. BUS (30')	45
STANDARD BUS (40')	63
STREETCAR	70

Notes: Source: SFMTA Fall 2006 - Spring 2007 TEP Monitoring Data, 2011 APC data

Vehicles per peak hour - based on 2007 and 2011 Muni Timetable, TripActivity_RT_XX.xls; The number of vehicles operating during the identified peak hour was used based on the maximum load point (MLP) during the PM peak.

Hourly Load - calculated from PassengerActivity_ByHour_RT_XX.xls;. PM peak hour determined by analyzing MLP ridership between the hours of 4-5 PM and 5-6 PM.

Capacity is calculated by number of seats per transit vehicles multiplied by the frequency of buses/trains per one PM peak hour

Utilization is calculated by dividing the hourly load by hourly capacity.

*As 2011 APC data was used for the 10 Townsend and 19 Polk lines, 53 Southern Heights ridership in the TEP was not accounted for in this analysis (as the original assumption was that 53 ridership would be split between the 10 and 19 using 2007 TEP data. 2011 APC data should inherently account for this shift.

Potrero HOPE Transportation Study

Existing plus Project (Alternative 1) MUNI Line-by-Line Analysis (Weekday PM Peak Hour)

Route	Direction	Hourly Load	Project Trips	Existing plus Project Ridership	Utilization	MLP
10-Townsend*	Inbound	186	18	204	**108%**	Sansome/Filbert
10-Townsend*	Outbound	171	32	203	**107%**	Sansome/California
19-Polk*	Inbound	172	13	185	73%	7th/Howard
19-Polk*	Outbound	124	24	148	59%	Polk/Sutter
48-Quintara-24th Street	Inbound	175	16	191	51%	24th/Folsom
48-Quintara-24th Street	Outbound	180	11	191	51%	24th/Mission

Vehicle Type	Capacity
ARTIC BUS (60')	94
COMBO BUS (40')	79
LRV (per train car)	119
NEIGHB. BUS (30')	45
STANDARD BUS (40')	63
STREETCAR	70

Notes: Source: SFMTA Fall 2006 - Spring 2007 TEP Monitoring Data, 2011 APC data

Vehicles per peak hour - based on 2007 and 2011 Muni Timetable, TripActivity_RT_XX.xls; The number of vehicles operating during the identified peak hour was used based on the maximum load point (MLP) during the PM peak.

Hourly Load - calculated from PassengerActivity_ByHour_RT_XX.xls;. PM peak hour determined by analyzing MLP ridership between the hours of 4-5 PM and 5-6 PM.

Capacity is calculated by number of seats per transit vehicles multiplied by the frequency of buses/trains per one PM peak hour

Utilization is calculated by dividing the hourly load by hourly capacity.

*As 2011 APC data was used for the 10 Townsend and 19 Polk lines, 53 Southern Heights ridership in the TEP was not accounted for in this analysis (as the original assumption was that 53 ridership would be split between the 10 and 19 using 2007 TEP data. 2011 APC data should inherently account for this shift.

Potrero HOPE Transportation Study

Existing plus Proposed Project Muni Screenline Analysis (Weekday PM Peak Hour)

		Existing Conditions			Project	Existing plus Project Conditions		
		Ridership	Capacity	Utilization	Trips	Ridership	Capacity	Utilization
Southeast	Third Street	554	714	78%	39	593	714	83%
	Mission Street	1,254	2,350	53%	0	1,254	2,350	53%
	San Bruno/Bayshore	1,671	2,256	74%	0	1,671	2,256	74%
	All Other Lines	1,189	1,708	70%	91	1,280	1,708	75%
	Subtotal	*4,668*	*7,028*	*66%*	*130*	*4,798*	*7,028*	*68%*

Potrero HOPE Transportation Study

Existing plus Project (Alternative 1) Muni Screenline Analysis (Weekday PM Peak Hour)

		Existing Conditions			Project	Existing plus Project Conditions		
		Ridership	**Capacity**	**Utilization**	**Trips**	**Ridership**	**Capacity**	**Utilization**
Southeast	Third Street	554	714	78%	24	578	714	81%
	Mission Street	1,254	2,350	53%	0	1,254	2,350	53%
	San Bruno/Bayshore	1,671	2,256	74%	0	1,671	2,256	74%
	All Other Lines	1,189	1,708	70%	56	1,245	1,708	73%
	Subtotal	*4,668*	*7,028*	*66%*	*80*	*4,748*	*7,028*	*68%*

Potrero HOPE Transportation Study

Existing plus Proposed Project Regional Screenline Analysis (Weekday PM Peak Hour)

Screenline Location		Existing Ridership		Existing Capacity	Existing Utilization	Project Trips	Existing plus Project Ridership	Existing plus Project Utilization
East Bay	BART	20,067	86%	24,150	83%	7	20,074	83%
	AC Transit	2,517	11%	4,193	60%	2	2,519	60%
	Ferries	702	3%	1,519	46%	0	702	46%
	Subtotal	*23,286*	*100%*	*29,862*	*78%*	*9*	*23,295*	*78%*
North Bay	GGT buses	1,397	61%	2,205	63%	1	1,398	63%
	GGT ferries	906	39%	1,700	53%	1	907	53%
	Subtotal	*2,303*	*100%*	*3,905*	*59%*	*2*	*2,305*	*59%*
South Bay	BART	10,202	80%	16,800	61%	9	10,211	61%
	Caltrain	1,986	16%	3,250	61%	4	1,990	61%
	SamTrans	575	5%	940	61%	1	576	61%
	Subtotal	*12,763*	*100%*	*20,990*	*61%*	*14*	*12,777*	*61%*
Total All Regional Screenlines		**38,352**		**54,757**	**70%**	**25**	**38,377**	**70%**

Source: SFMTA TEP, July 2008; SF Planning Department, 2009, 2012

Potrero HOPE Transportation Study

Existing plus Project (Alternative 1) Regional Screenline Analysis (Weekday PM Peak Hour)

Screenline Location		Existing Ridership		Existing Capacity	Existing Utilization	Project Trips	Existing plus Project Ridership	Existing plus Project Utilization
East Bay	BART	20,067	86%	24,150	83%	5	20,072	83%
	AC Transit	2,517	11%	4,193	60%	2	2,519	60%
	Ferries	702	3%	1,519	46%	0	702	46%
	Subtotal	*23,286*	*100%*	*29,862*	*78%*	*7*	*23,293*	*78%*
North Bay	GGT buses	1,397	61%	2,205	63%	1	1,398	63%
	GGT ferries	906	39%	1,700	53%	1	907	53%
	Subtotal	*2,303*	*100%*	*3,905*	*59%*	*2*	*2,305*	*59%*
South Bay	BART	10,202	80%	16,800	61%	5	10,207	61%
	Caltrain	1,986	16%	3,250	61%	2	1,988	61%
	SamTrans	575	5%	940	61%	0	575	61%
	Subtotal	*12,763*	*100%*	*20,990*	*61%*	*7*	*12,770*	*61%*
Total All Regional Screenlines		**38,352**		**54,757**	**70%**	**16**	**38,368**	**70%**

Source: SFMTA TEP, July 2008; SF Planning Department, 2009, 2012

Potrero HOPE Transportation Study

2030 Cumulative and Cumulative plus Proposed Project Muni Line-by-Line Analysis (Weekday PM Peak Hour)

			Existing				Project	2030 Cumulative				2030 Cumulative (incl. Project)			
Route	Vehicle Capacity	Direction	Ridership	Peak Hr # of vehicles	Capacity	Utilization	2030 Project Trips	Ridership	Peak Hr # of vehicles	Capacity	Utilization	Ridership	Peak Hr # of vehicles	Capacity	Utilization
10 Townsend	63	Inbound	186	3	189	**98%**	36	238	4	252	**94%**	274	4	252	**109%**
10 Townsend	63	Outbound	171	3	189	**90%**	68	219	4	252	**87%**	287	4	252	**114%**
19 Polk	63	Inbound	172	4	252	68%	0	220	6	378	58%	220	6	378	58%
19 Polk	63	Outbound	124	4	252	49%	0	159	6	378	42%	159	6	378	42%
48 Quintara - 24th St	63	Inbound	175	6	378	46%	30	224	4	252	**89%**	254	4	252	**101%**
48 Quintara - 24th St	63	Outbound	180	6	378	48%	21	230	4	252	**91%**	251	4	252	**100%**

Vehicle Type	Capacity
ARTIC BUS (60')	94
COMBO BUS (40')	79
LRV (per train car)	119
NEIGHB. BUS (30')	45
STANDARD BUS (40')	63
STREETCAR	70

19 Polk Reallocation	Percentages
10 Townsend/Sansome	40%
22 Fillmore	20%
48 Quintara-24th Street	10%
K/T Ingleside/Third St	10%
*58 24th Street	20%
Total	100%

Notes: Source: SFMTA 2011 APC data

Vehicles per peak hour - based on 2011 Muni Timetable, TripActivity_RT_XX.xls; The number of vehicles operating during the identified peak hour was used based on the maximum load point (MLP) during the PM peak.

Hourly Load - calculated from PassengerActivity_ByHour_RT_XX.xls;. PM peak hour determined by analyzing MLP ridership between the hours of 4-5 PM and 5-6 PM.

Capacity is calculated by number of seats per transit vehicles multiplied by the frequency of buses/trains per one PM peak hour

Utilization is calculated by dividing the hourly load by hourly capacity.

Analysis assumes TEP implementation by year 2030 and reallocation of the to-be-rerouted 19 Polk anticipated project ridership to other transit lines in the project study area.

The 58 24th Street line is a new route created by the TEP. It was not analyzed in line-by-line analysis due to the preliminary nature of the route, but was assumed to acquire some of the reallocated ridership from the rerouted 19 Polk.

Potrero HOPE Transportation Study

2030 Cumulative and Cumulative plus Project (Alternative 1) Muni Line-by-Line Analysis (Weekday PM Peak Hour)

			Existing				Project	2030 Cumulative				2030 Cumulative (incl. Project)			
Route	Vehicle Capacity	Direction	Ridership	Peak Hr # of vehicles	Capacity	Utilization	2030 Project Trips	Ridership	Peak Hr # of vehicles	Capacity	Utilization	Ridership	Peak Hr # of vehicles	Capacity	Utilization
10 Townsend	63	Inbound	186	3	189	**98%**	23	238	4	252	**94%**	261	4	252	**104%**
10 Townsend	63	Outbound	171	3	189	**90%**	42	219	4	252	**87%**	261	4	252	**103%**
19 Polk	63	Inbound	172	4	252	68%	0	220	6	378	58%	220	6	378	58%
19 Polk	63	Outbound	124	4	252	49%	0	159	6	378	42%	159	6	378	42%
48 Quintara - 24th St	63	Inbound	175	6	378	46%	17	224	4	252	**89%**	241	4	252	**96%**
48 Quintara - 24th St	63	Outbound	180	6	378	48%	13	230	4	252	**91%**	243	4	252	**97%**

Vehicle Type	Capacity
ARTIC BUS (60')	94
COMBO BUS (40')	79
LRV (per train car)	119
NEIGHB. BUS (30')	45
STANDARD BUS (40')	63
STREETCAR	70

19 Polk Reallocations	Percentages
10 Townsend/Sansome	40%
22 Fillmore	20%
48 Quintara-24th Street	10%
K/T Ingleside/Third St	10%
*58 24th Street	20%
Total	100%

Notes: Source: SFMTA 2011 APC data

Vehicles per peak hour - based on 2011 Muni Timetable, TripActivity_RT_XX.xls; The number of vehicles operating during the identified peak hour was used based on the maximum load point (MLP) during the PM peak.

Hourly Load - calculated from PassengerActivity_ByHour_RT_XX.xls;. PM peak hour determined by analyzing MLP ridership between the hours of 4-5 PM and 5-6 PM.

Capacity is calculated by number of seats per transit vehicles multiplied by the frequency of buses/trains per one PM peak hour

Utilization is calculated by dividing the hourly load by hourly capacity.

Analysis assumes TEP implementation by year 2030 and reallocation of the to-be-rerouted 19 Polk anticipated project ridership to other transit lines in the project study area.

The 58 24th Street line is a new route created by the TEP. It was not analyzed in line-by-line analysis due to the preliminary nature of the route, but was assumed to acquire some of the reallocated ridership from the rerouted 19 Polk.

Potrero HOPE Transportation Study

2030 Cumulative Screenline Analysis (Weekday PM Peak Hour)

Muni Screenline Analysis

Screenline Location		Existing Conditions Ridership	Existing Conditions Capacity	Existing Conditions Utilization	Year 2030 Ridership	Year 2030 Capacity	Year 2030 Utilization
Northeast	Kearny/Stockton Corridor	1,129	2,010	56%	1,231	2,634	47%
	All Other Lines	757	1,589	48%	1,412	2,065	68%
	Subtotal	*1,886*	*3,599*	*52%*	*2,643*	*4,699*	*56%*
Northwest	Geary Corridor	1,684	2,230	76%	1,986	2,700	74%
	California	1,413	2,050	69%	1,819	2,050	89%
	Sutter/Clement	565	1,008	56%	679	945	72%
	Fulton/Hayes	861	1,260	68%	975	1,638	60%
	Balboa	615	1,247	49%	552	1,326	42%
	Chestnut/Union	1,483	2,328	64%	1,403	2,953	48%
	Subtotal	*6,621*	*10,123*	*65%*	*7,414*	*11,612*	*64%*
Southeast	Third Street	554	714	78%	2,592	2,856	91%
	Mission Street	1,254	2,350	53%	1,370	2,256	61%
	San Bruno/Bayshore	1,671	2,256	74%	2,344	3,008	78%
	All Other Lines	1,189	1,708	70%	1,550	1,820	85%
	Subtotal	*4,668*	*7,028*	*66%*	*7,856*	*9,940*	*79%*
Southwest	Subway Lines	5,883	6,783	87%	6,723	7,973	84%
	Haight/Noriega	1,247	2,140	58%	1,225	1,890	65%
	All Other Lines	304	700	43%	303	840	36%
	Subtotal	*7,434*	*9,623*	*77%*	*8,251*	*10,703*	*77%*
Total All SFMUNI Screenlines		**20,609**	**30,373**	**68%**	**26,164**	**36,954**	**71%**

Regional Screenline Analysis

Screenline Location		Existing Conditions Ridership	Existing Conditions Capacity	Existing Conditions Utilization	Year 2030 Ridership	Year 2030 Capacity	Year 2030 Utilization
East Bay	BART	20,067	24,150	83%	32,225	29,400	110%
	AC Transit	2,517	4,193	60%	7,477	6,600	113%
	Ferries	702	1,519	46%	2,118	2,719	78%
	Subtotal	*23,286*	*29,862*	*78%*	*41,820*	*38,719*	*108%*
North Bay	GGT buses	1,397	2,205	63%	2,508	2,205	114%
	GGT ferries	906	1,700	53%	1,627	1,700	96%
	Subtotal	*2,303*	*3,905*	*59%*	*4,135*	*3,905*	*106%*
South Bay	BART	10,202	16,800	61%	11,202	21,000	53%
	Caltrain	1,986	3,250	61%	3,981	6,400	62%
	SamTrans	575	940	61%	402	940	43%
	Ferries				74	300	25%
	Subtotal	*12,763*	*20,990*	*61%*	*15,659*	*28,640*	*55%*
Total All Regional Screenlines		**38,352**	**54,757**	**70%**	**61,614**	**71,264**	**86%**

Sources: SFMTA TEP, July 2008; SF Planning Department, 2009, 2012

Notes

SF MUNI utilization standard is 85% (vehicle capacity includes standees which represent 30% to 80% of seats, depending upon the configuration of the vehicle)

BART and all other regional transit providers have a utilization standard of 100% (vehicle capacity is based on the number of seated passengers per vehicle)

Potrero HOPE Transportation Study

2030 Cumulative and Cumulative plus Proposed Project Muni Screenline Analysis (Weekday PM Peak Hour)

		2030 Cumulative Conditions			Project	2030 Cumulative plus Project Conditions		
		Ridership	**Capacity**	**Utilization**	**Trips**	**Ridership**	**Capacity**	**Utilization**
Southeast	Third Street	2,592	2,856	**91%**	39	2,631	2,856	**92%**
	Mission Street	1,370	2,256	61%	0	1,370	2,256	61%
	San Bruno/Bayshore	2,344	3,008	78%	0	2,344	3,008	78%
	All Other Lines	1,550	1,820	85%	91	1,641	1,820	**90%**
	Subtotal	*7,856*	*9,940*	*79%*	*130*	*7,986*	*9,940*	*80%*

Potrero HOPE Transportation Study

2030 Cumulative and Cumulative plus Project (Alternative 1) Muni Screenline Analysis (Weekday PM Peak Hour)

		2030 Cumulative Conditions			Project	2030 Cumulative plus Project Conditions		
		Ridership	Capacity	Utilization	Trips	Ridership	Capacity	Utilization
Southeast	Third Street	2,592	2,856	**91%**	24	2,616	2,856	**92%**
	Mission Street	1,370	2,256	61%	0	1,370	2,256	61%
	San Bruno/Bayshore	2,344	3,008	78%	0	2,344	3,008	78%
	All Other Lines	1,550	1,820	85%	56	1,606	1,820	**88%**
	Subtotal	*7,856*	*9,940*	*79%*	*80*	*7,936*	*9,940*	*80%*

Potrero HOPE Transportation Study

2030 Cumulative and Cumulative plus Proposed Project Regional Screenline Analysis (Weekday PM Peak Hour)

Screenline Location		2030 Cumulative Ridership		2030 Capacity	2030 Utilization	Project Trips	2030 Cumulative plus Project Ridership	2030 Cumulative plus Project Utilization
East Bay	BART	32,225	77%	29,400	110%	7	32,232	110%
	AC Transit	7,477	18%	6,600	113%	2	7,479	113%
	Ferries	2,118	5%	2,719	78%	0	2,118	78%
	Subtotal	*41,820*	*100%*	*38,719*	*108%*	*9*	*41,829*	*108%*
North Bay	GGT buses	2,508	61%	2,205	114%	1	2,509	114%
	GGT ferries	1,627	39%	1,700	96%	1	1,628	96%
	Subtotal	*4,135*	*100%*	*3,905*	*106%*	*2*	*4,137*	*106%*
South Bay	BART	11,202	72%	21,000	53%	9	11,211	53%
	Caltrain	3,981	25%	6,400	62%	5	3,986	62%
	SamTrans	402	3%	940	43%	0	402	43%
	Ferries	74	0%	300	25%	0	74	25%
	Subtotal	*15,659*	*100%*	*28,640*	*55%*	*14*	*15,673*	*55%*
Total All Regional Screenlines		**61,614**		**71,264**	**86%**	**25**	**61,639**	**86%**

Sources: SFMTA TEP, July 2008; SF Planning Department, 2009, 2012

Notes

SF MUNI utilization standard is 85% (vehicle capacity includes standees which represent 30% to 80% of seats, depending upon the configuration of the vehicle)

BART and all other regional transit providers have a utilization standard of 100% (vehicle capacity is based on the number of seated passengers per vehicle)

Potrero HOPE Transportation Study

2030 Cumulative and Cumulative plus Project (Alternative 1) Regional Screenline Analysis (Weekday PM Peak Hour)

Screenline Location		2030 Cumulative Ridership		2030 Capacity	2030 Utilization	Project Trips	2030 Cumulative plus Project Ridership	2030 Cumulative plus Project Utilization
East Bay	BART	32,225	77%	29,400	110%	5	32,230	110%
	AC Transit	7,477	18%	6,600	113%	1	7,478	113%
	Ferries	2,118	5%	2,719	78%	0	2,118	78%
	Subtotal	*41,820*	*100%*	*38,719*	*108%*	*6*	*41,826*	*108%*
North Bay	GGT buses	2,508	61%	2,205	114%	1	2,509	114%
	GGT ferries	1,627	39%	1,700	96%	1	1,628	96%
	Subtotal	*4,135*	*100%*	*3,905*	*106%*	*2*	*4,137*	*106%*
South Bay	BART	11,202	72%	21,000	53%	6	11,208	53%
	Caltrain	3,981	25%	6,400	62%	2	3,983	62%
	SamTrans	402	3%	940	43%	0	402	43%
	Ferries	74	0%	300	25%	0	74	25%
	Subtotal	*15,659*	*100%*	*28,640*	*55%*	*8*	*15,667*	*55%*
Total All Regional Screenlines		**61,614**		**71,264**	**86%**	**16**	**61,630**	**86%**

Sources: SFMTA TEP, July 2008; SF Planning Department, 2009, 2012

Notes

SF MUNI utilization standard is 85% (vehicle capacity includes standees which represent 30% to 80% of seats, depending upon the configuration of the vehicle)
BART and all other regional transit providers have a utilization standard of 100% (vehicle capacity is based on the number of seated passengers per vehicle)

APPENDIX I

TRAVEL DEMAND ANALYSIS

Potrero HOPE Transportation Study

Weekday Travel Demand Summary - Proposed Project

Daily / PM Peak Hour	Daily						PM Peak Hour						
Trips by Mode	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	
Auto	8,807	298	1,448	374	-3,620	7,307	1,524	18	130	24	-626	1,069	60%
Transit	2,979	101	271	166	-1,225	2,292	515	6	24	11	-212	344	19%
Walk	717	24	489	184	-295	1,120	124	1	44	12	-51	130	7%
Other	2,256	76	42	76	-928	1,524	390	5	4	5	-160	243	14%
Total	**14,760**	**500**	**2,250**	**801**	**-6,068**	**12,243**	**2,553**	**30**	**203**	**51**	**-1,050**	**1,787**	100%
Vehicle Trips	7,794	264	780	166	-3,204	5,800	1,348	16	70	11	-554	891	

PM Peak Hour	Person-Trips					Total	Vehicle-Trips						Transit-Trips					
Distribution	Residential	Senior Housing	Retail	Community Center	Trip Credits	Person Trips	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total
Superdistrict 1	1,210	14	12	3	-498	742	639	8	3	0	-263	388	244	3	4	1	-100	151
Superdistrict 2	268	3	18	3	-110	182	142	2	8	1	-58	94	54	1	3	0	-22	36
Superdistrict 3	268	3	121	42	-110	323	142	2	36	8	-58	129	54	1	12	9	-22	53
Superdistrict 4	268	3	10	3	-110	174	142	2	5	1	-58	91	54	1	1	0	-22	34
East Bay	199	2	7	0	-82	127	105	1	3	0	-43	66	40	0	1	0	-17	25
North Bay	43	1	4	0	-18	31	23	0	3	0	-9	16	9	0	1	0	-4	6
South Bay	278	3	20	1	-114	187	147	2	9	0	-60	98	56	1	2	0	-23	36
Out of Region	18	0	10	0	-7	21	9	0	3	0	-4	9	4	0	2	0	-1	4
Total	**2,553**	**30**	**203**	**51**	**-1,050**	**1,787**	**1,348**	**16**	**70**	**11**	**-554**	**891**	**515**	**6**	**24**	**11**	**-212**	**344**

PM Peak Hour	Residential/Senior		Retail		Community Center[1]
In/Out Split	Work	Non-work	Work	Non-work	All Trips
Inbound	100%	33%	0%	50%	37%
Outbound	0%	67%	100%	50%	63%

PM Peak Hour	Inbound						Outbound					
Person Trips	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total
Total	1,698	20	97	19	-698	1,136	855	10	105	32	-352	651
					Percent inbound:	64%					Percent outbound:	36%

PM Peak Hour	Inbound						Outbound						**Assignment**	
Vehicle-Trips	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	**Inbound**	**Outbound**
Superdistrict 1	425.0	5.0	1.5	0.2	-174.7	257.0	214.1	2.5	1.7	0.3	-88.0	130.6	257	131
Superdistrict 2	94.1	1.1	3.6	0.4	-38.7	60.5	47.4	0.6	4.0	0.6	-19.5	33.1	61	33
Superdistrict 3	94.1	1.1	17.6	2.8	-38.7	76.9	47.4	0.6	18.5	4.8	-19.5	51.8	77	52
Superdistrict 4	94.1	1.1	2.3	0.3	-38.7	59.1	47.4	0.6	2.6	0.5	-19.5	31.6	59	32
East Bay	69.9	0.8	1.2	0.0	-28.7	43.3	35.2	0.4	1.7	0.1	-14.5	23.0	43	23
North Bay	15.2	0.2	1.2	0.0	-6.3	10.4	7.7	0.1	1.5	0.0	-3.2	6.1	10	6
South Bay	97.7	1.1	3.8	0.2	-40.2	62.7	49.2	0.6	5.5	0.3	-20.2	35.4	63	35
Out of Region	6.3	0.1	1.7	0.0	-2.6	5.5	3.2	0.0	1.8	0.0	-1.3	3.7	6	4
Total	**897**	**11**	**33**	**4**	**-369**	**576**	**452**	**6**	**38**	**7**	**-186**	**316**	**575**	**316**

PM Peak Hour	Inbound						Outbound						**Assignment**	
Transit Trips	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	**Inbound**	**Outbound**
Superdistrict 1	162.5	1.9	1.7	0.2	-66.8	99.5	81.8	1.0	1.9	0.3	-33.6	51.4	100	51
Superdistrict 2	36.0	0.4	1.3	0.2	-14.8	23.1	18.1	0.2	1.6	0.3	-7.5	12.7	23	13
Superdistrict 3	36.0	0.4	5.6	3.3	-14.8	30.6	18.1	0.2	6.0	5.7	-7.5	22.6	31	23
Superdistrict 4	36.0	0.4	0.5	0.2	-14.8	22.2	18.1	0.2	0.6	0.3	-7.5	11.8	22	12
East Bay	26.7	0.3	0.4	0.0	-11.0	16.5	13.5	0.2	0.7	0.1	-5.5	8.9	17	9
North Bay	5.8	0.1	0.2	0.0	-2.4	3.7	2.9	0.0	0.3	0.0	-1.2	2.1	4	2
South Bay	37.4	0.4	0.8	0.0	-15.4	23.3	18.8	0.2	1.0	0.0	-7.7	12.3	23	12
Out of Region	2.4	0.0	0.8	0.0	-1.0	2.3	1.2	0.0	0.9	0.0	-0.5	1.6	2	2
Total	**343**	**5**	**12**	**4**	**-141**	**222**	**173**	**3**	**13**	**7**	**-71**	**124**	**222**	**124**

Notes

[1]Source: ITE Trip Generation Manual, 8th Edition

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Proposed Project)
Land Use: Resident (Work Trips)

Proposed Size:		**1,600**	**units**				
DAILY				**PM PEAK HOUR**			
Person-trip Generation Rate [1]:		9.23	trips/unit	Person-trip Generation Rate [1]:	17.3%	1.60	trips/unit
Total Person-trips:		14,760	person-trips	Total Person-trips:		2,553	person-trips
Work Trips [1]:	33%	4,871	person-trips	Work Trips [1]:	50%	1,277	person-trips

Origins	Distribution [3]	Mode	Percent [2]	AVO [2]	Daily		PM Peak Hour	
					Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
Superdistrict 1	47.4%	Auto	59.7%	1.13	1,378	1,219	361	320
		Transit	20.2%		466		122	
		Walk	4.9%		112		29	
		Other	15.3%		353		93	
		TOTAL	***100.0%***		***2,309***	***1,219***	***605***	***320***
Superdistrict 2	10.5%	Auto	59.7%	1.13	305	270	80	71
		Transit	20.2%		103		27	
		Walk	4.9%		25		7	
		Other	15.3%		78		20	
		TOTAL	***100.0%***		***511***	***270***	***134***	***71***
Superdistrict 3	10.5%	Auto	59.7%	1.13	305	270	80	71
		Transit	20.2%		103		27	
		Walk	4.9%		25		7	
		Other	15.3%		78		20	
		TOTAL	***100.0%***		***511***	***270***	***134***	***71***
Superdistrict 4	10.5%	Auto	59.7%	1.13	305	270	80	71
		Transit	20.2%		103		27	
		Walk	4.9%		25		7	
		Other	15.3%		78		20	
		TOTAL	***100.0%***		***511***	***270***	***134***	***71***
East Bay	7.8%	Auto	59.7%	1.13	227	201	59	53
		Transit	20.2%		77		20	
		Walk	4.9%		18		5	
		Other	15.3%		58		15	
		TOTAL	***100.0%***		***380***	***201***	***100***	***53***
North Bay	1.7%	Auto	59.7%	1.13	49	44	13	11
		Transit	20.2%		17		4	
		Walk	4.9%		4		1	
		Other	15.3%		13		3	
		TOTAL	***100.0%***		***83***	***44***	***22***	***11***
South Bay	10.9%	Auto	59.7%	1.13	317	280	83	73
		Transit	20.2%		107		28	
		Walk	4.9%		26		7	
		Other	15.3%		81		21	
		TOTAL	***100.0%***		***531***	***280***	***139***	***73***
Out of Region	0.7%	Auto	59.7%	1.13	20	18	5	5
		Transit	20.2%		7		2	
		Walk	4.9%		2		0	
		Other	15.3%		5		1	
		TOTAL	***100.0%***		***34***	***18***	***9***	***5***
TOTAL	100.0%	Auto	59.7%	1.13	2,906	2,572	762	674
		Transit	20.2%		983		258	
		Walk	4.9%		237		62	
		Other	15.3%		745		195	
		TOTAL	***100.0%***		***4,871***	***2,572***	***1,277***	***674***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Residential
[2] 2000 US Census journey-to-work data (Tract 227.03)
[3] 1990 US Census journey-to-work data (Tract 227)

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Proposed Project)
Land Use: Residential (Non-Work Trips)

Proposed Size:	**1,600**	**units**				
DAILY			**PM PEAK HOUR**			
Person-trip Generation Rate [1]:	9.2	trips/unit	Person-trip Generation Rate [1]:	17.3%	1.60	trips/unit
Total Person-trips:	14,760	person-trips	Total Person-trips:		2,553	person-trips
Non-Work Trips [1]: 67%	9,889	person-trips	Non-Work Trips [1]:	50%	1,277	person-trips

Origins	Distribution [3]	Mode	Percent [2]	AVO [2]	Daily		PM Peak Hour	
					Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
Superdistrict 1	47.4%	Auto	59.7%	1.13	2,797	2,475	361	320
		Transit	20.2%		946		122	
		Walk	4.9%		228		29	
		Other	15.3%		717		93	
		TOTAL	***100.0%***		***4,687***	***2,475***	***605***	***320***
Superdistrict 2	10.5%	Auto	59.7%	1.13	620	548	80	71
		Transit	20.2%		210		27	
		Walk	4.9%		50		7	
		Other	15.3%		159		20	
		TOTAL	***100.0%***		***1,038***	***548***	***134***	***71***
Superdistrict 3	10.5%	Auto	59.7%	1.13	620	548	80	71
		Transit	20.2%		210		27	
		Walk	4.9%		50		7	
		Other	15.3%		159		20	
		TOTAL	***100.0%***		***1,038***	***548***	***134***	***71***
Superdistrict 4	10.5%	Auto	59.7%	1.13	620	548	80	71
		Transit	20.2%		210		27	
		Walk	4.9%		50		7	
		Other	15.3%		159		20	
		TOTAL	***100.0%***		***1,038***	***548***	***134***	***71***
East Bay	7.8%	Auto	59.7%	1.13	460	407	59	53
		Transit	20.2%		156		20	
		Walk	4.9%		37		5	
		Other	15.3%		118		15	
		TOTAL	***100.0%***		***771***	***407***	***100***	***53***
North Bay	1.7%	Auto	59.7%	1.13	100	89	13	11
		Transit	20.2%		34		4	
		Walk	4.9%		8		1	
		Other	15.3%		26		3	
		TOTAL	***100.0%***		***168***	***89***	***22***	***11***
South Bay	10.9%	Auto	59.7%	1.13	643	569	83	73
		Transit	20.2%		218		28	
		Walk	4.9%		52		7	
		Other	15.3%		165		21	
		TOTAL	***100.0%***		***1,078***	***569***	***139***	***73***
Out of Region	0.7%	Auto	59.7%	1.13	41	37	5	5
		Transit	20.2%		14		2	
		Walk	4.9%		3		0	
		Other	15.3%		11		1	
		TOTAL	***100.0%***		***69***	***37***	***9***	***5***
TOTAL	100.0%	Auto	59.7%	1.13	5,900	5,222	762	674
		Transit	20.2%		1,996		258	
		Walk	4.9%		481		62	
		Other	15.3%		1,512		195	
		TOTAL	***100.0%***		***9,889***	***5,222***	***1,277***	***674***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Residential
[2] 2000 US Census journey-to-work data (Tract 227.03)
[3] 1990 US Census journey-to-work data (Tract 227)

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Proposed Project)
Land Use: Senior (Work Trips)

Proposed Size:		**100 units**			
DAILY			**PM PEAK HOUR**		
Person-trip Generation Rate [1]:		5.0 trips/unit	Person-trip Generation Rate [1]:	6.0%	0.30 trips/unit
Total Person-trips:		500 person-trips	Total Person-trips:		30 person-trips
Work Trips [1]:	33%	165 person-trips	Work Trips [1]:	50%	15 person-trips

Origins	Distribution [3]	Mode	Percent [2]	AVO [2]	Daily		PM Peak Hour	
					Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
Superdistrict 1	47.4%	Auto	59.7%	1.13	47	41	4	4
		Transit	20.2%		16		1	
		Walk	4.9%		4		0	
		Other	15.3%		12		1	
		TOTAL	***100.0%***		***78***	***41***	***7***	***4***
Superdistrict 2	10.5%	Auto	59.7%	1.13	10	9	1	1
		Transit	20.2%		3		0	
		Walk	4.9%		1		0	
		Other	15.3%		3		0	
		TOTAL	***100.0%***		***17***	***9***	***2***	***1***
Superdistrict 3	10.5%	Auto	59.7%	1.13	10	9	1	1
		Transit	20.2%		3		0	
		Walk	4.9%		1		0	
		Other	15.3%		3		0	
		TOTAL	***100.0%***		***17***	***9***	***2***	***1***
Superdistrict 4	10.5%	Auto	59.7%	1.13	10	9	1	1
		Transit	20.2%		3		0	
		Walk	4.9%		1		0	
		Other	15.3%		3		0	
		TOTAL	***100.0%***		***17***	***9***	***2***	***1***
East Bay	7.8%	Auto	59.7%	1.13	8	7	1	1
		Transit	20.2%		3		0	
		Walk	4.9%		1		0	
		Other	15.3%		2		0	
		TOTAL	***100.0%***		***13***	***7***	***1***	***1***
North Bay	1.7%	Auto	59.7%	1.13	2	1	0	0
		Transit	20.2%		1		0	
		Walk	4.9%		0		0	
		Other	15.3%		0		0	
		TOTAL	***100.0%***		***3***	***1***	***0***	***0***
South Bay	10.9%	Auto	59.7%	1.13	11	9	1	1
		Transit	20.2%		4		0	
		Walk	4.9%		1		0	
		Other	15.3%		3		0	
		TOTAL	***100.0%***		***18***	***9***	***2***	***1***
Out of Region	0.7%	Auto	59.7%	1.13	1	1	0	0
		Transit	20.2%		0		0	
		Walk	4.9%		0		0	
		Other	15.3%		0		0	
		TOTAL	***100.0%***		***1***	***1***	***0***	***0***
TOTAL	100.0%	Auto	59.7%	1.13	98	87	9	8
		Transit	20.2%		33		3	
		Walk	4.9%		8		1	
		Other	15.3%		25		2	
		TOTAL	***100.0%***		***165***	***87***	***15***	***8***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Residential
[2] 2000 US Census journey-to-work data (Tract 227.03)
[3] 1990 US Census journey-to-work data (Tract 227)

