Environmental Impact Report
UCSF Medical Center at Mission Bay-
Fourth Street Public Plaza
State Clearinghouse No. 2011122065

Note: Preliminary renderings
UCSF MEDICAL CENTER AT MISSION BAY –
FOURTH STREET PUBLIC PLAZA

FINAL ENVIRONMENTAL IMPACT REPORT
STATE CLEARINGHOUSE NO. 2011122065

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Note: A solid dot (•) indicates the chapter is new compared to the Draft EIR.
CHAPTER 1
INTRODUCTION

1.1 PURPOSE OF THIS DOCUMENT

This Environmental Impact Report (EIR) has been prepared in accordance with the California Environmental Quality Act, Public Resources Code Sections 21000, et seq. (“CEQA”) to provide an assessment of the potentially significant environmental effects of the proposed Medical Center at Mission Bay – Fourth Street Public Plaza project (hereinafter the “proposed project” or the “Project”). As required by CEQA, this EIR (1) assesses the potentially significant environmental effects of the proposed project, including cumulative impacts of the proposed project in conjunction with past, present, and reasonably foreseeable future development; (2) identifies feasible means of avoiding or substantially lessening significant adverse impacts; and (3) evaluates a range of reasonable alternatives to the proposed project, including the No Project alternative. This document is tiered from the UCSF Medical Center at Mission Bay EIR, certified by The Regents of the University of California on September 17, 2008. The University of California (the University) is the “lead agency” for the project evaluated in this EIR. The Board of Regents of the University of California (The Regents) or its delegated committee or administrative official, has the principal responsibility for approving this project.

The University of California, San Francisco (UCSF) has prepared this EIR on the proposed project for the following purposes:

- To inform the general public, the local community, and public agencies of the nature of the proposed project, its potentially significant environmental effects, feasible measures to mitigate those effects, and its reasonable and feasible alternatives;

- To enable the University to consider the environmental consequences of approving the proposed project; and

- To satisfy CEQA requirements.

As described in CEQA and the State CEQA Guidelines, public agencies are charged with the duty to avoid or substantially lessen significant environmental effects, where feasible. In discharging this duty, a public agency has an obligation to balance the proposed project’s significant effects on the environment with its benefits, including economic, social, technological, legal, and other benefits. This EIR is an informational document, the purpose of which is to: identify the potentially significant effects of the proposed project on the environment; identify mitigation measures that would avoid or reduce those significant effects; identify any significant and unavoidable adverse impacts that cannot be mitigated; and identify reasonable and feasible
alternatives to the proposed project that would eliminate any significant adverse environmental effects or reduce the impacts to a less-than-significant level.

The lead agency is required to consider the information in the EIR, along with any other relevant information, in making its decision on the proposed project. Although the EIR does not determine the ultimate decision that will be made regarding implementation of the project, CEQA requires the University to consider the information in the EIR and make findings regarding each significant effect identified in the EIR before it can approve the project. The Regents or its delegated committee or administrative official would certify the Final EIR prior to taking any action approving the proposed project.

1.2 SUMMARY OF THE PROPOSED PROJECT

In September 2008, The Regents approved Phase I of the two-phase UCSF Medical Center at Mission Bay (“MCMB”) at the UCSF Mission Bay campus site in San Francisco, on the site bounded by 16th Street, Third Street, Mariposa Street, and future Owens Street. The MCMB Phase I approval included a 289-bed hospital consisting of three specialty hospitals for women, children, and cancer patients; an Outpatient building; an Energy Center; surface parking spaces, and construction of a medical helipad. Groundbreaking for the approved components of Phase I began in December 2010, with the hospital complex scheduled to open in early 2015. The Phase I parking structure was approved in June 2011 and is now under construction and anticipated to open around August 2012. Approval of the remaining building in Phase I, the Cancer Outpatient building, is planned to occur at a future date when funding becomes available.

UCSF now proposes to construct and maintain a public plaza at the MCMB site located on University property and the adjacent Fourth Street right-of-way between 16th and Mariposa Streets as part of Phase I. Fourth Street currently terminates at 16th Street. Fourth Street adjacent to the MCMB site has been planned as a City street but has not yet been constructed. Under the proposed Project, the City and County of San Francisco’s planned pedestrian access and bicycle route on the Fourth Street right-of-way would be maintained, as well as emergency vehicle access. In addition, at the time Phase II of the MCMB is proposed and constructed, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors of the Phase I and Phase II buildings.

The proposed Project also includes implementation of various traffic improvement measures that require approval by the City and County of San Francisco. If UCSF approves the Project, it will then seek City approval for the Project including the traffic improvement measures, to be implemented either as part of Phase I or by the time a traffic monitoring plan proposed as part of the Project indicates the measures are needed.

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1 Opening the of Phase I parking structure would occur in advance of the opening of the MCMB hospitals and outpatient building to accommodate on-site parking for construction workers associated with the MCMB. Construction worker parking is currently provided on the MCMB site in undeveloped areas. As these areas are developed and parking is displaced, the Phase I garage would provide temporary parking for these workers until the MCMB construction and proposed project construction are completed.
1.3 ENVIRONMENTAL REVIEW PROCESS

UCSF has filed a Notice of Completion (NOC) with the Governor’s Office of Planning and Research, State Clearinghouse indicating that this EIR has been completed and is available for review and comment by agencies and the public.

The Draft EIR has been made available for review by agencies, organizations, the public and interested parties for a review period of 45 days, as mandated by California law, from February 15, 2012 through April 2, 2012. In addition, a public hearing will be held on March 22, 2012. In reviewing the Draft EIR, reviewers should focus on the document’s adequacy in identifying and analyzing significant effects on the environment and ways in which the significant effects of the Project might be avoided or mitigated. To ensure inclusion in the Final EIR and full consideration by the lead agency, comments on the Draft EIR must be received during the public review period at the following address:

UCSF Campus Planning
654 Minnesota Street
San Francisco, California 94143-0286
Contact: Diane Wong, Environmental Coordinator
EIR@planning.ucsf.edu

UCSF will accept e-mail comments in lieu of traditional mailed comments; nevertheless, reviewers are encouraged to follow up on any e-mail comments with letters. Following the close of the review period, responses to comments on the Draft EIR will be prepared and published as a separate document. The Draft EIR text and appendices, together with responses to comments and any text changes made to the Draft EIR will constitute the Final EIR.

The Regents, the decision-making body for the University, or its delegated committee or administrative official (collectively “The Regents”) will review the UCSF Medical Center at Mission Bay – Fourth Street Public Plaza Final EIR for adequacy and consider it for certification pursuant to the requirements of Section 15090 of the State CEQA Guidelines. If The Regents certifies the Final EIR, then The Regents will consider the project separately for approval or denial. If The Regents chooses to approve the project, findings on the feasibility of reducing or avoiding significant environmental effects will be made and, if necessary, a Statement of Overriding Considerations will be prepared. If The Regents approves the project, a Notice of Determination (NOD) will be prepared and will be filed with the State Clearinghouse. The NOD will include a description of the project, the date of approval, an indication of whether the Findings were prepared and a Statement of Overriding Considerations was adopted, and the address where the Final EIR and record of project approval are available for review.
1.3.1 TYPE OF EIR

This is a project EIR prepared pursuant to Section 15161 of the State CEQA Guidelines to evaluate the project-level impacts associated with a project that is proposed pursuant to the Long Range Development Plan (LRDP) for the University of California San Francisco campus. The University adopted mitigation measures at the time it adopted and amended its LRDP and when it approved the Medical Center at Mission Bay Phase 1 project. All relevant mitigation measures adopted by The Regents in conjunction with the approval of the 1996 LRDP, 2005 LRDP Amendment #2 – Hospital Replacement project, and the Medical Center at Mission Bay project are included in and a part of the proposed Project. These mitigation measures are listed in the Project Description and identified in each resource subsection of Section 4.0. The analysis presented in Section 4.0 evaluates environmental impacts that would result from project implementation following the application of these mitigation measures, as part of the Project as proposed. The mitigation measures included as part of the Project as proposed would nonetheless be monitored pursuant to the Mitigation Monitoring and Reporting Plan that will be adopted for the proposed Project.

1.3.2 PUBLIC AND AGENCY REVIEW

On December 21, 2011, a Notice of Preparation (NOP), including an Initial Study, was published for the UCSF Medical Center at Mission Bay – Fourth Street Public Plaza EIR. The 30-day comment period ended on January 23, 2012. A copy of the NOP/Initial Study is included in Appendix A. An EIR scoping meeting was held at Genentech Hall at the Mission Bay campus site on January 23, 2012. The purpose of this meeting was to inform the public and interested agencies of the proposed Project, solicit comments, and identify areas of concern. Public comments at the meeting were made largely by one person, who indicated that that shuttle operations within the proposed cul-de-sacs on Fourth Street should be evaluated for safety issues and for general operational impacts to Fourth Street on the Project site; and that a “shared-street” alternative should be analyzed. The commenter also requested that the EIR undertake a comprehensive evaluation of all shuttles within the Mission Bay area to review potential redundancies and ways to consolidate service or gain efficiencies in operations. Further, the commenter also expressed opposition to the Project because it would eliminate vehicular through-traffic on this segment of Fourth Street and, in the opinion of the commenter, privatize this segment of Fourth Street. The commenter also submitted a written comment letter at the public scoping meeting, included in Appendix A of this EIR, which reiterates the oral comments made at the scoping meeting and argues that the Project is not needed. These oral and written comments are addressed in Section 4.3 Transportation. Copies of the Draft EIR and relevant materials referenced therein are available for review online at http://campusplanning.ucsf.edu/ and at the following locations:

UCSF Mission Bay Library, Rutter Center, 1675 Owens Street
San Francisco Public Library – Mission Bay Branch, 960 Fourth Street
1.3.3 INTENDED USES OF THIS EIR

The Regents will use this EIR to evaluate the environmental implications of approving the proposed Project. This EIR will also be used by responsible agencies with approval authority over aspects of the Project, including the City and County of San Francisco (Mayor, Board of Supervisors, Successor Agency and/or Oversight Board of the former San Francisco Redevelopment Agency,\(^2\) the Department of Public Works, and the Municipal Transportation Agency).

1.4 SCOPE OF THIS EIR

UCSF completed a preliminary review of the Project, as described in Section 15060 of the State CEQA Guidelines, and determined that environmental review was required. UCSF prepared an Initial Study in December 2011 and determined that an EIR would be prepared. Based on the Initial Study and the comments received at the scoping meeting and in response to the NOP, it was determined that the EIR would evaluate the following environmental topics in further detail:

- Aesthetics
- Land Use
- Traffic

1.5 REPORT ORGANIZATION

This EIR is organized into the following sections:

Section 1.0 - Introduction: provides an introduction and overview describing the purpose and scope of topics addressed in this EIR and the environmental review process.

Section 2.0 - Executive Summary: summarizes environmental consequences that would result from the proposed Project, provides a summary table that denotes anticipated significant environmental impacts, describes identified mitigation measures, and indicates the level of significance of impacts before and after mitigation.

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\(^2\) On June 28, 2011, the California Governor approved AB 26, which dissolved all redevelopment agencies as of November 1, 2011, and AB 27. AB 26 was the "dissolution" bill, which set November 1, 2011 as the date to dissolve all redevelopment agencies. The companion legislation AB 27, the "reinstatement" bill, allowed cities to keep their agencies in place by committing to substantial "community remittances" to be paid to the State. In July 2011, a lawsuit was filed challenging the constitutionality of both AB 26 and AB 27. On December 29, 2011, the California Supreme Court issued its decision: it upheld AB 26, but struck down AB 27. As a result, under the schedule set by the Supreme Court, the San Francisco Redevelopment Agency was dissolved on February 1, 2012. In its place the City as the Redevelopment Successor Agency established an Oversight Board to exercise land use, development and design approval authority under the enforceable obligations for the Mission Bay South Redevelopment Project Area and certain other redevelopment project areas.
**Section 3.0 - Project Description:** describes the proposed Project.

**Section 4.0 - Environmental Setting, Impacts, and Mitigation Measures:** describes the environmental setting, including applicable plans and policies; provides an analysis of the potential environmental impacts of the proposed Project; and identifies mitigation measures to avoid or reduce significant impacts. It also includes an evaluation of the Project’s cumulative impacts.

**Section 5.0 - Alternatives:** summarizes alternatives to the Project and the comparative environmental consequences of each alternative in relation to the Project. This section includes an analysis of the No Project Alternative, among others, as required by CEQA.

**Section 6.0 - Other CEQA Considerations:** provides a discussion of the Project’s significant and unavoidable impacts, significant irreversible changes which would be caused if the Project were to be implemented, the potential for growth inducement from the Project, and a brief description of the environmental effects that were found not to be significant and, therefore, not evaluated in further detail.

**Section 7.0 - Report Preparation:** provides a list of the individuals involved in the preparation of this EIR.
CHAPTER 2

SUMMARY

2.1 PURPOSE

This EIR evaluates the potential for significant environmental impacts from the construction and operation of the UCSF Medical Center at Mission Bay – Fourth Street Public Plaza project (the Project) proposed by the University of California, San Francisco (UCSF). It is the intent of this Summary to provide the decision makers and the public with a clear, simple, and concise description of the proposed project and its potential significant environmental impacts. Section 15132 of the California Environmental Quality Act (CEQA) Guidelines requires that the summary identify each significant effect, recommended mitigation measure(s), and alternatives that would minimize or avoid potential significant impacts. The summary is also required to identify areas of controversy known to the lead agency, including issues raised by agencies and the public and issues to be resolved. These issues include the choice among alternatives and whether or how to mitigate significant effects. This section focuses on the major areas of importance in the environmental analysis for the proposed project.

2.2 PROJECT LOCATION

The UCSF Mission Bay campus site is one of three major UCSF campus sites in San Francisco. The 57-acre Mission Bay campus site is located approximately one and one-half miles south of downtown, within the Mission Bay South Redevelopment Plan Area. The Mission Bay campus site is bounded by Mission Bay Boulevard South to the north, Third Street to the east, Mariposa Street to the south, and Owens Street to the west. The Medical Center at Mission Bay (MCMB) site is within the Mission Bay campus site on Mission Bay South Plan Parcels 36-39, and X3, bordered by 16th Street to the north, 3rd Street to the east, and Mariposa Street to the south. To the west are undeveloped land and the Interstate 280 freeway. In the future, a new segment of Owens Street would extend south of 16th Street to form the western boundary of the MCMB site.

Fourth Street currently terminates at 16th Street. Fourth Street adjacent to the MCMB site has been planned as a City street but has not yet been constructed. The proposed Fourth Street Public Plaza would be located on a portion of the Fourth Street right-of-way between 16th and Mariposa Streets. The proposed plaza would also extend onto UCSF property on parcels 36-39 and X-3 on the east and west sides of Fourth Street.
2.3 PROJECT DESCRIPTION

2.3.1 BACKGROUND

UCSF’s long-term plan is to develop a hospital complex at Mission Bay that would include two hospital buildings and associated outpatient and support buildings, constructed in phases, on the MCMB site bounded by 16th Street, Third Street, Mariposa Street, and future Owens Street; and bisected by the Fourth Street right-of-way between 16th and Mariposa Streets. In September 2008, the Regents certified the UCSF Medical Center at Mission Bay EIR (“MCMB EIR”), which analyzed the UCSF MCMB hospital complex in two major phases, the LRDP Phase (Phase I), which was analyzed at a project level, and Future Phase (Phase II), which was analyzed at a program level. Phase I included a 289-bed hospital, consisting of three specialty hospitals for women, children, and cancer patients; a medical helipad; an Outpatient building and a Cancer Outpatient building; an Energy Center; and a 600-space parking structure with 475-surface parking spaces, totaling 1,075-parking spaces. Phase II would include a 261-bed hospital and approximately 225 to 925 parking spaces. Phase II, as analyzed in the MCMB EIR, also would include the construction of two pedestrian bridges on the second and third floors of the hospitals and Outpatient building that would connect Phase I development on the east side of Fourth Street to Phase II development on the west side of Fourth Street. Upon completion of both phases, the UCSF Medical Center at Mission Bay would provide a total of 550 hospital beds, outpatient facilities, and associated support space comprising a total of about 1.8 million GSF, and parking. The Regents approved the Phase I hospital, the Energy Center, the Outpatient building, surface parking and construction of the medical helipad in September 2008. Groundbreaking for the approved components of Phase I began in December 2010, with the hospital complex scheduled to open in early 2015. The Phase I parking structure consisting of 626 spaces was approved in April 2011 and is now under construction and scheduled to open around August 2012.

2.3.2 PROJECT DESCRIPTION

The University now proposes to construct and maintain a public plaza at the MCMB site located on University property and the adjacent Fourth Street right-of-way between 16th and Mariposa Streets. The proposed Project would result in the closure of Fourth Street to non-emergency vehicular through-traffic at this location. The City and County of San Francisco’s designated pedestrian access and bicycle route on the Fourth Street right-of-way would be maintained. In addition, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors in Phase II of the Medical Center at Mission Bay. Also proposed are traffic improvement measures on streets adjacent to the MCMB site.

Fourth Street Public Plaza

The proposed Fourth Street Public Plaza is intended to provide a safe and clear east/west connection between the hospital entrances on the east side of Fourth Street and, in Phase I, the
parking facilities on the west side of Fourth Street. In Phase II, the connection to the west side of Fourth Street would be to future medical center buildings and additional parking. In addition, the Project is intended to provide to MCMB visitors, staff and the general public a welcoming, landscaped open space with lawns, gardens and seating areas for all to enjoy.

The project analyzed in the MCMB EIR and approved in September 2008 assumed Fourth Street between 16th and Mariposa Streets would be open to vehicular through-traffic. The proposed Fourth Street Public Plaza would involve the closure of this segment of Fourth Street to non-emergency vehicular through-traffic, allowing vehicles only for passenger drop-off within two cul-de-sacs, one on the north side of the plaza and one on the south side.

A proposed amphitheater in the northern portion of the plaza would be a gathering place for large groups and provide a northerly view up Fourth Street from atop a berm of about 12 feet in height. In the center of the proposed plaza would be an open, flexible-use space. An adjacent tree grove containing benches and other seating would provide for a quieter, contemplative space. Along the eastern side of the plaza would be a “bench walk” consisting of a lengthy, continuous bench and plantings. The western side of the plaza would feature a wide, tree-lined multi-use promenade for pedestrians and bicyclists. Events on the plaza for large groups of approximately 100 to 200 persons are estimated to occur infrequently, perhaps three times per month. These events could include community concerts or performing arts at the lunchtime hour, and public health education speakers. Annually, events on the plaza may include faculty and staff recognition events, volunteer appreciation, and hospital gala events. If sound amplification is used, sound levels would be kept to the lowest level possible so as not to disturb patients within the Medical Center or surrounding land uses, while ensuring those on the plaza are able to hear the speakers and/or music.

The proposed Project would include clearly designated public bicycle paths to facilitate bicycle travel and to minimize conflicts amongst bicycles, motor vehicles and pedestrians. Between North Connector Road and South Connector Road, the bicycle lanes in both the northbound and southbound directions would share with pedestrians the promenade on the west side of Fourth Street, with clear signage and other visual cues to minimize conflicts. The plaza would also include clearly designed pedestrian pathways to direct safe pedestrian travel through the plaza and to designated crossings across Fourth Street, as well as to the mid-block crossing leading to the MCMB parking facilities on the west side of Fourth Street.