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Proposed Project)
Land Use: Senior (Non-Work Trips)

Proposed Size:	**100 units**		
DAILY		**PM PEAK HOUR**	
Person-trip Generation Rate [1]:	5.0 trips/unit	Person-trip Generation Rate [1]: 6.0%	0.30 trips/unit
Total Person-trips:	500 person-trips	Total Person-trips:	30 person-trips
Non-Work Trips [1]: 67%	335 person-trips	Non-Work Trips [1]: 50%	15 person-trips

Origins	Distribution [3]	Mode	Percent [2]	AVO [2]	Daily Person Trips	Daily Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
Superdistrict 1	47.4%	Auto	59.7%	1.13	95	84	4	4
		Transit	20.2%		32		1	
		Walk	4.9%		8		0	
		Other	15.3%		24		1	
		TOTAL	***100.0%***		***159***	***84***	***7***	***4***
Superdistrict 2	10.5%	Auto	59.7%	1.13	21	19	1	1
		Transit	20.2%		7		0	
		Walk	4.9%		2		0	
		Other	15.3%		5		0	
		TOTAL	***100.0%***		***35***	***19***	***2***	***1***
Superdistrict 3	10.5%	Auto	59.7%	1.13	21	19	1	1
		Transit	20.2%		7		0	
		Walk	4.9%		2		0	
		Other	15.3%		5		0	
		TOTAL	***100.0%***		***35***	***19***	***2***	***1***
Superdistrict 4	10.5%	Auto	59.7%	1.13	21	19	1	1
		Transit	20.2%		7		0	
		Walk	4.9%		2		0	
		Other	15.3%		5		0	
		TOTAL	***100.0%***		***35***	***19***	***2***	***1***
East Bay	7.8%	Auto	59.7%	1.13	16	14	1	1
		Transit	20.2%		5		0	
		Walk	4.9%		1		0	
		Other	15.3%		4		0	
		TOTAL	***100.0%***		***26***	***14***	***1***	***1***
North Bay	1.7%	Auto	59.7%	1.13	3	3	0	0
		Transit	20.2%		1		0	
		Walk	4.9%		0		0	
		Other	15.3%		1		0	
		TOTAL	***100.0%***		***6***	***3***	***0***	***0***
South Bay	10.9%	Auto	59.7%	1.13	22	19	1	1
		Transit	20.2%		7		0	
		Walk	4.9%		2		0	
		Other	15.3%		6		0	
		TOTAL	***100.0%***		***37***	***19***	***2***	***1***
Out of Region	0.7%	Auto	59.7%	1.13	1	1	0	0
		Transit	20.2%		0		0	
		Walk	4.9%		0		0	
		Other	15.3%		0		0	
		TOTAL	***100.0%***		***2***	***1***	***0***	***0***
TOTAL	100.0%	Auto	59.7%	1.13	200	177	9	8
		Transit	20.2%		68		3	
		Walk	4.9%		16		1	
		Other	15.3%		51		2	
		TOTAL	***100.0%***		***335***	***177***	***15***	***8***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Residential
[2] 2000 US Census journey-to-work data (Tract 227.03)
[3] 1990 US Census journey-to-work data (Tract 227)

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Proposed Project)
Land Use: Retail (Work Trips)

Proposed Size:		15.0 ksf			
DAILY			**PM PEAK HOUR**		
Person-trip Generation Rate [1]:		150.00 trips/ksf	Person-trip Generation Rate [4]:	9.0%	13.50 trips/ksf
Total Person-trips:		2,250 person-trips	Total Person-trips:		203 person-trips
Work Trips [2]:	4%	90 person-trips	Work Trips [2]:	4%	8 person-trips

Origins	Distribution [3]	Mode	Percent [3]	AVO [3]	Daily Person Trips	Daily Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
Superdistrict 1	8.3%	Auto	46.9%	1.30	4	3	0	0
		Transit	32.7%		2		0	
		Walk	17.7%		1		0	
		Other	2.7%		0		0	
		TOTAL	***100.0%***		***7***	***3***	***1***	***0***
Superdistrict 2	10.6%	Auto	64.6%	1.26	6	5	1	0
		Transit	26.4%		3		0	
		Walk	6.9%		1		0	
		Other	2.1%		0		0	
		TOTAL	***100.0%***		***10***	***5***	***1***	***0***
Superdistrict 3	23.9%	Auto	59.7%	1.25	13	10	1	1
		Transit	20.6%		4		0	
		Walk	15.1%		3		0	
		Other	4.6%		1		0	
		TOTAL	***100.0%***		***22***	***10***	***2***	***1***
Superdistrict 4	7.9%	Auto	75.7%	1.48	5	4	0	0
		Transit	21.5%		2		0	
		Walk	0.0%		0		0	
		Other	2.8%		0		0	
		TOTAL	***100.0%***		***7***	***4***	***1***	***0***
East Bay	14.3%	Auto	68.8%	1.61	9	5	1	0
		Transit	29.7%		4		0	
		Walk	0.0%		0		0	
		Other	1.5%		0		0	
		TOTAL	***100.0%***		***13***	***5***	***1***	***0***
North Bay	5.6%	Auto	86.9%	1.44	4	3	0	0
		Transit	10.5%		1		0	
		Walk	0.0%		0		0	
		Other	2.6%		0		0	
		TOTAL	***100.0%***		***5***	***3***	***0***	***0***
South Bay	26.9%	Auto	88.5%	1.13	21	19	2	2
		Transit	8.8%		2		0	
		Walk	0.0%		0		0	
		Other	2.7%		1		0	
		TOTAL	***100.0%***		***24***	***19***	***2***	***2***
Out of Region	2.5%	Auto	61.8%	1.56	1	1	0	0
		Transit	35.3%		1		0	
		Walk	0.0%		0		0	
		Other	2.9%		0		0	
		TOTAL	***100.0%***		***2***	***1***	***0***	***0***
TOTAL	100.0%	Auto	71.1%	1.23	64	50	6	4
		Transit	20.2%		18		2	
		Walk	5.8%		5		0	
		Other	2.9%		3		0	
		TOTAL	***100.0%***		***90***	***50***	***8***	***4***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Retail
[2] SF Guidelines, Appendix C (Table C-2) - Retail
[3] SF Guidelines, Appendix E (Table E-5) - Work Trips to SD-3 - All
[4] Calculated using PM peak trip generation rates. Daily trip rate calculated using assumed % of daily and PM peak trip generation rate.

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Proposed Project)
Land Use: Retail (Non-Work Trips)

Proposed Size:		15.0	ksf					
DAILY				**PM PEAK HOUR**				
Person-trip Generation Rate [1]:		150.00	trips/ksf	Person-trip Generation Rate [4]:	9.0%		13.50	trips/ksf
Total Person-trips:		2,250	person-trips	Total Person-trips:			203	person-trips
Work Trips [2]:	96%	2,160	person-trips	Work Trips [2]:		96%	194	person-trips

Origins	Distribution [3]	Mode	Percent [3]	AVO [3]	Daily Person Trips	Daily Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
Superdistrict 1	6.0%	Auto	45.0%	1.76	58	33	5	3
		Transit	29.0%		38		3	
		Walk	22.0%		29		3	
		Other	4.0%		5		0	
		TOTAL	***100.0%***		***130***	***33***	***12***	***3***
Superdistrict 2	9.0%	Auto	61.8%	1.52	120	79	11	7
		Transit	15.3%		30		3	
		Walk	19.8%		38		3	
		Other	3.1%		6		1	
		TOTAL	***100.0%***		***194***	***79***	***17***	***7***
Superdistrict 3	61.0%	Auto	60.4%	2.04	796	390	72	35
		Transit	9.5%		125		11	
		Walk	28.7%		378		34	
		Other	1.4%		18		2	
		TOTAL	***100.0%***		***1,318***	***390***	***119***	***35***
Superdistrict 4	5.0%	Auto	84.7%	1.78	91	51	8	5
		Transit	9.7%		10		1	
		Walk	2.8%		3		0	
		Other	2.8%		3		0	
		TOTAL	***100.0%***		***108***	***51***	***10***	***5***
East Bay	3.0%	Auto	75.0%	1.77	49	27	4	2
		Transit	12.5%		8		1	
		Walk	12.5%		8		1	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***65***	***27***	***6***	***2***
North Bay	2.0%	Auto	87.5%	1.44	38	26	3	2
		Transit	12.5%		5		0	
		Walk	0.0%		0		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***43***	***26***	***4***	***2***
South Bay	9.0%	Auto	86.4%	1.98	168	85	15	8
		Transit	9.1%		18		2	
		Walk	3.2%		6		1	
		Other	1.3%		3		0	
		TOTAL	***100.0%***		***194***	***85***	***17***	***8***
Out of Region	5.0%	Auto	59.2%	1.69	64	38	6	3
		Transit	16.9%		18		2	
		Walk	19.7%		21		2	
		Other	4.2%		5		0	
		TOTAL	***100.0%***		***108***	***38***	***10***	***3***
TOTAL	100.0%	Auto	64.1%	1.90	1,384	730	125	66
		Transit	11.7%		252		23	
		Walk	22.4%		484		44	
		Other	1.8%		40		4	
		TOTAL	***100.0%***		***2,160***	***730***	***194***	***66***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Retail
[2] SF Guidelines, Appendix C (Table C-2) - Retail
[3] SF Guidelines, Appendix E (Table E-14) - Visitor Trips to SD-3 - Retail
[4] Calculated using PM peak trip generation rates. Daily trip rate calculated using assumed % of daily and PM peak trip generation rate.

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Proposed Project)
Land Use: Community Center (Work Trips)

Proposed Size:	**35.00 ksf**		
DAILY		**PM PEAK HOUR**	
Person-trip Generation Rate [4]:	22.88 trips/ksf	Person-trip Generation Rate [1]: -	1.45 trips/ksf
Total Person-trips:	801 person-trips	Total Person-trips:	51 person-trips
Work Trips [2]: 4%	32 person-trips	Work Trips [2]: 4%	2 person-trips

Origins	Distribution [3]	Mode	Percent [3]	AVO [3]	Daily		PM Peak Hour	
					Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
Superdistrict 1	8.3%	Auto	46.9%	1.30	1	1	0	0
		Transit	32.7%		1		0	
		Walk	17.7%		0		0	
		Other	2.7%		0		0	
		TOTAL	***100.0%***		***3***	***1***	***0***	***0***
Superdistrict 2	10.6%	Auto	64.6%	1.26	2	2	0	0
		Transit	26.4%		1		0	
		Walk	6.9%		0		0	
		Other	2.1%		0		0	
		TOTAL	***100.0%***		***3***	***2***	***0***	***0***
Superdistrict 3	23.9%	Auto	59.7%	1.25	5	4	0	0
		Transit	20.6%		2		0	
		Walk	15.1%		1		0	
		Other	4.6%		0		0	
		TOTAL	***100.0%***		***8***	***4***	***0***	***0***
Superdistrict 4	7.9%	Auto	75.7%	1.48	2	1	0	0
		Transit	21.5%		1		0	
		Walk	0.0%		0		0	
		Other	2.8%		0		0	
		TOTAL	***100.0%***		***3***	***1***	***0***	***0***
East Bay	14.3%	Auto	68.8%	1.61	3	2	0	0
		Transit	29.7%		1		0	
		Walk	0.0%		0		0	
		Other	1.5%		0		0	
		TOTAL	***100.0%***		***5***	***2***	***0***	***0***
North Bay	5.6%	Auto	86.9%	1.44	2	1	0	0
		Transit	10.5%		0		0	
		Walk	0.0%		0		0	
		Other	2.6%		0		0	
		TOTAL	***100.0%***		***2***	***1***	***0***	***0***
South Bay	26.9%	Auto	88.5%	1.13	8	7	0	0
		Transit	8.8%		1		0	
		Walk	0.0%		0		0	
		Other	2.7%		0		0	
		TOTAL	***100.0%***		***9***	***7***	***1***	***0***
Out of Region	2.5%	Auto	61.8%	1.56	0	0	0	0
		Transit	35.3%		0		0	
		Walk	0.0%		0		0	
		Other	2.9%		0		0	
		TOTAL	***100.0%***		***1***	***0***	***0***	***0***
TOTAL	100.0%	Auto	71.1%	1.23	23	18	1	1
		Transit	20.2%		6		0	
		Walk	5.8%		2		0	
		Other	2.9%		1		0	
		TOTAL	***100.0%***		***32***	***18***	***2***	***1***

Notes:
[1] Developed from vehicle trip rate provided in the ITE Trip Generation Handbook, 8th edition for Community Center (Land Use #495)
[2] SF Guidelines, Appendix C (Table C-2) - Retail
[3] SF Guidelines, Appendix E (Table E-5) - Work Trips to SD-3 - All
[4] Calculated using PM peak trip generation rates. Daily trip rate calculated using assumed % of daily and PM peak trip generation rate.

Potrero HOPE Transportation Study

Project Trip Generation - Weekday (Proposed Project)

Land Use: Community Center (Non-Work) Trips

Proposed Size:	**35.00**	**ksf**			
DAILY			**PM PEAK HOUR**		
Person-trip Generation Rate [4]:	22.88	trips/ksf	Person-trip Generation Rate [1]: -	1.45	trips/ksf
Total Person-trips:	801	person-trips	Total Person-trips:	51	person-trips
Non-Work Trips [2]: 96%	769	person-trips	Non-Work Trips [2]: 96%	49	person-trips

Origins	Distribution [3]	Mode	Percent [3]	AVO [3]	Daily Person Trips	Daily Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
Superdistrict 1	5.0%	Auto	36.0%	2.03	14	7	1	0
		Transit	19.2%		7		0	
		Walk	33.3%		13		1	
		Other	11.5%		4		0	
		TOTAL	***100.0%***		***38***	***7***	***2***	***0***
Superdistrict 2	5.0%	Auto	68.6%	1.97	26	13	2	1
		Transit	14.5%		6		0	
		Walk	2.4%		1		0	
		Other	14.5%		6		0	
		TOTAL	***100.0%***		***38***	***13***	***2***	***1***
Superdistrict 3	85.0%	Auto	43.7%	2.43	286	118	18	7
		Transit	21.5%		140		9	
		Walk	25.4%		166		11	
		Other	9.4%		61		4	
		TOTAL	***100.0%***		***653***	***118***	***41***	***7***
Superdistrict 4	5.0%	Auto	67.4%	2.51	26	10	2	1
		Transit	16.3%		6		0	
		Walk	7.0%		3		0	
		Other	9.3%		4		0	
		TOTAL	***100.0%***		***38***	***10***	***2***	***1***
East Bay	0.0%	Auto	68.4%	2.59	0	0	0	0
		Transit	29.8%		0		0	
		Walk	1.8%		0		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***0***	***0***	***0***	***0***
North Bay	0.0%	Auto	100.0%	2.11	0	0	0	0
		Transit	0.0%		0		0	
		Walk	0.0%		0		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***0***	***0***	***0***	***0***
South Bay	0.0%	Auto	94.6%	2.28	0	0	0	0
		Transit	3.6%		0		0	
		Walk	1.8%		0		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***0***	***0***	***0***	***0***
Out of Region	0.0%	Auto	73.6%	1.68	0	0	0	0
		Transit	21.1%		0		0	
		Walk	0.0%		0		0	
		Other	5.3%		0		0	
		TOTAL	***100.0%***		***0***	***0***	***0***	***0***
TOTAL	100.0%	Auto	45.7%	2.38	352	148	22	9
		Transit	20.8%		160		10	
		Walk	23.7%		182		12	
		Other	9.8%		75		5	
		TOTAL	***100.0%***		***769***	***148***	***49***	***9***

Notes:

[1] Developed from vehicle trip rate provided in the ITE Trip Generation Handbook, 8th edition for Community Center (Land Use #495)

[2] SF Guidelines, Appendix C (Table C-2) - Retail

[3] SF Guidelines, Appendix E - modified to account for primarily internal trips and majority of external trips to center will be from SD-3

[4] Calculated using PM peak trip generation rates. Daily trip rate calculated using assumed % of daily and PM peak trip generation rate.

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Proposed Project)
Land Use: Residential (Work Trips) to be Removed - Trip Credits

Proposed Size:		**-620**	**units**				
DAILY				**PM PEAK HOUR**			
Person-trip Generation Rate [1]:		9.8	trips/unit	Person-trip Generation Rate [1]:	17.3%	1.69	trips/unit
Total Person-trips:		-6,068	person-trips	Total Person-trips:		-1,050	person-trips
Work Trips [1]:	33%	-2,002	person-trips	Work Trips [1]:	50%	-525	person-trips

Origins	Distribution [3]	Mode	Percent [2]	AVO [2]	Daily Person Trips	Daily Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
Superdistrict 1	47.4%	Auto	59.7%	1.13	-566	-501	-148	-131
		Transit	20.2%		-192		-50	
		Walk	4.9%		-46		-12	
		Other	15.3%		-145		-38	
		TOTAL	***100.0%***		***-949***	***-501***	***-249***	***-131***
Superdistrict 2	10.5%	Auto	59.7%	1.13	-125	-111	-33	-29
		Transit	20.2%		-42		-11	
		Walk	4.9%		-10		-3	
		Other	15.3%		-32		-8	
		TOTAL	***100.0%***		***-210***	***-111***	***-55***	***-29***
Superdistrict 3	10.5%	Auto	59.7%	1.13	-125	-111	-33	-29
		Transit	20.2%		-42		-11	
		Walk	4.9%		-10		-3	
		Other	15.3%		-32		-8	
		TOTAL	***100.0%***		***-210***	***-111***	***-55***	***-29***
Superdistrict 4	10.5%	Auto	59.7%	1.13	-125	-111	-33	-29
		Transit	20.2%		-42		-11	
		Walk	4.9%		-10		-3	
		Other	15.3%		-32		-8	
		TOTAL	***100.0%***		***-210***	***-111***	***-55***	***-29***
East Bay	7.8%	Auto	59.7%	1.13	-93	-82	-24	-22
		Transit	20.2%		-32		-8	
		Walk	4.9%		-8		-2	
		Other	15.3%		-24		-6	
		TOTAL	***100.0%***		***-156***	***-82***	***-41***	***-22***
North Bay	1.7%	Auto	59.7%	1.13	-20	-18	-5	-5
		Transit	20.2%		-7		-2	
		Walk	4.9%		-2		0	
		Other	15.3%		-5		-1	
		TOTAL	***100.0%***		***-34***	***-18***	***-9***	***-5***
South Bay	10.9%	Auto	59.7%	1.13	-130	-115	-34	-30
		Transit	20.2%		-44		-12	
		Walk	4.9%		-11		-3	
		Other	15.3%		-33		-9	
		TOTAL	***100.0%***		***-218***	***-115***	***-57***	***-30***
Out of Region	0.7%	Auto	59.7%	1.13	-8	-7	-2	-2
		Transit	20.2%		-3		-1	
		Walk	4.9%		-1		0	
		Other	15.3%		-2		-1	
		TOTAL	***100.0%***		***-14***	***-7***	***-4***	***-2***
TOTAL	100.0%	Auto	59.7%	1.13	-1,195	-1,057	-313	-277
		Transit	20.2%		-404		-106	
		Walk	4.9%		-97		-26	
		Other	15.3%		-306		-80	
		TOTAL	***100.0%***		***-2,002***	***-1,057***	***-525***	***-277***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Residential
[2] 2000 US Census journey-to-work data (Tract 227.03)
[3] 1990 US Census journey-to-work data (Tract 227)

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Proposed Project)
Land Use: Residential (Non-Work Trips) to be Removed - Trip Credits

Proposed Size:		**-620**	**units**				
DAILY				**PM PEAK HOUR**			
Person-trip Generation Rate [1]:		9.8	trips/unit	Person-trip Generation Rate [1]:	17.3%	1.69	trips/unit
Total Person-trips:		-6,068	person-trips	Total Person-trips:		-1,050	person-trips
Work Trips [1]:	67%	-4,065	person-trips	Work Trips [1]:	50%	-525	person-trips

Origins	Distribution [3]	Mode	Percent [2]	AVO [2]	Daily		PM Peak Hour	
					Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
Superdistrict 1	47.4%	Auto	59.7%	1.13	-1,150	-1,017	-148	-131
		Transit	20.2%		-389		-50	
		Walk	4.9%		-94		-12	
		Other	15.3%		-295		-38	
		TOTAL	***100.0%***		***-1,927***	***-1,017***	***-249***	***-131***
Superdistrict 2	10.5%	Auto	59.7%	1.13	-255	-225	-33	-29
		Transit	20.2%		-86		-11	
		Walk	4.9%		-21		-3	
		Other	15.3%		-65		-8	
		TOTAL	***100.0%***		***-427***	***-225***	***-55***	***-29***
Superdistrict 3	10.5%	Auto	59.7%	1.13	-255	-225	-33	-29
		Transit	20.2%		-86		-11	
		Walk	4.9%		-21		-3	
		Other	15.3%		-65		-8	
		TOTAL	***100.0%***		***-427***	***-225***	***-55***	***-29***
Superdistrict 4	10.5%	Auto	59.7%	1.13	-255	-225	-33	-29
		Transit	20.2%		-86		-11	
		Walk	4.9%		-21		-3	
		Other	15.3%		-65		-8	
		TOTAL	***100.0%***		***-427***	***-225***	***-55***	***-29***
East Bay	7.8%	Auto	59.7%	1.13	-189	-167	-24	-22
		Transit	20.2%		-64		-8	
		Walk	4.9%		-15		-2	
		Other	15.3%		-48		-6	
		TOTAL	***100.0%***		***-317***	***-167***	***-41***	***-22***
North Bay	1.7%	Auto	59.7%	1.13	-41	-36	-5	-5
		Transit	20.2%		-14		-2	
		Walk	4.9%		-3		0	
		Other	15.3%		-11		-1	
		TOTAL	***100.0%***		***-69***	***-36***	***-9***	***-5***
South Bay	10.9%	Auto	59.7%	1.13	-264	-234	-34	-30
		Transit	20.2%		-89		-12	
		Walk	4.9%		-22		-3	
		Other	15.3%		-68		-9	
		TOTAL	***100.0%***		***-443***	***-234***	***-57***	***-30***
Out of Region	0.7%	Auto	59.7%	1.13	-17	-15	-2	-2
		Transit	20.2%		-6		-1	
		Walk	4.9%		-1		0	
		Other	15.3%		-4		-1	
		TOTAL	***100.0%***		***-28***	***-15***	***-4***	***-2***
TOTAL	100.0%	Auto	59.7%	1.13	-2,426	-2,147	-313	-277
		Transit	20.2%		-821		-106	
		Walk	4.9%		-198		-26	
		Other	15.3%		-621		-80	
		TOTAL	***100.0%***		***-4,065***	***-2,147***	***-525***	***-277***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Residential
[2] 2000 US Census journey-to-work data (Tract 227.03)
[3] 1990 US Census journey-to-work data (Tract 227)

Potrero HOPE Transportation Study

Weekday Travel Demand Summary - Alternative 1

Daily / PM Peak Hour	Daily						PM Peak Hour						
Trips by Mode	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	
Auto	6,644	239	1,448	267	-3,620	4,978	1,149	14	130	17	-626	685	60%
Transit	2,248	81	271	119	-1,225	1,493	389	5	24	8	-212	214	19%
Walk	541	19	489	132	-295	886	94	1	44	8	-51	96	8%
Other	1,702	61	42	54	-928	932	294	4	4	3	-160	145	13%
Total	**11,135**	**400**	**2,250**	**572**	**-6,068**	**8,290**	**1,926**	**24**	**203**	**36**	**-1,050**	**1,139**	100%
Vehicle Trips	5,879	211	780	129	-3,204	3,795	1,017	13	70	8	-554	553	

PM Peak Hour	Person-Trips					Total	Vehicle-Trips						Transit-Trips					
Distribution	Residential	Senior Housing	Retail	Community Center	Trip Credits	Person Trips	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total
Superdistrict 1	913	11	12	2	-498	441	482	6	3	0	-263	229	184	2	4	0	-100	90
Superdistrict 2	202	3	18	2	-110	115	107	1	8	1	-58	58	41	1	3	0	-22	22
Superdistrict 3	202	3	121	30	-110	245	107	1	36	5	-58	91	41	1	12	6	-22	37
Superdistrict 4	202	3	10	2	-110	107	107	1	5	1	-58	55	41	1	1	0	-22	20
East Bay	150	2	7	0	-82	77	79	1	3	0	-43	40	30	0	1	0	-17	15
North Bay	33	0	4	0	-18	20	17	0	3	0	-9	11	7	0	1	0	-4	4
South Bay	210	3	20	0	-114	118	111	1	9	0	-60	61	42	1	2	0	-23	22
Out of Region	13	0	10	0	-7	16	7	0	3	0	-4	7	3	0	2	0	-1	3
Total	**1,926**	**24**	**203**	**36**	**-1,050**	**1,139**	**1,017**	**13**	**70**	**8**	**-554**	**553**	**389**	**5**	**24**	**8**	**-212**	**214**

PM Peak Hour	Residential/Senior		Retail		Community Center[1]
In/Out Split	Work	Non-work	Work	Non-work	All Trips
Inbound	100%	33%	0%	50%	37%
Outbound	0%	67%	100%	50%	63%

PM Peak Hour	Inbound						Outbound					
Person Trips	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total
Total	1,281	16	97	13	-698	710	645	8	105	23	-352	430
					Percent inbound:	62%					Percent outbound:	38%

PM Peak Hour	Inbound						Outbound						Assignment	
Vehicle-Trips	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	**Inbound**	**Outbound**
Superdistrict 1	320.6	4.0	1.5	0.1	-174.7	151.5	161.5	2.0	1.7	0.2	-88.0	77.5	152	78
Superdistrict 2	71.0	0.9	3.6	0.3	-38.7	37.0	35.8	0.4	4.0	0.4	-19.5	21.2	37	21
Superdistrict 3	71.0	0.9	17.6	2.0	-38.7	52.8	35.8	0.4	18.5	3.5	-19.5	38.7	53	39
Superdistrict 4	71.0	0.9	2.3	0.2	-38.7	35.7	35.8	0.4	2.6	0.3	-19.5	19.7	36	20
East Bay	52.8	0.7	1.2	0.0	-28.7	25.9	26.6	0.3	1.7	0.1	-14.5	14.2	26	14
North Bay	11.5	0.1	1.2	0.0	-6.3	6.6	5.8	0.1	1.5	0.0	-3.2	4.2	7	4
South Bay	73.7	0.9	3.8	0.1	-40.2	38.4	37.1	0.5	5.5	0.2	-20.2	23.1	38	23
Out of Region	4.7	0.1	1.7	0.0	-2.6	3.9	2.4	0.0	1.8	0.0	-1.3	2.9	4	3
Total	**677**	**9**	**33**	**3**	**-369**	**352**	**341**	**5**	**38**	**5**	**-186**	**202**	**351**	**202**

PM Peak Hour	Inbound						Outbound						Assignment	
Transit Trips	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	Residential	Senior Housing	Retail	Community Center	Trip Credits	Total	**Inbound**	**Outbound**
Superdistrict 1	122.6	1.5	1.7	0.1	-66.8	59.1	61.7	0.8	1.9	0.2	-33.6	31.0	59	31
Superdistrict 2	27.2	0.3	1.3	0.1	-14.8	14.1	13.7	0.2	1.6	0.2	-7.5	8.1	14	8
Superdistrict 3	27.2	0.3	5.6	2.4	-14.8	20.7	13.7	0.2	6.0	4.1	-7.5	16.5	21	17
Superdistrict 4	27.2	0.3	0.5	0.1	-14.8	13.3	13.7	0.2	0.6	0.2	-7.5	7.2	13	7
East Bay	20.2	0.3	0.4	0.0	-11.0	9.8	10.2	0.1	0.7	0.0	-5.5	5.5	10	6
North Bay	4.4	0.1	0.2	0.0	-2.4	2.3	2.2	0.0	0.3	0.0	-1.2	1.3	2	1
South Bay	28.2	0.4	0.8	0.0	-15.4	14.0	14.2	0.2	1.0	0.0	-7.7	7.6	14	8
Out of Region	1.8	0.0	0.8	0.0	-1.0	1.7	0.9	0.0	0.9	0.0	-0.5	1.3	2	1
Total	**259**	**4**	**12**	**3**	**-141**	**136**	**131**	**2**	**13**	**5**	**-71**	**79**	**135**	**79**

Notes

[1]Source: ITE Trip Generation Manual, 8th Edition

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Alternative 1)
Land Use: Resident (Work Trips)

Proposed Size:	**1,200**	**units**			
DAILY			**PM PEAK HOUR**		
Person-trip Generation Rate [1]:	9.28	trips/unit	Person-trip Generation Rate [1]: 17.3%	1.61	trips/unit
Total Person-trips:	11,135	person-trips	Total Person-trips:	1,926	person-trips
Work Trips [1]: 33%	3,675	person-trips	Work Trips [1]: 50%	963	person-trips

Origins	**Distribution [3]**	**Mode**	**Percent [2]**	**AVO [2]**	**Daily Person Trips**	**Daily Vehicle-Trips**	**PM Peak Hour Person Trips**	**PM Peak Hour Vehicle-Trips**
Superdistrict 1	47.4%	Auto	59.7%	1.13	1,039	920	272	241
		Transit	20.2%		352		92	
		Walk	4.9%		85		22	
		Other	15.3%		266		70	
		TOTAL	***100.0%***		***1,742***	***920***	***457***	***241***
Superdistrict 2	10.5%	Auto	59.7%	1.13	230	204	60	53
		Transit	20.2%		78		20	
		Walk	4.9%		19		5	
		Other	15.3%		59		15	
		TOTAL	***100.0%***		***386***	***204***	***101***	***53***
Superdistrict 3	10.5%	Auto	59.7%	1.13	230	204	60	53
		Transit	20.2%		78		20	
		Walk	4.9%		19		5	
		Other	15.3%		59		15	
		TOTAL	***100.0%***		***386***	***204***	***101***	***53***
Superdistrict 4	10.5%	Auto	59.7%	1.13	230	204	60	53
		Transit	20.2%		78		20	
		Walk	4.9%		19		5	
		Other	15.3%		59		15	
		TOTAL	***100.0%***		***386***	***204***	***101***	***53***
East Bay	7.8%	Auto	59.7%	1.13	171	151	45	40
		Transit	20.2%		58		15	
		Walk	4.9%		14		4	
		Other	15.3%		44		11	
		TOTAL	***100.0%***		***287***	***151***	***75***	***40***
North Bay	1.7%	Auto	59.7%	1.13	37	33	10	9
		Transit	20.2%		13		3	
		Walk	4.9%		3		1	
		Other	15.3%		10		3	
		TOTAL	***100.0%***		***62***	***33***	***16***	***9***
South Bay	10.9%	Auto	59.7%	1.13	239	211	63	55
		Transit	20.2%		81		21	
		Walk	4.9%		19		5	
		Other	15.3%		61		16	
		TOTAL	***100.0%***		***401***	***211***	***105***	***55***
Out of Region	0.7%	Auto	59.7%	1.13	15	14	4	4
		Transit	20.2%		5		1	
		Walk	4.9%		1		0	
		Other	15.3%		4		1	
		TOTAL	***100.0%***		***26***	***14***	***7***	***4***
TOTAL	100.0%	Auto	59.7%	1.13	2,192	1,940	575	509
		Transit	20.2%		742		194	
		Walk	4.9%		179		47	
		Other	15.3%		562		147	
		TOTAL	***100.0%***		***3,675***	***1,940***	***963***	***509***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Residential
[2] 2000 US Census journey-to-work data (Tract 227.03)
[3] 1990 US Census journey-to-work data (Tract 227)

Potrero HOPE Transportation Study

Project Trip Generation - Weekday (Alternative 1)

Land Use: Residential (Non-Work Trips)

Proposed Size:		**1,200 units**			
DAILY			**PM PEAK HOUR**		
Person-trip Generation Rate [1]:		9.3 trips/unit	Person-trip Generation Rate [1]:	17.3%	1.61 trips/unit
Total Person-trips:		11,135 person-trips	Total Person-trips:		1,926 person-trips
Non-Work Trips [1]:	67%	7,460 person-trips	Non-Work Trips [1]:	50%	963 person-trips

Origins	Distribution [3]	Mode	Percent [2]	AVO [2]	Daily Person Trips	Daily Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
Superdistrict 1	47.4%	Auto	59.7%	1.13	2,110	1,867	272	241
		Transit	20.2%		714		92	
		Walk	4.9%		172		22	
		Other	15.3%		541		70	
		TOTAL	***100.0%***		***3,536***	***1,867***	***457***	***241***
Superdistrict 2	10.5%	Auto	59.7%	1.13	467	414	60	53
		Transit	20.2%		158		20	
		Walk	4.9%		38		5	
		Other	15.3%		120		15	
		TOTAL	***100.0%***		***783***	***414***	***101***	***53***
Superdistrict 3	10.5%	Auto	59.7%	1.13	467	414	60	53
		Transit	20.2%		158		20	
		Walk	4.9%		38		5	
		Other	15.3%		120		15	
		TOTAL	***100.0%***		***783***	***414***	***101***	***53***
Superdistrict 4	10.5%	Auto	59.7%	1.13	467	414	60	53
		Transit	20.2%		158		20	
		Walk	4.9%		38		5	
		Other	15.3%		120		15	
		TOTAL	***100.0%***		***783***	***414***	***101***	***53***
East Bay	7.8%	Auto	59.7%	1.13	347	307	45	40
		Transit	20.2%		117		15	
		Walk	4.9%		28		4	
		Other	15.3%		89		11	
		TOTAL	***100.0%***		***582***	***307***	***75***	***40***
North Bay	1.7%	Auto	59.7%	1.13	76	67	10	9
		Transit	20.2%		26		3	
		Walk	4.9%		6		1	
		Other	15.3%		19		3	
		TOTAL	***100.0%***		***127***	***67***	***16***	***9***
South Bay	10.9%	Auto	59.7%	1.13	485	429	63	55
		Transit	20.2%		164		21	
		Walk	4.9%		40		5	
		Other	15.3%		124		16	
		TOTAL	***100.0%***		***813***	***429***	***105***	***55***
Out of Region	0.7%	Auto	59.7%	1.13	31	28	4	4
		Transit	20.2%		11		1	
		Walk	4.9%		3		0	
		Other	15.3%		8		1	
		TOTAL	***100.0%***		***52***	***28***	***7***	***4***
TOTAL	100.0%	Auto	59.7%	1.13	4,451	3,939	575	509
		Transit	20.2%		1,506		194	
		Walk	4.9%		363		47	
		Other	15.3%		1,141		147	
		TOTAL	***100.0%***		***7,460***	***3,939***	***963***	***509***

Notes:

[1] SF Guidelines, Appendix C (Table C-1) - Residential

[2] 2000 US Census journey-to-work data (Tract 227.03)

[3] 1990 US Census journey-to-work data (Tract 227)

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Alternative 1)
Land Use: Senior (Work Trips)

Proposed Size:		80 units				
DAILY			**PM PEAK HOUR**			
Person-trip Generation Rate [1]:		5.0 trips/unit	Person-trip Generation Rate [1]:	6.0%		0.30 trips/unit
Total Person-trips:		400 person-trips	Total Person-trips:			24 person-trips
Work Trips [1]:	33%	132 person-trips	Work Trips [1]:		50%	12 person-trips