**Pedestrian Bridges**

Two enclosed pedestrian bridges are proposed at the third and fourth floors across Fourth Street that would connect Phase I development (at the hospitals and Outpatient building) on the east side of Fourth Street to Phase II development on the west side of Fourth Street. The necessary authorization by the City for the pedestrian bridges is proposed for consideration and approval as part of the Project. The authorization would include design standards for the bridges, which have been agreed upon by the City and the University. If and when the Phase II project and bridges are considered for approval in the future by the University, the City would conduct design review of the bridges.
Traffic Improvement Measures

The Project includes traffic improvement measures at intersections around the MCMB site. Some of the traffic improvement measures are anticipated to be necessary to avoid potential significant traffic impacts of the proposed Project that would occur if Phase II of the MCMB is ultimately approved and constructed. Based on the traffic analysis contained within the MCMB EIR for the Fourth Street Closed to Through Traffic Alternative, traffic improvements would be needed on adjacent streets (16th Street, Third Street, and Owens Street) to mitigate significant traffic impacts that are anticipated to occur in Phase II. As such, the traffic improvement measures are not proposed as mitigation measures for this Project as the closure of Fourth Street to vehicular through-traffic would not result in significant traffic impacts as a result of traffic associated with Phase I of the MCMB. UCSF is proposing to include the traffic improvement measures as part of this Project and to obtain City approval of the measures, so that the University may implement them if and when needed as part of the Phase II project.

Since 2008, the University has been working with the San Francisco Redevelopment Agency\(^1\) and various agencies of the City and County of San Francisco, including the Municipal Transportation Agency, the Planning Department, and the Department of Public Works to reach conceptual agreement on the appropriate scope, timing, and triggers for traffic improvement measures around the MCMB site. City staff is agreeable to having UCSF implement some of the measures as part of the Phase I development, that is, before they are needed. For other measures, the City prefers that they not be implemented until they are needed. To address the timing of implementation of these measures, UCSF is proposing to implement a traffic monitoring plan as part of the Project, included in Appendix C of this EIR.

The traffic improvement measures included as part of the Project are described below and would be subject to final review and approval by City agencies with jurisdiction over the proposed measures following certification of this EIR. Measures 1 through 4 are improvement measures affecting the future Owens Street extension between 16th and Mariposa Streets and are proposed to be implemented early (i.e. in Phase I) before they are triggered in Phase II, to coincide with the initial construction of that street. Measures 5 through 8 would be implemented as needed based on the traffic monitoring plan. Measures 9 through 11 are proposed to be implemented as part of Phase I.

- **Measure 1**
  16th Street and Owens Intersection. *Southbound Approach*: conversion of the exclusive left turn lane to a shared through-left turn lane and conversion of the shared through-right turn lane to an exclusive right turn lane, resulting in a lane configuration of one shared through-left turn lane, one through lane, and one

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\(^1\) On June 28, 2011, the California Governor approved AB 26, which dissolved all redevelopment agencies as of November 1, 2011, and AB 27. AB 26 was the “dissolution” bill, which set November 1, 2011 as the date to dissolve all redevelopment agencies. The companion legislation AB 27, the “reinstatement” bill, allowed cities to keep their agencies in place by committing to substantial “community remittances” to be paid to the State. In July 2011, a lawsuit was filed challenging the constitutionality of both AB 26 and AB 27. On December 29, 2011, the California Supreme Court issued its decision: it upheld AB 26, but struck down AB 27. As a result, under the schedule set by the Supreme Court, the San Francisco Redevelopment Agency was dissolved on February 1, 2012. In its place the City as the Redevelopment Successor Agency established an Oversight Board to exercise land use, development and design approval authority under the enforceable obligations for the Mission Bay South Redevelopment Project Area and certain other redevelopment project areas.
exclusive right turn lane at this approach. This measure can be accomplished by re-stripe the travel lanes within the existing right-of-way and no roadway widening would be necessary.

Timing: During construction of Phase I of the MCMB

- **Measure 2**
  **16th Street and Owens Intersection.** *Northbound Approach*: provision of space in Phase I for an additional exclusive left turn lane if needed for Phase II development, resulting in a lane configuration of two exclusive left turn lanes, one through lane, and one shared through-right turn lane at this approach. This measure would involve an increase to the width of the roadway by approximately 19 feet to the east to accommodate the additional lane and a median, from 16th Street to the Center Garage Access Road. The additional space for the left turn lane would be developed in the interim as an extension of the street median, until needed as a left turn lane. This revised design of Owens Street may be implemented either by widening Owens Street after construction of the roadway as originally planned, or by constructing Owens Street in its widened condition upon initial construction. The City, in its reasonable discretion, will determine whether to implement, with funding from UCSF, this measure or implement other measures that would result in acceptable intersection levels of service, as defined by the San Francisco Planning Department. *Note: The above measure provides for space for an additional left turn lane. The lane itself would not be constructed until and unless warranted based on level-of-service analysis pursuant to the traffic monitoring plan.*

Timing: During construction of Phase I of the MCMB

- **Measure 3**
  **Owens Street at the Center Garage Access.** *Left Turn Lane*: provision of an exclusive left turn lane resulting in a lane configuration of one exclusive left turn lane, one through lane, and one shared through right turn lane at the northbound and southbound approaches. This measure will require widening the street right-of-way an additional 16 feet to the east between the North and South Connector roads.

Timing: During construction of Phase I of the MCMB

- **Measure 4**
  **Owens Street at the South Connector Road.** *Southbound Left Turn Lane*: provision of a new southbound left turn lane at the South Connector Road. This would increase the width of the roadway by approximately 16 feet to the east to accommodate the additional turn lane and median, from the Center Garage Access to the south side of the South Connector Road.

Timing: During construction of Phase I of the MCMB

In advance of the implementation of the improvement measures described below, UCSF would monitor traffic volumes pursuant to a monitoring plan developed with the City and County of San Francisco. Should it be anticipated that the significant traffic impact at these intersections will occur, UCSF would work with City and County of San Francisco staff to implement the measures
as described below or to determine equally or more effective alternate lane configurations necessary to maintain an acceptable level of service (currently defined as LOS D or better) at that time.

- **Measure 5**
  **Owens Street at the Center Garage Access.** *Signalization:* monitor traffic conditions on Owens Street at the Center Garage Access and work with the City and County of San Francisco to install a traffic signal when warranted to maintain an acceptable level of service (currently defined as LOS D or better). UCSF would coordinate with the City and County of San Francisco in the periodic update of the Mission Bay traffic triggers survey and would monitor on-site parking access and circulation on Owens Street in order to determine the need and timing for a traffic signal at this intersection.

  **Timing:** This intersection will be monitored and a traffic signal installed when warranted, based on the City’s standard traffic signal warrants.

- **Measure 6**
  **Mariposa and 3rd Street Intersection.** *Southbound Approach:* provision of an exclusive right turn lane and conversion of the shared through-right turn lane to a through lane, resulting in a lane configuration of one exclusive left turn lane, two through lanes and one exclusive right turn lane at this approach. This would involve widening the street right-of-way an additional 11 feet to the west compared to the Mission Bay Plan, for a length of approximately 150 feet, by dedicating UCSF land.

  **Timing:** This intersection will be monitored and this measure or an equally or more effective design solution necessary to maintain an acceptable level of service (currently defined as LOS D or better) will be determined and implemented prior to the time a significant impact is anticipated to occur.

- **Measure 7**
  **16th Street and 3rd Street Intersection.** *Eastbound Approach:* conversion of the exclusive left turn lane to a shared through-left turn lane and conversion of the shared through-right turn lane to an exclusive right turn lane, resulting in a lane configuration of one shared through-left turn lane, one through lane, and one exclusive right turn lane at this approach.

  This measure can be accomplished by re-striping the travel lanes within the existing right-of-way and no roadway widening would be necessary.

  **Timing:** This intersection will be monitored and this measure or an equally or more effective design solution necessary to maintain an acceptable level of service (currently defined as LOS D or better) will be determined and implemented prior to the time a significant impact is anticipated to occur.

- **Measure 8**
  **16th Street and 3rd Street Intersection.** *Westbound Approach:* conversion of the exclusive left turn lane to a shared through-left turn lane, resulting in a lane configuration of one shared through-left turn lane and one shared through-right turn lane at this approach.
This measure can be accomplished by re-striping the travel lanes within the existing right-of-way and no roadway widening would be necessary.

Timing: This intersection will be monitored and this measure or an equally or more effective design solution necessary to maintain an acceptable level of service (currently defined as LOS D or better) will be determined and implemented prior to the time a significant impact is anticipated to occur.

In addition to the traffic improvement measures identified above which may be needed to mitigate significant traffic impacts in Phase II, additional traffic improvement measures are proposed by the University that require approval by the City. These measures are not needed as mitigation for Phase II. These traffic improvement measures are proposed as follows, subject to final review and approval by City agencies with jurisdiction over the proposed measures following completion of environmental review.

- **Measure 9**
  **3rd Street. Southbound lane along the length of the Energy Center:** a new truck pullout curb lane, or refuge lane, would be built between the two driveways – truck access and egress to/from the loading dock - to facilitate the turn and minimize the potential for trucks to block the two southbound lanes on 3rd Street. The MCMB project is set back from the UCSF property line to accommodate this lane and allow a continuous sidewalk.

  Timing: During construction of Phase I of the MCMB

- **Measure 10**
  **16th and Owens Streets. Northwest corner:** expansion of the corner sidewalk and realignment of the pedestrian crosswalk across Owens Street, thereby reducing the Owens Street crossing distance on the north side of 16th Street to about 90 feet (down from about 100 feet) and reducing the 16th Street crossing distance on the west side of Owens to about 95 feet (down from about 105 feet).

  Timing: During construction of Phase I of the MCMB

- **Measure 11**
  **16th and Owens Streets. Southeast Corner:** expansion of the corner sidewalk, reducing the Owens Street crossing distance on the south side of 16th Street to about 85 feet (down from its current design of about 89 feet).

  Timing: During construction of Phase I of the MCMB

**Construction Schedule**

The proposed plaza construction would begin in 2013 and is expected to be completed by the time Phase I of the Medical Center at Mission Bay is completed in August 2014. Construction of the traffic improvement measures would occur during Phase I or Phase II as indicated above. Construction of the pedestrian bridges would occur during Phase II if and when it is approved.
2.4 PROJECT OBJECTIVES

Section 15124(b) of the State CEQA Guidelines requires that the project description in an EIR include “a statement of the objectives sought by the applicant,” which should include “the underlying purpose of the project.” The objectives of the proposed Project are:

- to provide a safe and clear east/west connection between the Phase I Medical Center facilities on the east side of Fourth Street and the parking facilities on the west side of Fourth Street in Phase I; and parking and medical center facilities on the west side of Fourth Street in Phase II, particularly for children, the elderly, and those with compromised health or disabilities
- to provide a safe and inviting north/south pathway for pedestrians and bicyclists traveling on the Fourth Street right-of-way
- to develop a well-designed public open space that welcomes patients, visitors, staff, and the general public
- to minimize conflicts among vehicles, pedestrians, and bicyclists
- to maintain adequate access to the Medical Center emergency room and urgent care facilities
- to develop an open space that provides flexibility of use for UCSF events
- to develop well-designed bridges in Phase II, facilitated by design criteria agreed upon by the City and the University

2.5 TOPICS OF KNOWN CONCERN

To determine which environmental topics should be addressed in this EIR, UCSF prepared an Initial Study and circulated it along with a Notice of Preparation (NOP) in order to receive input from interested public agencies and private parties. Copies of the NOP and Initial Study are presented in Appendix A of this EIR. Based on both the Initial Study and public comments received, this EIR addresses the following environmental topics in-depth:

- Aesthetics
- Land Use
- Transportation

2.6 IMPACT SUMMARY

A detailed discussion regarding potential impacts is provided in Section 4.0, Environmental Setting, Impacts, and Mitigation Measures. In accordance with the State CEQA Guidelines, a summary of the project’s impacts is provided in Table 2.0-1, Summary of Impacts and Mitigation Measures, presented at the end of this section. All project-level impacts of the proposed Project would either be less than significant or would be reduced to a less-than-significant level with the proposed project-level mitigation measures. All cumulative impacts would also be less than significant.
2.7 ALTERNATIVES TO THE PROPOSED PROJECT

The alternatives evaluated in this EIR focus on avoiding or further reducing potentially significant impacts related to traffic. Project alternatives include the following:

**Alternative 1: No Project Alternative.** This alternative assumes Fourth Street would be developed as a vehicular through-street as envisioned in the Mission Bay South Redevelopment Plan and as assumed in the MCMB EIR. Under this alternative, no plaza would be constructed in the Fourth Street right-of-way, but the Fourth Street frontage on MCMB property could be designed with a small plaza and landscaping. The cul-de-sacs would be located on MCMB property as assumed in the MCMB EIR. Under this alternative, no pedestrian bridges across Fourth Street would be constructed in Phase II.

**Alternative 2: Fourth Street Open as Shared Street Alternative.** Under this alternative, Fourth Street would be open to vehicular traffic but would also accommodate bicyclists and pedestrians within the same space as vehicles. The roadway would be designed utilizing traffic-calming measures to discourage vehicular through-traffic, and would include visual and non-visual cues to slow travel speeds and inform drivers and bicyclists of the presence of pedestrians. Under this alternative, it is anticipated that some vehicular through-traffic would still occur, but to a lesser degree than with Fourth Street fully open. Under this alternative, pedestrian bridges across Fourth Street would be constructed in Phase II.

Detailed descriptions of the two alternatives evaluated in detail and their comparative merits are presented in Chapter 6, Alternatives, of this EIR. Table 2.0-2, Summary Comparison of Project Alternatives, which follows Table 2.0-1, presents a comparison of the environmental impacts of each alternative to those that are expected to result from the proposed Project.

2.8 ISSUES TO BE RESOLVED / AREAS OF CONTROVERSY

This EIR addresses environmental issues associated with the proposed project that are known to the lead agency or were raised by other public agencies or interested parties during the EIR scoping process. An EIR scoping meeting was held at Genentech Hall on the Mission Bay campus site on January 23, 2012. The purpose of this meeting was to inform the public and interested agencies of the proposed project, solicit comments, and identify areas of concern.

During the scoping meeting, a commenter requested that shuttle operations within the proposed cul-de-sacs on Fourth Street be evaluated for safety issues and for general operational impacts to Fourth Street on the Project site; and that a “shared-street” alternative should be analyzed. The commenter also requested that the EIR undertake a comprehensive evaluation of all shuttles within the Mission Bay area, to review potential redundancies and ways to consolidate service or gain efficiencies in operations. Further, the commenter also expressed opposition to the Project because it would eliminate non-emergency vehicular through-traffic on this segment of Fourth Street and, in the opinion of the commenter, privatize this segment of Fourth Street. In response to these comments, shuttle operations within and in the vicinity of the proposed plaza are...
analyzed in Section 4.3, Transportation, and Chapter 6 Alternatives includes the Fourth Street Open as a Shared Street Alternative.

As the purpose of the EIR is to evaluate the physical environmental impacts of a proposed project, the EIR is not the appropriate study in which to undertake a comprehensive evaluation of all shuttle service within the Mission Bay area, a much broader topic that extends beyond the scope of the Project. Therefore, the broader shuttle operations in the Mission Bay area are not analyzed in this EIR. The commenter submitted a written comment letter at the scoping meeting, included in Appendix A of this EIR, which reiterates the oral comments made at the scoping meeting and argues that the Project is not needed.

No other areas of controversy are known to the lead agency.
## Table 2.0-1
### Summary of Impacts and Mitigation Measures

<table>
<thead>
<tr>
<th>Environmental Topic and Impact</th>
<th>Level of Significance before Mitigation</th>
<th>Mitigation Measures</th>
<th>Level of Significance after Mitigation</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.1 Aesthetics</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact AES-1</td>
<td>Less than significant</td>
<td>No project-level mitigation measure required.</td>
<td>Less than significant</td>
</tr>
<tr>
<td>The proposed Project could have a substantial adverse effect on a scenic vista.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact AES-2</td>
<td>Less than significant</td>
<td>No project-level mitigation measure required.</td>
<td>Less than significant</td>
</tr>
<tr>
<td>The proposed Project could substantially degrade the existing visual character or quality of the site and its surroundings.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative Impact AES-3</td>
<td>Less than significant</td>
<td>No mitigation measure required.</td>
<td>Less than significant</td>
</tr>
<tr>
<td>Proposed Project activities could have a substantial cumulative adverse effect on a scenic vista, or substantially degrade the existing visual character or quality of the site and its surroundings</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.2 Land Use</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact LU-1</td>
<td>Less than significant</td>
<td>No project-level mitigation measure required.</td>
<td>Less than significant</td>
</tr>
<tr>
<td>The proposed Project could conflict with applicable land use plans, policies, or regulations of an agency with jurisdiction over the Project.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cumulative Impact LU-2</td>
<td>Less than significant</td>
<td>No mitigation measure required.</td>
<td>Less than significant</td>
</tr>
<tr>
<td>Proposed project activities could have a substantial cumulative adverse effect on land use plans or policies.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.3 Transportation</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact TRANS-1</td>
<td>Less than significant</td>
<td>No project-level mitigation measure required.</td>
<td>Less than significant</td>
</tr>
<tr>
<td>Construction of the proposed Project could result in significant construction-period impacts.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact TRANS-2</td>
<td>Less than significant</td>
<td>No project-level mitigation measure required.</td>
<td>Less than significant</td>
</tr>
<tr>
<td>In Phase I, the proposed Project could result in a significant traffic impact on the adjacent roadway network.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Impact TRANS-3</td>
<td>Less than significant</td>
<td>No project-level mitigation measure required.</td>
<td>Less than significant</td>
</tr>
<tr>
<td>In Phase II, the proposed Project could result in a significant traffic impact on the adjacent roadway network.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Environmental Topic and Impact</td>
<td>Level of Significance before Mitigation</td>
<td>Mitigation Measures</td>
<td>Level of Significance after Mitigation</td>
</tr>
<tr>
<td>--------------------------------</td>
<td>----------------------------------------</td>
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<td>---------------------------------------</td>
</tr>
<tr>
<td><strong>Impact TRANS-4</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Shuttle operations at the Project site could have a significant adverse effect on Fourth Street operations, including the safety of pedestrians and bicyclists.</td>
<td>Less than significant</td>
<td>No project-level mitigation measure required.</td>
<td>Less than significant</td>
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<tr>
<td><strong>Cumulative Impact TRANS-5</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Proposed Project activities could have a substantial cumulative adverse effect on traffic conditions in the vicinity.</td>
<td>Less than significant</td>
<td>No mitigation measure required.</td>
<td>Less than significant</td>
</tr>
</tbody>
</table>
### Table 2.0-2
#### Summary Comparison of Project Alternatives