Origins	Distribution [3]	Mode	Percent [2]	AVO [2]	Daily Person Trips	Daily Vehicle-Trips	PM Peak Hour Person Trips	PM Peak Hour Vehicle-Trips
Superdistrict 1	47.4%	Auto	59.7%	1.13	37	33	3	3
		Transit	20.2%		13		1	
		Walk	4.9%		3		0	
		Other	15.3%		10		1	
		TOTAL	***100.0%***		***63***	***33***	***6***	***3***
Superdistrict 2	10.5%	Auto	59.7%	1.13	8	7	1	1
		Transit	20.2%		3		0	
		Walk	4.9%		1		0	
		Other	15.3%		2		0	
		TOTAL	***100.0%***		***14***	***7***	***1***	***1***
Superdistrict 3	10.5%	Auto	59.7%	1.13	8	7	1	1
		Transit	20.2%		3		0	
		Walk	4.9%		1		0	
		Other	15.3%		2		0	
		TOTAL	***100.0%***		***14***	***7***	***1***	***1***
Superdistrict 4	10.5%	Auto	59.7%	1.13	8	7	1	1
		Transit	20.2%		3		0	
		Walk	4.9%		1		0	
		Other	15.3%		2		0	
		TOTAL	***100.0%***		***14***	***7***	***1***	***1***
East Bay	7.8%	Auto	59.7%	1.13	6	5	1	0
		Transit	20.2%		2		0	
		Walk	4.9%		1		0	
		Other	15.3%		2		0	
		TOTAL	***100.0%***		***10***	***5***	***1***	***0***
North Bay	1.7%	Auto	59.7%	1.13	1	1	0	0
		Transit	20.2%		0		0	
		Walk	4.9%		0		0	
		Other	15.3%		0		0	
		TOTAL	***100.0%***		***2***	***1***	***0***	***0***
South Bay	10.9%	Auto	59.7%	1.13	9	8	1	1
		Transit	20.2%		3		0	
		Walk	4.9%		1		0	
		Other	15.3%		2		0	
		TOTAL	***100.0%***		***14***	***8***	***1***	***1***
Out of Region	0.7%	Auto	59.7%	1.13	1	0	0	0
		Transit	20.2%		0		0	
		Walk	4.9%		0		0	
		Other	15.3%		0		0	
		TOTAL	***100.0%***		***1***	***0***	***0***	***0***
TOTAL	100.0%	Auto	59.7%	1.13	79	70	7	6
		Transit	20.2%		27		2	
		Walk	4.9%		6		1	
		Other	15.3%		20		2	
		TOTAL	***100.0%***		***132***	***70***	***12***	***6***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Residential
[2] 2000 US Census journey-to-work data (Tract 227.03)
[3] 1990 US Census journey-to-work data (Tract 227)

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Alternative 1)
Land Use: Senior (Non-Work Trips)

Proposed Size:	**80 units**				
DAILY			**PM PEAK HOUR**		
Person-trip Generation Rate [1]:		5.0 trips/unit	Person-trip Generation Rate [1]:	6.0%	0.30 trips/unit
Total Person-trips:		400 person-trips	Total Person-trips:		24 person-trips
Non-Work Trips [1]:	67%	268 person-trips	Non-Work Trips [1]:	50%	12 person-trips

Origins	**Distribution [3]**	**Mode**	**Percent [2]**	**AVO [2]**	**Daily**		**PM Peak Hour**	
					Person Trips	**Vehicle-Trips**	**Person Trips**	**Vehicle-Trips**
Superdistrict 1	47.4%	Auto	59.7%	1.13	76	67	3	3
		Transit	20.2%		26		1	
		Walk	4.9%		6		0	
		Other	15.3%		19		1	
		TOTAL	***100.0%***		***127***	***67***	***6***	***3***
Superdistrict 2	10.5%	Auto	59.7%	1.13	17	15	1	1
		Transit	20.2%		6		0	
		Walk	4.9%		1		0	
		Other	15.3%		4		0	
		TOTAL	***100.0%***		***28***	***15***	***1***	***1***
Superdistrict 3	10.5%	Auto	59.7%	1.13	17	15	1	1
		Transit	20.2%		6		0	
		Walk	4.9%		1		0	
		Other	15.3%		4		0	
		TOTAL	***100.0%***		***28***	***15***	***1***	***1***
Superdistrict 4	10.5%	Auto	59.7%	1.13	17	15	1	1
		Transit	20.2%		6		0	
		Walk	4.9%		1		0	
		Other	15.3%		4		0	
		TOTAL	***100.0%***		***28***	***15***	***1***	***1***
East Bay	7.8%	Auto	59.7%	1.13	12	11	1	0
		Transit	20.2%		4		0	
		Walk	4.9%		1		0	
		Other	15.3%		3		0	
		TOTAL	***100.0%***		***21***	***11***	***1***	***0***
North Bay	1.7%	Auto	59.7%	1.13	3	2	0	0
		Transit	20.2%		1		0	
		Walk	4.9%		0		0	
		Other	15.3%		1		0	
		TOTAL	***100.0%***		***5***	***2***	***0***	***0***
South Bay	10.9%	Auto	59.7%	1.13	17	15	1	1
		Transit	20.2%		6		0	
		Walk	4.9%		1		0	
		Other	15.3%		4		0	
		TOTAL	***100.0%***		***29***	***15***	***1***	***1***
Out of Region	0.7%	Auto	59.7%	1.13	1	1	0	0
		Transit	20.2%		0		0	
		Walk	4.9%		0		0	
		Other	15.3%		0		0	
		TOTAL	***100.0%***		***2***	***1***	***0***	***0***
TOTAL	100.0%	Auto	59.7%	1.13	160	142	7	6
		Transit	20.2%		54		2	
		Walk	4.9%		13		1	
		Other	15.3%		41		2	
		TOTAL	***100.0%***		***268***	***142***	***12***	***6***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Residential
[2] 2000 US Census journey-to-work data (Tract 227.03)
[3] 1990 US Census journey-to-work data (Tract 227)

Potrero HOPE Transportation Study

Project Trip Generation - Weekday (Alternative 1)

Land Use: Retail (Work Trips)

Proposed Size:	15.0 ksf		
DAILY		**PM PEAK HOUR**	
Person-trip Generation Rate [1]:	150.00 trips/ksf	Person-trip Generation Rate [4]: 9.0%	13.50 trips/ksf
Total Person-trips:	2,250 person-trips	Total Person-trips:	203 person-trips
Work Trips [2]: 4%	90 person-trips	Work Trips [2]: 4%	8 person-trips

Origins	Distribution [3]	Mode	Percent [3]	AVO [3]	Daily		PM Peak Hour	
					Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
Superdistrict 1	8.3%	Auto	46.9%	1.30	4	3	0	0
		Transit	32.7%		2		0	
		Walk	17.7%		1		0	
		Other	2.7%		0		0	
		TOTAL	***100.0%***		***7***	***3***	***1***	***0***
Superdistrict 2	10.6%	Auto	64.6%	1.26	6	5	1	0
		Transit	26.4%		3		0	
		Walk	6.9%		1		0	
		Other	2.1%		0		0	
		TOTAL	***100.0%***		***10***	***5***	***1***	***0***
Superdistrict 3	23.9%	Auto	59.7%	1.25	13	10	1	1
		Transit	20.6%		4		0	
		Walk	15.1%		3		0	
		Other	4.6%		1		0	
		TOTAL	***100.0%***		***22***	***10***	***2***	***1***
Superdistrict 4	7.9%	Auto	75.7%	1.48	5	4	0	0
		Transit	21.5%		2		0	
		Walk	0.0%		0		0	
		Other	2.8%		0		0	
		TOTAL	***100.0%***		***7***	***4***	***1***	***0***
East Bay	14.3%	Auto	68.8%	1.61	9	5	1	0
		Transit	29.7%		4		0	
		Walk	0.0%		0		0	
		Other	1.5%		0		0	
		TOTAL	***100.0%***		***13***	***5***	***1***	***0***
North Bay	5.6%	Auto	86.9%	1.44	4	3	0	0
		Transit	10.5%		1		0	
		Walk	0.0%		0		0	
		Other	2.6%		0		0	
		TOTAL	***100.0%***		***5***	***3***	***0***	***0***
South Bay	26.9%	Auto	88.5%	1.13	21	19	2	2
		Transit	8.8%		2		0	
		Walk	0.0%		0		0	
		Other	2.7%		1		0	
		TOTAL	***100.0%***		***24***	***19***	***2***	***2***
Out of Region	2.5%	Auto	61.8%	1.56	1	1	0	0
		Transit	35.3%		1		0	
		Walk	0.0%		0		0	
		Other	2.9%		0		0	
		TOTAL	***100.0%***		***2***	***1***	***0***	***0***
TOTAL	100.0%	Auto	71.1%	1.23	64	50	6	4
		Transit	20.2%		18		2	
		Walk	5.8%		5		0	
		Other	2.9%		3		0	
		TOTAL	***100.0%***		***90***	***50***	***8***	***4***

Notes:

[1] SF Guidelines, Appendix C (Table C-1) - Retail

[2] SF Guidelines, Appendix C (Table C-2) - Retail

[3] SF Guidelines, Appendix E (Table E-5) - Work Trips to SD-3 - All

[4] Calculated using PM peak trip generation rates. Daily trip rate calculated using assumed % of daily and PM peak trip generation rate.

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Alternative 1)
Land Use: Retail (Non-Work Trips)

Proposed Size:		**15.0**	**ksf**				
DAILY				**PM PEAK HOUR**			
Person-trip Generation Rate [1]:		150.00	trips/ksf	Person-trip Generation Rate [4]:	9.0%	13.50	trips/ksf
Total Person-trips:		2,250	person-trips	Total Person-trips:		203	person-trips
Work Trips [2]:	96%	2,160	person-trips	Work Trips [2]:	96%	194	person-trips

Origins	Distribution [3]	Mode	Percent [3]	AVO [3]	Daily		PM Peak Hour	
					Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
Superdistrict 1	6.0%	Auto	45.0%	1.76	58	33	5	3
		Transit	29.0%		38		3	
		Walk	22.0%		29		3	
		Other	4.0%		5		0	
		TOTAL	***100.0%***		***130***	***33***	***12***	***3***
Superdistrict 2	9.0%	Auto	61.8%	1.52	120	79	11	7
		Transit	15.3%		30		3	
		Walk	19.8%		38		3	
		Other	3.1%		6		1	
		TOTAL	***100.0%***		***194***	***79***	***17***	***7***
Superdistrict 3	61.0%	Auto	60.4%	2.04	796	390	72	35
		Transit	9.5%		125		11	
		Walk	28.7%		378		34	
		Other	1.4%		18		2	
		TOTAL	***100.0%***		***1,318***	***390***	***119***	***35***
Superdistrict 4	5.0%	Auto	84.7%	1.78	91	51	8	5
		Transit	9.7%		10		1	
		Walk	2.8%		3		0	
		Other	2.8%		3		0	
		TOTAL	***100.0%***		***108***	***51***	***10***	***5***
East Bay	3.0%	Auto	75.0%	1.77	49	27	4	2
		Transit	12.5%		8		1	
		Walk	12.5%		8		1	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***65***	***27***	***6***	***2***
North Bay	2.0%	Auto	87.5%	1.44	38	26	3	2
		Transit	12.5%		5		0	
		Walk	0.0%		0		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***43***	***26***	***4***	***2***
South Bay	9.0%	Auto	86.4%	1.98	168	85	15	8
		Transit	9.1%		18		2	
		Walk	3.2%		6		1	
		Other	1.3%		3		0	
		TOTAL	***100.0%***		***194***	***85***	***17***	***8***
Out of Region	5.0%	Auto	59.2%	1.69	64	38	6	3
		Transit	16.9%		18		2	
		Walk	19.7%		21		2	
		Other	4.2%		5		0	
		TOTAL	***100.0%***		***108***	***38***	***10***	***3***
TOTAL	100.0%	Auto	64.1%	1.90	1,384	730	125	66
		Transit	11.7%		252		23	
		Walk	22.4%		484		44	
		Other	1.8%		40		4	
		TOTAL	***100.0%***		***2,160***	***730***	***194***	***66***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Retail
[2] SF Guidelines, Appendix C (Table C-2) - Retail
[3] SF Guidelines, Appendix E (Table E-14) - Visitor Trips to SD-3 - Retail
[4] Calculated using PM peak trip generation rates. Daily trip rate calculated using assumed % of daily and PM peak trip generation rate.

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Alternative 1)
Land Use: Community Center (Work Trips)

Proposed Size:		**25.00 ksf**			
DAILY			**PM PEAK HOUR**		
Person-trip Generation Rate [4]:		22.88 trips/ksf	Person-trip Generation Rate [1]: -		1.45 trips/ksf
Total Person-trips:		572 person-trips	Total Person-trips:		36 person-trips
Work Trips [2]:	4%	23 person-trips	Work Trips [2]:	4%	1 person-trips

Origins	Distribution [3]	Mode	Percent [3]	AVO [3]	Daily		PM Peak Hour	
					Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
Superdistrict 1	8.3%	Auto	46.9%	1.30	1	1	0	0
		Transit	32.7%		1		0	
		Walk	17.7%		0		0	
		Other	2.7%		0		0	
		TOTAL	***100.0%***		***2***	***1***	***0***	***0***
Superdistrict 2	10.6%	Auto	64.6%	1.26	2	1	0	0
		Transit	26.4%		1		0	
		Walk	6.9%		0		0	
		Other	2.1%		0		0	
		TOTAL	***100.0%***		***2***	***1***	***0***	***0***
Superdistrict 3	23.9%	Auto	59.7%	1.25	3	3	0	0
		Transit	20.6%		1		0	
		Walk	15.1%		1		0	
		Other	4.6%		0		0	
		TOTAL	***100.0%***		***5***	***3***	***0***	***0***
Superdistrict 4	7.9%	Auto	75.7%	1.48	1	1	0	0
		Transit	21.5%		0		0	
		Walk	0.0%		0		0	
		Other	2.8%		0		0	
		TOTAL	***100.0%***		***2***	***1***	***0***	***0***
East Bay	14.3%	Auto	68.8%	1.61	2	1	0	0
		Transit	29.7%		1		0	
		Walk	0.0%		0		0	
		Other	1.5%		0		0	
		TOTAL	***100.0%***		***3***	***1***	***0***	***0***
North Bay	5.6%	Auto	86.9%	1.44	1	1	0	0
		Transit	10.5%		0		0	
		Walk	0.0%		0		0	
		Other	2.6%		0		0	
		TOTAL	***100.0%***		***1***	***1***	***0***	***0***
South Bay	26.9%	Auto	88.5%	1.13	5	5	0	0
		Transit	8.8%		1		0	
		Walk	0.0%		0		0	
		Other	2.7%		0		0	
		TOTAL	***100.0%***		***6***	***5***	***0***	***0***
Out of Region	2.5%	Auto	61.8%	1.56	0	0	0	0
		Transit	35.3%		0		0	
		Walk	0.0%		0		0	
		Other	2.9%		0		0	
		TOTAL	***100.0%***		***1***	***0***	***0***	***0***
TOTAL	100.0%	Auto	71.0%	1.28	16	13	1	1
		Transit	20.2%		5		0	
		Walk	5.8%		1		0	
		Other	2.9%		1		0	
		TOTAL	***100.0%***		***23***	***13***	***1***	***1***

Notes:
[1] Developed from vehicle trip rate provided in the ITE Trip Generation Handbook, 8th edition for Community Center (Land Use #495)
[2] SF Guidelines, Appendix C (Table C-2) - Retail
[3] SF Guidelines, Appendix E (Table E-5) - Work Trips to SD-3 - All
[4] Calculated using PM peak trip generation rates. Daily trip rate calculated using assumed % of daily and PM peak trip generation rate.

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Alternative 1)
Land Use: Community Center (Non-Work Trips)

Proposed Size:	**25.00 ksf**		
DAILY		**PM PEAK HOUR**	
Person-trip Generation Rate [4]:	22.88 trips/ksf	Person-trip Generation Rate [1]: -	1.45 trips/ksf
Total Person-trips:	572 person-trips	Total Person-trips:	36 person-trips
Non-Work Trips [2]: 96%	549 person-trips	Non-Work Trips [2]: 96%	35 person-trips

Origins	Distribution [3]	Mode	Percent [3]	AVO [3]	Daily		PM Peak Hour	
					Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
Superdistrict 1	5.0%	Auto	36.0%	2.03	10	5	1	0
		Transit	19.2%		5		0	
		Walk	33.3%		9		1	
		Other	11.5%		3		0	
		TOTAL	***100.0%***		***27***	***5***	***2***	***0***
Superdistrict 2	5.0%	Auto	68.6%	1.97	19	10	1	1
		Transit	14.5%		4		0	
		Walk	2.4%		1		0	
		Other	14.5%		4		0	
		TOTAL	***100.0%***		***27***	***10***	***2***	***1***
Superdistrict 3	85.0%	Auto	43.7%	2.43	204	84	13	5
		Transit	21.5%		100		6	
		Walk	25.4%		119		8	
		Other	9.4%		44		3	
		TOTAL	***100.0%***		***467***	***84***	***30***	***5***
Superdistrict 4	5.0%	Auto	67.4%	2.51	19	7	1	0
		Transit	16.3%		4		0	
		Walk	7.0%		2		0	
		Other	9.3%		3		0	
		TOTAL	***100.0%***		***27***	***7***	***2***	***0***
East Bay	0.0%	Auto	68.4%	2.59	0	0	0	0
		Transit	29.8%		0		0	
		Walk	1.8%		0		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***0***	***0***	***0***	***0***
North Bay	0.0%	Auto	100.0%	2.11	0	0	0	0
		Transit	0.0%		0		0	
		Walk	0.0%		0		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***0***	***0***	***0***	***0***
South Bay	0.0%	Auto	94.6%	2.28	0	0	0	0
		Transit	3.6%		0		0	
		Walk	1.8%		0		0	
		Other	0.0%		0		0	
		TOTAL	***100.0%***		***0***	***0***	***0***	***0***
Out of Region	0.0%	Auto	73.6%	1.68	0	0	0	0
		Transit	21.1%		0		0	
		Walk	0.0%		0		0	
		Other	5.3%		0		0	
		TOTAL	***100.0%***		***0***	***0***	***0***	***0***
TOTAL	100.0%	Auto	45.7%	2.38	251	106	16	7
		Transit	20.8%		114		7	
		Walk	23.7%		130		8	
		Other	9.8%		54		3	
		TOTAL	***100.0%***		***549***	***106***	***35***	***7***

Notes:
[1] Developed from vehicle trip rate provided in the ITE Trip Generation Handbook, 8th edition for Community Center (Land Use #495)
[2] SF Guidelines, Appendix C (Table C-2) - Retail
[3] SF Guidelines, Appendix E - modified to account for primarily internal trips and majority of external trips to center will be from SD-3
[4] Calculated using PM peak trip generation rates. Daily trip rate calculated using assumed % of daily and PM peak trip generation rate.

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Alternative 1)
Land Use: Residential (Work Trips) to be Removed - Trip Credits

Proposed Size:	**-620 units**				
DAILY			**PM PEAK HOUR**		
Person-trip Generation Rate [1]:		9.8 trips/unit	Person-trip Generation Rate [1]:	17.3%	1.69 trips/unit
Total Person-trips:		-6,068 person-trips	Total Person-trips:		-1,050 person-trips
Work Trips [1]:	33%	-2,002 person-trips	Work Trips [1]:	50%	-525 person-trips

Origins	Distribution [3]	Mode	Percent [2]	AVO [2]	Daily		PM Peak Hour	
					Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
Superdistrict 1	47.4%	Auto	59.7%	1.13	-566	-501	-148	-131
		Transit	20.2%		-192		-50	
		Walk	4.9%		-46		-12	
		Other	15.3%		-145		-38	
		TOTAL	***100.0%***		***-949***	***-501***	***-249***	***-131***
Superdistrict 2	10.5%	Auto	59.7%	1.13	-125	-111	-33	-29
		Transit	20.2%		-42		-11	
		Walk	4.9%		-10		-3	
		Other	15.3%		-32		-8	
		TOTAL	***100.0%***		***-210***	***-111***	***-55***	***-29***
Superdistrict 3	10.5%	Auto	59.7%	1.13	-125	-111	-33	-29
		Transit	20.2%		-42		-11	
		Walk	4.9%		-10		-3	
		Other	15.3%		-32		-8	
		TOTAL	***100.0%***		***-210***	***-111***	***-55***	***-29***
Superdistrict 4	10.5%	Auto	59.7%	1.13	-125	-111	-33	-29
		Transit	20.2%		-42		-11	
		Walk	4.9%		-10		-3	
		Other	15.3%		-32		-8	
		TOTAL	***100.0%***		***-210***	***-111***	***-55***	***-29***
East Bay	7.8%	Auto	59.7%	1.13	-93	-82	-24	-22
		Transit	20.2%		-32		-8	
		Walk	4.9%		-8		-2	
		Other	15.3%		-24		-6	
		TOTAL	***100.0%***		***-156***	***-82***	***-41***	***-22***
North Bay	1.7%	Auto	59.7%	1.13	-20	-18	-5	-5
		Transit	20.2%		-7		-2	
		Walk	4.9%		-2		0	
		Other	15.3%		-5		-1	
		TOTAL	***100.0%***		***-34***	***-18***	***-9***	***-5***
South Bay	10.9%	Auto	59.7%	1.13	-130	-115	-34	-30
		Transit	20.2%		-44		-12	
		Walk	4.9%		-11		-3	
		Other	15.3%		-33		-9	
		TOTAL	***100.0%***		***-218***	***-115***	***-57***	***-30***
Out of Region	0.7%	Auto	59.7%	1.13	-8	-7	-2	-2
		Transit	20.2%		-3		-1	
		Walk	4.9%		-1		0	
		Other	15.3%		-2		-1	
		TOTAL	***100.0%***		***-14***	***-7***	***-4***	***-2***
TOTAL	100.0%	Auto	59.7%	1.13	-1,195	-1,057	-313	-277
		Transit	20.2%		-404		-106	
		Walk	4.9%		-97		-26	
		Other	15.3%		-306		-80	
		TOTAL	***100.0%***		***-2,002***	***-1,057***	***-525***	***-277***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Residential
[2] 2000 US Census journey-to-work data (Tract 227.03)
[3] 1990 US Census journey-to-work data (Tract 227)

Potrero HOPE Transportation Study
Project Trip Generation - Weekday (Alternative 1)
Land Use: Residential (Non-Work Trips) to be Removed - Trip Credits

Proposed Size:	**-620**	**units**				
DAILY			**PM PEAK HOUR**			
Person-trip Generation Rate [1]:	9.8	trips/unit	Person-trip Generation Rate [1]:	17.3%	1.69	trips/unit
Total Person-trips:	-6,068	person-trips	Total Person-trips:		-1,050	person-trips
Work Trips [1]: 67%	-4,065	person-trips	Work Trips [1]:	50%	-525	person-trips

Origins	Distribution [3]	Mode	Percent [2]	AVO [2]	Daily		PM Peak Hour	
					Person Trips	Vehicle-Trips	Person Trips	Vehicle-Trips
Superdistrict 1	47.4%	Auto	59.7%	1.13	-1,150	-1,017	-148	-131
		Transit	20.2%		-389		-50	
		Walk	4.9%		-94		-12	
		Other	15.3%		-295		-38	
		TOTAL	***100.0%***		***-1,927***	***-1,017***	***-249***	***-131***
Superdistrict 2	10.5%	Auto	59.7%	1.13	-255	-225	-33	-29
		Transit	20.2%		-86		-11	
		Walk	4.9%		-21		-3	
		Other	15.3%		-65		-8	
		TOTAL	***100.0%***		***-427***	***-225***	***-55***	***-29***
Superdistrict 3	10.5%	Auto	59.7%	1.13	-255	-225	-33	-29
		Transit	20.2%		-86		-11	
		Walk	4.9%		-21		-3	
		Other	15.3%		-65		-8	
		TOTAL	***100.0%***		***-427***	***-225***	***-55***	***-29***
Superdistrict 4	10.5%	Auto	59.7%	1.13	-255	-225	-33	-29
		Transit	20.2%		-86		-11	
		Walk	4.9%		-21		-3	
		Other	15.3%		-65		-8	
		TOTAL	***100.0%***		***-427***	***-225***	***-55***	***-29***
East Bay	7.8%	Auto	59.7%	1.13	-189	-167	-24	-22
		Transit	20.2%		-64		-8	
		Walk	4.9%		-15		-2	
		Other	15.3%		-48		-6	
		TOTAL	***100.0%***		***-317***	***-167***	***-41***	***-22***
North Bay	1.7%	Auto	59.7%	1.13	-41	-36	-5	-5
		Transit	20.2%		-14		-2	
		Walk	4.9%		-3		0	
		Other	15.3%		-11		-1	
		TOTAL	***100.0%***		***-69***	***-36***	***-9***	***-5***
South Bay	10.9%	Auto	59.7%	1.13	-264	-234	-34	-30
		Transit	20.2%		-89		-12	
		Walk	4.9%		-22		-3	
		Other	15.3%		-68		-9	
		TOTAL	***100.0%***		***-443***	***-234***	***-57***	***-30***
Out of Region	0.7%	Auto	59.7%	1.13	-17	-15	-2	-2
		Transit	20.2%		-6		-1	
		Walk	4.9%		-1		0	
		Other	15.3%		-4		-1	
		TOTAL	***100.0%***		***-28***	***-15***	***-4***	***-2***
TOTAL	100.0%	Auto	59.7%	1.13	-2,426	-2,147	-313	-277
		Transit	20.2%		-821		-106	
		Walk	4.9%		-198		-26	
		Other	15.3%		-621		-80	
		TOTAL	***100.0%***		***-4,065***	***-2,147***	***-525***	***-277***

Notes:
[1] SF Guidelines, Appendix C (Table C-1) - Residential
[2] 2000 US Census journey-to-work data (Tract 227.03)
[3] 1990 US Census journey-to-work data (Tract 227)

APPENDIX J
PARKING AND LOADING ANALYSIS

Potrero HOPE Transportation Study

Parking Demand Summary - Proposed Project

Proposed Project Description

Residential		
Affordable Residential		
Studio/1-bedroom units	148	
2+ bedrooms	822	
Sub-total	970	
Market-Rate Residential		
Studio/1-bedroom units	348	
2+ bedrooms	282	
Sub-total	630	
Senior Housing		
studio/1-bedroom units	98	
2 bedrooms	2	
Sub-total	100	
Total	**1,700**	
Retail		
Block K	5,500	sf
Block L	9,500	sf
Total	**15,000**	**sf**
Community Center	**35,000**	**sf**

Midday Parking Demand

Long Term

Residential - calculated by units		
Affordable Residential		
Parking Rates	80%	of evening demand
Parking Demand	53	spaces (1 bed)
	605	spaces (2+ bed)
Subtotal	*658*	*spaces*
Market-Rate Residential		
Parking Rates	80%	of evening demand
Parking Demand	306	spaces (1 bed)
	338	spaces (2+ bed)
Subtotal	*645*	*spaces*
Senior Housing Residential		
Parking Rates	80%	of evening demand
Subtotal	*16*	*spaces*
Total Residential Demand	1,319	spaces
Retail - calculated by employees		
Employee Density	350	sf per employee
AVO	1.23	
Auto mode split	71.1%	
Block K Demand	16	employees
	9	spaces
Block L Demand	28	employees
	16	spaces
Total Retail Demand	44	employees
	25	total spaces
Community Center - calculated by daily work-related vehicle trips		
Daily Work Trips	18	vehicle trips
Parking Demand	9	spaces
Total Community Center Demand	9	spaces
Total Long Term	***1,353***	***spaces***

Short-Term

Residential	0	spaces
Retail		
Turn-over Rate	5.5	
Retail Demand	67	spaces
Community Center		
Turn-over Rate	5.5	
Community Center Demand	14	spaces
Total Short Term	***81***	***spaces***
Total Midday Parking Demand	**1,434**	**spaces**

Evening Parking Demand

Long Term

Residential - calculated by units		
Affordable Residential		
Parking Rates	0.45	spaces per unit (1 bed)
	0.92	spaces per unit (2+ bed)
Parking Demand	67	spaces (1 bed)
	756	spaces (2+ bed)
Subtotal	*823*	*spaces*
Market-Rate Residential		
Parking Rates	1.10	spaces per unit (1 bed)
	1.50	spaces per unit (2+ bed)
Parking Demand	383	spaces (1 bed)
	423	spaces (2+ bed)
Subtotal	*806*	*spaces*
Senior Housing Residential		
Parking Rates	0.20	spaces per unit
Subtotal	*20*	*spaces*
Total Residential Demand	1,649	spaces
Retail - calculated by employees		
Employee Density	350	sf per employee
AVO	1.23	
Auto mode split	71.1%	
Block K Demand	16	employees
	9	spaces
Block L Demand	28	employees
	16	spaces
Total Retail Demand	44	employees
	25	total spaces
Community Center - calculated by daily work-related vehicle trips		
Daily Work Trips	18	vehicle trips
Parking Demand	9	spaces
Total Community Center Demand	9	spaces
Total Long Term	***1,683***	***spaces***

Short-Term

Residential	0	spaces
Retail		
Turn-over Rate	5.5	
Retail Demand	67	spaces
Community Center		
Turn-over Rate	5.5	
Community Center Demand	14	spaces
Total Short Term	***81***	***spaces***
Total Evening Parking Demand	**1,764**	**spaces**

Parking Demand Summary - Proposed Project

SF Planning Code Requirement

Off-street Parking Spaces (per Section 151)

Residential - Market Rate	1.0	spaces per unit (code requirement)
	630	spaces required
Residential - Affordable	0	spaces per unit (code requirement)
	0	spaces required
Residential - Senior Housing	0	spaces per unit (code requirement)
	0	spaces required
Total Residential	630	spaces required
Retail	1.0	spaces for each 500 square feet of occupied floor area up to 20,000 sf, where the occupied floor area exceeds 5,000 square feet @ 85% occupied (code requirement)
Block K	0	spaces required
Block L	16	spaces required
Total Retail	16	spaces required
Community Center		
Childcare/ Pre-School Facility	1.0	spaces for each 25 children to be accommodated at any one time (code requirement)
	11,000	sf size
	146	children capacity
	5	spaces required
Music Room/ Dance Studio/ Arts Room/ Gymnasium	1.0	spaces for each 2,000
	24,000	sf size
	12	spaces required
Total Community Center	17	spaces required
Total Project	**663**	**spaces required**

Handicap-Accessible Parking Spaces (per Section 155 (i))

Code Requirement	1.0	spaces per 25 off-street parking spaces provided
	42	spaces required

Car-share Parking Spaces (per Section 166 (d))

Code Requirement	2.0	spaces for 200 dwelling units, plus 1 for every 200 dwelling units over 200
	9	spaces required

Bicycle Spaces (Sections 155.4 and 155.5)

Residential (Affordable and Market Rate)	25.0	Class 1 spaces for 50 units, plus one Class I space for every 4 units over 50 (Code requirement)
	412	spaces required
Residential (Senior Housing)	0	spaces (Code requirement)
	0	spaces required
Retail	3	spaces where the gsf of the floor area exceeds 25,000 sf, but is less than 50,000 sf (Code requirement)
Block K	**0**	spaces required
Block L	**0**	spaces required
Community Center	6	spaces where the gsf of the floor area exceeds 50,000 sf, but is less than 100,000 sf (Code requirement)
	0	spaces required
Total	**412**	**spaces required**

Showers/Lockers (Section 155.3)

Community Center		two showers and four lockers required where the gsf of the floor area exceeds 20,000 sf, but is less than 50,000 sf (Code requirement)
	2	showers required*
	4	lockers required*
		* not required for residential buildings, or retail buildings with less than 25,000 sq ft.

Parking Supply

Off-street Affordable	485	spaces
Off-street Market Rate	535	spaces
Off-street Senior	20	spaces
Off-street Retail	10	spaces
Off-street Community Center	5	spaces
On-street	600	spaces
Total	**1,655**	**spaces**

NOTES:

1. Source: SF Guidelines
2. Parking Demand Calculations:

Residential (studio/1 bed): # of studio/1 bed affordable units x veh per 1 bed aff units requirement

Residential (2+ bed): # of 2 bed affordable units x veh per 2 bed aff units requirement

Retail (long-term): # of daily employees x % employees who drive / average vehicle occupancy

Retail (short-term): # of daily visitor vehicle-trip / 2 / turnover rate

Potrero HOPE Transportation Study
Parking Demand Summary - Alternative 1

Proposed Project Description

Residential		
Affordable Residential		
Studio/1-bedroom units	122	
2+ bedrooms	674	
Sub-total	796	
Market-Rate Residential		
Studio/1-bedroom units	224	
2+ bedrooms	180	
Sub-total	404	
Senior Housing		
studio/1-bedroom units	78	
2 bedrooms	2	
Sub-total	80	
Total	**1,280**	
Retail		
Block K	5,500	sf
Block L	9,500	sf
Total	**15,000**	**sf**
Community Center	**25,000**	**sf**

Midday Parking Demand / Evening Parking Demand

Long Term

Midday			Evening		
Residential - calculated by units			Residential - calculated by units		
Affordable Residential			Affordable Residential		
Parking Rates	80%	of evening demand	Parking Rates	0.45	spaces per unit (1 bed)
				0.92	spaces per unit (2+ bed)
Parking Demand	44	spaces (1 bed)	Parking Demand	55	spaces (1 bed)
	496	spaces (2+ bed)		620	spaces (2+ bed)
Subtotal	*540*	*spaces*	*Subtotal*	*675*	*spaces*
Market-Rate Residential			Market-Rate Residential		
Parking Rates	80%	of evening demand	Parking Rates	1.10	spaces per unit (1 bed)
				1.50	spaces per unit (2+ bed)
Parking Demand	197	spaces (1 bed)	Parking Demand	246	spaces (1 bed)
	216	spaces (2+ bed)		270	spaces (2+ bed)
Subtotal	*413*	*spaces*	*Subtotal*	*516*	*spaces*
Senior Housing Residential			Senior Housing Residential		
Parking Rates	80%	of evening demand	Parking Rates	0.20	spaces per unit
Subtotal	*13*	*spaces*	*Subtotal*	*16*	*spaces*
Total Residential Demand	966	spaces	Total Residential Demand	1,207	spaces
Retail - calculated by employees			Retail - calculated by employees		
Employee Density	350	sf per employee	Employee Density	350	sf per employee
AVO	1.23		AVO	1.23	
Auto mode split	71.1%		Auto mode split	71.1%	
Block K Demand	16	employees	Block K Demand	16	employees
	9	spaces		9	spaces
Block L Demand	28	employees	Block L Demand	28	employees
	16	spaces		16	spaces
Total Retail Demand	44	employees	Total Retail Demand	44	employees
	25	total spaces		25	total spaces
Community Center - calculated by daily work-related vehicle trips			Community Center - calculated by daily work-related vehicle trips		
Daily Work Trips	13	vehicle trips	Daily Work Trips	13	vehicle trips
Parking Demand	6	spaces	Parking Demand	6	spaces
Total Community Center Demand	6	spaces	Total Community Center Demand	6	spaces
Total Long Term	***998***	***spaces***	***Total Long Term***	***1,239***	***spaces***

Short-Term

Midday			Evening		
Residential	0	spaces	Residential	0	spaces
Retail			Retail		
Turn-over Rate	5.5		Turn-over Rate	5.5	
Retail Demand	67	spaces	Retail Demand	67	spaces
Community Center			Community Center		
Turn-over Rate	5.5		Turn-over Rate	5.5	
Community Center Demand	10	spaces	Community Center Demand	10	spaces
Total Short Term	***77***	***spaces***	***Total Short Term***	***77***	***spaces***
Total Midday Parking Demand	**1,075**	**spaces**	**Total Evening Parking Demand**	**1,316**	**spaces**

Parking Demand Summary - Alternative 1

SF Planning Code Requirement

Off-street Parking Spaces (per Section 151)

Residential - Market Rate	1.0	spaces per unit (code requirement)
	404	spaces required
Residential - Affordable	0	spaces per unit (code requirement)
	0	spaces required
Residential - Senior Housing	0	spaces per unit (code requirement)
	0	spaces required
Total Residential	404	spaces required
Retail	1.0	spaces for each 500 square feet of occupied floor area up to 20,000 sf, where the occupied floor area exceeds 5,000 square feet @ 85% occupied (code requirement)
Block K	9	spaces required
Block L	16	spaces required
Total Retail	25	spaces required
Community Center		
Childcare/ Pre-School Facility	1.0	spaces for each 25 children to be accommodated at any one time (code requirement)
	11,000	sf size
	146	children capacity
	5	spaces required
Music Room/ Dance Studio/ Arts Room/ Gymnasium	1.0	spaces for each 2,000
	14,000	sf size
	7	spaces required
Total Community Center	12	spaces required
Total Project	**441**	**spaces required**

Handicap-Accessible Parking Spaces (per Section 155 (i))

Code Requirement	1.0	spaces per 25 off-street parking spaces provided
	30	spaces required

Car-share Parking Spaces (per Section 166 (d))

Code Requirement	2.0	spaces for 200 dwelling units, plus 1 for every 200 dwelling units over 200
	7	spaces required

Bicycle Spaces (Sections 155.4 and 155.5)

Residential (Affordable and Market Rate)	25.0	Class 1 spaces for 50 units, plus one Class I space for every 4 units over 50 (Code requirement)
	312	spaces required
Residential (Senior Housing)	0	spaces (Code requirement)
	0	spaces required
Retail	3	spaces where the gsf of the floor area exceeds 25,000 sf, but is less than 50,000 sf (Code requirement)
Block K	**0**	spaces required
Block L	**0**	spaces required
Community Center	6	spaces where the gsf of the floor area exceeds 50,000 sf, but is less than 100,000 sf (Code requirement)
	0	spaces required
Total	**312**	**spaces required**

Showers/Lockers (Section 155.3)

Community Center		two showers and four lockers required where the gsf of the floor area exceeds 20,000 sf, but is less than 50,000 sf (Code requirement)
	2	showers required*
	4	lockers required*
		* not required for residential buildings, or retail buildings with less than 25,000 sq ft.