<table>
<thead>
<tr>
<th>Project Impact</th>
<th>Proposed Project</th>
<th>Alternative 1- No Project Alternative</th>
<th>Alternative 2-Fourth Street as Shared Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>AES-1 Effects on a scenic vista</td>
<td>Less than Significant. Some impacts to view corridor.</td>
<td>No impact.</td>
<td>Less than Significant. Bridges would result in same or similar view corridor impacts as Project.</td>
</tr>
<tr>
<td>AES-2 Effects on visual character and quality</td>
<td>Less than Significant</td>
<td>Less than Significant. Fourth Street not as aesthetically pleasing compared to Project.</td>
<td>Less than Significant.</td>
</tr>
<tr>
<td>AES-3 Cumulative adverse effects on a scenic vista or visual character/quality</td>
<td>Less than Significant</td>
<td>Less than Significant</td>
<td>Less than Significant.</td>
</tr>
<tr>
<td>LU-1 Conflicts with applicable land use plans, policies, or regulations of an agency with jurisdiction over the Project</td>
<td>Less than Significant. Fourth Street open to through-vehicular traffic consistent with traffic circulation of Mission Bay South Plan as originally envisioned.</td>
<td>No impact. Fourth Street open to through-vehicular traffic consistent with traffic circulation of Mission Bay South Plan as originally envisioned.</td>
<td>Less than Significant. Fourth Street open as a shared street more consistent with traffic circulation of Mission Bay South Plan as originally envisioned, compared to Project.</td>
</tr>
<tr>
<td>LU-2 Cumulative adverse effect on land use plans or policies</td>
<td>Less than Significant</td>
<td>No impact</td>
<td>Less than Significant.</td>
</tr>
<tr>
<td>TRANS-1 Construction-period traffic and parking impacts</td>
<td>Less than Significant</td>
<td>Less than Significant</td>
<td>Less than Significant.</td>
</tr>
<tr>
<td>TRANS-2 Phase I traffic impacts on the adjacent roadway network</td>
<td>Less than Significant</td>
<td>No impact</td>
<td>Less than Significant.</td>
</tr>
<tr>
<td>TRANS-3 Phase II traffic impacts on the adjacent roadway network</td>
<td>Less than Significant with 8 traffic improvement measures included in Project</td>
<td>Less than Significant with 2 traffic improvement measures included in No Project Alternative</td>
<td>Less than Significant with 6 traffic improvement measures included in Fourth Street Open as a Shared Street Alternative</td>
</tr>
<tr>
<td>TRANS-4 Shuttle impacts on Fourth Street operations and pedestrian/bicyclist safety</td>
<td>Less than Significant</td>
<td>Less than Significant</td>
<td>Less than Significant.</td>
</tr>
<tr>
<td>TRANS-5 Cumulative impacts on traffic conditions in the vicinity</td>
<td>Less than Significant</td>
<td>Less than Significant</td>
<td>Less than Significant.</td>
</tr>
</tbody>
</table>
CHAPTER 3
PROJECT DESCRIPTION

3.1 OVERVIEW

The University of California, San Francisco (UCSF) proposes to construct and maintain a public plaza at the UCSF Medical Center at Mission Bay (MCMB) site located on University property and the adjacent Fourth Street right-of-way between 16th and Mariposa Streets. The proposed Project would result in the closure of Fourth Street to non-emergency vehicular through-traffic at this location. The City and County of San Francisco’s designated pedestrian access and bicycle route on the Fourth Street right-of-way would be maintained. In addition, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors in Phase II of the Medical Center at Mission Bay. Also proposed are traffic improvement measures on streets adjacent to the MCMB site.

Each campus of the University of California (“University”) is required to prepare a Long Range Development Plan (“LRDP”) that sets forth concepts, principles, and plans to guide future growth of that campus. The Board of Regents of the University of California (“The Regents”) adopted the UCSF 1996 LRDP, which outlines development proposals through the academic year 2011/12. The LRDP has since had three major amendments: LRDP Amendment #1 finalized the functional zones for the Mission Bay campus site and redistributed the 2.65 million gross square foot (gsf) space program for the campus to include housing; LRDP Amendment #2 established Mission Bay as the location for expansion of UCSF’s clinical activities, including a new hospital, associated outpatient clinics, and support facilities such as parking; and LRDP Amendment #3, expanded the boundary of the Mission Bay campus site to include the 14.5-acre MCMB site, for a total of 57 acres at the Mission Bay campus site, and established a functional zone for the MCMB. An EIR was prepared for each major amendment. The 1996 LRDP EIR, together with the three EIRs prepared for LRDP amendments, are collectively the “LRDP EIR.”

The University’s long-term plan is to develop a hospital complex at Mission Bay that would include two hospital buildings and associated outpatient and support buildings, constructed in phases, on the MCMB site bounded by 16th Street, Third Street, Mariposa Street, and future Owens Street; and bisected by the Fourth Street right-of-way between 16th and Mariposa Streets. In September 2008, the Regents certified the UCSF Medical Center at Mission Bay EIR (“MCMB EIR”), which analyzed the UCSF MCMB hospital complex in two major phases, the LRDP Phase (Phase I), which was analyzed at a project level, and Future Phase (Phase II), which was analyzed at a program level. Phase I included a 289-bed hospital, consisting of three specialty hospitals for women, children, and cancer patients; a medical helipad; an Outpatient building and a Cancer Outpatient building, consisting of 336,500 gross square feet (GSF); a 36,000 GSF Energy Center;
and a 600-space parking structure with 475-surface parking spaces, totaling 1,075-parking spaces. Phase II would include a 261-bed hospital and approximately 225 to 925 parking spaces. Phase II, as analyzed in the MCMB EIR, also would include the construction of two pedestrian bridges on the second and third floors of the hospitals and Outpatient building that would connect Phase I development on the east side of Fourth Street to Phase II development on the west side of Fourth Street. Upon completion of both phases, the UCSF Medical Center at Mission Bay would provide a total of 550 hospital beds, outpatient facilities, and associated support space comprising a total of about 1.8 million GSF, and parking. The Regents approved the Phase I hospital, the Energy Center, the Outpatient building, surface parking and construction of the medical helipad in September 2008. Groundbreaking for the approved components of Phase I began in December 2010, with the hospital complex scheduled to open in early 2015.

Following the 2008 Regents’ approval of Phase I, the University prepared two supplemental analyses related to the Medical Center at Mission Bay. In April 2009, the University certified a Supplemental EIR (“SEIR”) for the UCSF Medical Center at Mission Bay — Residential Sound Reduction Program for Helicopter Operations, and approved operation of the helipad, which is under construction. In April 2011 the University certified an SEIR for the UCSF Medical Center at Mission Bay – Phase I Parking Structure, which was proposed to increase from the previously analyzed 600 spaces to 626 spaces, and approved the Phase I parking structure project. The parking structure is now under construction and anticipated to open around August 2012. Approval of the remaining building in Phase I, the Cancer Outpatient building, is planned to occur at a future date when funding becomes available.

The University now proposes to construct and maintain a public plaza at the MCMB site located on University property and the adjacent Fourth Street right-of-way between 16th and Mariposa Streets as part of Phase I. Fourth Street currently terminates at 16th Street. Fourth Street adjacent to the MCMB site has been planned as a City street but has not yet been constructed. Under the proposed Project, the City and County of San Francisco’s designated pedestrian access and bicycle route on the Fourth Street right-of-way would be maintained, as well as emergency vehicle access. In addition, at the time Phase II of the MCMB is proposed and constructed, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors of the Phase I and Phase II buildings.

The proposed Project also includes implementation of various traffic improvement measures that require approval by the City and County of San Francisco. If UCSF approves the Project, it will then seek City approval for the Project, including the traffic improvement measures (to be funded by the University unless an alternative funding source is identified), to be implemented either as part of Phase I or by the time a traffic monitoring plan proposed as part of the Project indicates the measures are needed. These measures and the traffic monitoring plan are explained further in Section 3.3 below.

Under the proposed Project, the right-of-way would remain City land and the University would seek a major encroachment permit, and associated documents and agreements, from the City for its use as a public plaza. The University would also seek from the City a lease for an
underground utility tunnel beneath Fourth Street in Phase I (analyzed in the MCMB EIR), and for air rights to construct the bridges across Fourth Street in Phase II.

The medical center project analyzed in the MCMB EIR assumed that Fourth Street between 16th and Mariposa Streets adjacent to the MCMB site would be constructed and opened to vehicular through-traffic. The proposed Project was analyzed as an alternative in the MCMB EIR (referred to as the Fourth Street Closed to Through Traffic Alternative). While certain features of the proposed Project have evolved, the main components remain the same. Like the Project, the Fourth Street Closed to Through Traffic Alternative envisioned that Fourth Street would be closed to vehicular through-traffic, but would allow pedestrian and bicycle traffic on Fourth Street through the site. Additionally, it was envisioned that both northbound and southbound vehicular traffic on Fourth Street would end at two separate cul-de-sacs or traffic circles, one near the north side of the site and one near the south, where passengers could be dropped off. The cul-de-sacs were separated by a large plaza. Since the MCMB EIR analysis of the Fourth Street Closed to Through Traffic Alternative, refinements have occurred in the plaza design as well as bicycle and pedestrian circulation. Also, the MCMB EIR Alternative included in Phase II a connector building that would span across Fourth Street at the second and third floors of the Phase I and Phase II MCMB buildings, The Project does not propose a connector building and instead includes in Phase II two bridges on the third and fourth floors. This EIR relies on and updates the MCMB EIR analysis where applicable to account for changes to the Project since its analysis as an alternative in the MCMB EIR.