Parking Supply

Off-street Affordable	398	spaces
Off-street Market Rate	345	spaces
Off-street Senior	15	spaces
Off-street Retail	10	spaces
Off-street Community Center	5	spaces
On-street	600	spaces
Total	**1,373**	**spaces**

NOTES:

1. Source: SF Guidelines
2. Parking Demand Calculations:

Residential (studio/1 bed): # of studio/1 bed affordable units x veh per 1 bed aff units requirement

Residential (2+ bed): # of 2 bed affordable units x veh per 2 bed aff units requirement

Retail (long-term): # of daily employees x % employees who drive / average vehicle occupancy

Retail (short-term): # of daily visitor vehicle-trip / 2 / turnover rate

Potrero HOPE Transportation Study

Weekday Loading Demand and Code Requirements - Proposed Project

Residential

Total Residential	2,000	ksf	R =	0.03	(residential)

DEMAND			CODE REQUIREMENTS	
Daily Trips	60.0	trips	0	0 - 100,000 square feet
Average Hour	2.8	spaces	1	100,001 - 200,000 square feet
Peak Hour	3.5	spaces	2	200,001 - 500,000 square feet
			3	over 500,000 square feet
				plus 1 for each additional 400,000 sq ft
			0	**spaces required**

Retail

Block J	0	ksf	R =	0.22	(retail)
Block K	5.5	ksf			
Block L	9.5	ksf			
Block X1	0	ksf			

Block K

DEMAND			CODE REQUIREMENTS	
Daily Trips	1.2	trips	0	0 - 10,000 square feet
Average Hour	0.1	spaces	1	10,001 - 60,000 square feet
Peak Hour	0.1	spaces	2	60,001 - 100,000 square feet
			0	**spaces required**

Block L

DEMAND			CODE REQUIREMENTS	
Daily Trips	2.1	trips	0	0 - 10,000 square feet
Average Hour	0.1	spaces	1	10,001 - 60,000 square feet
Peak Hour	0.1	spaces	2	60,001 - 100,000 square feet
			0	**spaces required**

Total Retail

DEMAND			CODE REQUIREMENTS	
Daily Trips	3.3	trips	**0**	**spaces required**
Average Hour	0.2	spaces		
Peak Hour	0.2	spaces		

Community Center

Block G	35	ksf	R =	0.10	(institution)

DEMAND			CODE REQUIREMENTS	
Community Center			All other uses	
Daily Trips	3.5	trips	0	0 - 100,000 square feet
Average Hour	0.2	spaces	1	100,001 - 200,000 square feet
Peak Hour	0.2	spaces	2	200,001 - 500,000 square feet
			3	over 500,000 square feet
				plus 1 for each additional 400,000 sq ft
			0	**spaces required**

Notes

Source: SF Guidelines

General Loading Demand Equations

Daily Trips = (GSF / 1,000) * R

Average Hour = (GSF / 1,000) * R / 9 / 2.4

Peak Hour = (GSF / 1,000) * (R * 1.25) / 9 / 2.4

Potrero HOPE Transportation Study

Weekday Loading Demand and Code Requirements - Alternative 1

Residential

Total Residential	1,162 ksf	R =	0.03	(residential)

DEMAND		CODE REQUIREMENTS	
Daily Trips	34.9 trips	0	0 - 100,000 square feet
Average Hour	1.6 spaces	1	100,001 - 200,000 square feet
Peak Hour	2.0 spaces	2	200,001 - 500,000 square feet
		3	over 500,000 square feet
			plus 1 for each additional 400,000 sq ft
		0	**spaces required**

Retail

Block J	0 ksf	R =	0.22	(retail)
Block K	5.5 ksf			
Block L	9.5 ksf			
Block X1	0 ksf			

Block K

DEMAND		CODE REQUIREMENTS	
Daily Trips	1.2 trips	0	0 - 10,000 square feet
Average Hour	0.1 spaces	1	10,001 - 60,000 square feet
Peak Hour	0.1 spaces	2	60,001 - 100,000 square feet
		0	**spaces required**

Block L

DEMAND		CODE REQUIREMENTS	
Daily Trips	2.1 trips	0	0 - 10,000 square feet
Average Hour	0.1 spaces	1	10,001 - 60,000 square feet
Peak Hour	0.1 spaces	2	60,001 - 100,000 square feet
		0	**spaces required**

Total Retail

DEMAND		CODE REQUIREMENTS	
Daily Trips	3.3 trips	0	spaces required
Average Hour	0.2 spaces		
Peak Hour	0.2 spaces		

Community Center

Block G	25 ksf	R =	0.10	(institution)

DEMAND		CODE REQUIREMENTS	
Community Center		All other uses	
Daily Trips	2.5 trips	0	0 - 100,000 square feet
Average Hour	0.1 spaces	1	100,001 - 200,000 square feet
Peak Hour	0.1 spaces	2	200,001 - 500,000 square feet
		3	over 500,000 square feet
			plus 1 for each additional 400,000 sq ft
		0	**spaces required**

Notes

Source: SF Guidelines

General Loading Demand Equations

Daily Trips = (GSF / 1,000) * R

Average Hour = (GSF / 1,000) * R / 9 / 2.4

Peak Hour = (GSF / 1,000) * (R * 1.25) / 9 / 2.4

APPENDIX K

SIGNAL WARRANT ANALYSIS

PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2030 Cumulative

4	SF		
DIST	CO	RTE	PM

COUNT DATE
CALC BPK DATE 01/13/12
CHK DATE

Major St: PENNSYLVANIA AVENUE — Critical Approach Speed 25 mph
Minor St: SB I-280 OFF-RAMP — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐ or
In built up area of isolated community of < 10,000 population...................... ☐ } RURAL (R)
☑ URBAN (U)

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied) SATISFIED YES ☑ NO ☐

PART A SATISFIED YES ☐ NO ☐
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☐

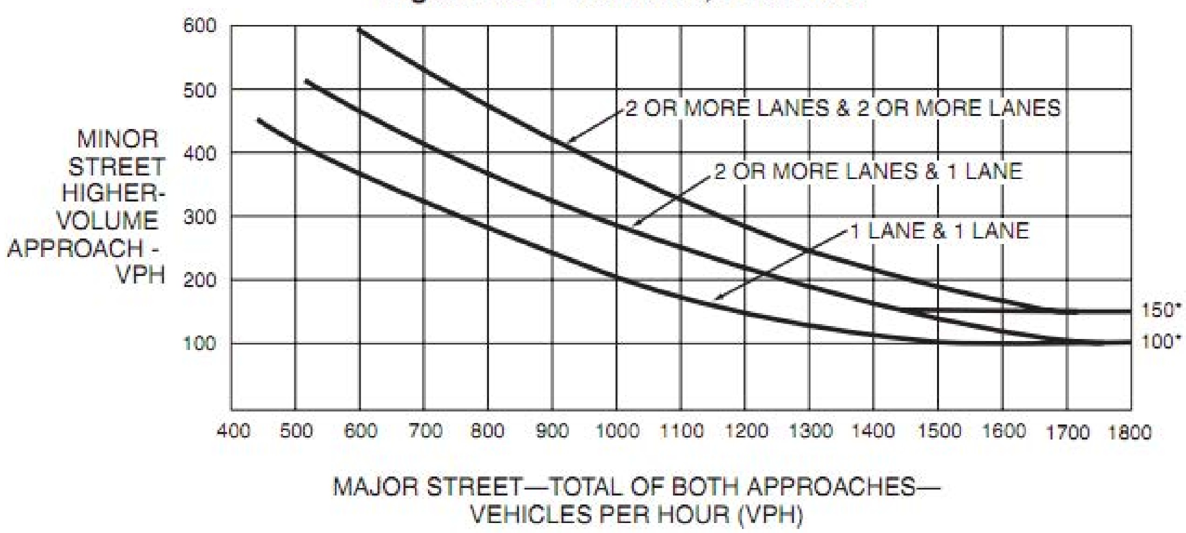
PART B SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	850
Higher Approach - Minor Street		✓	783

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour



PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2030 Cumulative plus Proposed Project

4	SF		
DIST	CO	RTE	PM

COUNT DATE ____
CALC BPK DATE 01/13/12
CHK ____ DATE ____

Major St: PENNSYLVANIA AVENUE — Critical Approach Speed 25 mph
Minor St: SB I-280 OFF-RAMP — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐
or — RURAL (R)
In built up area of isolated community of < 10,000 population........................ ☐

☑ URBAN (U)

WARRANT 3 - Peak Hour — SATISFIED YES ☑ NO ☐
(Part A or Part B must be satisfied)

PART A — SATISFIED YES ☐ NO ☐
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☐

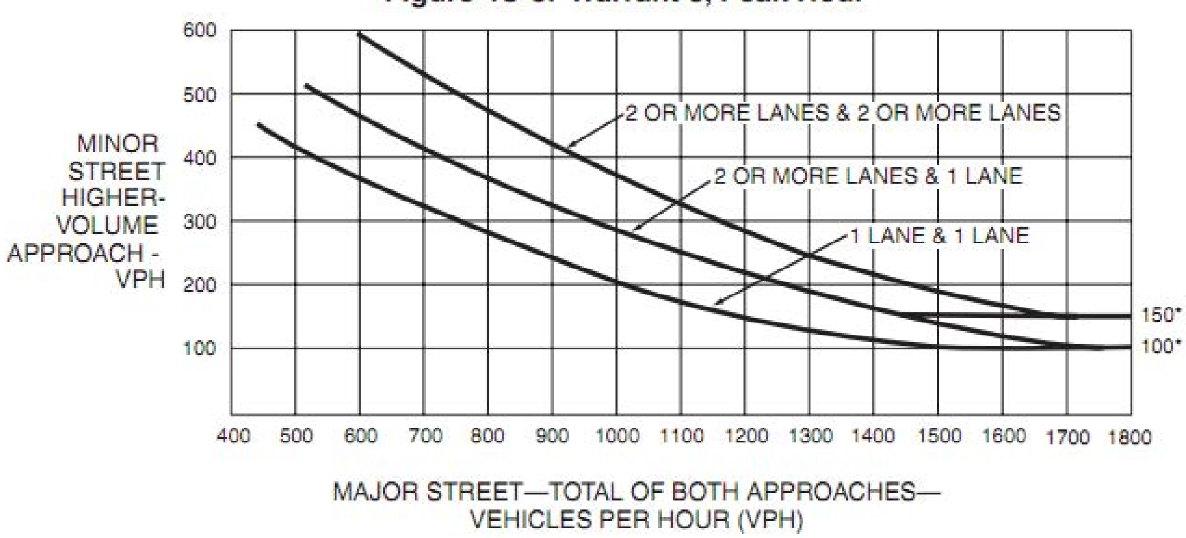
PART B — SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	640
Higher Approach - Minor Street		✓	946

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour



PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2030 Cumulative plus Alternative 1

DIST	CO	RTE	PM
4	SF		

COUNT DATE ____

CALC BPK DATE 01/13/12

CHK ____ DATE ____

Major St: PENNSYLVANIA AVENUE — Critical Approach Speed 25 mph

Minor St: SB I-280 OFF-RAMP — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐ or
In built up area of isolated community of < 10,000 population....................... ☐ } RURAL (R)

☑ URBAN (U)

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied) — SATISFIED YES ☑ NO ☐

PART A — SATISFIED YES ☐ NO ☐

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐	No ☐

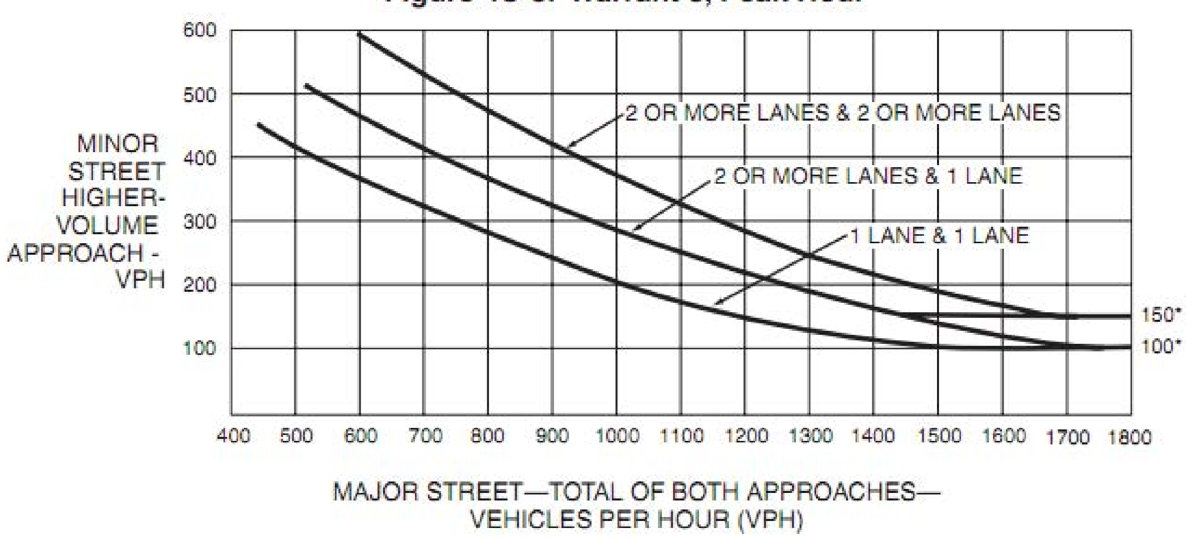
PART B — SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	639
Higher Approach - Minor Street		✓	890

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑	No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour



PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2030 Cumulative plus Proposed Project

DIST	CO	RTE	PM
4	SF		

COUNT DATE ______
CALC BPK DATE 01/13/12
CHK ______ DATE ______

Major St: 25TH STREET — Critical Approach Speed 25 mph
Minor St: INDIANA STREET — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐
or
In built up area of isolated community of < 10,000 population...................... ☐ } RURAL (R)

☑ URBAN (U)

WARRANT 3 - Peak Hour — SATISFIED YES ☑ NO ☐
(Part A or Part B must be satisfied)

PART A — SATISFIED YES ☐ NO ☐
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐	No ☐

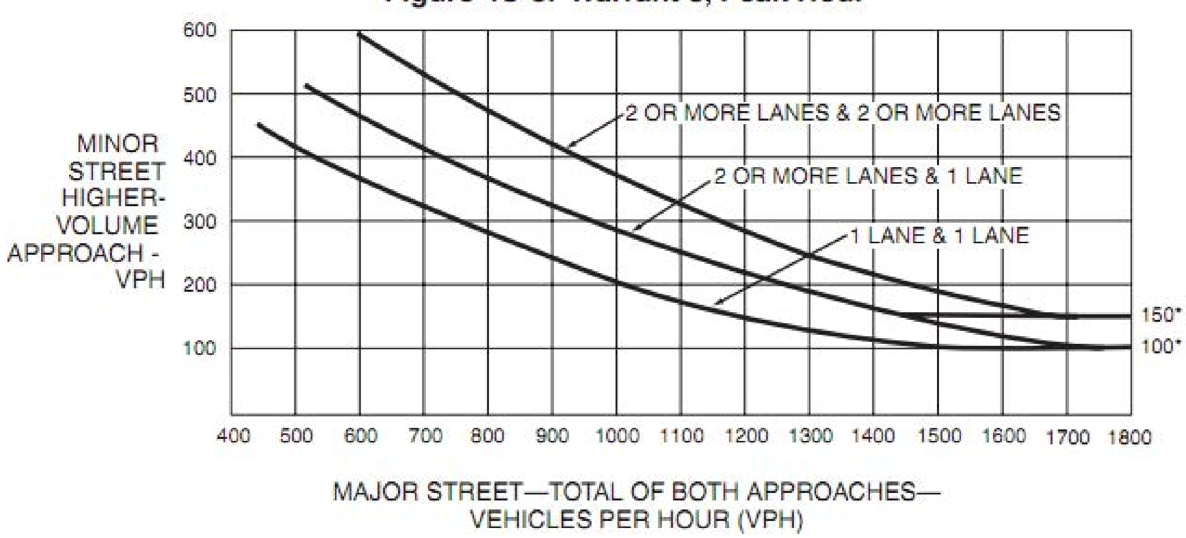
PART B — SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	769
Higher Approach - Minor Street		✓	704

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑	No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour



PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2030 Cumulative

DIST	CO	RTE	PM
4	SF		

COUNT DATE ______
CALC BPK DATE 01/13/12
CHK ______ DATE ______

Major St: CESAR CHAVEZ STREET — Critical Approach Speed 25 mph
Minor St: VERMONT STREET — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐
or
In built up area of isolated community of < 10,000 population........................ ☐
} RURAL (R)

☑ URBAN (U)

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied) — SATISFIED YES ☑ NO ☐

PART A — SATISFIED YES ☐ NO ☐
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☐

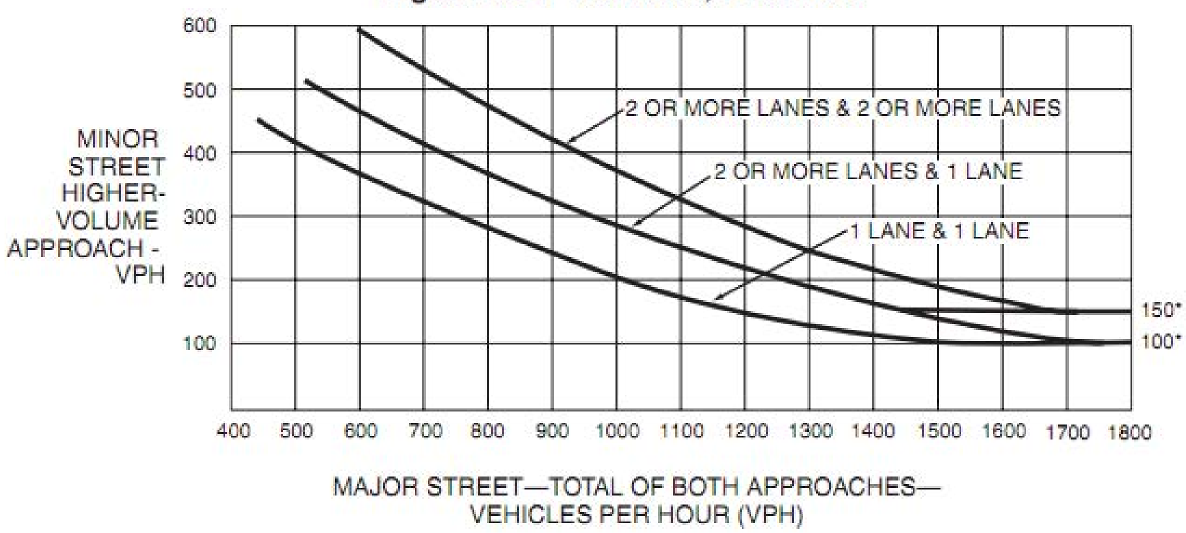
PART B — SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	2,319
Higher Approach - Minor Street	✓		296

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour



PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2030 Cumulative plus Proposed Project

DIST	CO	RTE	PM
4	SF		

COUNT DATE ____
CALC BPK DATE 01/13/12
CHK ____ DATE ____

Major St: CESAR CHAVEZ STREET — Critical Approach Speed 25 mph
Minor St: US 101 VERMONT STREET — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐ or In built up area of isolated community of < 10,000 population........................ ☐ } RURAL (R)

☑ URBAN (U)

WARRANT 3 - Peak Hour (Part A or Part B must be satisfied)

SATISFIED YES ☑ NO ☐

PART A

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

SATISFIED YES ☐ NO ☐

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐	No ☐

PART B

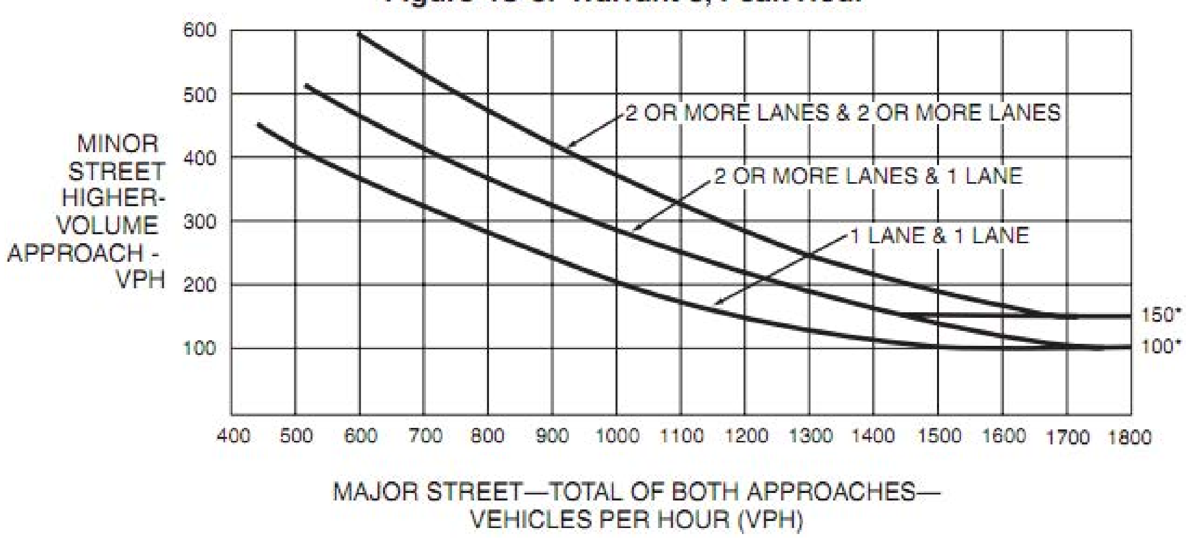
SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	2,354
Higher Approach - Minor Street	✓		330

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑	No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour



PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2030 Cumulative plus Alternative 1

DIST	CO	RTE	PM
4	SF		

COUNT DATE ______
CALC BPK DATE 01/13/12
CHK ______ DATE ______

Major St: CESAR CHAVEZ STREET — Critical Approach Speed 25 mph
Minor St: VERMONT STREET — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐
or
In built up area of isolated community of < 10,000 population........................ ☐
} RURAL (R)

☑ URBAN (U)

WARRANT 3 - Peak Hour — SATISFIED YES ☑ NO ☐
(Part A or Part B must be satisfied)

PART A — SATISFIED YES ☐ NO ☐
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☐

PART B — SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	2,312
Higher Approach - Minor Street	✓		320

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☐

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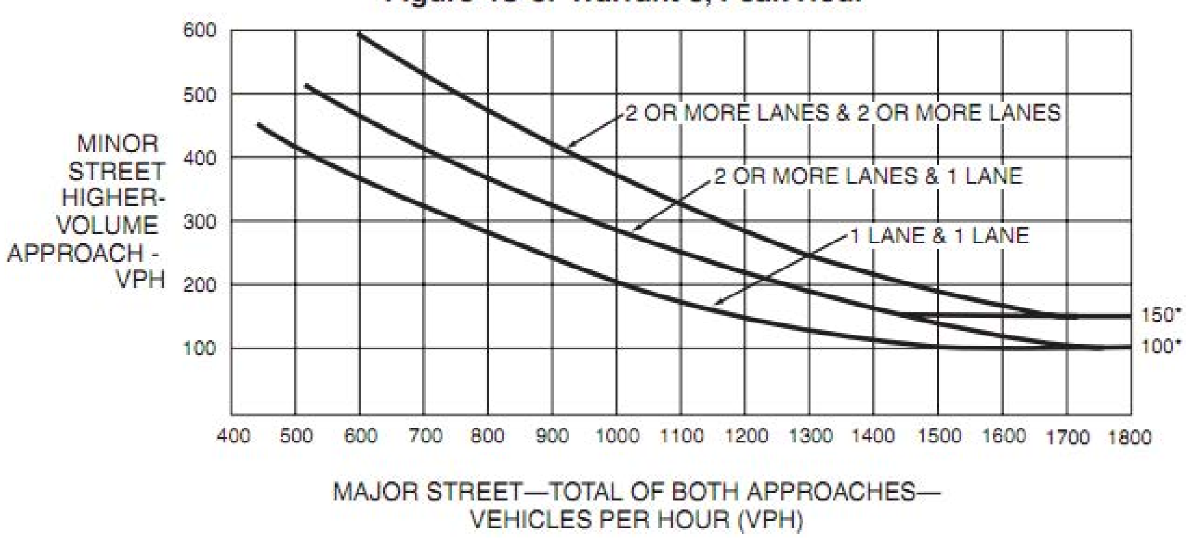
Figure 4C-3. Warrant 3, Peak Hour



PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2030 Cumulative

4	SF		
DIST	CO	RTE	PM

COUNT DATE ____
CALC BPK DATE 01/13/12
CHK ____ DATE ____

Major St: CESAR CHAVEZ STREET — Critical Approach Speed 25 mph
Minor St: US 101 OFF-RAMP — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐ or
In built up area of isolated community of < 10,000 population........ ☐ } RURAL (R)
☑ URBAN (U)

WARRANT 3 - Peak Hour **SATISFIED YES ☑ NO ☐**
(Part A or Part B must be satisfied)

PART A **SATISFIED YES ☐ NO ☐**
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☐

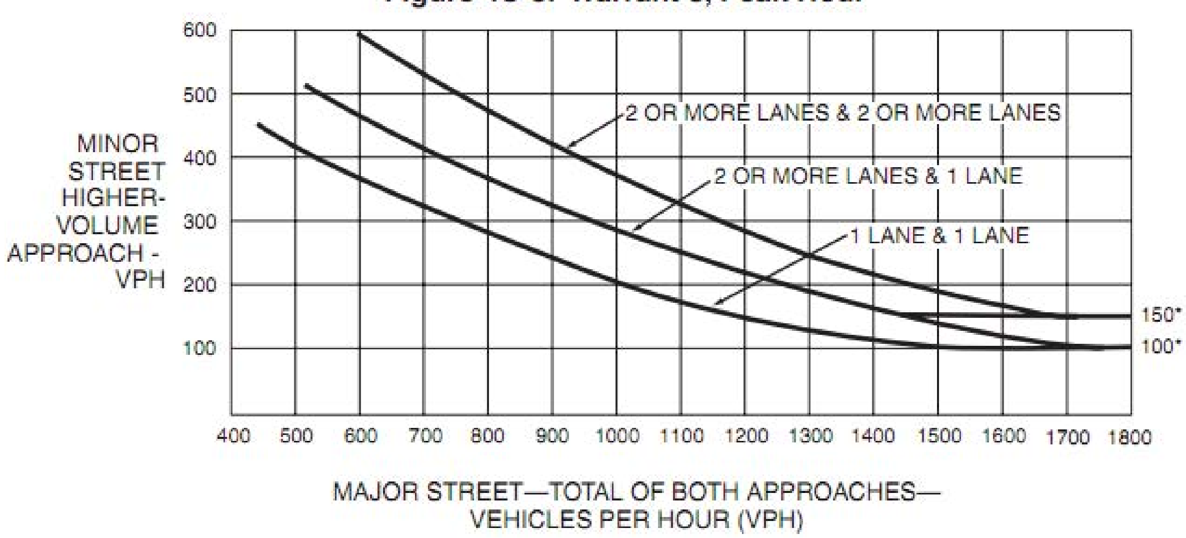
PART B **SATISFIED YES ☑ NO ☐**

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	2,379
Higher Approach - Minor Street	✓		671

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour



PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2030 Cumulative plus Proposed Project

DIST	CO	RTE	PM
4	SF		

COUNT DATE ____
CALC BPK DATE 01/13/12
CHK ____ DATE ____

Major St: CESAR CHAVEZ STREET — Critical Approach Speed 25 mph
Minor St: US 101 OFF-RAMP — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐ or
In built up area of isolated community of < 10,000 population........................ ☐ } RURAL (R)
☑ URBAN (U)

WARRANT 3 - Peak Hour — SATISFIED YES ☑ NO ☐
(Part A or Part B must be satisfied)

PART A — SATISFIED YES ☐ NO ☐
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐	No ☐

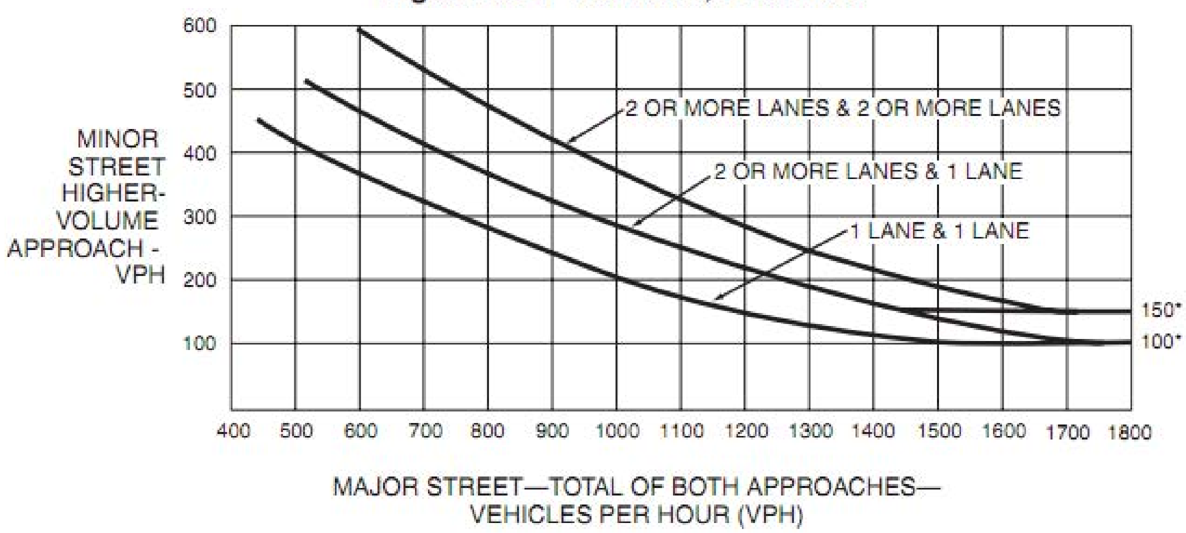
PART B — SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	2,488
Higher Approach - Minor Street	✓		893

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑	No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour



PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2030 Cumulative plus Alternative 1

DIST	CO	RTE	PM
4	SF		

COUNT DATE ____
CALC BPK DATE 01/13/12
CHK ____ DATE ____

Major St: CESAR CHAVEZ STREET — Critical Approach Speed 25 mph
Minor St: US 101 OFF-RAMP — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐
or } RURAL (R)
In built up area of isolated community of < 10,000 population........................ ☐
☑ URBAN (U)

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied) — SATISFIED YES ☑ NO ☐

PART A — SATISFIED YES ☐ NO ☐
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐	No ☐

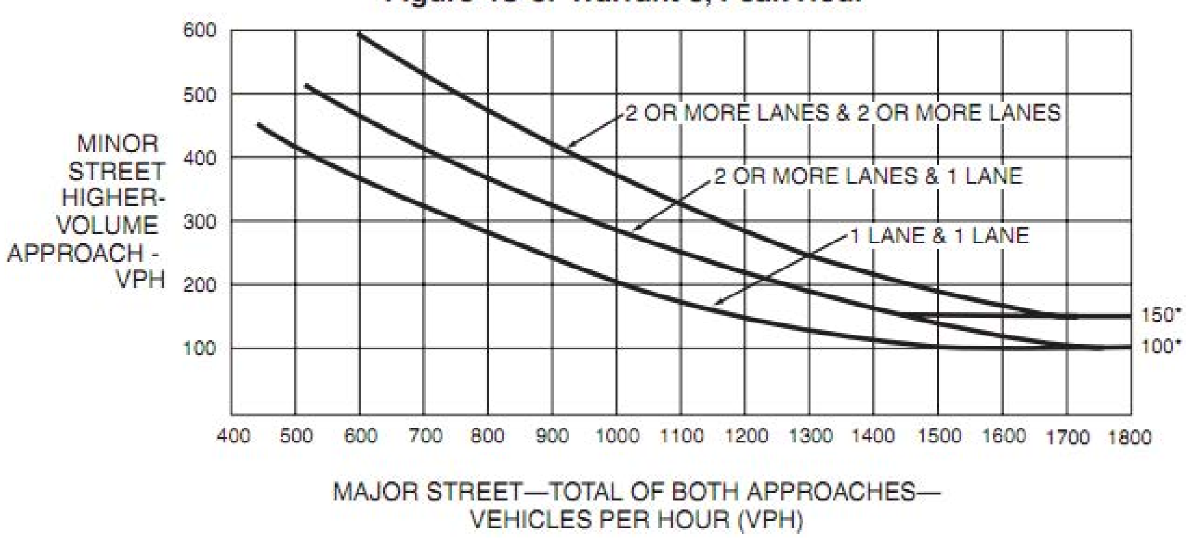
PART B — SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	2,450
Higher Approach - Minor Street	✓		817

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑	No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour



APPENDIX L

FUTURE VOLUME DEVELOPMENT

MEMO **To:** Brett Bollinger, Environmental Planning, San Francisco Planning Department

C:

Date: May 02, 2011

From: Bhanu Kala, Wilbur Smith Associates

Subject: Potrero HOPE Transportation Study – 2030 Intersection Volumes

Wilbur Smith Associates (WSA) is preparing this technical memorandum as part of the Potrero HOPE Transportation Study. This memorandum discusses the methodology that was adopted to develop traffic volumes at the study intersections under 2030 Baseline Conditions.

Volume Development Methodology

To be consistent with the traffic study performed for a neighboring development (Sunnydale-Velasco Housing Development), intersection volumes under 2030 Baseline Conditions were developed using the same methodology that was adopted in that traffic study. Based on this methodology, it is assumed that the Candlestick Point-Hunters Point Shipyard development would already be in place by year 2030. Thus, the 2030 baseline volumes developed for this project correspond to the 2030 plus Project volumes from the Candlestick Point-Hunters Point Shipyard Phase II Development Plan Draft Environmental Impact Report (EIR), November 2009. For study intersections that are not evaluated as part of the Candlestick Point-Hunters Point Shipyard Phase II Development EIR, 2030 traffic volumes were estimated using traffic growths projected by the San Francisco Chain Activity Modeling Process (SF-CHAMP) Model.

This transportation study has only one common study intersection with the Candlestick Point-Hunters Point Shipyard Phase II Development EIR – Cesar Chavez/Pennsylvania Avenue/NB I-280 Off-Ramp. At this intersection, projected PM peak hour traffic growth from existing (2010) to 2030 Baseline Conditions were identified by subtracting existing turning movement volumes collected as part of this transportation study from 2030 plus Project volumes forecasted in the Candlestick Point-Hunters Point Shipyard Phase II Development EIR. At the other study intersections, growths in the turning movement volumes were identified as follows:

- Using 2010 and 2035 SF-CHAMP Models, forecasted traffic growth between 2010 and 2035 Conditions was estimated for each approach of the study intersection.
- These traffic growths were then interpolated to obtain traffic growths along intersection approaches between 2010 and 2030 Conditions.

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- Based on the estimated traffic growth for each approach between 2010 and 2030 Conditions, projected growth in traffic for each maneuver at the study intersections was identified using the Furness Process. The Furness Process used in this study is in accordance with *NCHRP 255: Highway Traffic Data for Urbanized Area Project Planning and Design (Chapter 8)* and involves balancing the intersection volumes using an iterative process to compare them to the existing traffic distribution. The iterative process seeks to balance the total inbound and outbound volumes from each approach as projected by the SF-CHAMP Model.

The estimated volume increases at all the study intersections developed based on the Candlestick Point-Hunters Point Shipyard Phase II Development EIR and SF-CHAMP Model were balanced out in the north-south and east-west directions. The resulting increase in PM peak hour intersection volumes from 2010 to 2030 Conditions is shown in **Figure 1**.

2030 Baseline Volumes

The estimated traffic growths at the study intersections between 2010 and 2030 Conditions identified in Figure 1 have been added to the existing turning movement volumes to develop intersection volumes under 2030 Baseline Conditions. These traffic volumes are exhibited in **Table 1**.

Figure 1 - Projected Increase in Intersection Volumes (Weekday PM Peak Hour)

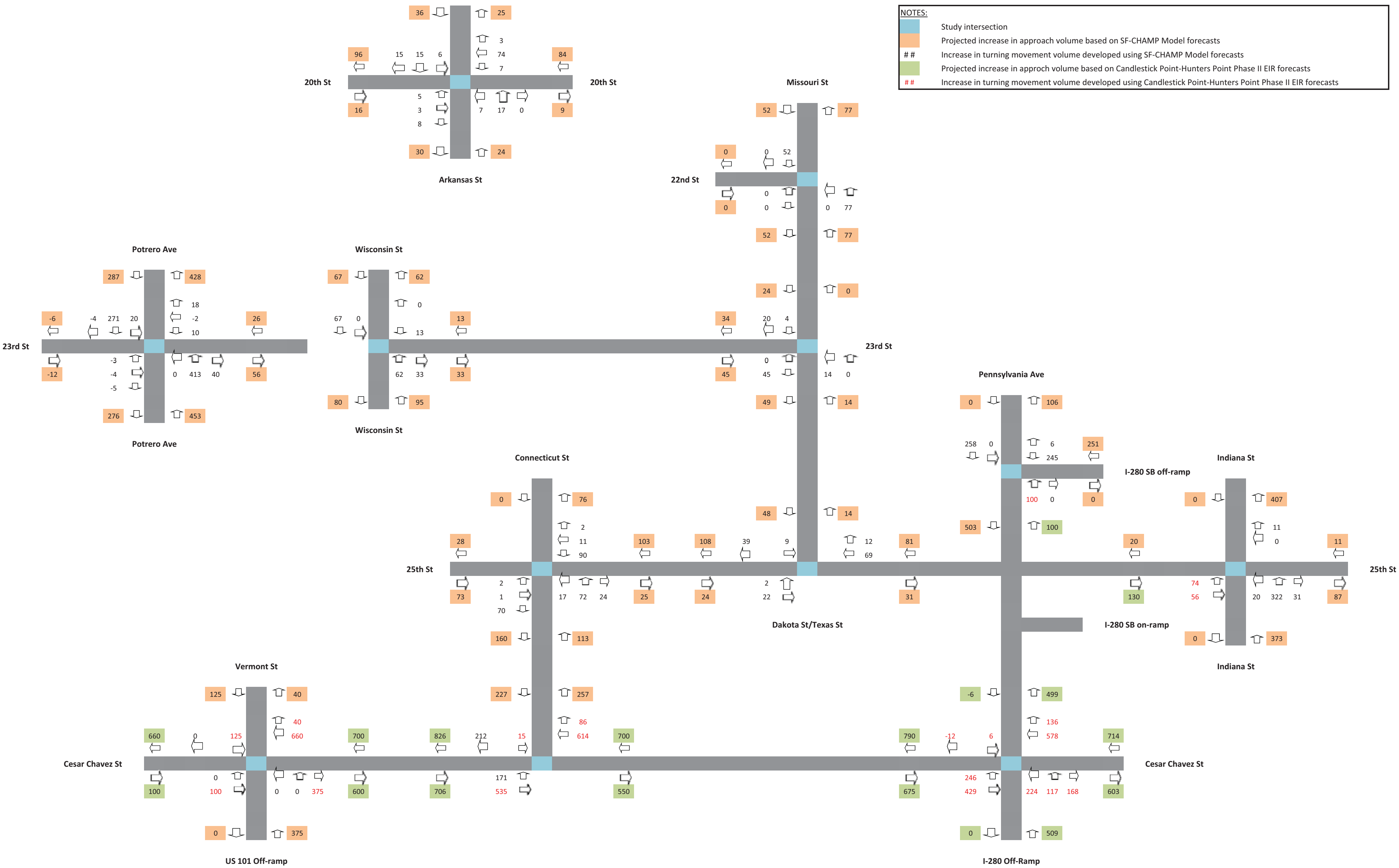


Table 1 - Year 2030 Baseline Volumes (Weekday PM Peak Hour)

#	Intersection Name	NB Approach			SB Approach			EB Approach			WB Approach		
		L	T	R	L	T	R	L	T	R	L	T	R
1	Cesar Chavez Street/Connecticut Street												
	Existing (2010) volumes				20		86	56	594			723	78
	Projected increase in volumes from 2010 to 2030 Conditions				15		212	171	535			614	86
	2030 baseline volumes				35		298	227	1,129			1,337	164
2	Cesar Chavez Street/Pennsylvania Avenue/NB I-280 Off-Ramp												
	Existing (2010) volumes	186	143	282	84		412	314	391			162	365
	Projected increase in volumes from 2010 to 2030 Conditions	224	117	168	6		-12	246	429			578	136
	2030 baseline volumes	410	260	450	90		400	560	820			740	501
3	Pennsylvania Avenue/SB I-280 Off-Ramp												
	Existing (2010) volumes		201			291		483		49			
	Projected increase in volumes from 2010 to 2030 Conditions		100			258		245		6			
	2030 baseline volumes		301			549		728		55			
4	25th Street/Indiana Street/NB I-280 On-Ramp												
	Existing (2010) volumes	265	54	11				93	146			179	104
	Projected increase in volumes from 2010 to 2030 Conditions	20	322	31				74	56			0	11
	2030 baseline volumes	285	376	42				167	202			179	115
5	25th Street/Connecticut Street												
	Existing (2010) volumes	3	33	88				24	66	22	34	43	22
	Projected increase in volumes from 2010 to 2030 Conditions	17	72	24				2	1	70	90	11	2
	2030 baseline volumes	20	105	112				26	67	92	124	54	24
6	25th Street/Dakota Street/Texas Street												
	Existing (2010) volumes				35		52	26	124			45	35
	Projected increase in volumes from 2010 to 2030 Conditions				39		9	2	22			69	12
	2030 baseline volumes				74		61	28	146			114	47
7	23rd Street/Dakota Street												
	Existing (2010) volumes	47	15			20	16	17		58			
	Projected increase in volumes from 2010 to 2030 Conditions	14	0			4	20	0		45			
	2030 baseline volumes	61	15			24	36	17		103			
8	23rd Street/Wisconsin Street												
	Existing (2010) volumes		61	33	17	40					24		23
	Projected increase in volumes from 2010 to 2030 Conditions		62	33	0	67					13		0
	2030 baseline volumes		123	66	17	107					37		23
9	20th Street/Arkansas Street												
	Existing (2010) volumes	3	16	9	6	21	15	6	104	6	20	140	13
	Projected increase in volumes from 2010 to 2030 Conditions	7	17	0	6	15	15	5	3	8	7	74	3
	2030 baseline volumes	10	33	9	12	36	30	11	107	14	27	214	16
10	22nd Street/Missouri Street												
	Existing (2010) volumes	25	30			25	1	0		0			
	Projected increase in volumes from 2010 to 2030 Conditions	0	77			52	0	0		0			
	2030 baseline volumes	25	107			77	1	0		0			
11	Potrero Avenue/23rd Street												
	Existing (2010) volumes		570	60	85	985	23	27	41	48	86	31	161
	Projected increase in volumes from 2010 to 2030 Conditions		413	40	20	271	-4	-3	-4	-5	10	-2	18
	2030 baseline volumes		983	100	105	1,256	19	0	37	0	96	29	179
12	Cesar Chavez Street/Vermont Street/US 101 Off-Ramp												
	Existing (2010) volumes			296	23		148	88	460			582	389
	Projected increase in volumes from 2010 to 2030 Conditions			375	125		0	0	100			660	40
	2030 baseline volumes			671	148		148	0	560	0		1,242	429

Appendix 4.7C CDM Memo. Potrero HOPE Transportation Study – 2040 Cumulative Analysis. June 27, 2014. Final

Memorandum

To: *Brett Bollinger, San Francisco Planning Department*

From: *Bhanu Kala*

Date: *June 27, 2014*

Subject: *Potrero HOPE Transportation Study – 2040 Cumulative Analysis*

CDM Smith is submitting this technical memorandum as part of the supplemental analysis for the Potrero HOPE Transportation Study that was previously submitted to and approved by the San Francisco Planning Department. The purpose of this memorandum is to summarize the results of traffic analysis conducted under 2040 Cumulative Conditions. This analysis serves as a supplemental memorandum to the Potrero HOPE Transportation Study Final Report that was submitted in October 2012 (hereafter referred to as the Potrero HOPE Final Report).

Project Alternatives

Traffic analysis in the Potrero HOPE Final Report was performed for the following three project alternatives:

- **Proposed Project –** This alternative would involve demolition of the existing 620 affordable housing units and construction of up to 1,700 mixed-income housing units (up to 970 affordable, 630 market rate, and 100 senior units) along with two retail facilities (5,500 square feet and 9,500 square feet in size), a 35,000 square feet community center (including daycare and preschool facilities), several small parks and open spaces, and associated residential parking facilities.
- **Alternative 1 –** This alternative would involve a reduced-scale of development, i.e., demolition of the existing 620 affordable housing units and construction of to 1,280 mixed-income housing units (up to 796 affordable units, 404 market rate units, and 80 senior units), as compared to 1,700 total units under the Proposed Project, the same amount of retail facilities (5,500 square feet and 9,500 square feet in size), a smaller community center (25,000 square feet in size), several small parks and open spaces, and associated residential parking facilities.
- **Alternative 2 –** This alternative would involve rebuilding the land uses that are present at the project site under existing conditions.

For this supplemental analysis under 2040 Cumulative plus Project Conditions, traffic analysis was conducted for the project alternative that is anticipated to generate the highest amount of project-related traffic, i.e., Proposed Project.

1. Background Growth

1.1 2040 Cumulative Conditions

Intersection volumes under 2040 Cumulative Conditions were developed using traffic forecasts obtained from the San Francisco County Transportation Authority's Chain Activity Modeling Process (SF-CHAMP) Model. Since the SF-CHAMP Model was developed as a tool to forecast future traffic volumes on major regional traffic facilities and on major local streets, post-processing of the model output was conducted using the following methodology to identify intersection turning movement volumes under 2040 Cumulative Conditions:

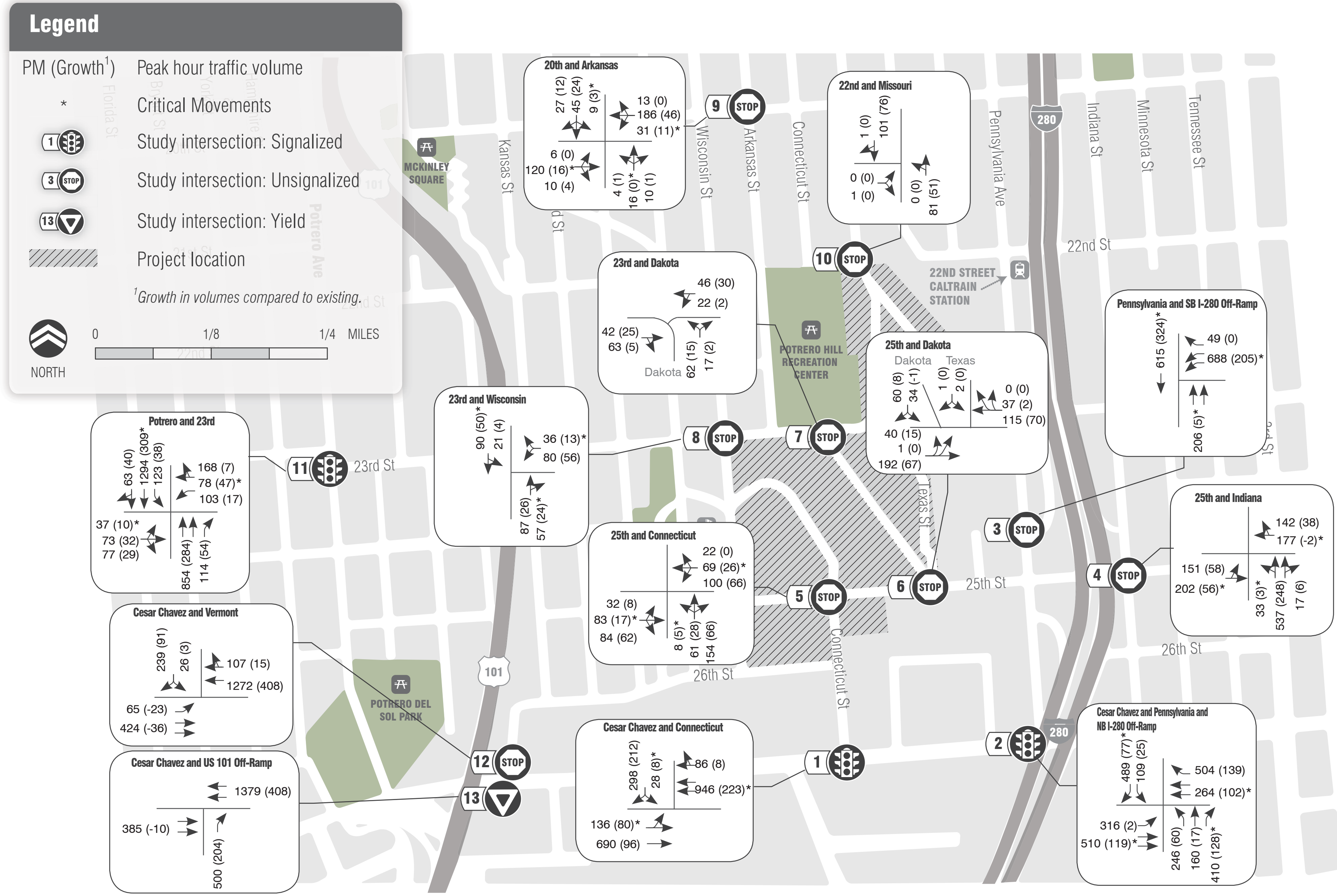
- Using the most recent base (2012) and future (2040) SF-CHAMP Models, forecasted traffic growth between 2012 and 2040 Conditions was estimated for each approach of the study intersection.
- The above traffic growths were extrapolated to obtain traffic growths along intersection approaches between 2010 (the year when existing traffic counts were collected for the Potrero HOPE Transportation Study) and 2040 Conditions.
- The forecasted traffic growth for each approach was added to existing approach volumes to identify approach volumes under 2040 Cumulative Conditions.
- Using the 2040 approach volumes, turning movement volumes at the study intersections were identified using the Furness Process. The Furness Process used in this study is in accordance with *NCHRP 255: Highway Traffic Data for Urbanized Area Project Planning and Design* and involves balancing the intersection volumes using an iterative process to compare them to the existing traffic distribution. The iterative process seeks to balance the total inbound and outbound volumes from each approach as projected by the SF-CHAMP Model.

The resulting traffic volumes at the study intersections under 2040 Cumulative Conditions, along with their geometric configurations, are illustrated in **Figure 1-1**.

In general, traffic forecasts provided by the latest version of the SF-CHAMP Model (2040 Model) are lower than those provided by the earlier version of the SF-CHAMP Model (2035 Model). This is due to the fact that the 2040 Model was developed using the 2012 Association of Bay Area Governments (ABAG) projections, while the 2035 Model was developed using the 2009 ABAG projections. Due to the economic recession, the 2012 ABAG projections for the transportation analysis zones (TAZs) located in the vicinity of the project site are lower than the 2009 ABAG projections. A comparison of the population and employment forecasts obtained from the 2035 and 2040 Models for the TAZs located in and around the project site is provided in **Appendix A**.

As mentioned earlier, traffic volumes under 2040 Cumulative Conditions were developed using the 2040 SF-CHAMP Model. However, for the Potrero HOPE Transportation Study, traffic volumes for the future horizon year of the study (year 2030) were developed using the 2035 SF-CHAMP Model, the latest version of the model available at the time of project completion. Hence, intersection volumes reported under 2040 Cumulative Conditions in Figure 1-1 below are generally lower than those reported under 2030 Cumulative Conditions in the Potrero HOPE Final Report.[1]

[1] These volumes are provided in Figure 4-7 of the Potrero HOPE Transportation Study Final Report, October 2012.



INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS - 2040 CUMULATIVE PM PEAK HOUR

Figure 1-1

CDM Smith

1.2 2040 Cumulative plus Project Conditions

Changes to Study Intersections

As discussed in Section 1.4.2 – Vehicular Access of the Potrero HOPE Final Report[2], the modification of roadway layout as part of the Proposed Project would alter two study intersections as follows:

- 25th Street/Dakota Street/Texas Street intersection would be reconfigured and renamed to 25th Street/Texas Street; and
- 23rd Street/Dakota Street intersection would be renamed to 23rd Street/Missouri Street.

Additionally, the roadway layout reconfiguration planned as part of the Proposed Project is anticipated to cause changes to the traffic circulation patterns in the study area as follows:

- Approximately 25 percent of traffic traveling along Pennsylvania Avenue is anticipated to shift to Texas Street; and
- Approximately 25 percent of traffic traveling along Dakota Street is anticipated to shift to Arkansas Street.

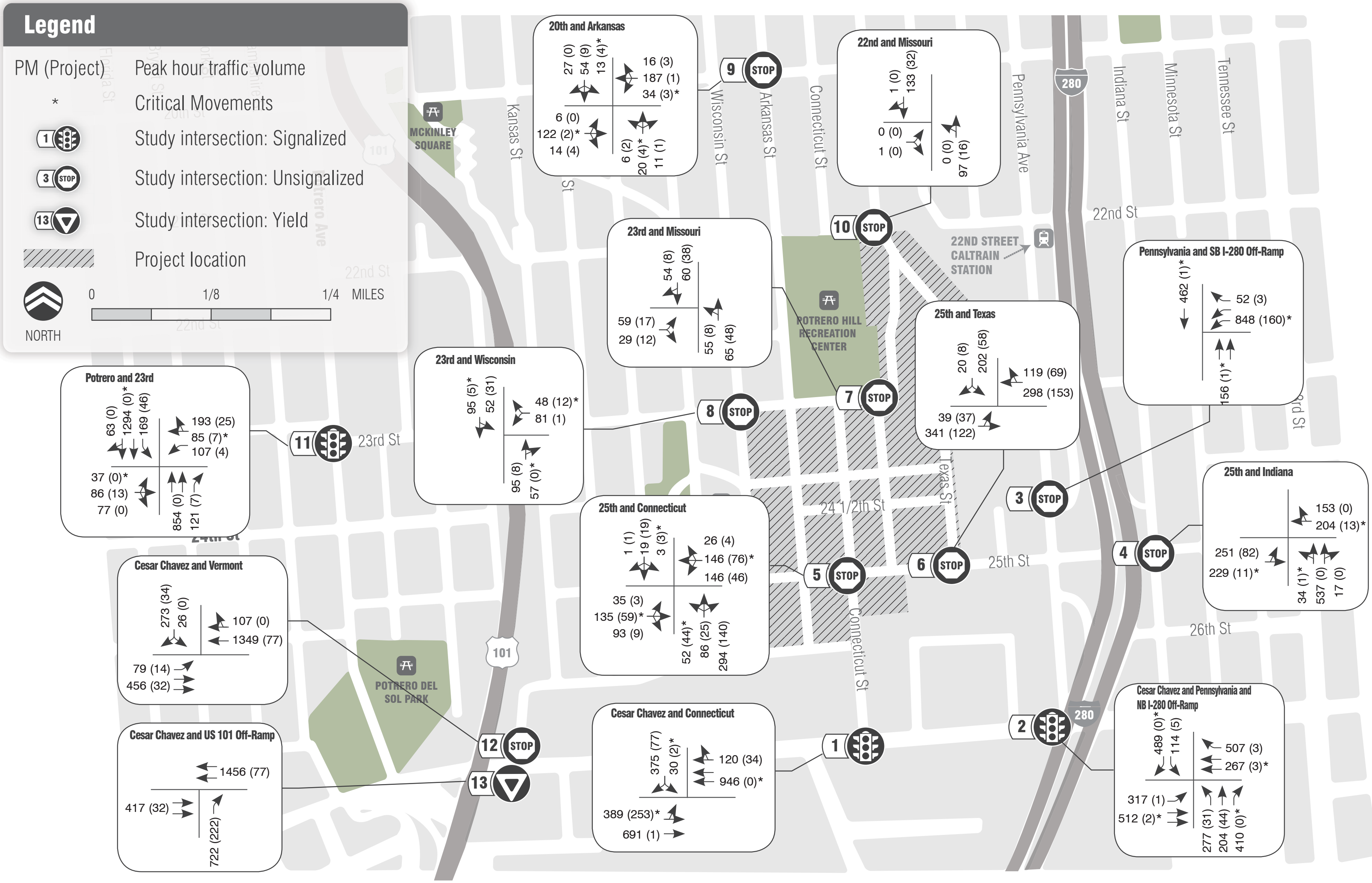
Traffic Volume Development

The weekday PM peak hour vehicle-trips generated by the Proposed Project (576 inbound and 316 outbound)[3] were distributed within the study area using the trip distribution discussed in Section 3.3 – Trip Distribution/Assignment of the Potrero HOPE Final Report[2]. These distributed project trips were added to intersection volumes developed under 2040 Cumulative Conditions. Additionally, relevant traffic circulation adjustments as mentioned above (shifting approximately 25 percent of traffic traveling along Pennsylvania Avenue to Texas Street and approximately 25 percent of traffic traveling along Dakota Street to Arkansas Street) were applied to reflect changes in the circulation pattern due to the roadway layout reconfiguration planned as part of the Proposed Project. The resulting traffic volumes and proposed geometric configurations at the study intersections under 2040 Cumulative plus Project Conditions are illustrated in **Figure 1-2**.

2. Foreseeable Transportation Network Changes

The following improvements to the transportation network located in the vicinity of the project site are expected in the nearby future and are considered for analysis under 2040 Cumulative Conditions. These improvements would be completed by City and County of San Francisco agencies such as the San Francisco Department of Public Works (SFDPW) and the San Francisco Municipal Transportation Agency (SFMTA).

[2] This section is from the Potrero HOPE Transportation Study Final Report, October 2012.
[3] For more information about the Proposed Project's trip generation, see Section 3.2 – Mode Split from the Potrero HOPE Transportation Study Final Report, October 2012.



INTERSECTION VOLUMES AND GEOMETRIC CONFIGURATIONS - 2040 CUMULATIVE PLUS PROJECT PM PEAK HOUR

Figure 1-2

2.1 Transit Network Modifications

The Transit Effectiveness Project (TEP) was a review of the San Francisco Municipal Railway's (Muni's) public transportation system conducted by the SFMTA in collaboration with the City Controller's Office to improve reliability, reduce travel times, and provide for improved Muni service based on increasing frequencies and updating bus routes and rail lines to match with changing travel patterns throughout San Francisco, via proposed recommendations for Muni. The SFMTA and the San Francisco Planning Commission certified the TEP Final Environmental Impact Report (TEP EIR) in March 2014. The SFMTA anticipates that many of the service improvements would be implemented between the end of 2014 and 2015, and that the remainder of the service improvements would occur in 2016.[4] Within the project study area, the following changes were recommended by the TEP:

- The one-car K Ingleside would continue to be through-routed with the T Third Street.
- The 10 Townsend would be renamed to become the 10 Sansome as service along Townsend Street would be rerouted to serve portions of Mission Bay. Increased service would operate east of Van Ness Avenue to provide additional capacity, replacing the to-be-discontinued 12 Folsom-Pacific service. Existing service during peak periods within the project study area would be reduced from 20-minute headways to 6-minute headways during the peak PM period.
- The 19 Polk is proposed to be rerouted to operate only between Van Ness Avenue/North Point and the San Francisco General Hospital, with modified bus routing in the Civic Center area. Segments south of 24th Street currently served by the 19 Polk would be replaced by a revised 48 Quintara-24th Street. The route would terminate at the current 10 Townsend terminal at 24th Street and Potrero Avenue. There would be no change in frequency. As of March 2014, when the TEP EIR was certified, the proposed service changes to the 19 Polk route are on hold.
- The 22 Fillmore would be rerouted to continue along 16th Street to Third Street, creating new connections to Mission Bay from the Mission District. More frequent peak service would be provided to reduce crowding (service every 5.5 minutes during the weekday PM peak period). Capital improvements along 16th Street between Church and Third Streets include potential lane modifications, turn restrictions, transit stop changes, bus bulbouts, and overhead wire construction, as part of the Travel Time Reduction Proposals (TTRP) that would introduce more frequent and reliable service to core parts of the Muni network (called the Rapid Network). There are two variant alternatives for the rerouting of the 22 Fillmore from its existing routing prior to overhead wire construction along portions of this route currently not served by the existing bus service:
    - Service Variant 1 for the 22 Fillmore would have additional transit service provided by a new Motor Coach Standard (MCS) service (Route 55) originating from the 16th Street BART station area and terminating at the proposed terminal loop in Mission Bay. 22 Fillmore Trolley Coach Standard (TCS) service would terminate at a loop at 16th, Kansas,

[4] SF Planning Department, 2014. *Transit Effectiveness Project Final Environmental Impact Report* is available online at http://tepeir.sfplanning.org. The Transit Effectiveness Project webpage can be accessed online at http://www.sfmta.com/projects-planning/projects/tep-transit-effectiveness-project.

17th, and Vermont Streets, with the segment on 17th Street, Connecticut Street, and 18th Street being replaced by a revised 33 Stanyan.

- Service Variant 2 would retain the new MCS service (Route 55). However, instead of revising the 33 Stanyan to provide service along the existing 22 Fillmore routing beyond Kansas Street, every other 22 Fillmore trolley coach would continue to provide service to the existing Third and 20th Street terminus, while the remainder would terminate service at the loop at 16th, Kansas, 17th, and Vermont Streets.

- Service for the 48 Quintara-24th Street would run all day from 48th Avenue to the Hunters Point Naval Shipyard, replacing service in the area that is currently served by the 19 Polk; it would be complemented by a new 58 24th Street service connecting Diamond Street with the 22nd Street Caltrain station, replacing service east of 25th and Connecticut Streets. Segments along Douglass Street and Hoffman Street would be served by a revised 35 Eureka. Existing segments in Potrero Hill would be supplemented by the new 58 24th Street line, while service along Arkansas Street, 20th Street, and Texas Street would be eliminated and instead served by the new 58 24th Street route. As of March 2014, when the TEP EIR was certified, the proposed service changes to the 48 Quintara-24th Street route and the introduction of the new 58 24th Street route are on hold.

For purposes of transit analysis, it was assumed that all TEP recommendations would be implemented prior to year 2040. For service change proposals temporarily on hold at the time of this analysis, it was assumed that any changes to those proposals would not substantially alter the recommendations published in the TEP EIR. Additionally, the service changes planned as part of the TEP recommendations would not alter routes of any of the Muni lines operating in the vicinity of the project site; they would modify only the end points (origins and/or destinations) of those Muni lines. As such, transit analysis for 2040 Cumulative and Cumulative plus Project Conditions would continue to follow the methodology developed to evaluate 2030 Cumulative Conditions.

2.2 Bicycle Network Modifications

Similar to analysis under 2030 Cumulative Conditions, the following improvements to the neighboring bicycle network that are anticipated as part of the San Francisco Bicycle Plan were assumed for analysis under 2040 Cumulative Conditions, as well:

- Project 5-1 – This project involves conversion of existing wide curb lane bicycle route along 23rd Street between Kansas Street and Potrero Avenue to sharrows and/or full bicycle lanes in both directions;

- Project 5-5 – This project involves conversion of existing shared-lane bicycle route along Cesar Chavez Street between I-280 and US 101 freeways to sharrows and/or full bicycle lanes in both directions;

- Project 5-18 – This project involves conversion of existing wide curb lane bicycle route along Kansas Street between 23rd and 26th Streets to sharrows and/or full bicycle lanes in both directions; and

- Minor improvements to the bicycle route along Indiana Street.

3. Intersection Analysis

A comparison of the study intersection operations (level of service/LOS and delay values) during the weekday PM peak hour under 2040 Cumulative Conditions and 2040 Cumulative plus Project Conditions is provided in **Table 3-1**.

3.1 2040 Cumulative Conditions

Under 2040 Cumulative Conditions, during the weekday PM peak hour, six of the 13 study intersections (Potrero Avenue/23rd Street, 25th Street/Connecticut Street, 23rd Street/Dakota Street, 23rd Street/Wisconsin Street, 20th Street/Arkansas Street, and 22nd Street/Missouri Street) would continue to operate at the same acceptable LOS (LOS C or better) as under Existing Conditions. LOS conditions at the remaining seven study intersections would deteriorate from their existing operations. However, of these seven intersections, four would continue to operate with an acceptable LOS (LOS D or better). The remaining three intersections would operate at an unacceptable LOS (LOS E or F) and include the following:

- Intersection #2 – Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp (worsening from LOS D under Existing Conditions to LOS E under 2040 Cumulative Conditions);
- Intersection #3 – Pennsylvania Avenue/Southbound I-280 Off-Ramp (worsening from LOS C under Existing Conditions to LOS F under 2040 Cumulative Conditions); and
- Intersection #12 – Cesar Chavez Street/Vermont Street (worsening from LOS C under Existing Conditions to LOS F under 2040 Cumulative Conditions).

Detailed LOS calculation sheets for 2040 Cumulative Conditions are included in **Appendix B** and signal warrant analysis sheets for unsignalized intersections are included in **Appendix C**.

3.2 2040 Cumulative plus Project Conditions

Study intersection operations during the weekday PM peak hour under 2040 Cumulative plus Project Conditions are provided in **Table 3-1**. Under 2040 Cumulative plus Project Conditions, nine of the 13 study intersections would continue to operate at an acceptable LOS (LOS D or better) during the weekday PM peak hour as compared to 2040 Cumulative Conditions. The remaining four intersections (Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp, Pennsylvania Avenue/Southbound I-280 Off-Ramp, Cesar Chavez Street/Vermont Street, and Cesar Chavez Street/US 101 Off-Ramp) would operate at an unacceptable LOS (E or F).

<u>Intersection #2 – Cesar Chavez Street/Pennsylvania Avenue/Northbound I-280 Off-Ramp</u>

The signalized intersection of Cesar Chavez Street and Pennsylvania Avenue/Northbound I-280 Off-Ramp would continue to operate at LOS E, with an average vehicle delay of about 59 seconds under both 2040 Cumulative and 2040 Cumulative plus Project Conditions. However, the Proposed Project would not increase traffic along any of the critical movements that would operate at LOS F. Hence, the Proposed Project is not expected to worsen the intersection operations under 2040 Cumulative plus Project Conditions.

Table 3-1: PM Peak Hour Intersection Operations – 2040 Cumulative vs. Cumulative plus Project Conditions

#	Intersection	Existing			2040 Cumulative			2040 Cumulative plus Project		
		Delay	V/C Ratio	LOS	Delay	V/C Ratio	LOS	Delay	V/C Ratio	LOS
Signalized										
1	Cesar Chavez Street/Connecticut Street	11.4	-	B	24.3	-	C	42.6	-	D
2	Cesar Chavez Street/Pennsylvania Avenue/NB I-280 Off-Ramp	38.4	-	D	**59.1**	**0.77**	**E**	**58.7**	**0.77**	**E**
11	Potrero Avenue/23rd Street	22.2	-	C	29.4	-	C	33.5	-	C
Unsignalized				-						
3	Pennsylvania Avenue/SB I-280 Off-Ramp	15.2 (SB)	-	C	**>50 (SB)**	**1.19**	**F**[3]	**41.9 (WB)**	**0.90**	**E**[4]
4	25th Street/Indiana Street/NB I-280 On-Ramp	11.4 (EB)	-	B	19.1 (EB)	-	C	31.4 (EB)	-	D
5	25th Street/Connecticut Street	8.0 (EB)	-	A	9.9 (WB)	-	A	25.1 (NB)	-	D
6	25th Street/Texas Street[1]	9.6 (SEB)	-	A	10.4 (SB)	-	B	30.4 (SB)	-	D
7	23rd Street/Dakota Street[2]	9.2 (NB)	-	A	9.7 (NB)	-	A	11.8 (NB)	-	B
8	23rd Street/Wisconsin Street	7.5 (SB)	-	A	8.2 (WB)	-	A	8.5 (SB)	-	A
9	20th Street/Arkansas Street	8.5 (WB)	-	A	9.4 (WB)	-	A	9.7 (WB)	-	A
10	22nd Street/Missouri Street	8.5 (EB)	-	A	9.0 (EB)	-	A	8.9 (EB)	-	A
12	Cesar Chavez Street/Vermont Street	25.8 (SB)	-	C	**>50 (SB)**	**0.69**	**F**[3]	**>50 (SB)**	**0.84**	**F**[4]
13	Cesar Chavez Street/US 101 Off-Ramp	13.3 (NB)	-	B	17.6 (NB)	-	C	**49.0 (NB)**	**0.97**	**E**[4]

Notes:
[1] This intersection is 25th/Dakota/Texas under 2040 Cumulative Conditions and 25th/Texas under 2040 Cumulative plus Project Conditions.
[2] This intersection is 23rd/Dakota under 2040 Cumulative Conditions and 23rd/Missouri under 2040 Cumulative plus Project Conditions.
[3] This intersection satisfies Caltrans signal warrants under 2040 Cumulative Conditions.
[4] This intersection satisfies Caltrans signal warrants under 2040 Cumulative plus Project Conditions.
V/C Ratio – Volume-to-capacity ratio; it is reported for intersections operating at LOS E and F only.
EB – Eastbound, NB – Northbound, SB – Southbound, WB – Westbound
Delay is presented in seconds per vehicle; for unsignalized intersections, delay, v/c ratio, and LOS are presented for the worst approach, annotated in parenthesis ( ).
Bold indicates intersection operates at an unacceptable LOS.