3.2 PROJECT OBJECTIVES

Section 15124(b) of the State CEQA Guidelines requires that the project description in an EIR include “a statement of the objectives sought by the applicant,” which should include “the underlying purpose of the project.” The objectives of the proposed Project are:

- to provide a safe and clear east/west connection between the Phase I Medical Center facilities on the east side of Fourth Street and the parking facilities on the west side of Fourth Street in Phase I; and parking and medical center facilities on the west side of Fourth Street in Phase II, particularly for children, the elderly, and those with compromised health or disabilities
- to provide a safe and inviting north/south pathway for pedestrians and bicyclists traveling on the Fourth Street right-of-way
- to develop a well-designed public open space that welcomes patients, visitors, staff, and the general public
- to minimize conflicts among vehicles, pedestrians, and bicyclists
- to maintain adequate access to the Medical Center emergency room and urgent care facilities
- to develop an open space that provides flexibility of use for UCSF events
- to develop well-designed bridges in Phase II, facilitated by design criteria agreed upon by the City and the University
3.3 PROJECT DESCRIPTION

The UCSF Mission Bay campus site is one of three major UCSF campus sites in San Francisco. As shown in Figure 3-1, UCSF Campus Sites, the 57-acre Mission Bay campus site is located approximately one and one-half miles south of downtown, within the Mission Bay South Redevelopment Plan Area. The Mission Bay campus site is bounded by Mission Bay Boulevard South to the north, Third Street to the east, Mariposa Street to the south, and Owens Street to the west (see Figure 3-2, Mission Bay Campus Site). The MCMB site is within the Mission Bay campus site on Mission Bay South Plan Parcels 36-39, and X3, bordered by 16th Street to the north, 3rd Street to the east, and Mariposa Street to the south. To the west are undeveloped land and the Interstate 280 freeway. In the future, a new segment of Owens Street would extend south of 16th Street to form the western boundary of the MCMB site.

As discussed above, Fourth Street currently terminates at 16th Street. Fourth Street adjacent to the MCMB site has been planned as a City street but has not yet been constructed. The proposed Fourth Street Public Plaza would be located on a portion of the Fourth Street right-of-way between 16th and Mariposa Streets (see Figure 3-3, Project Site). The proposed plaza would also extend onto UCSF property on parcels 36-39 and X-3 on the east and west sides of Fourth Street.

Fourth Street Public Plaza

The MCMB EIR projected that over 3,500 daily pedestrian trips across Fourth Street would occur with the opening of the Phase I hospital complex in 2015, and that pedestrian trips would increase with the construction of the Phase II hospital complex. The proposed Fourth Street Public Plaza is intended to provide a safe and clear east/west connection between the hospital entrances on the east side of Fourth Street and, in Phase I, the parking facilities on the west side of Fourth Street. In Phase II, the connection to the west side of Fourth Street would be to future medical center buildings and additional parking. In addition, the Project is intended to provide to MCMB visitors, staff and the general public a welcoming, landscaped open space with a lawn, gardens and seating areas for all to enjoy.

As discussed above, the project analyzed in the MCMB EIR and approved in September 2008 assumed Fourth Street between 16th and Mariposa Streets would be open to vehicular through-traffic (see Figure 3-4). The proposed Fourth Street Public Plaza would involve the closure of this segment of Fourth Street to non-emergency vehicular through-traffic, allowing vehicles only for passenger drop-off within two cul-de-sacs, one on the north side of the plaza and one on the south side (see Figures 3-5 through 3-8). Each of the cul-de-sacs would contain a vehicular travel lane and a passenger drop-off lane.
Project Site is within the Mission Bay Campus Site
Source: UCSF

Figure 3-2
UCSF Mission Bay Campus Site,
Project Site
Source: UCSF Campus Planning

Figure 3-3
Project Site
The proposed public plaza is intended to provide a variety of open space experiences, from open, active gathering spaces to quieter and more enclosed seating areas. A proposed amphitheater in the northern portion of the plaza would be a gathering place for large groups and provide a northerly view up Fourth Street from atop a berm of about 12 feet in height.

In the center of the proposed plaza would be an open, flexible-use space. An adjacent tree grove containing benches and other seating would provide for a quieter, contemplative space. Along the eastern side of the plaza would be a “bench walk” consisting of a lengthy, continuous bench and plantings. The western side of the plaza would feature a wide, tree-lined multi-use promenade for pedestrians and bicyclists (see Figures 3-9 through 3-13).

Events on the plaza for large groups of approximately 100 to 200 persons are estimated to occur infrequently, perhaps three times per month. These events could include community concerts or performing arts at the lunchtime hour, and public health education speakers. Annually, events on the plaza may include faculty and staff recognition events, volunteer appreciation, and hospital gala events. Events may or may not include sound amplification, consisting of a simple microphone and speaker system used to project sound within the amphitheater or, in the case of the galas, within a large tent. If sound amplification is used, sound levels would be kept to the lowest level possible so as not to disturb patients within the Medical Center or surrounding land uses, while ensuring those on the plaza are able to hear the speakers and/or music. Sound for the amphitheater would be directed north toward the campus and outpatient building. UCSF would conduct activities on the plaza, including sound amplification, in compliance with the San Francisco Noise Ordinance.

The proposed Project would include clearly designated public bicycle paths to facilitate bicycle travel and to minimize conflicts amongst bicycles, motor vehicles and pedestrians. On the north end of the Project site and on the south end of the site, a Class 2 bicycle lane is proposed on Fourth Street (northbound on the east side of Fourth Street and southbound on the west side of Fourth Street). Between North Connector Road and South Connector Road, the bicycle lanes in both the northbound and southbound directions would share with pedestrians the promenade on the west side of Fourth Street, with clear signage and other visual cues to minimize conflicts.

The plaza would also include clearly designed pedestrian pathways to direct safe pedestrian travel through the plaza and to designated crossings across Fourth Street, as well as to the mid-block crossing leading to the MCMB parking facilities on the west side of Fourth Street.

**Pedestrian Bridges**

Two enclosed pedestrian bridges are proposed at the third and fourth floors across Fourth Street that would connect Phase I development (at the hospitals and Outpatient building) on the east side of Fourth Street to Phase II development on the west side of Fourth Street. The necessary authorization by the City for the future construction of the pedestrian bridges is proposed for consideration and approval as part of the Project. The authorization would include design standards for the bridges, which have been agreed upon by the City and the University. If and when the Phase II project and bridges are considered for approval in the future by the University, the City would conduct design review of the bridges.
Source: Anshen + Allen Architects

Figure 3-4
Medical Center at Mission Bay Site Plan with Fourth Street open to through traffic, as approved in September 2008
Proposed Phase I Plaza Concept Plan

Source: CMG Landscape Architecture, 2012

Figure 3-5
Figure 3-6
Proposed Phase II Plaza Concept Plan
Source: CMG Landscape Architecture, 2011

Figure 3-7
Phase I Bird’s-eye View
(preliminary rendering)
Source: CMG Landscape Architecture, 2011

**Figure 3-8**

Phase II Bird’s-eye View
(preliminary rendering)
Source: CMG Landscape Architecture, 2012

**Figure 3-9**
Looking north on Fourth Street
(preliminary rendering)

Source: CMG Landscape Architecture, 2012

**Figure 3-10**
Looking south on Fourth Street
(preliminary rendering)
Source: CMG Landscape Architecture, 2012

**Figure 3-11**
View of Amphitheater
(preliminary rendering)

Source: CMG Landscape Architecture, 2012

**Figure 3-12**
View of Grove from South Drop-off
(preliminary rendering)
Source: CMG Landscape Architecture, 2012

Figure 3-13
Fourth Street section/elevation looking south and plan view
Traffic Improvement Measures

The Project includes traffic improvement measures at intersections around the MCMB site. Some of the traffic improvement measures are anticipated to be necessary to avoid potential significant traffic impacts of the proposed Project that would occur if Phase II of the MCMB is ultimately approved and constructed. Based on the traffic analysis contained within the MCMB EIR for the Fourth Street Closed to Through Traffic Alternative, traffic improvements would be needed on adjacent streets (16th Street, Third Street, and Owens Street) to mitigate significant traffic impacts that are anticipated to occur in Phase II. As such, the traffic improvement measures are not proposed as mitigation measures for this Project as the closure of Fourth Street to non-emergency vehicular through-traffic would not result in significant traffic impacts as a result of traffic associated with Phase I of the MCMB. UCSF is proposing to include the traffic improvement measures as part of this Project and to obtain City approval of the measures, so that the University may implement them if and when needed as part of the Phase II project.

Since 2008, the University has been working with the San Francisco Redevelopment Agency\(^1\) and various agencies of the City and County of San Francisco, including the Municipal Transportation Agency, the Planning Department, and the Department of Public Works to reach conceptual agreement on the appropriate scope, timing, and triggers for traffic improvement measures around the MCMB site. City staff is agreeable to having UCSF implement some of the measures as part of the Phase I development, that is, before they are needed. For other measures, the City prefers that they not be implemented until they are needed. To address the timing of implementation of these measures, UCSF is proposing to implement a traffic monitoring plan as part of the Project, included in Appendix C of this EIR. UCSF would track conditions at the relevant intersections and use the monitoring information to decide, with the City, the timing of implementation of the measures as the need arises. The measures would either be implemented before they are needed or by the time they are needed. UCSF would commit to their implementation and obtain City approval to implement the measures as part of this Project. In addition, if and when Phase II is proposed, project-level environmental review of Phase II will be conducted. At that time, Phase II traffic impacts will be analyzed with the currently proposed or planned traffic improvement measures in place, and any traffic mitigation measures required for Phase II will be identified.

The traffic improvement measures included as part of the Project are described below and would be subject to final review and approval by City agencies with jurisdiction over the proposed measures following certification of this EIR. Measures 1 through 4 are improvement measures affecting the future Owens Street extension between 16th and Mariposa Streets and are proposed to be implemented early (i.e. in Phase I) before they are triggered in Phase II, to coincide with the initial construction of that street. Measures 5 through 8 would be implemented as needed based

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\(^1\) On June 28, 2011, the California Governor approved AB 26, which dissolved all redevelopment agencies as of November 1, 2011, and AB 27. AB 26 was the “dissolution” bill, which set November 1, 2011 as the date to dissolve all redevelopment agencies. The companion legislation AB 27, the “reinstatement” bill, allowed cities to keep their agencies in place by committing to substantial “community remittances” to be paid to the State. In July 2011, a lawsuit was filed challenging the constitutionality of both AB 26 and AB 27. On December 29, 2011, the California Supreme Court issued its decision: it upheld AB 26, but struck down AB 27. As a result, under the schedule set by the Supreme Court, the San Francisco Redevelopment Agency was dissolved on February 1, 2012. In its place the City as the Redevelopment Successor Agency established an Oversight Board to exercise land use, development and design approval authority under the enforceable obligations for the Mission Bay South Redevelopment Project Area and certain other redevelopment project areas.
on the traffic monitoring plan. Measures 9 through 11 are proposed to be implemented as part of Phase I.