Intersection #3 – Pennsylvania Avenue/Southbound I-280 Off-Ramp

Under 2040 Cumulative Conditions, the southbound approach would be the worst approach of the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection, operating at LOS F (approximate average vehicle delay of 124 seconds). However, under 2040 Cumulative plus project Conditions, the westbound approach would be the worst approach of the intersection; it is anticipated to operate at LOS E with an average vehicle delay of 42 seconds, approximately. As mentioned in Section 1.2 – 2040 Cumulative plus Project Conditions, the modification of roadway layout planned as part of the Proposed Project is anticipated to shift approximately 25 percent of traffic travelling along Pennsylvania Avenue to Texas Street. This shift in traffic would reduce traffic along northbound and southbound Pennsylvania Avenue, thereby improving traffic operations at this intersection under 2040 Cumulative plus Project Conditions. As such, the worst operating approach at this intersection would also shift from the southbound approach under 2040 Cumulative Conditions to the westbound approach under 2040 Cumulative plus Project Conditions. Also, this intersection would satisfy the Caltrans signal warrants under both 2040 Cumulative and 2040 Cumulative plus Project Conditions (signal warrant analysis sheets are included in **Appendix C**). Ergo, contribution of the Proposed Project to traffic along the worst approach was examined. The Proposed Project would increase traffic along the westbound left-turning movement by about 160 vehicle trips (23 percent). Hence, the Proposed Project would alter the worst operating approach of the Pennsylvania Avenue/Southbound I-280 Off-Ramp intersection and increase traffic for the westbound left-turning critical movement at the intersection by more than five percent under 2040 Cumulative plus Project Conditions.

Intersection #12 – Cesar Chavez Street/Vermont Street

The worst approach (southbound approach) of the Cesar Chavez Street/Vermont Street intersection would continue to operate at LOS F under both 2040 Cumulative and 2040 Cumulative plus Project Conditions. In addition, this intersection would continue to satisfy the Caltrans signal warrants under 2040 Cumulative and 2040 Cumulative plus Project Conditions (signal warrant analysis sheets are included in **Appendix C**). Therefore, contribution of the Proposed Project to traffic along the worst approach was examined. The Proposed Project would increase traffic along the southbound approach of this intersection by about 34 vehicles (13 percent) and increase the average vehicle delay from 130 seconds to 230 seconds, approximately. As such, the Proposed Project would worsen traffic operations along the worst approach of the Cesar Chavez Street/Vermont Street intersection by increasing traffic by more than five percent under 2040 Cumulative plus Project Conditions.

Intersection #13 – Cesar Chavez Street/US 101 Off-Ramp

The worst approach (northbound approach) of the Cesar Chavez Street/US 101 Off-Ramp intersection would operate at LOS C (average vehicle delay of about 18 seconds) under 2040 Cumulative Conditions, but would worsen to LOS E (average vehicle delay of about 49 seconds) under 2040 Cumulative plus Project Conditions. The Proposed Project would increase traffic along the northbound approach of this intersection by about 222 vehicles (44 percent). In addition, this intersection would satisfy the Caltrans signal warrants under 2040 Cumulative plus Project Conditions (signal warrant analysis sheets are included in **Appendix C**). As such, the Proposed Project would worsen traffic operations along the worst approach of the Cesar Chavez Street/ US

101 Off-Ramp intersection by increasing traffic along the northbound approach by more than five percent under 2040 Cumulative plus Project Conditions.

Detailed LOS calculation sheets are provided in **Appendix B**, while traffic signal warrant analysis sheets are included in **Appendix C**.

4. Transit Analysis

Transit analysis under 2040 Cumulative Conditions was performed based on the assumptions that all of the TEP recommendations proposed by the SFMTA and discussed in Section 2.1 – Transit Network Modifications would be implemented by 2040. The following changes planned as part of the TEP recommendations would affect the Muni routes serving the study area and are expected to be in place by year 2040:

- The 10 Townsend line would be renamed to become the 10 Sansome;
- The 19 Polk line would be rerouted to operate between Van Ness Avenue/North Point and San Francisco General Hospital, and would not serve the project site directly;
- The 48 Quintara-24th Street line would have all-day service and connect to and terminate at Hunters Point, replacing 19 Polk service to the area, as that route will be rerouted. As a result of this rerouting, segments east of Evans Avenue in the Potrero Hill area would be served by the new 58 24th Street line, instead of the 48 Quintara-24th Street line; and
- A new 58 24th Street line connecting Diamond Street and the 24th Street Mission Bay Area Rapid Station (BART) station with the 22nd Street Caltrain station would serve the project site, as well as the Potrero Hill area, and supplement or replace portions of the 48 Quintara-24th Street service.

Therefore, transit analysis under 2040 Cumulative and 2040 Cumulative plus Project Conditions was performed taking into consideration the above planned modifications to Muni lines and operations.

4.1 2040 Cumulative Conditions Muni Line-by-Line Analysis

Similar to Existing plus Project and 2030 Cumulative plus Project Conditions, since the 10 Townsend, 19 Polk, and 48 Quintara-24th Street Muni routes provide direct service to the project site, line-by-line analysis was conducted for these three routes under 2040 Cumulative plus Project Conditions.

To determine future ridership, Muni's 2040 ridership projections were obtained from the SFMTA. This projection data consisted of updated screenline summaries for specific Muni route corridors and regional transit operators. Using the screenline data obtained from the SFMTA, each Muni route that would service the project site was assigned to the appropriate screenline (Southeast screenline). Ridership estimates for each study Muni line (10 Townsend/Sansome, 19 Polk, and 48 Quintara-24th Street) were determined by calculating the projected increase in Muni screenline ridership from existing to 2040 conditions, determining the annual growth rate (for light rail and buses separately) in screenline ridership based on the projected overall growth, and applying the annual growth rate to individual study transit lines. Additionally, since the 19 Polk line would not provide direct service to the project site under 2040 Cumulative Conditions, it was assumed that the anticipated ridership demand that would have taken the 19 Polk in the Potrero Hill area would instead be served by other Muni routes operating in that area, with approximately 40 percent of riders distributed to the 10 Townsend, 20 percent each to the 22 Fillmore and the new 58 24th Street, and 10 percent each to the 48 Quintara-24th Street and T Third Street lines.

Future year transit capacity for each study route was determined using the proposed service headways developed by the SFMTA as part of the TEP and documented in the March 2014 TEP EIR.[5] Using the proposed headway of each transit route during the PM peak period and the seated capacity of the vehicle types serving each route, the capacities of Muni routes under 2040 Cumulative Conditions were developed. As part of the TEP, headways were developed for transit service in the peak direction only. Future headways for service in the non-peak direction were estimated assuming that the rate of change of headways in the peak and non-peak directions would remain the same.

A comparison of Muni's line-by-line operations under 2040 Cumulative and 2040 Cumulative plus Project Conditions is provided in **Table 4-1**. Detailed calculations related to Muni's line-by-line analysis are included in **Appendix D**.

Under 2040 Cumulative Conditions, capacity utilization of the 19 Polk would worsen compared to Existing Conditions in both the directions (from 68 to 107 percent in the inbound direction and from 49 to 77 percent in the outbound direction) due to the anticipated increase in ridership. The capacity utilization in the inbound direction is expected to exceed Muni's 85 percent utilization standard. Similarly, the capacity utilization of the 48 Quintara-24th Street would worsen from Existing to 2040 Conditions in both directions (from 46 to 109 percent in the inbound direction and from 48 to 112 percent in the outbound direction) due to the expected increase in ridership and decrease in capacity. The capacity utilization is expected to exceed Muni's 85 percent utilization standard in both the inbound and outbound directions. Compared to Existing Conditions, the capacity utilization of the 10 Townsend/Sansome would improve to be lower than Muni's 85 percent utilization standard under 2040 Cumulative Conditions in both the directions. The capacity utilization would improve from 98 to 52 percent in the inbound direction and from 90 to 53 percent in the outbound direction, primarily due to the planned increase in the capacity of the route.

[5] Table 8: Description of Proposed Service Improvements, p. 2-64, *Transit Effectiveness Project Final Environmental Impact Report*, SF Planning Department, March 2014.

Table Error! No text of specified style in document.**-1: Muni Line-by-Line Analysis – 2040 Cumulative vs. Cumulative plus Project Weekday PM Peak Hour**

Route	Travel Direction	Existing		2040 Cumulative		Project Trips	2040 Cumulative plus Project	
		Ridership	Capacity Utilization	Ridership	Capacity Utilization		Ridership	Capacity Utilization
10 Townsend/Sansome[1]	Inbound	186	98%	291	46%	36	327	52%
	Outbound	171	90%	267	42%	68	335	53%
19 Polk	Inbound	172	68%	269	**107%**	0[2]	269	**107%**
	Outbound	124	49%	194	77%	0[2]	194	77%
48 Quintara-24th Street	Inbound	175	46%	274	**109%**	30	304	**121%**
	Outbound	180	48%	281	**112%**	21	302	**120%**

Source: SFMTA – 2014; CDM Smith – June 2014
Notes:
[1] The 10 Townsend is proposed to be renamed to 10 Sansome following the TEP implementation.
[2]No project-related transit trips were assumed to access 19 Polk due to the proposed rerouting of this line as part of the TEP recommendations.
Bold indicates load exceeding Muni's 85 percent capacity utilization standard.

4.2 2040 Cumulative plus Project Conditions Muni Line-by-Line Analysis

The Proposed Project would generate 344 weekday PM peak hour transit trips (221 inbound and 123 outbound). Of these 344 PM peak hour transit trips, 176 inbound and 99 outbound trips would be served by Muni lines, while 46 inbound and 25 outbound trips would be served by regional transit providers. About 119 of the 176 inbound trips to the project site and 66 of the 99 outbound transit trips from the project site would be served by the 10 Townsend, 19 Polk, and 48 Quintara-24th Street lines (because of transit line orientation, an inbound trip to the project site for the 10 Townsend and 19 Polk routes would constitute an outbound trip as defined by Muni's operational direction). A detailed discussion on the estimation of Muni-based project trips is provided in Section 4.2.2 – Transit Impacts of the Potrero HOPE Final Report[6].

Using the same methodology adopted for Existing plus Project Conditions (discussed in Section 4.2.2 – Transit Impacts of the Potrero HOPE Final Report[6]), project-related Muni-bound transit trips were distributed to the three study Muni lines (10 Townsend/Sansome, 19 Polk, and 48 Quintara-24th Street). Due to the proposed TEP changes, the 19 Polk would not provide direct service to the project site under 2040 Cumulative Conditions; therefore no project-related transit trips were assigned to this line.

<u>10 Townsend/Sansome</u>

Under 2040 Cumulative plus Project Conditions, the Proposed Project would deteriorate transit operations of the 10 Townsend/Sansome line – capacity utilization would increase by 6 percent (from 46 to 52 percent) in the inbound direction and 11 percent (from 42 percent to 53 percent) in the outbound direction. During the weekday PM peak hour, the Proposed Project is expected to increase the ridership of the outbound 10 Townsend/Sansome by about 68 riders (about 7 riders per bus during the peak hour) and the inbound 10 Townsend/Sansome by about 36 riders (about 4 riders per bus during the peak hour). However, the 10 Townsend/Sansome line would continue to operate with a capacity utilization that would be below the Muni's 85 percent threshold under both 2040 Cumulative and 2040 Cumulative plus Project Conditions.

<u>19 Polk</u>

As mentioned earlier, due to the proposed TEP changes, the 19 Polk would not provide direct service to the project site under 2040 Cumulative Conditions. As such, no project-related transit trips would access the 19 Polk line. Hence, as under 2040 Cumulative Conditions, Muni's 19 Polk would continue to operate with a capacity utilization of 107 percent and 77 percent in the inbound and outbound directions.

<u>48 Quintara-24th Street</u>

Similar to the 10 Townsend/Sansome, the Proposed Project is anticipated to worsen the operations of the 48 Quintara-24th Street under 2040 Cumulative plus Project Conditions. The Proposed Project would increase the capacity utilization of the 48 Quintara-24th Street by 12 percent (from 109 to 121 percent) in the inbound direction and 8 percent (from 112 to 120 percent) in the outbound direction. The 48 Quintara-24th Street line would continue to operate above Muni's 85

[6] This section is from the Potrero HOPE Transportation Study Final Report, October 2012.

percent utilization standard in the inbound and outbound directions under 2040 Cumulative plus Project Conditions. During the weekday PM peak hour, the Proposed Project is expected to increase the ridership of the outbound 48 Quintara-24th Street by about 21 riders (about 5 riders per bus during the peak hour), and the inbound 48 Quintara-24th Street by about 30 riders (about 7 riders per bus during the peak hour).

4.3 2040 Cumulative Conditions Muni Screenline Analysis

Similar to Existing and 2030 Cumulative Conditions, weekday PM peak hour capacity utilization for the Muni's Southeast screenline was determined under 2040 Cumulative Conditions. Screenline analysis under 2040 Cumulative Conditions takes into account the planned changes to Muni service, including projected capacity and anticipated service changes. Muni ridership and capacity under 2040 Cumulative Conditions were obtained from the transit projections documented by the SFMTA in 2014. The ridership and capacity projections under 2040 Cumulative Conditions, along with a comparison of screenline operations under Existing Conditions, and the forecasted capacity utilization of the Muni's Southeast screenline, are presented in **Table 4-2**.

Under 2040 Cumulative conditions, the overall capacity utilization of the Muni's Southeast screenline is expected to remain the same as under Existing Conditions (66 percent) and would continue to operate with a capacity utilization that is below Muni's 85 percent standard. Compared to Existing Conditions, under 2040 Cumulative Conditions, the capacity utilization of the Mission Street and San Bruno/Bayshore corridors would increase and exceed Muni's 85 percent threshold – the capacity utilization for the Mission Street corridor would increase from 53 to 89 percent (36 percent increase) and that for the San Bruno/Bayshore corridor would increase from 74 to 85 percent (11 percent increase). The other two corridors, the Third Street corridor and the All Other Lines corridor (consisting of the J Church, 12 Folsom, and 19 Polk lines), would operate with capacity utilization values below the 85 percent threshold.

4.4 2040 Cumulative plus Project Conditions Muni Screenline Analysis

As mentioned earlier, 176 inbound and 99 outbound transit trips (for a total of 275 transit trips) for the Proposed Project would use Muni to access the project site. Similar to Muni screenline analysis under Existing and 2030 Cumulative Conditions, only the Southeast screenline was considered for analysis under 2040 Cumulative Conditions. This screenline includes ridership traveling in the peak direction during the PM peak hour, i.e., away from downtown San Francisco. Since the 99 Muni-based outbound trips for the Proposed Project would be traveling in the non-peak screenline direction, these trips were not included in the screenline analysis. Of the 176 Muni-based inbound trips in the peak direction for the Proposed Project, approximately 130 trips would cross the Southeast screenline using the 10 Townsend, 19 Polk, and T Third Street Muni lines. As such, these were included in the screenline analysis. The remaining Muni-based trips in the peak direction (46 trips) would use the 22 Fillmore and 48 Quintara-24th Street lines to access the project site; these two Muni routes do not cross any of the four screenlines identified for Muni. A detailed discussion on the estimation of Muni-based project trips is provided in Section in Section 4.2.2 – Transit Impacts of the Potrero HOPE Final Report[7].

A summary of the screenline analysis for Muni's Southeast screenline under 2040 Cumulative plus Project Conditions during the weekday PM peak hour is provided in **Table 4-2**.

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[7] This section is from the Potrero HOPE Transportation Study Final Report, October 2012.

Table 4-2: 2040 Cumulative vs. Cumulative plus Project Muni Screenline Analysis – Weekday PM Peak Hour

Screenline / Corridor	Existing			2040 Cumulative			2040 Cumulative plus Project		
	Ridership	Peak Hour Capacity	Capacity Utilization	Ridership	Peak Hour Capacity	Capacity Utilization	Project Trips	Ridership	Capacity Utilization
Southeast Screenline									
Third Street	554	714	78%	2,300	5,712	40%	39	2,339	41%
Mission Street	1,254	2,350	53%	2,673	3,008	**89%**	0	2,673	**89%**
San Bruno/Bayshore	1,671	2,256	74%	1,817	2,134	**85%**	0	1,817	**85%**
All Other Lines	1,189	1,708	70%	1,582	1,927	82%	91	1,673	**87%**
Total	4,668	7,028	66%	8,372	12,781	66%	130	8,502	67%

Source: SFMTA – 2014; CDM Smith – June 2014.
Notes:
Screenline analysis conducted only in the peak outbound direction from San Francisco toward the project site.
Bold indicates load exceeding Muni's 85 percent capacity utilization standard.

Under 2040 Cumulative plus Project Conditions, the Southeast screenline would operate with an overall capacity utilization of 67 percent (less than Muni's 85 percent threshold), an increase of approximately one percent from 2040 Cumulative Conditions. The Mission Street and San Bruno/Bayshore corridors would continue to operate with the same capacity utilizations as under 2040 Cumulative Conditions (89 and 85 percent, respectively), since no project trips are expected to be added to these corridors. The Third Street corridor would operate with an overall capacity utilization of 41 percent, a one percent increase compared to 2040 Cumulative Conditions, but below Muni's 85 percent utilization threshold. The Proposed Project would worsen transit operations of the All Other Lines corridor (consisting of the J Church, 12 Folsom, and 19 Polk lines) by increasing the capacity utilization by about 5 percent (from 82 to 87 percent) and causing the corridor to exceed the 85 percent Muni utilization threshold.

4.5 2040 Cumulative Conditions Regional Transit Screenline Analysis

Regional transit capacity utilization was also evaluated under 2040 Cumulative Conditions. Similar to Muni screenline projections, ridership and capacity projections of regional transit operators serving San Francisco under 2040 Cumulative Conditions were obtained from the SFMTA. **Table 4-3** exhibits ridership, capacity, and expected utilization for 2040 Cumulative Conditions, alongside Existing Conditions, as a comparison.

Under 2040 Cumulative Conditions, transit operations of most regional transit operators serving the project study area would worsen from Existing Conditions, with the exception of Alameda-Contra Costa Transit District (AC Transit) service to the East Bay, and Bay Area Rapid Transit (BART) and Sam Mateo County Transit District (SamTrans) service to the South Bay, where the expected provision of additional transit service would offset the anticipated increase in transit ridership. The overall capacity utilization of all the regional transit operators would increase from 70 percent to 75 percent. However, the capacity utilizations of the regional transit providers are not expected to exceed their 100 percent capacity utilization standard under 2040 Cumulative Conditions. Additionally, all of the regional transit screenlines, including the East Bay, North Bay, and South Bay screenlines are anticipated to operate with capacity utilizations of less than 100 percent under 2040 Cumulative Conditions.

4.6 2040 Cumulative plus Project Conditions Regional Transit Screenline Analysis

Regional transit screenlines were also evaluated under 2040 Cumulative plus Project Conditions using the same methodology that was used to evaluate them under Existing Conditions and described in Section 2.4.5 – Existing Regional Transit Screenline Analysis of the Potrero HOPE Final Report[8]. A summary of the regional transit screenline analysis under 2040 Cumulative plus Project conditions during the weekday PM peak hour is provided in **Table 4-3**.

[8] This section is from the Potrero HOPE Transportation Study Final Report, October 2012.

Table 4-3: 2040 Cumulative vs. Cumulative plus Project Regional Transit Screenline Analysis – Weekday PM Peak Hour

Region	Regional Transit Operator	Existing			2040 Cumulative			2040 Cumulative plus Project		
		Ridership	Peak Hour Capacity	Capacity Utilization	Ridership	Peak Hour Capacity	Capacity Utilization	Project Trips	Ridership	Capacity Utilization
East Bay	BART	20,067	24,150	83%	30,383	33,170	92%	7	30,390	92%
	AC Transit	2,517	4,193	60%	7,000	12,000	58%	2	7,002	58%
	Ferries	702	1,519	46%	5,319	5,940	90%	0	5,319	90%
	Subtotal	*23,286*	*29,862*	*78%*	*42,702*	*51,110*	*84%*	*9*	*42,711*	*84%*
North Bay	GGT Buses	1,397	2,205	63%	2,070	2,817	73%	1	2,071	74%
	GGT Ferries	906	1,700	53%	1,619	1,959	83%	1	1,620	83%
	Subtotal	*2,303*	*3,905*	*59%*	*3,689*	*4,776*	*77%*	*2*	*3,691*	*77%*
South Bay	BART	10,202	16,800	61%	13,971	24,182	58%	9	13,980	58%
	Caltrain	1,986	3,250	61%	2,529	3,600	70%	5	2,534	70%
	SamTrans	575	940	61%	150	320	47%	0	150	47%
	Ferries	-	-	-	59	200	30%	0	59	30%
	Subtotal	*12,763*	*20,990*	*61%*	*16,709*	*28,302*	*59%*	*14*	*16,723*	*59%*
Total		38,352	54,757	70%	63,100	84,188	75%	25	63,125	75%

Source: SFMTA – 2014; CDM Smith – June 2014.
Notes:
Screenline analysis conducted only in the peak outbound direction from San Francisco toward the project site.
Bold indicates load exceeding regional transit provider's 100 percent capacity utilization standard.

As discussed in Section 4.2.2 – Transit Impacts of the Potrero HOPE Final Report[6], during the PM peak hour, 71 transit trips (46 inbound and 25 outbound) related to the Proposed Project would use regional transit providers. Since the peak direction of travel during the PM peak hour for regional screenlines would be from San Francisco County to the East Bay, North Bay, and South Bay, only the outbound regional transit trips (25 trips for the Proposed Project) were included in the screenline analysis. The inbound regional transit trips (46 trips for the Proposed Project) would occur in the non-peak direction of travel; as such, they would not be expected to cause significant impact to regional transit operations.

Under 2040 Cumulative plus Project Conditions, the capacity utilizations of all regional transit operators would remain almost the same under both 2040 Cumulative and 2040 Cumulative plus Project Conditions, except for Golden Gate Transit buses, whose utilization would increase slightly from 73 to 74 percent. All of the regional transit providers and screenlines would continue to operate with a capacity utilization of less than the 100 percent utilization standard. Additionally, the Proposed Project would add less than one percent of the trips to these transit providers. Therefore, the Proposed Project would not make a substantial contribution to the ridership of regional transit operators under 2040 Cumulative plus Project Conditions.

5. Conclusions

A comparison of the traffic and transit analyses results reported under 2040 Cumulative Conditions (in this technical memorandum) and 2030 Cumulative Conditions (in the Potrero HOPE Transportation Study Final Report, October 2012) suggests the following:

- Traffic analysis conducted under 2030 Cumulative Conditions provides results that are more conservative than those obtained under 2040 Cumulative Conditions due to the fact that 2030 traffic volume forecasts are generally higher than 2040 volume forecasts. As explained earlier, this is because of the difference in the version of the SF-CHAMP Model that was used to develop traffic volumes under each of the future scenarios – 2040 traffic volumes were developed using the latest version of the SF-CHAMP Model (2040 Model), while 2030 traffic volumes were developed using the most recent version of the SF-CHAMP Model available at the time of the Potrero HOPE Final Report development (2035 Model). The 2040 Model takes into account the effects of the economic recession on the planned development, thereby resulting in less-than-anticipated growth projected by the earlier version of the model (2035 Model).
- The Proposed Project is anticipated to cause similar intersection impacts under 2030 and 2040 Cumulative Conditions as follows:
    - It would result in significant impacts to four intersections (Pennsylvania Avenue/Southbound I-280 Off-Ramp, 25th Street/Indiana Street/Northbound I-280 On-Ramp, Cesar Chavez Street/Vermont Street, and Cesar Chavez Street/US 101 Off-Ramp) under 2030 Cumulative Conditions and to three intersections (Pennsylvania Avenue/Southbound I-280 Off-Ramp, Cesar Chavez Street/Vermont Street, and Cesar Chavez Street/US 101 Off-Ramp) under 2040 Cumulative Conditions.
- The Proposed Project would result in similar transit impacts under 2030 and 2040 Cumulative Conditions as follows:

- It is expected to cause significant impacts to two Muni lines (10 Townsend and 48 Quintara-24th Street) under 2030 Cumulative Conditions and to one Muni line (48 Quintara-24th Street) under 2040 Cumulative Conditions;
- It is expected to cause significant impacts to one corridor of the Muni's Southeast Screenline (the All Other Lines corridor) under both 2030 and 2040 Cumulative Conditions; and
- It is not expected to cause significant impacts to any of the regional transit operators under both 2030 and 2040 Cumulative Conditions.

APPENDIX

Appendix A

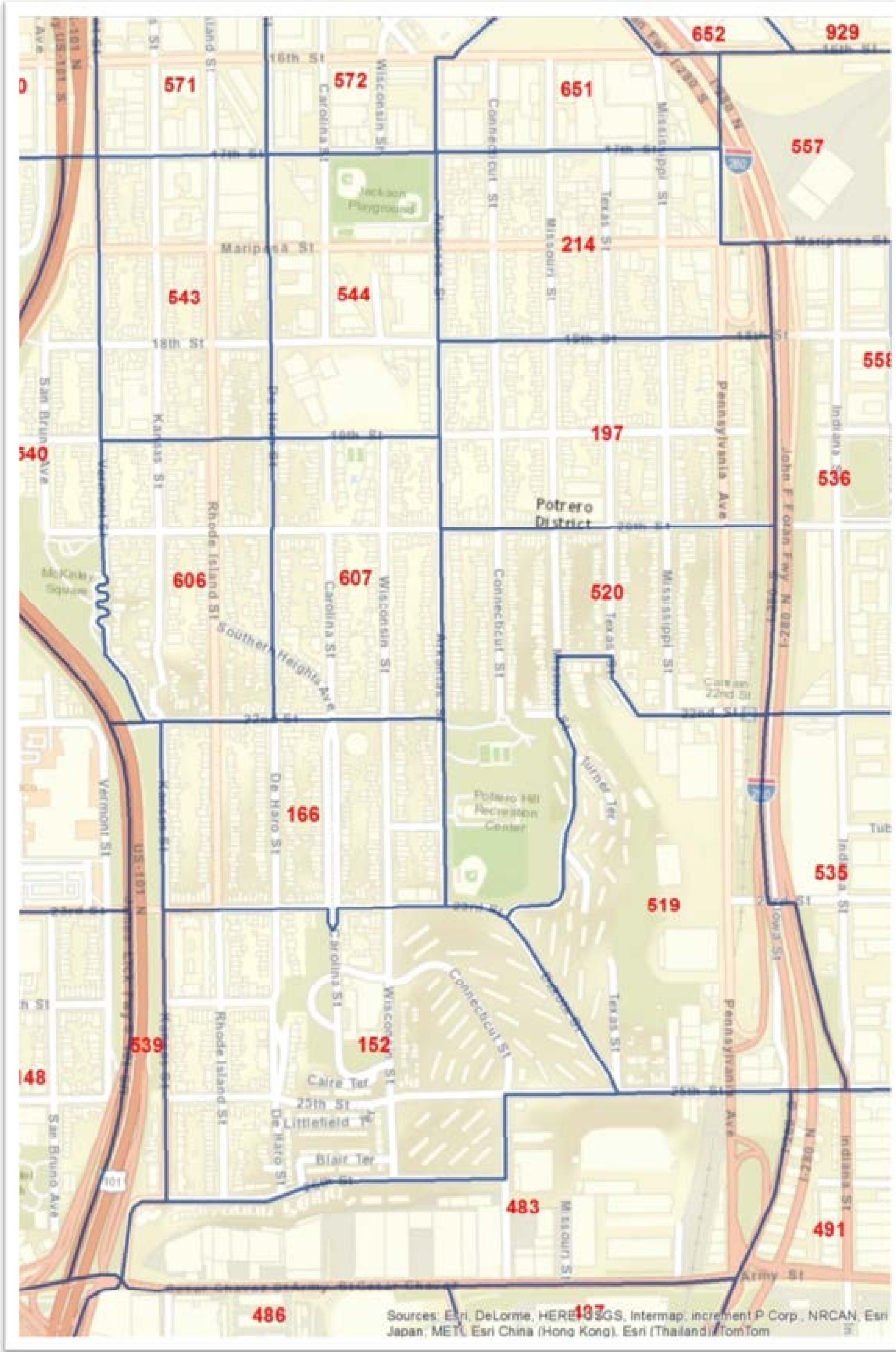
Comparison of Socio-Economic Data – 2035 versus 2040 SF-CHAMP Models

The transportation analysis zones (TAZs) in the San Francisco County Transportation Authority's Chain Activity Modeling Process (SF-CHAMP) Model that are located in the vicinity of the project site are exhibited in **Figure A-1**. For these TAZs, a comparison of the population and employment forecasts obtained from the 2040 and 2035 SF-CHAMP Models is provided in **Table A-1**.

Table A-1: Comparison of Population and Employment Forecasts – 2035 vs. 2040 SF-CHAMP Models

	Population Data			Employment Data		
TAZ	2035 Model	2040 Model	Difference	2035 Model	2040 Model	Difference
535	116	461	345	362	347	-15
519	922	3,471	2,549	1,299	745	-554
152	3,973	4,283	310	158	174	16
539	27	32	5	58	60	2
486	298	39	-259	4,081	3,027	-1,054
487	41	31	-10	603	390	-213
491	435	992	557	2,057	1,300	-757
483	946	380	-566	1,933	1,107	-826
166	1,228	1,258	30	118	117	-1
520	1,231	1,390	159	255	310	55
536	472	526	54	1,038	687	-351
558	594	1,757	1,163	1,421	988	-433
197	967	1,076	109	599	707	108
607	926	902	-24	445	163	-282
606	905	960	55	99	97	-2
540	387	404	17	92	52	-40
543	797	945	148	437	601	164
544	121	417	296	1,410	1,298	-112
214	901	1,192	291	837	800	-37
557	0	0	0	8,428	6,465	-1,963
651	212	1,446	1,234	1,003	893	-110
572	111	407	296	2,055	1,281	-774
571	38	659	621	2,311	2,357	46
Total	**15,648**	**23,028**	**7,380**	**31,099**	**23,966**	**-7,133**

Figure A-1: SF-CHAMP Model TAZs near the Project Site



Appendix B

Intersection LOS Analysis Outputs

2040 CUMULATIVE – PM PEAK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                       Potrero HOPE Development EIR
                          Wilbur Smith Associates
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                    Level Of Service Computation Report
          2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Cesar Chavez/Connecticut
********************************************************************************
Cycle (sec):          75               Critical Vol./Cap.(X):         1.334
Loss Time (sec):       8 (Y+R=4.0 sec) Average Delay (sec/veh):        24.3
Optimal Cycle:        75               Level Of Service:                  C
********************************************************************************
Street Name:        Connecticut Street              Cesar Chavez Street
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Split Phase      Split Phase      Permit+Prot       Permitted
Rights:          Include          Include          Include          Include
Min. Green:    0     0     0   19    19    19    8    48    48   36    36    36
Lanes:       0  0  0  0  0   0  0  1! 0  0   0  1  1  0  0   0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0     0     0   28     0   298  136   690     0    0   946    86
Growth Adj:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse:   0     0     0   28     0   298  136   690     0    0   946    86
Added Vol:     0     0     0    0     0     0    0     0     0    0     0     0
PasserByVol:   0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut:   0     0     0   28     0   298  136   690     0    0   946    86
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
PHF Adj:     0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93
PHF Volume:    0     0     0   30     0   320  146   742     0    0  1017    92
Reduct Vol:    0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:   0     0     0   30     0   320  146   742     0    0  1017    92
PCE Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
FinalVolume:   0     0     0   30     0   320  146   742     0    0  1017    92
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900  1900
Adjustment:  1.00  1.00  1.00 0.68  1.00  0.68 0.67  0.93  1.00 1.00  0.84  0.84
Lanes:       0.00  0.00  0.00 0.09  0.00  0.91 0.33  1.67  0.00 0.00  2.75  0.25
Final Sat.:    0     0     0  111     0  1182  418  2938     0    0  4384   399
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.00  0.00 0.27  0.00  0.27 0.35  0.25  0.00 0.00  0.23  0.23
Crit Moves:                               ****  ****
Green/Cycle: 0.00  0.00  0.00 0.25  0.00  0.25 0.64  0.64  0.00 0.00  0.48  0.48
Volume/Cap:  0.00  0.00  0.00 1.07  0.00  1.07 0.52  0.39  0.00 0.00  0.48  0.48
Delay/Veh:    0.0   0.0   0.0 97.6   0.0  97.6 14.4   7.0   0.0  0.0  13.9  13.9
User DelAdj: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0 97.6   0.0  97.6 14.4   7.0   0.0  0.0  13.9  13.9
LOS by Move:   A     A     A    F     A     F    B     A     A    A     B     B
HCM2kAvgQ:     0     0     0   16     0    16    6     5     0    0     7     7
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                       Potrero HOPE Development EIR
                          Wilbur Smith Associates
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                    Level Of Service Computation Report
          2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Cesar Chavez/Pennsylvania/NB I-280 Off-Ramp
********************************************************************************
Cycle (sec):          90               Critical Vol./Cap.(X):         0.766
Loss Time (sec):      15 (Y+R=5.0 sec) Average Delay (sec/veh):        59.1
Optimal Cycle:        90               Level Of Service:                  E
********************************************************************************
Street Name:       Pennsylvania Avenue              Cesar Chavez Street
Approach:     North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:      Split Phase      Split Phase       Protected        Protected
Rights:          Include            Ovl            Include          Ignore
Min. Green:   22    22    22   12    12    12   18    41    41   18    18    18
Lanes:       1  0  1  0  1   1  0  0  0  1   1  0  2  0  0   0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:    246   160   410  109     0   489  316   510     0    0   264   504
Growth Adj:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse: 246   160   410  109     0   489  316   510     0    0   264   504
Added Vol:     0     0     0    0     0     0    0     0     0    0     0     0
PasserByVol:   0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut: 246   160   410  109     0   489  316   510     0    0   264   504
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00
PHF Adj:     0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.00
PHF Volume:  256   167   427  114     0   509  329   531     0    0   275     0
Reduct Vol:    0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol: 256   167   427  114     0   509  329   531     0    0   275     0
PCE Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00
FinalVolume: 256   167   427  114     0   509  329   531     0    0   275     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900  1900
Adjustment:  0.94  0.99  0.83 0.94  1.00  0.66 0.94  0.94  1.00 1.00  0.94  1.00
Lanes:       1.00  1.00  1.00 1.00  0.00  1.00 1.00  2.00  0.00 0.00  2.00  1.00
Final Sat.:  1787  1881  1579 1787     0  1263 1787  3574     0    0  3574  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.14  0.09  0.27 0.06  0.00  0.40 0.18  0.15  0.00 0.00  0.08  0.00
Crit Moves:              ****             ****       ****        ****
Green/Cycle: 0.24  0.24  0.24 0.13  0.00  0.36 0.23  0.46  0.00 0.00  0.23  0.00
Volume/Cap:  0.59  0.36  1.11 0.48  0.00  1.12 0.81  0.33  0.00 0.00  0.34  0.00
Delay/Veh:   35.7  30.4 111.9 42.8   0.0 106.8 48.7  16.2   0.0  0.0  30.2   0.0
User DelAdj: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:  35.7  30.4 111.9 42.8   0.0 106.8 48.7  16.2   0.0  0.0  30.2   0.0
LOS by Move:   D     C     F    D     A     F    D     B     A    A     C     A
HCM2kAvgQ:     7     4    21    3     0    25   11     5     0    0     4     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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2040 CUMULATIVE – PM PEAK

Potrero HOPE Development EIR
Wilbur Smith Associates

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #3 Pennsylvania/SB I-280 Off-Ramp

Cycle (sec):	100	Critical Vol./Cap.(X):	1.187
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	64.8
Optimal Cycle:	0	Level Of Service:	F

Street Name:	Pennsylvania Avenue						SB I-280 Off-Ramp					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Stop Sign			Stop Sign			Stop Sign			Stop Sign	
Rights:		Include			Include			Include			Ignore	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:		0 0 2 0 0			0 0 1 0 0			0 0 0 0 0			2 0 0 0 1	
Volume Module:												
Base Vol:	0	206	0	0	615	0	0	0	0	688	0	49
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	206	0	0	615	0	0	0	0	688	0	49
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	206	0	0	615	0	0	0	0	688	0	49
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.00
PHF Volume:	0	222	0	0	661	0	0	0	0	740	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	222	0	0	661	0	0	0	0	740	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
FinalVolume:	0	222	0	0	661	0	0	0	0	740	0	0
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	2.00	0.00	1.00
Final Sat.:	0	964	0	0	557	0	0	0	0	996	0	592
Capacity Analysis Module:												
Vol/Sat:	xxxx	0.23	xxxx	xxxx	1.19	xxxx	xxxx	xxxx	xxxx	0.74	xxxx	0.00
Crit Moves:		****			****					****		
Delay/Veh:	0.0	12.2	0.0	0.0	124	0.0	0.0	0.0	0.0	27.9	0.0	0.0
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	12.2	0.0	0.0	124	0.0	0.0	0.0	0.0	27.9	0.0	0.0
LOS by Move:	*	B	*	*	F	*	*	*	*	D	*	*
ApproachDel:		12.2			123.7			xxxxxx			27.9	
Delay Adj:		1.00			1.00			xxxxx			1.00	
ApprAdjDel:		12.2			123.7			xxxxxx			27.9	
LOS by Appr:		B			F			*			D	
AllWayAvgQ:	0.0	0.3	0.0	17.7	17.7	17.7	0.0	0.0	0.0	2.5	0.0	0.0

Note: Queue reported is the number of cars per lane.

Potrero HOPE Development EIR
Wilbur Smith Associates

Level Of Service Computation Report
2000 HCM 4-Way Stop Method (Future Volume Alternative)

Intersection #4 25th/Indiana Streets/NB I-280

Cycle (sec):	100	Critical Vol./Cap.(X):	0.651
Loss Time (sec):	0 (Y+R=4.0 sec)	Average Delay (sec/veh):	17.2
Optimal Cycle:	0	Level Of Service:	C

Street Name:	Indiana Street						25th Street					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:		Stop Sign			Stop Sign			Stop Sign			Stop Sign	
Rights:		Include			Include			Include			Include	
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:		0 1 0 1 0			0 0 0 0 0			0 1 0 0 0			0 0 0 1 0	
Volume Module:												
Base Vol:	33	537	17	0	0	0	151	202	0	0	177	142
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	33	537	17	0	0	0	151	202	0	0	177	142
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	33	537	17	0	0	0	151	202	0	0	177	142
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
PHF Volume:	35	577	18	0	0	0	162	217	0	0	190	153
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	35	577	18	0	0	0	162	217	0	0	190	153
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	35	577	18	0	0	0	162	217	0	0	190	153
Saturation Flow Module:												
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.11	1.83	0.06	0.00	0.00	0.00	0.43	0.57	0.00	0.00	0.55	0.45
Final Sat.:	62	1013	32	0	0	0	250	334	0	0	336	270
Capacity Analysis Module:												
Vol/Sat:	0.57	0.57	0.57	xxxx	xxxx	xxxx	0.65	0.65	xxxx	xxxx	0.57	0.57
Crit Moves:	****						****				****	
Delay/Veh:	17.1	16.9	16.6	0.0	0.0	0.0	19.1	19.1	0.0	0.0	15.7	15.7
Delay Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	17.1	16.9	16.6	0.0	0.0	0.0	19.1	19.1	0.0	0.0	15.7	15.7
LOS by Move:	C	C	C	*	*	*	C	C	*	*	C	C
ApproachDel:		16.9			xxxxxx			19.1			15.7	
Delay Adj:		1.00			xxxxx			1.00			1.00	
ApprAdjDel:		16.9			xxxxxx			19.1			15.7	
LOS by Appr:		C			*			C			C	
AllWayAvgQ:	1.2	1.2	1.2	0.0	0.0	0.0	1.6	1.6	1.6	1.2	1.2	1.2

Note: Queue reported is the number of cars per lane.

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2040 CUMULATIVE – PM PEAK

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Default Scenario          Tue Jun 17, 2014 09:56:16                 Page 7-1
--------------------------------------------------------------------------------
                            Potrero HOPE Development EIR
                              Wilbur Smith Associates
--------------------------------------------------------------------------------
                         Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #5 25th/Connecticut
********************************************************************************
Cycle (sec):          100             Critical Vol./Cap.(X):         0.353
Loss Time (sec):        0 (Y+R=4.0 sec)  Average Delay (sec/veh):        9.7
Optimal Cycle:          0             Level Of Service:                  A
********************************************************************************
Street Name:           Connecticut Street                25th Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:            Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:        0  0  1! 0  0   0  0  0  0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8   61   154     0    0     0    32   83    84   100   69    22
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    8   61   154     0    0     0    32   83    84   100   69    22
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    8   61   154     0    0     0    32   83    84   100   69    22
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.84 0.84  0.84  0.84 0.84  0.84  0.84 0.84  0.84  0.84 0.84  0.84
PHF Volume:    10   73   183     0    0     0    38   99   100   119   82    26
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   10   73   183     0    0     0    38   99   100   119   82    26
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:   10   73   183     0    0     0    38   99   100   119   82    26
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.04 0.27  0.69  0.00 0.00  0.00  0.16 0.42  0.42  0.52 0.36  0.12
Final Sat.:    27  206   519     0    0     0   121  314   318   374  258    82
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.35 0.35  0.35  xxxx xxxx  xxxx  0.31 0.31  0.31  0.32 0.32  0.32
Crit Moves:  ****                              ****              ****
Delay/Veh:    9.8  9.8   9.8   0.0  0.0   0.0   9.5  9.5   9.5   9.9  9.9   9.9
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   9.8  9.8   9.8   0.0  0.0   0.0   9.5  9.5   9.5   9.9  9.9   9.9
LOS by Move:    A    A     A     *    *     *     A    A     A     A    A     A
ApproachDel:       9.8            xxxxxx             9.5               9.9
Delay Adj:        1.00             xxxxx            1.00              1.00
ApprAdjDel:        9.8            xxxxxx             9.5               9.9
LOS by Appr:         A               *                 A                 A
AllWayAvgQ:   0.5  0.5   0.5   0.0  0.0   0.0   0.4  0.4   0.4   0.4  0.4   0.4
********************************************************************************
Note: Queue reported is the number of cars per lane.

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                            Potrero HOPE Development EIR
                              Wilbur Smith Associates
--------------------------------------------------------------------------------
                         Level Of Service Computation Report
            2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #6 25th/Dakota
********************************************************************************
Average Delay (sec/veh):      2.7      Worst Case Level Of Service: B[ 10.4]
********************************************************************************
Street Name:           Dakota Street                      25th Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  0   0  0  1! 0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    34    0    60    40  192     0     0  116    37
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    34    0    60    40  192     0     0  116    37
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    34    0    60    40  192     0     0  116    37
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97
PHF Volume:     0    0     0    35    0    62    41  198     0     0  120    38
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    35    0    62    41  198     0     0  120    38
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   419  419   139   158 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   594  528   915  1434 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   581  513   915  1434 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.06 0.00  0.07  0.03 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.1 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.6 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:      LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  758 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.4 xxxxx   0.1 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 10.4 xxxxx   7.6 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    B     *     A    *     *     *    *     *
ApproachDel:    xxxxxx            10.4            xxxxxx            xxxxxx
ApproachLOS:       *                 B                 *                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2040 CUMULATIVE – PM PEAK

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                          Potrero HOPE Development EIR
                             Wilbur Smith Associates
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                       Level Of Service Computation Report
          2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #7 23rd/Dakota
********************************************************************************
Average Delay (sec/veh):      3.7      Worst Case Level Of Service: A[  9.7]
********************************************************************************
Street Name:                 Dakota                              23rd
Approach:      North Bound       South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign         Stop Sign        Uncontrolled      Uncontrolled
Rights:           Include           Include           Include           Include
Lanes:        0   0  1! 0   0    0   0   0   0   0    0   0   0   1   0    0   1   0   0   0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      62     0    17      0     0     0      0    42    63     22    46     0
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:   62     0    17      0     0     0      0    42    63     22    46     0
Added Vol:      0     0     0      0     0     0      0     0     0      0     0     0
PasserByVol:    0     0     0      0     0     0      0     0     0      0     0     0
Initial Fut:   62     0    17      0     0     0      0    42    63     22    46     0
User Adj:    1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.96  0.96  0.96   0.96  0.96  0.96   0.96  0.96  0.96   0.96  0.96  0.96
PHF Volume:    65     0    18      0     0     0      0    44    66     23    48     0
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
FinalVolume:   65     0    18      0     0     0      0    44    66     23    48     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  6.4   6.5   6.2 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   4.1 xxxx xxxxx
FollowUpTim:  3.5   4.0   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx   2.2 xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  170   170    77  xxxx xxxx xxxxx  xxxx xxxx xxxxx   109 xxxx xxxxx
Potent Cap.:  825   726   990  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1494 xxxx xxxxx
Move Cap.:    815   715   990  xxxx xxxx xxxxx  xxxx xxxx xxxxx  1494 xxxx xxxxx
Volume/Cap:  0.08  0.00  0.02  xxxx xxxx  xxxx  xxxx xxxx  xxxx  0.02 xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     *     *     *     A     *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx   847 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx   0.3 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   0.0 xxxx xxxxx
Shrd ConDel:xxxxx   9.7 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.4 xxxx xxxxx
Shared LOS:     *     A     *     *     *     *     *     *     *     A     *     *
ApproachDel:          9.7             xxxxxx            xxxxxx            xxxxxx
ApproachLOS:           A                 *                 *                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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                          Potrero HOPE Development EIR
                             Wilbur Smith Associates
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #8 23rd/Wisconsin
********************************************************************************
Cycle (sec):          100               Critical Vol./Cap.(X):         0.182
Loss Time (sec):        0 (Y+R=4.0 sec) Average Delay (sec/veh):         8.1
Optimal Cycle:          0               Level Of Service:                  A
********************************************************************************
Street Name:                Wisconsin                             23rd
Approach:      North Bound       South Bound       East Bound        West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign         Stop Sign         Stop Sign         Stop Sign
Rights:           Include           Include           Include           Include
Min. Green:     0     0     0      0     0     0      0     0     0      0     0     0
Lanes:        0   0   0   1   0    0   1   0   0   0    0   0   0   0   0    0   0  1! 0   0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    87    57     21    90     0      0     0     0     80     0    36
Growth Adj:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Initial Bse:    0    87    57     21    90     0      0     0     0     80     0    36
Added Vol:      0     0     0      0     0     0      0     0     0      0     0     0
PasserByVol:    0     0     0      0     0     0      0     0     0      0     0     0
Initial Fut:    0    87    57     21    90     0      0     0     0     80     0    36
User Adj:    1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
PHF Adj:     0.92  0.92  0.92   0.92  0.92  0.92   0.92  0.92  0.92   0.92  0.92  0.92
PHF Volume:     0    95    62     23    98     0      0     0     0     87     0    39
Reduct Vol:     0     0     0      0     0     0      0     0     0      0     0     0
Reduced Vol:    0    95    62     23    98     0      0     0     0     87     0    39
PCE Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
FinalVolume:    0    95    62     23    98     0      0     0     0     87     0    39
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
Lanes:       0.00  0.60  0.40   0.19  0.81  0.00   0.00  0.00  0.00   0.68  0.01  0.31
Final Sat.:     0   520   340    151   649     0      0     0     0    536     0   241
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx  0.18  0.18   0.15  0.15  xxxx   xxxx  xxxx  xxxx   0.16  0.00  0.16
Crit Moves:              ****          ****                           ****
Delay/Veh:    0.0   7.9   7.9    8.1   8.1   0.0    0.0   0.0   0.0    8.2   8.2   8.2
Delay Adj:   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00   1.00  1.00  1.00
AdjDel/Veh:   0.0   7.9   7.9    8.1   8.1   0.0    0.0   0.0   0.0    8.2   8.2   8.2
LOS by Move:    *     A     A      A     A     *      *     *     *      A     A     A
ApproachDel:        7.9                8.1              xxxxxx               8.2
Delay Adj:         1.00               1.00               xxxxx              1.00
ApprAdjDel:         7.9                8.1              xxxxxx               8.2
LOS by Appr:         A                  A                  *                  A
AllWayAvgQ:   0.2   0.2   0.2    0.2   0.2   0.2    0.0   0.0   0.0    0.2   0.2   0.2
********************************************************************************
Note: Queue reported is the number of cars per lane.

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2040 CUMULATIVE – PM PEAK

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                         Potrero HOPE Development EIR
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--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #9 20th/Arkansas
********************************************************************************
Cycle (sec):         100               Critical Vol./Cap.(X):        0.332
Loss Time (sec):       0 (Y+R=4.0 sec) Average Delay (sec/veh):        8.9
Optimal Cycle:         0               Level Of Service:                 A
********************************************************************************
Street Name:            Arkansas Street                  20th Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:            Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:         0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4   16    10     9   45    27     6  120    10    31  186    13
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    4   16    10     9   45    27     6  120    10    31  186    13
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    4   16    10     9   45    27     6  120    10    31  186    13
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86  0.86 0.86  0.86
PHF Volume:     5   19    12    10   52    31     7  140    12    36  216    15
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    5   19    12    10   52    31     7  140    12    36  216    15
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    5   19    12    10   52    31     7  140    12    36  216    15
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.13 0.54  0.33  0.11 0.56  0.33  0.04 0.89  0.07  0.13 0.81  0.06
Final Sat.:    92  369   231    79  396   238    35  692    58   108  651    45
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.05 0.05  0.05  0.13 0.13  0.13  0.20 0.20  0.20  0.33 0.33  0.33
Crit Moves:       ****              ****        ****                        ****
Delay/Veh:    8.0  8.0   8.0   8.3  8.3   8.3   8.5  8.5   8.5   9.4  9.4   9.4
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   8.0  8.0   8.0   8.3  8.3   8.3   8.5  8.5   8.5   9.4  9.4   9.4
LOS by Move:    A    A     A     A    A     A     A    A     A     A    A     A
ApproachDel:       8.0              8.3              8.5              9.4
Delay Adj:        1.00             1.00             1.00             1.00
ApprAdjDel:        8.0              8.3              8.5              9.4
LOS by Appr:         A                A                A                A
AllWayAvgQ:   0.0  0.0   0.0   0.1  0.1   0.1   0.2  0.2   0.2   0.5  0.5   0.5
********************************************************************************
Note: Queue reported is the number of cars per lane.

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                         Potrero HOPE Development EIR
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                       Level Of Service Computation Report
            2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #10 22nd/Missouri Street
********************************************************************************
Average Delay (sec/veh):      0.0      Worst Case Level Of Service: A[  9.0]
********************************************************************************
Street Name:            Missouri Street                  22nd Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Uncontrolled     Uncontrolled       Stop Sign        Stop Sign
Rights:            Include          Include          Include          Include
Lanes:         0  0  1  0  0    0  0  0  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   81     0     0  101     1     0    0     1     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   81     0     0  101     1     0    0     1     0    0     0
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   81     0     0  101     1     0    0     1     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.64 0.64  0.64  0.64 0.64  0.64  0.64 0.64  0.64  0.64 0.64  0.64
PHF Volume:     0  127     0     0  158     2     0    0     2     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0  127     0     0  158     2     0    0     2     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   159  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   892  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   892  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   9.0 xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     *    *     A     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:     xxxxxx           xxxxxx              9.0           xxxxxx
ApproachLOS:        *                *                A                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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                      Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #11 Potrero/23rd
********************************************************************************
Cycle (sec):          90              Critical Vol./Cap.(X):        0.786
Loss Time (sec):      15 (Y+R=6.0 sec) Average Delay (sec/veh):      29.4
Optimal Cycle:        90              Level Of Service:                 C
********************************************************************************
Street Name:              Potrero Avenue                 23rd Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:          Permitted        Protected        Split Phase      Split Phase
Rights:            Include          Include          Include          Include
Min. Green:     0   39    39     7   49    49    10   10    10    16   16    16
Lanes:        0  0  2  0  1    1  0  1  1  0    0  0  1! 0  0    0  1  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0  854   114   123 1294    63    37   73    77   103   78   168
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0  854   114   123 1294    63    37   73    77   103   78   168
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0  854   114   123 1294    63    37   73    77   103   78   168
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93
PHF Volume:     0  918   123   132 1391    68    40   78    83   111   84   181
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  918   123   132 1391    68    40   78    83   111   84   181
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  918   123   132 1391    68    40   78    83   111   84   181
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  1.00 0.93  0.75  0.93 0.91  0.91  0.93 0.93  0.93  0.84 0.84  0.84
Lanes:       0.00 2.00  1.00  1.00 1.91  0.09  0.20 0.39  0.41  0.59 0.45  0.96
Final Sat.:     0 3538  1422  1769 3283   160   351  693   731   939  711  1532
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00 0.26  0.09  0.07 0.42  0.42  0.11 0.11  0.11  0.12 0.12  0.12
Crit Moves:                        ****             ****        ****
Green/Cycle: 0.00 0.43  0.43  0.11 0.54  0.54  0.11 0.11  0.11  0.18 0.18  0.18
Volume/Cap:  0.00 0.60  0.20  0.67 0.78  0.78  1.02 1.02  1.02  0.66 0.66  0.66
Delay/Veh:    0.0 21.3  16.5  55.3 19.5  19.5 109.2  109 109.2  40.5 40.5  40.5
User DelAdj: 1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 21.3  16.5  55.3 19.5  19.5 109.2  109 109.2  40.5 40.5  40.5
LOS by Move:    A    C     B     E    B     B     F    F     F     D    D     D
HCM2kAvgQ:      0   11     2     5   18    18    10   10    10     6    6     6
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                         Potrero HOPE Development EIR
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                      Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #12 Cesar Chavez/Vermont
********************************************************************************
Average Delay (sec/veh):     16.5      Worst Case Level Of Service: F[129.6]
********************************************************************************
Street Name:              Vermont Street                Cesar Chavez Street
Approach:       North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:         Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:            Include          Include          Include          Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0     0    26    0   239    65  424     0     0 1272   107
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0     0    26    0   239    65  424     0     0 1272   107
Added Vol:      0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0     0    26    0   239    65  424     0     0 1272   107
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:     0    0     0    28    0   254    69  451     0     0 1353   114
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0     0    28    0   254    69  451     0     0 1353   114
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.8  6.5   6.9   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  1774 1999   734  1467 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx    76   61   367   466 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx    67   52   367   466 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.41 0.00  0.69  0.15 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.5 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx  14.1 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     B    *     *     *    *     *
Movement:      LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  255 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx 12.1 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx  130 xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    F     *     *    *     *     *    *     *
ApproachDel:      xxxxxx            129.6            xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                         Potrero HOPE Development EIR
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                      Level Of Service Computation Report
          2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #13 Cesar Chavez/US 101 Off-Ramp
********************************************************************************
Average Delay (sec/veh):      3.9      Worst Case Level Of Service: C[ 17.6]
********************************************************************************
Street Name:          US 101 Off-Ramp              Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Yield Sign       Yield Sign      Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:       0  0  0  0  1    0  0  0  0  0    0  0  2  0  0    0  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0    0   500     0    0     0     0  385     0     0 1379     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0    0   500     0    0     0     0  385     0     0 1379     0
Added Vol:       0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:     0    0   500     0    0     0     0  385     0     0 1379     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:      0    0   532     0    0     0     0  410     0     0 1467     0
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:     0    0   532     0    0     0     0  410     0     0 1467     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx   205  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx   808  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx   808  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  0.66  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx   5.0  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  17.6 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:     *    *     C     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:       17.6            xxxxxx           xxxxxx           xxxxxx
ApproachLOS:         C                *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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                      Level Of Service Computation Report
          2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #1001 25th/Texas Street
********************************************************************************
Average Delay (sec/veh):      0.1      Worst Case Level Of Service: A[ 10.0]
********************************************************************************
Street Name:             Texas Street                     25th Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign      Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:       0  0  0  0  0    0  0  1! 0  0    0  1  0  0  0    0  0  1  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:        0    0     0     1    0     1     1  225     0     0  153     0
Growth Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:     0    0     0     1    0     1     1  225     0     0  153     0
Added Vol:       0    0     0     0    0     0     0    0     0     0    0     0
PasserByVol:     0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:     0    0     0     1    0     1     1  225     0     0  153     0
User Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:      0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97  0.97 0.97  0.97
PHF Volume:      0    0     0     1    0     1     1  232     0     0  158     0
Reduct Vol:      0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:     0    0     0     1    0     1     1  232     0     0  158     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx   6.4  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx   3.5  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx   392  392   158   158 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx   616  547   893  1434 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx   616  547   893  1434 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  0.00 0.00  0.00  0.00 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.0 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:     *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx  729 xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx  0.0 xxxxx   0.0 xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx 10.0 xxxxx   7.5 xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:      *    *     *     *    A     *     A    *     *     *    *     *
ApproachDel:     xxxxxx             10.0           xxxxxx           xxxxxx
ApproachLOS:        *                A                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
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2040 CUMULATIVE PLUS PROJECT – PM PEAK