- **Measure 1**
  **16th Street and Owens Intersection. Southbound Approach:** conversion of the exclusive left turn lane to a shared through-left turn lane and conversion of the shared through-right turn lane to an exclusive right turn lane, resulting in a lane configuration of one shared through-left turn lane, one through lane, and one exclusive right turn lane at this approach. This measure can be accomplished by re-striping the travel lanes within the existing right-of-way and no roadway widening would be necessary.
  
  **Timing:** During construction of Phase I of the MCMB

- **Measure 2**
  **16th Street and Owens Intersection. Northbound Approach:** provision of space in Phase I for an additional exclusive left turn lane if needed for Phase II development, resulting in a lane configuration of two exclusive left turn lanes, one through lane, and one shared through-right turn lane at this approach. This measure would involve an increase to the width of the roadway by approximately 19 feet to the east to accommodate the additional lane and a median, from 16th Street to the Center Garage Access Road. The additional space for the left turn lane would be developed in the interim as an extension of the street median, until needed as a left turn lane.
  
  This revised design of Owens Street may be implemented either by widening Owens Street after construction of the roadway as originally planned, or by constructing Owens Street in its widened condition upon initial construction. The City, in its reasonable discretion, will determine whether to implement, with funding from UCSF, this measure or implement other measures that would result in acceptable intersection levels of service, as defined by the San Francisco Planning Department.
  
  **Note:** The above measure provides for space for an additional left turn lane. The lane itself would not be constructed until and unless warranted based on level-of-service analysis pursuant to the traffic monitoring plan.
  
  **Timing:** During construction of Phase I of the MCMB

- **Measure 3**
  **Owens Street at the Center Garage Access. Left Turn Lane:** provision of an exclusive left turn lane resulting in a lane configuration of one exclusive left turn lane, one through lane, and one shared through right turn lane at the northbound and southbound approaches. This measure will require widening the street right-of-way an additional 16 feet to the east between the North and South Connector roads.
  
  **Timing:** During construction of Phase I of the MCMB
• **Measure 4**  
*Owens Street at the South Connector Road. Southbound Left Turn Lane:* provision of a new southbound left turn lane at the South Connector Road. This would increase the width of the roadway by approximately 16 feet to the east to accommodate the additional turn lane and median, from the Center Garage Access to the south side of the South Connector Road.  

Timing: During construction of Phase I of the MCMB

In advance of the implementation of the improvement measures described below, UCSF would monitor traffic volumes pursuant to a monitoring plan developed with the City and County of San Francisco. Should it be anticipated that the significant traffic impact at these intersections will occur, UCSF would work with City and County of San Francisco staff to implement the measures as described below or to determine equally or more effective alternate lane configurations necessary to maintain an acceptable level of service (currently defined as LOS D or better) at that time.

• **Measure 5**  
*Owens Street at the Center Garage Access. Signalization:* monitor traffic conditions on Owens Street at the Center Garage Access and work with the City and County of San Francisco to install a traffic signal when warranted to maintain an acceptable level of service (currently defined as LOS D or better). UCSF would coordinate with the City and County of San Francisco in the periodic update of the Mission Bay traffic triggers survey and would monitor on-site parking access and circulation on Owens Street in order to determine the need and timing for a traffic signal at this intersection.  

Timing: This intersection will be monitored and a traffic signal installed when warranted, based on the City’s standard traffic signal warrants.

• **Measure 6**  
*Mariposa and 3rd Street Intersection. Southbound Approach:* provision of an exclusive right turn lane and conversion of the shared through-right turn lane to a through lane, resulting in a lane configuration of one exclusive left turn lane, two through lanes and one exclusive right turn lane at this approach. This would involve widening the street right-of-way an additional 11 feet to the west compared to the Mission Bay Plan, for a length of approximately 150 feet, by dedicating UCSF land.  

Timing: This intersection will be monitored and this measure or an equally or more effective design solution necessary to maintain an acceptable level of service (currently defined as LOS D or better) will be determined and implemented prior to the time a significant impact is anticipated to occur.

• **Measure 7**  
*16th Street and 3rd Street Intersection. Eastbound Approach:* conversion of the exclusive left turn lane to a shared through-left turn lane and conversion of the shared through-right turn lane to an exclusive right turn lane, resulting in a lane
configuration of one shared through-left turn lane, one through lane, and one exclusive right turn lane at this approach.

This measure can be accomplished by re-striping the travel lanes within the existing right-of-way and no roadway widening would be necessary.

Timing: This intersection will be monitored and this measure or an equally or more effective design solution necessary to maintain an acceptable level of service (currently defined as LOS D or better) will be determined and implemented prior to the time a significant impact is anticipated to occur.

• **Measure 8**
  
  **16th Street and 3rd Street Intersection. Westbound Approach:** conversion of the exclusive left turn lane to a shared through-left turn lane, resulting in a lane configuration of one shared through-left turn lane and one shared through-right turn lane at this approach.

  This measure can be accomplished by re-striping the travel lanes within the existing right-of-way and no roadway widening would be necessary.

  Timing: This intersection will be monitored and this measure or an equally or more effective design solution necessary to maintain an acceptable level of service (currently defined as LOS D or better) will be determined and implemented prior to the time a significant impact is anticipated to occur.

In addition to the traffic improvement measures identified above which may be needed to mitigate significant traffic impacts in Phase II, additional traffic improvement measures are proposed by the University that require approval by the City. These measures are not needed as mitigation for Phase II. These traffic improvement measures are proposed as follows, subject to final review and approval by City agencies with jurisdiction over the proposed measures following completion of environmental review.

• **Measure 9**
  
  **3rd Street. Southbound lane along the length of the Energy Center:** a new truck pullout curb lane, or refuge lane, would be built between the two driveways – truck access and egress to/from the loading dock - to facilitate the turn and minimize the potential for trucks to block the two southbound lanes on 3rd Street. The MCMB project is set back from the UCSF property line to accommodate this lane and allow a continuous sidewalk.

  Timing: During construction of Phase I of the MCMB

• **Measure 10**
  
  **16th and Owens Streets. Northwest corner:** expansion of the corner sidewalk and realignment of the pedestrian crosswalk across Owens Street, thereby reducing the Owens Street crossing distance on the north side of 16th Street to about 90 feet (down from about 100 feet) and reducing the 16th Street crossing distance on the west side of Owens to about 95 feet (down from about 105 feet).

  Timing: During construction of Phase I of the MCMB
• Measure 11
  16th and Owens Streets. **Southeast Corner:** expansion of the corner sidewalk, reducing the Owens Street crossing distance on the south side of 16th Street to about 85 feet (down from its current design of about 89 feet).

  **Timing:** During construction of Phase I of the MCMB

### Construction Schedule

The proposed plaza construction would begin in 2013 and is expected to be completed by the time Phase I of the Medical Center at Mission Bay is completed in August 2014.

Construction of the traffic improvement measures would occur during Phase I or Phase II as indicated above.

Construction of the pedestrian bridges would occur during Phase II if and when it is approved.

### 3.4 MITIGATION MEASURES INCLUDED IN THE PROJECT AS PROPOSED

The following mitigation measures from the LRDP EIR, LRDP Amendment #2 EIR, MCMB EIR, and 1998 Mission Bay Final Subsequent EIR prepared by the City and County of San Francisco are included in and made part of the proposed Project:

**Aesthetics (Light and Glare)**

4.4-1 (LRDP Amendment #2 EIR): [note: as only certain portions of this mitigation measure are applicable to the proposed Project, the mitigation measure has been revised accordingly.]

Minimize light and glare from new hospital development through the orientation of buildings, the proposed project through use of landscaping materials, and choice of primary facade materials. Design standards and guidelines to minimize light and glare would be adopted for the new hospital development, including:

- Reflective metal walls and mirrored glass walls shall not be used as primary building materials for facades.
- Installation of illuminated building signage shall strive to be consistent with City Planning Code sign requirements and/or Mission Bay design guidelines.
- Exterior light fixtures shall be configured to emphasize close spacing and lower intensity light. Light fixtures shall use luminaries that direct the cone of light downward.

4.1-2 (LRDP Amendment #2 EIR):

UCSF would require a condition in construction contracts that flood or area lighting for construction activities be placed and directed so as to avoid potential disturbances to adjacent residences or other uses.
Air Quality

4.2-2 (LRDP Amendment #2 EIR): [note: this mitigation measure has been updated to be consistent with more recent BAAQMD dust control guidelines]
During construction, UCSF shall require the construction contractor to implement the appropriate level of BAAQMD’s dust control procedures for all construction sites. UCSF shall include this requirement in all construction contracts. This mitigates this impact to less than significant. Elements of the basic dust control program include, but are not necessarily limited to, the following:

- Water active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible;
- Cover trucks hauling soil, sand, and other loose materials or require trucks to maintain at least 2 feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer);
- Pave, apply water three times daily, or apply nontoxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites;
- Sweep daily (with water sweepers, using reclaimed water if possible) if soil material visible all paved access roads, parking areas, and staging areas at construction sites;
- Sweep streets daily (with water sweepers, using reclaimed water if possible) if visible soil material is carried onto adjacent public streets.
- All exposed surfaces (e.g. parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations.
If the working area of any construction site exceeds four acres at any one time, implement the enhanced PM10 control measures, in addition to the basic control measures listed above, in accordance with the BAAQMD CEQA Guidelines:

- Hydroseed or apply nontoxic soil stabilizers to inactive construction areas;
- Enclose, cover, water twice daily or apply non-toxic soil binders to exposed stockpiles;
- Limit vehicle speed on construction site unpaved roads to 15 miles per hour;
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways;
- Replant vegetation in disturbed areas as quickly as possible.