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                       Potrero HOPE Development EIR
                          Wilbur Smith Associates
--------------------------------------------------------------------------------
                     Level Of Service Computation Report
           2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #1 Cesar Chavez/Connecticut
********************************************************************************
Cycle (sec):          75                Critical Vol./Cap.(X):        1.632
Loss Time (sec):       8 (Y+R=4.0 sec)  Average Delay (sec/veh):       42.6
Optimal Cycle:        90                Level Of Service:                 D
********************************************************************************
Street Name:        Connecticut Street               Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase      Permit+Prot       Permitted
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0   19    19    19    8    48    48   36    36    36
Lanes:        0  0  0  0  0   0  0  1! 0  0   0  1  1  0  0   0  0  2  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0     0     0   28     0   298  136   690     0    0   946    86
Growth Adj:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse:    0     0     0   28     0   298  136   690     0    0   946    86
Added Vol:      0     0     0    2     0    77  253     1     0    0     0    34
PasserByVol:    0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut:    0     0     0   30     0   375  389   691     0    0   946   120
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
PHF Adj:     0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93
PHF Volume:     0     0     0   32     0   403  418   743     0    0  1017   129
Reduct Vol:     0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:    0     0     0   32     0   403  418   743     0    0  1017   129
PCE Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
FinalVolume:    0     0     0   32     0   403  418   743     0    0  1017   129
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900  1900
Adjustment:  1.00  1.00  1.00 0.68  1.00  0.68 0.76  0.92  1.00 1.00  0.83  0.83
Lanes:       0.00  0.00  0.00 0.07  0.00  0.93 0.72  1.28  0.00 0.00  2.66  0.34
Final Sat.:     0     0     0   96     0  1195 1038  2227     0    0  4223   536
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.00  0.00 0.34  0.00  0.34 0.40  0.33  0.00 0.00  0.24  0.24
Crit Moves:                   ****             ****                   ****
Green/Cycle: 0.00  0.00  0.00 0.25  0.00  0.25 0.64  0.64  0.00 0.00  0.48  0.48
Volume/Cap:  0.00  0.00  0.00 1.33  0.00  1.33 0.76  0.52  0.00 0.00  0.50  0.50
Delay/Veh:    0.0   0.0   0.0 197.1  0.0 197.1 20.7   8.2   0.0  0.0  14.1  14.1
User DelAdj: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:   0.0   0.0   0.0 197.1  0.0 197.1 20.7   8.2   0.0  0.0  14.1  14.1
LOS by Move:    A     A     A    F     A     F    C     A     A    A     B     B
HCM2kAvgQ:      0     0     0   26     0    26   12     8     0    0     7     7
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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                       Potrero HOPE Development EIR
                          Wilbur Smith Associates
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                     Level Of Service Computation Report
           2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #2 Cesar Chavez/Pennsylvania/NB I-280 Off-Ramp
********************************************************************************
Cycle (sec):          90                Critical Vol./Cap.(X):        0.766
Loss Time (sec):      15 (Y+R=5.0 sec)  Average Delay (sec/veh):       58.7
Optimal Cycle:        90                Level Of Service:                 E
********************************************************************************
Street Name:        Pennsylvania Avenue              Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Split Phase      Split Phase       Protected        Protected
Rights:           Include            Ovl            Include          Ignore
Min. Green:    22    22    22   12    12    12   18    41    41   18    18    18
Lanes:        1  0  1  0  1   1  0  0  0  1   1  0  2  0  0   0  0  2  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     246   160   410  109     0   489  316   510     0    0   264   504
Growth Adj:  1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
Initial Bse:  246   160   410  109     0   489  316   510     0    0   264   504
Added Vol:     31    44     0    5     0     0    1     2     0    0     3     3
PasserByVol:    0     0     0    0     0     0    0     0     0    0     0     0
Initial Fut:  277   204   410  114     0   489  317   512     0    0   267   507
User Adj:    1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00
PHF Adj:     0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.00
PHF Volume:   289   213   427  119     0   509  330   533     0    0   278     0
Reduct Vol:     0     0     0    0     0     0    0     0     0    0     0     0
Reduced Vol:  289   213   427  119     0   509  330   533     0    0   278     0
PCE Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00
MLF Adj:     1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  0.00
FinalVolume:  289   213   427  119     0   509  330   533     0    0   278     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900  1900
Adjustment:  0.94  0.99  0.83 0.94  1.00  0.66 0.94  0.94  1.00 1.00  0.94  1.00
Lanes:       1.00  1.00  1.00 1.00  0.00  1.00 1.00  2.00  0.00 0.00  2.00  1.00
Final Sat.:  1787  1881  1579 1787     0  1263 1787  3574     0    0  3574  1900
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.16  0.11  0.27 0.07  0.00  0.40 0.18  0.15  0.00 0.00  0.08  0.00
Crit Moves:              ****             ****      ****           ****
Green/Cycle: 0.24  0.24  0.24 0.13  0.00  0.36 0.23  0.46  0.00 0.00  0.23  0.00
Volume/Cap:  0.66  0.46  1.11 0.50  0.00  1.12 0.81  0.33  0.00 0.00  0.34  0.00
Delay/Veh:   38.3  32.3 111.9 43.5   0.0 106.8 48.9  16.2   0.0  0.0  30.2   0.0
User DelAdj: 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00
AdjDel/Veh:  38.3  32.3 111.9 43.5   0.0 106.8 48.9  16.2   0.0  0.0  30.2   0.0
LOS by Move:    D     C     F    D     A     F    D     B     A    A     C     A
HCM2kAvgQ:      8     5    21    4     0    25   11     5     0    0     4     0
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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                        Wilbur Smith Associates
---------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
***************************************************************************
Intersection #3 Pennsylvania/SB I-280 Off-Ramp
***************************************************************************
Cycle (sec):          100                Critical Vol./Cap.(X):        0.895
Loss Time (sec):        0 (Y+R=4.0 sec)  Average Delay (sec/veh):       38.7
Optimal Cycle:          0                Level Of Service:                 E
***************************************************************************
Street Name:      Pennsylvania Avenue               SB I-280 Off-Ramp
Approach:     North Bound      South Bound      East Bound      West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Ignore
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       0  0  2  0  0    0  0  1  0  0    0  0  0  0  0    2  0  0  0  1
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      0  155     0     0  461     0     0    0     0   688    0    49
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   0  155     0     0  461     0     0    0     0   688    0    49
Added Vol:     0    1     0     0    1     0     0    0     0   160    0     3
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   0  156     0     0  462     0     0    0     0   848    0    52
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
PHF Adj:     0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.00
PHF Volume:    0  168     0     0  497     0     0    0     0   912    0     0
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:   0  168     0     0  497     0     0    0     0   912    0     0
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  0.00
FinalVolume:   0  168     0     0  497     0     0    0     0   912    0     0
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 2.00  0.00  0.00 1.00  0.00  0.00 0.00  0.00  2.00 0.00  1.00
Final Sat.:    0  943     0     0  555     0     0    0     0  1032    0   617
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.18  xxxx  xxxx 0.89  xxxx  xxxx xxxx  xxxx  0.88 xxxx  0.00
Crit Moves:       ****             ****                         ****
Delay/Veh:    0.0 11.8   0.0   0.0 41.8   0.0   0.0  0.0   0.0  41.9  0.0   0.0
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0 11.8   0.0   0.0 41.8   0.0   0.0  0.0   0.0  41.9  0.0   0.0
LOS by Move:    *    B     *     *    E     *     *    *     *     E    *     *
ApproachDel:      11.8             41.8            xxxxxx            41.9
Delay Adj:        1.00             1.00             xxxxx            1.00
ApprAdjDel:       11.8             41.8            xxxxxx            41.9
LOS by Appr:         B                E                *                E
AllWayAvgQ:   0.0  0.2   0.0   5.0  5.0   5.0   0.0  0.0   0.0   4.6  0.0   0.0
***************************************************************************
Note: Queue reported is the number of cars per lane.
```



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                      Potrero HOPE Development EIR
                        Wilbur Smith Associates
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                   Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
***************************************************************************
Intersection #4 25th/Indiana Streets/NB I-280
***************************************************************************
Cycle (sec):          100                Critical Vol./Cap.(X):        0.829
Loss Time (sec):        0 (Y+R=4.0 sec)  Average Delay (sec/veh):       22.5
Optimal Cycle:          0                Level Of Service:                 C
***************************************************************************
Street Name:         Indiana Street                     25th Street
Approach:     North Bound      South Bound      East Bound      West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:    0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       0  1  0  1  0    0  0  0  0  0    0  1  0  0  0    0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:     33  537    17     0    0     0   151  202     0     0  177   142
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:  33  537    17     0    0     0   151  202     0     0  177   142
Added Vol:     1    0     0     0    0     0    82   11     0     0   13     0
PasserByVol:   0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:  34  537    17     0    0     0   233  213     0     0  190   142
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93  0.93 0.93  0.93
PHF Volume:   37  577    18     0    0     0   251  229     0     0  204   153
Reduct Vol:    0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:  37  577    18     0    0     0   251  229     0     0  204   153
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:  37  577    18     0    0     0   251  229     0     0  204   153
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.11 1.83  0.06  0.00 0.00  0.00  0.52 0.48  0.00  0.00 0.57  0.43
Final Sat.:   61  966    31     0    0     0   302  276     0     0  333   249
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.60 0.60  0.59  xxxx xxxx  xxxx  0.83 0.83  xxxx  xxxx 0.61  0.61
Crit Moves:  ****                                   ****                ****
Delay/Veh:   18.7 18.5  18.2   0.0  0.0   0.0  31.4 31.4   0.0   0.0 17.6  17.6
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:  18.7 18.5  18.2   0.0  0.0   0.0  31.4 31.4   0.0   0.0 17.6  17.6
LOS by Move:    C    C     C     *    *     *     D    D     *     *    C     C
ApproachDel:      18.5            xxxxxx             31.4            17.6
Delay Adj:        1.00             xxxxx             1.00            1.00
ApprAdjDel:       18.5            xxxxxx             31.4            17.6
LOS by Appr:         C                *                D                C
AllWayAvgQ:   1.4  1.3   1.3   0.0  0.0   0.0   3.6  3.6   3.6   1.4  1.4   1.4
***************************************************************************
Note: Queue reported is the number of cars per lane.
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                     Potrero HOPE Development EIR
                       Wilbur Smith Associates
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                     Level Of Service Computation Report
           2000 HCM 4-Way Stop Method (Future Volume Alternative)
********************************************************************************
Intersection #5 25th/Connecticut
********************************************************************************
Cycle (sec):         100              Critical Vol./Cap.(X):         0.801
Loss Time (sec):       0 (Y+R=4.0 sec)  Average Delay (sec/veh):       20.3
Optimal Cycle:         0              Level Of Service:                  C
********************************************************************************
Street Name:          Connecticut Street                 25th Street
Approach:        North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign         Stop Sign         Stop Sign         Stop Sign
Rights:           Include           Include           Include           Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:       0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0   0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       8    61   154     0     0     0    32    76    84   100    70    22
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    8    61   154     0     0     0    32    76    84   100    70    22
Added Vol:     44    25   140     3    19     1     3    59     9    46    76     4
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:   52    86   294     3    19     1    35   135    93   146   146    26
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.84  0.84  0.84  0.84  0.84  0.84  0.84  0.84  0.84  0.84  0.84  0.84
PHF Volume:    62   102   350     4    23     1    42   161   111   174   174    31
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:   62   102   350     4    23     1    42   161   111   174   174    31
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:   62   102   350     4    23     1    42   161   111   174   174    31
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.12  0.20  0.68  0.13  0.83  0.04  0.13  0.52  0.35  0.46  0.46  0.08
Final Sat.:    77   128   437    56   356    19    77   296   204   264   264    47
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.80  0.80  0.80  0.06  0.06  0.06  0.54  0.54  0.54  0.66  0.66  0.66
Crit Moves:  ****              ****                    ****              ****
Delay/Veh:   25.1  25.1  25.1  10.3  10.3  10.3  15.0  15.0  15.0  18.8  18.8  18.8
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:  25.1  25.1  25.1  10.3  10.3  10.3  15.0  15.0  15.0  18.8  18.8  18.8
LOS by Move:    D     D     D     B     B     B     B     B     B     C     C     C
ApproachDel:       25.1              10.3              15.0              18.8
Delay Adj:         1.00              1.00              1.00              1.00
ApprAdjDel:        25.1              10.3              15.0              18.8
LOS by Appr:          D                 B                 B                 C
AllWayAvgQ:   3.0   3.0   3.0   0.0   0.0   0.0   1.0   1.0   1.0   1.6   1.6   1.6
********************************************************************************
Note: Queue reported is the number of cars per lane.

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                     Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #6 25th/Texas Street
********************************************************************************
Average Delay (sec/veh):      6.9      Worst Case Level Of Service: D[ 30.4]
********************************************************************************
Street Name:             Texas Street                     25th Street
Approach:        North Bound      South Bound      East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign         Stop Sign        Uncontrolled      Uncontrolled
Rights:           Include           Include           Include           Include
Lanes:       0  0  0  0  0   0  0  1! 0  0   0  1  0  0  0   0  0  0  1  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0     0     0   144     0    12     2   219     0     0   145    50
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0   144     0    12     2   219     0     0   145    50
Added Vol:      0     0     0    58     0     8    37   122     0     0   153    69
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    0     0     0   202     0    20    39   341     0     0   298   119
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.97  0.97  0.97  0.97  0.97  0.97  0.97  0.97  0.97  0.97  0.97  0.97
PHF Volume:     0     0     0   208     0    21    40   352     0     0   307   123
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0   208     0    21    40   352     0     0   307   123
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx  xxxx xxxxx   6.4   6.5   6.2   4.1  xxxx xxxxx xxxxx  xxxx xxxxx
FollowUpTim:xxxxx  xxxx xxxxx   3.5   4.0   3.3   2.2  xxxx xxxxx xxxxx  xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx  xxxx xxxxx   801   801   369   430  xxxx xxxxx  xxxx  xxxx xxxxx
Potent Cap.: xxxx  xxxx xxxxx   357   320   681  1140  xxxx xxxxx  xxxx  xxxx xxxxx
Move Cap.:   xxxx  xxxx xxxxx   347   309   681  1140  xxxx xxxxx  xxxx  xxxx xxxxx
Volume/Cap:  xxxx  xxxx  xxxx  0.60  0.00  0.03  0.04  xxxx  xxxx  xxxx  xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx  xxxx xxxxx  xxxx  xxxx xxxxx   0.1  xxxx xxxxx  xxxx  xxxx xxxxx
Control Del:xxxxx  xxxx xxxxx xxxxx  xxxx xxxxx   8.3  xxxx xxxxx xxxxx  xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     A     *     *     *     *     *
Movement:      LT  - LTR  - RT    LT  - LTR  - RT    LT  - LTR  - RT    LT  - LTR  - RT
Shared Cap.: xxxx  xxxx xxxxx  xxxx   363 xxxxx  xxxx  xxxx xxxxx  xxxx  xxxx xxxxx
SharedQueue:xxxxx  xxxx xxxxx xxxxx   4.1 xxxxx   0.1  xxxx xxxxx xxxxx  xxxx xxxxx
Shrd ConDel:xxxxx  xxxx xxxxx xxxxx  30.4 xxxxx   8.3  xxxx xxxxx xxxxx  xxxx xxxxx
Shared LOS:     *     *     *     *     D     *     A     *     *     *     *     *
ApproachDel:     xxxxxx              30.4            xxxxxx            xxxxxx
ApproachLOS:        *                 D                 *                 *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2040 CUMULATIVE PLUS PROJECT – PM PEAK

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------------------------------------------------------------------------------
                      Potrero HOPE Development EIR
                        Wilbur Smith Associates
------------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM Unsignalized Method (Future Volume Alternative)
******************************************************************************
Intersection #7 23rd/Missouri
******************************************************************************
Average Delay (sec/veh):      9.0      Worst Case Level Of Service: B[ 11.8]
******************************************************************************
Street Name:            Missouri St                      23rd St
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign       Uncontrolled     Uncontrolled
Rights:          Include          Include          Include          Include
Lanes:       0  1  0  0  0    0  0  0  1  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:      47   17     0     0   22    46    42    0    47     0    0     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:   47   17     0     0   22    46    42    0    47     0    0     0
Added Vol:      8   48     0     0   38     8    17    0    12     0    0     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:   55   65     0     0   60    54    59    0    59     0    0     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96  0.96 0.96  0.96
PHF Volume:    57   68     0     0   63    56    61    0    61     0    0     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:   57   68     0     0   63    56    61    0    61     0    0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:  7.1  6.5 xxxxx xxxxx  6.5   6.2   4.1 xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:  3.5  4.0 xxxxx xxxxx  4.0   3.3   2.2 xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol:  213  154 xxxxx  xxxx  184     0     0 xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.:  748  742 xxxxx  xxxx  713   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:    616  689 xxxxx  xxxx  663   900   900 xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  0.09 0.10  xxxx  xxxx 0.09  0.06  0.07 xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx   0.2 xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx   9.3 xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     *     *    *     *     A    *     *     *    *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  654 xxxx xxxxx  xxxx xxxx   758  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:  0.7 xxxx xxxxx xxxxx xxxx   0.6 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel: 11.8 xxxx xxxxx xxxxx xxxx  10.6 xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     B    *     *     *    *     B     *    *     *     *    *     *
ApproachDel:      11.8             10.6            xxxxxx           xxxxxx
ApproachLOS:        B                B                *                *
******************************************************************************
Note: Queue reported is the number of cars per lane.
******************************************************************************

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------------------------------------------------------------------------------
                      Potrero HOPE Development EIR
                        Wilbur Smith Associates
------------------------------------------------------------------------------
                   Level Of Service Computation Report
          2000 HCM 4-Way Stop Method (Future Volume Alternative)
******************************************************************************
Intersection #8 23rd/Wisconsin
******************************************************************************
Cycle (sec):          100               Critical Vol./Cap.(X):        0.203
Loss Time (sec):        0 (Y+R=4.0 sec) Average Delay (sec/veh):        8.4
Optimal Cycle:          0               Level Of Service:                 A
******************************************************************************
Street Name:              Wisconsin                         23rd
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:          Include          Include          Include          Include
Min. Green:     0    0     0     0    0     0     0    0     0     0    0     0
Lanes:       0  0  0  1  0    0  1  0  0  0    0  0  0  0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0   87    57    21   90     0     0    0     0    80    0    36
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0   87    57    21   90     0     0    0     0    80    0    36
Added Vol:      0    8     0    31    5     0     0    0     0     1    0    12
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0   95    57    52   95     0     0    0     0    81    0    48
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92  0.92 0.92  0.92
PHF Volume:     0  103    62    57  103     0     0    0     0    88    0    52
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
Reduced Vol:    0  103    62    57  103     0     0    0     0    88    0    52
PCE Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
MLF Adj:     1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
FinalVolume:    0  103    62    57  103     0     0    0     0    88    0    52
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Lanes:       0.00 0.63  0.37  0.35 0.65  0.00  0.00 0.00  0.00  0.63 0.00  0.37
Final Sat.:     0  523   314   278  508     0     0    0     0   479    0   284
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     xxxx 0.20  0.20  0.20 0.20  xxxx  xxxx xxxx  xxxx  0.18 xxxx  0.18
Crit Moves:             ****       ****                                     ****
Delay/Veh:    0.0  8.1   8.1   8.5  8.5   0.0   0.0  0.0   0.0   8.4  0.0   8.4
Delay Adj:   1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
AdjDel/Veh:   0.0  8.1   8.1   8.5  8.5   0.0   0.0  0.0   0.0   8.4  0.0   8.4
LOS by Move:    *    A     A     A    A     *     *    *     *     A    *     A
ApproachDel:        8.1              8.5            xxxxxx             8.4
Delay Adj:         1.00             1.00             xxxxx            1.00
ApprAdjDel:         8.1              8.5            xxxxxx             8.4
LOS by Appr:         A                A                *                A
AllWayAvgQ:   0.2  0.2   0.2   0.2  0.2   0.2   0.0  0.0   0.0   0.2  0.2   0.2
******************************************************************************
Note: Queue reported is the number of cars per lane.

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----------------------------------------------------------------------------
                   Potrero HOPE Development EIR
                      Wilbur Smith Associates
----------------------------------------------------------------------------
                   Level Of Service Computation Report
         2000 HCM 4-Way Stop Method (Future Volume Alternative)
****************************************************************************
Intersection #9 20th/Arkansas
****************************************************************************
Cycle (sec):        100              Critical Vol./Cap.(X):        0.349
Loss Time (sec):      0 (Y+R=4.0 sec)  Average Delay (sec/veh):       9.1
Optimal Cycle:        0              Level Of Service:                A
****************************************************************************
Street Name:           Arkansas Street                 20th Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:        Stop Sign        Stop Sign        Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Min. Green:     0     0     0     0     0     0     0     0     0     0     0     0
Lanes:        0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0    0  0  1! 0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       4    16    10     9    45    27     6   120    10    31   186    13
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    4    16    10     9    45    27     6   120    10    31   186    13
Added Vol:      2     4     1     4     9     0     0     2     4     3     1     3
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    6    20    11    13    54    27     6   122    14    34   187    16
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.86  0.86  0.86  0.86  0.86  0.86  0.86  0.86  0.86  0.86  0.86  0.86
PHF Volume:     7    23    13    15    63    31     7   142    16    40   217    19
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    7    23    13    15    63    31     7   142    16    40   217    19
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    7    23    13    15    63    31     7   142    16    40   217    19
------------|---------------||---------------||---------------||---------------|
Saturation Flow Module:
Adjustment:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Lanes:       0.16  0.54  0.30  0.14  0.57  0.29  0.04  0.86  0.10  0.14  0.79  0.07
Final Sat.:   110   366   201    97   402   201    32   660    76   113   623    53
------------|---------------||---------------||---------------||---------------|
Capacity Analysis Module:
Vol/Sat:     0.06  0.06  0.06  0.16  0.16  0.16  0.21  0.21  0.21  0.35  0.35  0.35
Crit Moves:        ****        ****                    ****        ****
Delay/Veh:    8.2   8.2   8.2   8.6   8.6   8.6   8.7   8.7   8.7   9.7   9.7   9.7
Delay Adj:   1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   8.2   8.2   8.2   8.6   8.6   8.6   8.7   8.7   8.7   9.7   9.7   9.7
LOS by Move:    A     A     A     A     A     A     A     A     A     A     A     A
ApproachDel:        8.2               8.6               8.7               9.7
Delay Adj:          1.00              1.00              1.00              1.00
ApprAdjDel:         8.2               8.6               8.7               9.7
LOS by Appr:          A                 A                 A                 A
AllWayAvgQ:   0.1   0.1   0.1   0.2   0.2   0.2   0.3   0.3   0.3   0.5   0.5   0.5
****************************************************************************
Note: Queue reported is the number of cars per lane.

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                   Potrero HOPE Development EIR
                      Wilbur Smith Associates
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                   Level Of Service Computation Report
         2000 HCM Unsignalized Method (Future Volume Alternative)
****************************************************************************
Intersection #10 Missouri/22nd
****************************************************************************
Average Delay (sec/veh):       0.0      Worst Case Level Of Service: A[  8.9]
****************************************************************************
Street Name:          Missouri Street                  22nd Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Uncontrolled     Uncontrolled      Stop Sign        Stop Sign
Rights:           Include          Include          Include          Include
Lanes:        0  0  1  0  0    0  0  0  1  0    0  0  0  0  1    0  0  0  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    81     0     0   101     1     0     0     1     0     0     0
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0    81     0     0   101     1     0     0     1     0     0     0
Added Vol:      0    16     0     0    32     0     0     0     0     0     0     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    0    97     0     0   133     1     0     0     1     0     0     0
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Volume:     0    97     0     0   133     1     0     0     1     0     0     0
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0    97     0     0   133     1     0     0     1     0     0     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   6.2 xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   3.3 xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   134  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   921  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   921  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  0.00  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx   0.0  xxxx xxxx xxxxx
Control Del:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx   8.9 xxxxx xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     *     *     A     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *     *     *     *     *     *     *     *     *     *     *     *
ApproachDel:     xxxxxx            xxxxxx              8.9            xxxxxx
ApproachLOS:        *                 *                 A                 *
****************************************************************************
Note: Queue reported is the number of cars per lane.

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--------------------------------------------------------------------------------
                          Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM Operations Method (Future Volume Alternative)
********************************************************************************
Intersection #11 Potrero/23rd
********************************************************************************
Cycle (sec):          90               Critical Vol./Cap.(X):          0.809
Loss Time (sec):      15 (Y+R=6.0 sec) Average Delay (sec/veh):         33.5
Optimal Cycle:        90               Level Of Service:                   C
********************************************************************************
Street Name:                Potrero Avenue                   23rd Street
Approach:        North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:          Permitted         Protected        Split Phase      Split Phase
Rights:            Include           Include           Include          Include
Min. Green:     0    39    39     7    49    49    10    10    10    16    16    16
Lanes:        0  0  2  0  1    1  0  1  1  0    0  0  1! 0  0    0  1  0  1  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:       0   854   114   123  1294    63    37    73    77   103    78   168
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0   854   114   123  1294    63    37    73    77   103    78   168
Added Vol:      0     0     7    46     0     0     0    13     0     4     7    25
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    0   854   121   169  1294    63    37    86    77   107    85   193
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93  0.93
PHF Volume:     0   918   130   182  1391    68    40    92    83   115    91   208
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
Reduced Vol:    0   918   130   182  1391    68    40    92    83   115    91   208
PCE Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
MLF Adj:     1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
FinalVolume:    0   918   130   182  1391    68    40    92    83   115    91   208
------------|----------------||----------------||----------------||----------------|
Saturation Flow Module:
Sat/Lane:    1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900
Adjustment:  1.00  0.93  0.75  0.93  0.91  0.91  0.94  0.94  0.94  0.84  0.84  0.84
Lanes:       0.00  2.00  1.00  1.00  1.91  0.09  0.19  0.43  0.38  0.56  0.44  1.00
Final Sat.:     0  3538  1422  1769  3283   160   330   768   687   885   703  1588
------------|----------------||----------------||----------------||----------------|
Capacity Analysis Module:
Vol/Sat:     0.00  0.26  0.09  0.10  0.42  0.42  0.12  0.12  0.12  0.13  0.13  0.13
Crit Moves:                         ****        ****                    ****
Green/Cycle: 0.00  0.43  0.43  0.11  0.54  0.54  0.11  0.11  0.11  0.18  0.18  0.18
Volume/Cap:  0.00  0.60  0.21  0.92  0.78  0.78  1.08  1.08  1.08  0.73  0.73  0.74
Delay/Veh:    0.0  21.3  16.7  86.7  19.5  19.5 128.2   128 128.2  43.1  43.1  43.3
User DelAdj: 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
AdjDel/Veh:   0.0  21.3  16.7  86.7  19.5  19.5 128.2   128 128.2  43.1  43.1  43.3
LOS by Move:    A     C     B     F     B     B     F     F     F     D     D     D
HCM2kAvgQ:      0    11     2     8    18    18    12    12    12     7     7     7
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2040 Cumulative + Proj PM  Tue Jun 17, 2014 09:46:52                Page 14-1
--------------------------------------------------------------------------------
                          Potrero HOPE Development EIR
                            Wilbur Smith Associates
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
            2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #12 Cesar Chavez/Vermont
********************************************************************************
Average Delay (sec/veh):     30.5      Worst Case Level Of Service: F[229.9]
********************************************************************************
Street Name:              Vermont Street                Cesar Chavez Street
Approach:        North Bound      South Bound       East Bound       West Bound
Movement:      L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R
------------|----------------||----------------||----------------||----------------|
Control:          Stop Sign         Stop Sign       Uncontrolled     Uncontrolled
Rights:            Include           Include           Include          Include
Lanes:        0  0  0  0  0    0  0  1! 0  0    1  0  2  0  0    0  0  1  1  0
------------|----------------||----------------||----------------||----------------|
Volume Module:
Base Vol:       0     0     0    26     0   239    65   424     0     0  1272   107
Growth Adj:  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
Initial Bse:    0     0     0    26     0   239    65   424     0     0  1272   107
Added Vol:      0     0     0     0     0    34    14    32     0     0    77     0
PasserByVol:    0     0     0     0     0     0     0     0     0     0     0     0
Initial Fut:    0     0     0    26     0   273    79   456     0     0  1349   107
User Adj:    1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00
PHF Adj:     0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94  0.94
PHF Volume:     0     0     0    28     0   290    84   485     0     0  1435   114
Reduct Vol:     0     0     0     0     0     0     0     0     0     0     0     0
FinalVolume:    0     0     0    28     0   290    84   485     0     0  1435   114
------------|----------------||----------------||----------------||----------------|
Critical Gap Module:
Critical Gp:xxxxx  xxxx xxxxx   6.8   6.5   6.9   4.1  xxxx xxxxx xxxxx  xxxx xxxxx
FollowUpTim:xxxxx  xxxx xxxxx   3.5   4.0   3.3   2.2  xxxx xxxxx xxxxx  xxxx xxxxx
------------|----------------||----------------||----------------||----------------|
Capacity Module:
Cnflict Vol:  xxxx  xxxx xxxxx  1903  2145   774  1549  xxxx xxxxx  xxxx  xxxx xxxxx
Potent Cap.:  xxxx  xxxx xxxxx    62    49   345   434  xxxx xxxxx  xxxx  xxxx xxxxx
Move Cap.:    xxxx  xxxx xxxxx    53    40   345   434  xxxx xxxxx  xxxx  xxxx xxxxx
Volume/Cap:   xxxx  xxxx  xxxx  0.52  0.00  0.84  0.19  xxxx  xxxx  xxxx  xxxx  xxxx
------------|----------------||----------------||----------------||----------------|
Level Of Service Module:
2Way95thQ:    xxxx  xxxx xxxxx  xxxx  xxxx xxxxx   0.7  xxxx xxxxx  xxxx  xxxx xxxxx
Control Del:xxxxx  xxxx xxxxx xxxxx  xxxx xxxxx  15.3  xxxx xxxxx xxxxx  xxxx xxxxx
LOS by Move:    *     *     *     *     *     *     C     *     *     *     *     *
Movement:     LT - LTR - RT    LT - LTR - RT    LT - LTR - RT    LT - LTR - RT
Shared Cap.:  xxxx  xxxx xxxxx  xxxx   233 xxxxx  xxxx  xxxx xxxxx  xxxx  xxxx xxxxx
SharedQueue:xxxxx  xxxx xxxxx xxxxx  17.5 xxxxx xxxxx  xxxx xxxxx xxxxx  xxxx xxxxx
Shrd ConDel:xxxxx  xxxx xxxxx xxxxx   230 xxxxx xxxxx  xxxx xxxxx xxxxx  xxxx xxxxx
Shared LOS:     *     *     *     *     F     *     *     *     *     *     *     *
ApproachDel:      xxxxxx            229.9            xxxxxx           xxxxxx
ApproachLOS:         *                F                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************

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2040 CUMULATIVE PLUS PROJECT – PM PEAK

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--------------------------------------------------------------------------------
                          Potrero HOPE Development EIR
                             Wilbur Smith Associates
--------------------------------------------------------------------------------
                       Level Of Service Computation Report
           2000 HCM Unsignalized Method (Future Volume Alternative)
********************************************************************************
Intersection #13 Cesar Chavez/US 101 Off-Ramp
********************************************************************************
Average Delay (sec/veh):     13.6       Worst Case Level Of Service: E[ 49.0]
********************************************************************************
Street Name:          US 101 Off-Ramp                 Cesar Chavez Street
Approach:      North Bound      South Bound      East Bound       West Bound
Movement:     L  -  T  -  R   L  -  T  -  R   L  -  T  -  R   L  -  T  -  R
------------|---------------||---------------||---------------||---------------|
Control:       Yield Sign       Yield Sign      Uncontrolled     Uncontrolled
Rights:           Include          Include          Include          Include
Lanes:        0  0  0  0  1   0  0  0  0  0   0  0  2  0  0   0  0  2  0  0
------------|---------------||---------------||---------------||---------------|
Volume Module:
Base Vol:       0    0   500     0    0     0     0  385     0     0 1379     0
Growth Adj:  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
Initial Bse:    0    0   500     0    0     0     0  385     0     0 1379     0
Added Vol:      0    0   222     0    0     0     0   32     0     0   77     0
PasserByVol:    0    0     0     0    0     0     0    0     0     0    0     0
Initial Fut:    0    0   722     0    0     0     0  417     0     0 1456     0
User Adj:    1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00  1.00 1.00  1.00
PHF Adj:     0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94  0.94 0.94  0.94
PHF Volume:     0    0   768     0    0     0     0  444     0     0 1549     0
Reduct Vol:     0    0     0     0    0     0     0    0     0     0    0     0
FinalVolume:    0    0   768     0    0     0     0  444     0     0 1549     0
------------|---------------||---------------||---------------||---------------|
Critical Gap Module:
Critical Gp:xxxxx xxxx   6.9 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
FollowUpTim:xxxxx xxxx   3.3 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
------------|---------------||---------------||---------------||---------------|
Capacity Module:
Cnflict Vol: xxxx xxxx   222  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Potent Cap.: xxxx xxxx   788  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Move Cap.:   xxxx xxxx   788  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Volume/Cap:  xxxx xxxx  0.97  xxxx xxxx  xxxx  xxxx xxxx  xxxx  xxxx xxxx  xxxx
------------|---------------||---------------||---------------||---------------|
Level Of Service Module:
2Way95thQ:   xxxx xxxx  15.8  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
Control Del:xxxxx xxxx  49.0 xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
LOS by Move:    *    *     E     *    *     *     *    *     *     *    *     *
Movement:     LT - LTR - RT   LT - LTR - RT   LT - LTR - RT   LT - LTR - RT
Shared Cap.: xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx  xxxx xxxx xxxxx
SharedQueue:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shrd ConDel:xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx xxxxx xxxx xxxxx
Shared LOS:     *    *     *     *    *     *     *    *     *     *    *     *
ApproachDel:       49.0           xxxxxx           xxxxxx           xxxxxx
ApproachLOS:        E                *                *                *
********************************************************************************
Note: Queue reported is the number of cars per lane.
********************************************************************************
```

Appendix C

Signal Warrant Analysis Worksheets

PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2040 Cumulative

4	SF		
DIST	CO	RTE	PM

COUNT DATE ____
CALC BPK DATE 06/15/14
CHK ____ DATE ____

Major St: PENNSYLVANIA AVENUE — Critical Approach Speed 25 mph
Minor St: SB I-280 OFF-RAMP — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐
or
In built up area of isolated community of < 10,000 population...................... ☐ } RURAL (R)

☑ URBAN (U)

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied) — SATISFIED YES ☑ NO ☐

PART A — SATISFIED YES ☐ NO ☐
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐	No ☐

PART B — SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	821
Higher Approach - Minor Street		✓	737

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑	No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour

PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2040 Cumulative

4	SF		
DIST	CO	RTE	PM

COUNT DATE ____________

CALC BPK DATE 06/15/14

CHK ____________ DATE ____________

Major St: CESAR CHAVEZ STREET — Critical Approach Speed 25 mph

Minor St: VERMONT STREET — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐ or In built up area of isolated community of < 10,000 population...................... ☐ } RURAL (R)

☑ URBAN (U)

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied)

SATISFIED YES ☑ NO ☐

PART A
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

SATISFIED YES ☐ NO ☐

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☐

PART B

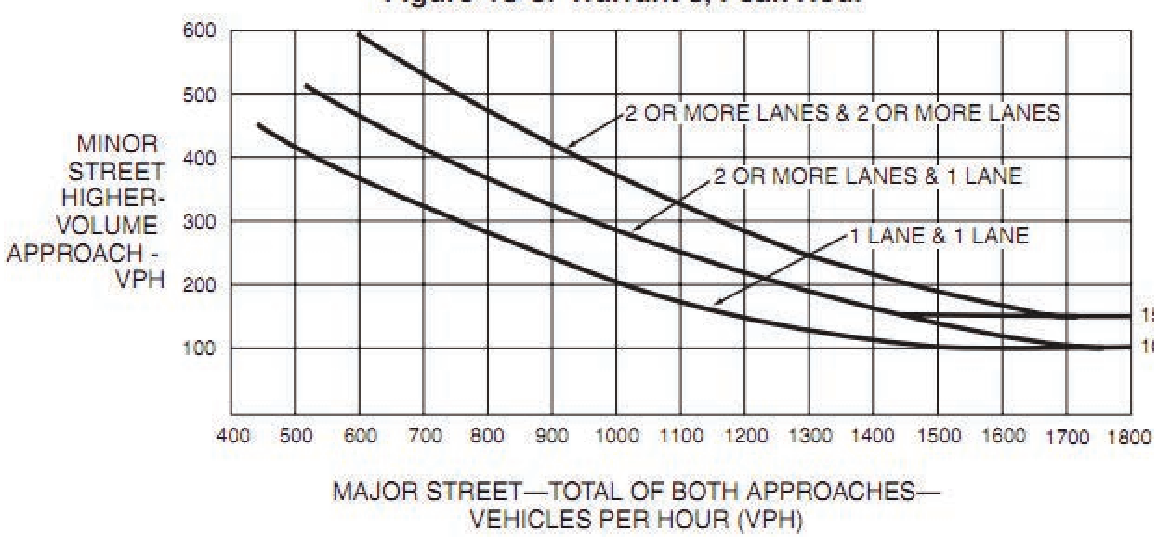
SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	1868
Higher Approach - Minor Street		✓	265

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour



PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2040 Cumulative plus Proposed Project

DIST	CO	RTE	PM
4	SF		

COUNT DATE ______
CALC BPK DATE 06/15/14
CHK ______ DATE ______

Major St: PENNSYLVANIA AVENUE — Critical Approach Speed 25 mph
Minor St: SB I-280 OFF-RAMP — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐ or
In built up area of isolated community of < 10,000 population........................ ☐ } RURAL (R)
☑ URBAN (U)

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied) SATISFIED YES ☑ NO ☐

PART A SATISFIED YES ☐ NO ☐
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☐

PART B SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	618
Higher Approach - Minor Street		✓	900

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour

PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2040 Cumulative plus Proposed Project

DIST	CO	RTE	PM
4	SF		

COUNT DATE ______
CALC BPK DATE 06/15/14
CHK ______ DATE ______

Major St: CESAR CHAVEZ STREET — Critical Approach Speed 25 mph
Minor St: VERMONT STREET — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐
or
In built up area of isolated community of < 10,000 population...................... ☐ } RURAL (R)

☑ URBAN (U)

WARRANT 3 - Peak Hour SATISFIED YES ☑ NO ☐
(Part A or Part B must be satisfied)

PART A SATISFIED YES ☐ NO ☐
(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐ No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐ No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐ No ☐

PART B SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	1991
Higher Approach - Minor Street		✓	299

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑ No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐ No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour

PEAK HOUR TRAFFIC SIGNAL WARRANTS WORKSHEET

2040 Cumulative plus Proposed Project

DIST	CO	RTE	PM
4	SF		

COUNT DATE ______

CALC BPK DATE 06/15/14

CHK ______ DATE ______

Major St: CESAR CHAVEZ STREET — Critical Approach Speed 25 mph

Minor St: US 101 OFF-RAMP — Critical Approach Speed 25 mph

Speed limit or critical speed on major street traffic > 64 km/h (40 mph)........ ☐ or
In built up area of isolated community of < 10,000 population........................ ☐ } RURAL (R)

☑ URBAN (U)

WARRANT 3 - Peak Hour
(Part A or Part B must be satisfied) — SATISFIED YES ☑ NO ☐

PART A — SATISFIED YES ☐ NO ☐

(All parts 1, 2, and 3 below must be satisfied for the same one hour, for any four consecutive 15-minute periods)

1. The total delay experienced by traffic on one minor street approach (one direction only) controlled by a STOP sign equals or exceeds four vehicle-hours for a one-lane approach, or five vehicle-hours for a two-lane approach; AND	Yes ☐	No ☐
2. The volume on the same minor street approach (one direction only) equals or exceeds 100 vph for one moving lane of traffic or 150 vph for two moving lanes; AND	Yes ☐	No ☐
3. The total entering volume serviced during the hour equals or exceeds 800 vph for intersections with four or more approaches or 650 vph for intersections with three approaches.	Yes ☐	No ☐

PART B — SATISFIED YES ☑ NO ☐

APPROACH LANES	One	2 or More	PM PEAK HOUR
Both Approaches - Major Street		✓	1873
Higher Approach - Minor Street		✓	722

The plotted point falls above the applicable curve in Figure 4C-3. (URBAN AREAS)	Yes ☑	No ☐
OR, The plotted point falls above the applicable curve in Figure 4C-4. (RURAL AREAS)	Yes ☐	No ☐

The satisfaction of a traffic signal warrant or warrants shall not in itself require the installation of a traffic control signal.

Figure 4C-3. Warrant 3, Peak Hour

Appendix D

Transit Analysis Calculations

Potrero HOPE Transportation Study

2040 Cumulative and Cumulative plus Proposed Project Muni Line-by-Line Analysis (Weekday PM Peak Hour)

Route	Vehicle Capacity	Direction	Existing Ridership	Existing Peak Hr # of vehicles	Existing Capacity	Existing Utilization	Project 2040 Project Trips	2040 Cumulative Ridership	2040 Cumulative Peak Hr # of vehicles	2040 Cumulative Capacity	2040 Cumulative Utilization	2040 Cumulative (incl. Project) Ridership	2040 Cumulative (incl. Project) Peak Hr # of vehicles	2040 Cumulative (incl. Project) Capacity	2040 Cumulative (incl. Project) Utilization
10 Townsend	63	Inbound	186	3	189	**98%**	36	291	10	630	46%	327	10	630	52%
10 Townsend	63	Outbound	171	3	189	**90%**	68	267	10	630	42%	335	10	630	53%
19 Polk	63	Inbound	172	4	252	68%	0	269	4	252	**107%**	269	4	252	**107%**
19 Polk	63	Outbound	124	4	252	49%	0	194	4	252	77%	194	4	252	77%
48 Quintara - 24th St	63	Inbound	175	6	378	46%	30	274	4	252	**109%**	304	4	252	**121%**
48 Quintara - 24th St	63	Outbound	180	6	378	48%	21	281	4	252	**112%**	302	4	252	**120%**

Vehicle Type	Capacity
ARTIC BUS (60')	94
COMBO BUS (40')	79
LRV (per train car)	119
NEIGHB. BUS (30')	45
STANDARD BUS (40')	63
STREETCAR	70

19 Polk Reallocation	Percentages
10 Townsend/Sansome	40%
22 Fillmore	20%
48 Quintara-24th Street	10%
K/T Ingleside/Third St	10%
*58 24th Street	20%
Total	100%

Notes: Source: SFMTA 2011 APC data, 2014 TEP FEIR

Hourly Load and Capacity - calculated from Chapter 4.2, Table 13, pg. 4.2-129 of the TEP EIR.

Capacity is calculated by number of seats per transit vehicles multiplied by the frequency of buses/trains per one PM peak hour

Utilization is calculated by dividing the hourly load by hourly capacity.

Analysis assumes TEP implementation by year 2040 and reallocation of the to-be-rerouted 19 Polk anticipated project ridership to other transit lines in the project study area.

The 58 24th Street line is a new route created by the TEP. It was not analyzed in line-by-line analysis due to the preliminary nature of the route, but was assumed to acquire some of the reallocated ridership from the rerouted 19 Polk.

Potrero HOPE Transportation Study

2040 Cumulative Screenline Analysis (Weekday PM Peak Hour - Outbound)

Muni Screenline Analysis

		EXISTING CONDITIONS			YEAR 2040		
Screenline Location		**Ridership**	**Capacity**	**Utilization**	**Ridership**	**Capacity**	**Utilization**
Northeast	Kearny/Stockton Corridor	1,129	2,010	56%	6,295	8,329	76%
	All Other Lines	757	1,589	48%	1,229	2,065	60%
	Subtotal	*1,886*	*3,599*	*52%*	*7,524*	*10,394*	*72%*
Northwest	Geary Corridor	1,684	2,230	76%	2,996	3,621	83%
	California	1,413	2,050	69%	1,766	2,021	87%
	Sutter/Clement	565	1,008	56%	749	756	99%
	Fulton/Hayes	861	1,260	68%	1,762	1,878	94%
	Balboa	615	1,247	49%	776	974	80%
	Chestnut/Union*	1,483	2,328	64%	-	-	-
	Subtotal	*6,621*	*10,123*	*65%*	*8,049*	*9,250*	*87%*
Southeast	Third Street	554	714	78%	2,300	5,712	40%
	Mission Street	1,254	2,350	53%	2,673	3,008	89%
	San Bruno/Bayshore	1,671	2,256	74%	1,817	2,134	85%
	All Other Lines	1,189	1,708	70%	1,582	1,927	82%
	Subtotal	*4,668*	*7,028*	*66%*	*8,372*	*12,781*	*66%*
Southwest	Subway Lines	5,883	6,783	87%	5,692	6,804	84%
	Haight/Noriega	1,247	2,140	58%	1,265	1,596	79%
	All Other Lines	304	700	43%	380	840	45%
	Subtotal	*7,434*	*9,623*	*77%*	*7,337*	*9,240*	*79%*
Total All SFMUNI Screenlines		**20,609**	**30,373**	**68%**	**31,282**	**41,665**	**75%**

Regional Screenline Analysis

		Ridership	Capacity	Utilization	Ridership	Capacity	Utilization
East Bay	BART	20,067	24,150	83%	30,383	33,170	92%
	AC Transit	2,517	4,193	60%	7,000	12,000	58%
	Ferries	702	1,519	46%	5,319	5,940	90%
	Subtotal	*23,286*	*29,862*	*78%*	*42,702*	*51,110*	*84%*
North Bay	GGT buses	1,397	2,205	63%	2,070	2,817	73%
	GGT ferries	906	1,700	53%	1,619	1,959	83%
	Subtotal	*2,303*	*3,905*	*59%*	*3,689*	*4,776*	*77%*
South Bay	BART	10,202	16,800	61%	13,971	24,182	58%
	Caltrain	1,986	3,250	61%	2,529	3,600	70%
	SamTrans	575	940	61%	150	320	47%
	Ferries				59	200	30%
	Subtotal	*12,763*	*20,990*	*61%*	*16,709*	*28,302*	*59%*
Total All Regional Screenlines		**38,352**	**54,757**	**70%**	**63,100**	**84,188**	**75%**

Sources: SFMTA, TEP EIR, July 2013; SF Planning Department, 2014

Notes

*Muni Chestnut/Union corridor anticipated screenline ridership and capacity were not calculated for Year 2040.

SF MUNI utilization standard is 85% (vehicle capacity includes standees which represent 30% to 80% of seats, depending upon the configuration of the vehicle)

BART and all other regional transit providers have a utilization standard of 100% (vehicle capacity is based on the number of seated passengers per vehicle)

Potrero HOPE Transportation Study

2040 Cumulative and Cumulative plus Proposed Project Muni Screenline Analysis (Weekday PM Peak Hour)

		2040 Cumulative Conditions			Project	2040 Cumulative plus Project Conditions		
		Ridership	Capacity	Utilization	Trips	Ridership	Capacity	Utilization
Southeast	Third Street	2,300	5,712	40%	39	2,339	5,712	41%
	Mission Street	2,673	3,008	**89%**	0	2,673	3,008	**89%**
	San Bruno/Bayshore	1,817	2,134	**85%**	0	1,817	2,134	**85%**
	All Other Lines	1,582	1,927	82%	91	1,673	1,927	**87%**
	Subtotal	*8,372*	*12,781*	*66%*	*130*	*8,502*	*12,781*	*67%*

Potrero HOPE Transportation Study

2040 Cumulative and Cumulative plus Proposed Project Regional Screenline Analysis (Weekday PM Peak Hour)

Screenline Location		2040 Cumulative Ridership		2040 Capacity	2040 Utilization	Project Trips	2040 Cumulative plus Project Ridership	2040 Cumulative plus Project Utilization
East Bay	BART	30,383	71%	33,170	92%	7	30,390	92%
	AC Transit	7,000	16%	12,000	58%	2	7,002	58%
	Ferries	5,319	12%	5,940	90%	0	5,319	90%
	Subtotal	*42,702*	*100%*	*51,110*	*84%*	*9*	*42,711*	*84%*
North Bay	GGT buses	2,070	56%	2,817	73%	1	2,071	74%
	GGT ferries	1,619	44%	1,959	83%	1	1,620	83%
	Subtotal	*3,689*	*100%*	*4,776*	*77%*	*2*	*3,691*	*77%*
South Bay	BART	13,971	84%	24,182	58%	9	13,980	58%
	Caltrain	2,529	15%	3,600	70%	5	2,534	70%
	SamTrans	150	0.9%	320	47%	0	150	47%
	Ferries	59	0.4%	200	30%	0	59	30%
	Subtotal	*16,709*	*100%*	*28,302*	*59%*	*14*	*16,723*	*59%*
Total All Regional Screenlines		**63,100**		**84,188**	**75%**	**25**	**63,125**	**75%**

Notes: Source: SFMTA 2011 APC data, 2014 TEP FEIR

Notes

SF MUNI utilization standard is 85% (vehicle capacity includes standees which represent 30% to 80% of seats, depending upon the configuration of the vehicle)

BART and all other regional transit providers have a utilization standard of 100% (vehicle capacity is based on the number of seated passengers per vehicle)