If the working area of any construction site is located near sensitive receptors, the following measures are strongly encouraged in addition to those listed above:

- Install wheel washers or wash off the tires of trucks and equipment leaving the site;
- Install wind breaks at the windward side(s) of construction areas;
- Suspend excavation and grading when winds exceed 25 miles per hour;
- Limit the area subject to excavation, grading, and other construction activity at any one time.

**MCMB.2-1 (MCMB EIR):**

To further mitigate less than significant project-level impacts, additional measures related to The 2007 CARB off-road diesel rule on equipment exhaust emissions from construction equipment shall be required in UCSF construction contracts to comply with the following measures:

- Prohibit the use of conventional cutback asphalt for paving to restrict the maximum VOC content of asphalt emulsion. Diesel portable generators less than 50 horsepower shall not be allowed at the construction site, except for those used by welders.
- All diesel-fueled engines used for on- and offsite construction activities shall be fueled only with ultralow sulfur diesel, which contains no more than 15 ppm sulfur.
- All construction diesel engines used for on- and offsite activities that have a rating of 100 hp or more shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless it is certified by the construction contractor that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be a Tier 1 engine. In the event a Tier 1 or Tier 2 engine is not available for any offroad engine larger than 100 hp, that engine shall be equipped with a CARB Level 3-verified diesel emission control device (e.g., catalyzed diesel particulate filter), unless the engine manufacturer or the construction contractor certifies that the use of such devices is not practical for specific engine types. In the event that a CARB Level 3 verified diesel emission control device is not practical for the specific engine type, then the engine shall be equipped with a CARB Level 1- or 2-verified control device (e.g., diesel oxidation catalyst), unless the engine manufacturer or the construction contractor certifies that such devices are not available for the engine in question. For purposes of this condition, the use of such devices is “not practical” if, among other reasons:
  1. The construction equipment is intended to be onsite for ten (10) days or less.
2. The use of the diesel emission control device is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or reduced power output due to an excessive increase in backpressure.

3. The diesel emission control device is causing or is reasonably expected to cause significant engine damage.

In the event that the use of a diesel emission control device is to be terminated, the construction contractor shall be required to inform the UCSF project manager within 10 days prior to such termination.

- Construction equipment shall be properly tuned and maintained in accordance with manufacturers’ specifications.
- Best management construction practices shall be used to avoid (or limit) unnecessary emissions (e.g., trucks and vehicles in loading and unloading queues would turn their engines off when not in use, and to the extent practical, all diesel heavy construction equipment shall not remain running at idle for more than five minutes)
- Use alternative fueled equipment when feasible (such as ULSD, CNG, biodiesel, water emulsion fuel, and electric). The construction contracts shall require each contractor and subcontractor to consider this measure and adopt it for their work unless they can demonstrate to UCSF the inapplicability or infeasibility of the measure to their specific work, or can provide mitigation measures with equivalent or better effectiveness. This information shall be reported as part of the Mitigation Monitoring Reporting and Compliance Program.
- Use on-site power when feasible to reduce reliance on portable generators. The construction contracts shall require each contractor and subcontractor to consider this measure and adopt it for their work unless they can demonstrate to UCSF the inapplicability or infeasibility of the measure to their specific work, or can provide mitigation measures with equivalent or better effectiveness. This information shall be reported as part of the Mitigation Monitoring Reporting and Compliance Program.

Cultural (Archaeological) Resources

4.3-1 (LRDP Amendment #2 EIR):
Should an archaeological artifact be discovered at the Mission Bay site during project construction and excavation, pursuant to CEQA Guidelines 15064.5 (f), “provisions for historical or unique archaeological resources accidentally discovered during construction” should be instituted. In the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 100 feet of the resources shall be halted and UCSF shall consult with a qualified archaeologist or paleontologist to assess the significance of the find (per Public Resource Code Section 5024.1, Title 14 CCR, Section 4852 and/or Public Resource Code 21083.2 in the event of a unique archaeological find). If any find is determined to be significant and will be adversely affected by the project, representatives of UCSF and the qualified archaeologist and/or paleontologist would meet to determine the appropriate avoidance measures or other appropriate mitigation (per CEQA Guidelines 15064.5 (b) and Public Resource Code 21083.2). All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and documented by the qualified archaeologist.
according to current professional standards (Per the Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716)).

If the discovery includes human remains, CEQA Guidelines 15064.5 (e)(1) shall be followed:

- In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:
  1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
     1. The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and
     2. If the coroner determines the remains to be Native American: (1) The coroner shall contact the Native American Heritage Commission within 24 hours. (2) The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. (3) The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or
  2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.
     1. The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.
     2. The descendant identified fails to make a recommendation; or
     3. The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.

12M4-2 (1996 LRDP EIR):
If construction activities associated with the Major New Site and Mission Bay occurred within areas shown on Figure 12-28, UCSF would implement mitigation measures, as adapted from Mitigation Measures J.1, J.2, J.3 and J.6 of the Mission Bay Mitigation Monitoring Program to protect historic archaeological resources:

- UCSF would retain the services of an archaeologist to instruct construction crews regarding potential historic archaeological resources and appropriate procedures to follow if such resources are uncovered.
- As required, the constructing archaeologist would develop archaeological exploration programs for the areas shown on Figure 12-28 having potential historic cultural resources. As required, the archaeologist would provide archaeological monitoring during construction in these areas. Particular attention would be given if development were proposed in the area occupied by the late 19th-century city dump.
Retain the services of an archaeologist, because of the strong possibility of encountering the remains of cultural or historic artifacts or features in the six historic resources areas. The Environmental Review Officer (ERO) in consultation with the President of the Landmarks Preservation Advisory Board (LPAB) and the archaeologist would determine: 1) whether the archaeologist should instruct all excavation and foundation crews on the project site of the potential for discovery of historic archaeological deposits and artifacts, and the procedures to be followed if such materials are uncovered; and 2) prior to the commencement of foundation excavation, a program of archaeological testing.

Regain a qualified historic archeologist to supervise a pre-foundation excavation testing program for each phase of Project Area development or each construction site, as appropriate, using a series of mechanical, exploratory borings or other testing methods determined by the archaeologist to be appropriate. A qualified historical archaeologist would supervise the testing in the six historic resource areas to determine the probability of finding cultural and historical remains. At the completion of the archaeological testing program, the archaeologist would submit a written report first and directly to the ERO and the President of the LPAB, with a copy to the project sponsor, which described the findings, assesses their significance and proposes appropriate recommendations for any additional procedures necessary for the mitigation of adverse impacts to cultural resources determined to be significant.

Retain a certified archaeologist to supervise a program of on-site monitoring during site excavation in the six historic resource areas, following site clearance and pre-excavation testing. The certified archaeologist would record observations in a permanent log. Should cultural or historic artifacts be found following commencement of excavation activities, the archaeologist would assess the significance of the find, and immediately report to the ERO and the President of LPAB. Upon receiving the advice of the consultant and the LPAB, the ERO would recommend specific mitigation measures, if necessary. The monitoring program, whether or not there are finds of significance, would result in a written report to be submitted first and directly to the ERO and the President of the LPAB, with a copy to the project sponsor.

Suspend excavation or construction activities which might damage discovered cultural resources for a total maximum of four weeks over the course of construction at each site to permit inspection, recommendation and retrieval, if appropriate.

Implement an appropriate security program to prevent looting or destruction, if cultural resources of potential significance are discovered. Any discovered cultural artifact assessed as significant by the archaeologist upon concurrence by the ERO and the President of the LPAB would be placed in a repository designated for such materials or possibly exhibited in a public display. Following approval of the archaeological testing and monitoring program reports by the ERO and the President of LPAB, a final report would be sent to the California Archaeological Site Survey Office at Sonoma State University, the Foundation for San Francisco’s Architectural Heritage and the State Office of Historic Preservation. The Office of Environmental Review would receive three final copies of the final archaeological findings report. Archaeological testing could be coordinated with other site investigations for geotechnical and toxic waste purposes.
Geology/Soils

4.4-4 (LRDP Amendment #2 EIR):
A site-specific, design-level geotechnical investigation shall be completed based on the proposed project design and shall provide engineering recommendations for mitigation of liquefiable soils, in accordance with the California Geological Survey’s Geology Guidelines for Evaluating and Mitigating Seismic Hazards (CGS Special Publication 117, 1997). These geotechnical recommendations shall be incorporated into the final design of the project.

Hydrology and Water Quality

4.6-3 (LRDP Amendment #2 EIR):
UCSF shall adopt Mitigation Measures K.2, K.3 and K.4 of the Mission Bay Subsequent EIR as follows:

K.2 Participate in the City’s existing Water Pollution Prevention Program. Facilitate implementation of the City’s Water Pollution Prevention Program by providing and installing wastewater sampling ports in any building anticipated to have a potentially significant discharge of pollutants to the sanitary sewer, as determined by the Water Pollution Prevention Program of the San Francisco Public Utilities Commission’s Bureau of Environmental Regulation and Management, and in locations as determined by the Water Pollution Prevention Program.

K.3 Design and construct sewer improvements such that potential flows to the City’s combined sewer system from the project do not contribute to an increase in the annual overflow volume as projected by the Bayside Planning Model by providing increased storage in oversized pipes, centralized storage facilities, smaller dispersed storage facilities, or detention basins, or through other means to reduce or delay stormwater discharges to the City system.

This mitigation measure could be implemented by including the Water Pollution Prevention Program in the review process, as each individual construction is proposed. The Water Pollution Prevention Program would review each project, determine if one or more sampling ports should be installed in a particular building, and specify the location of the sampling port(s).

K.4 Implement alternative technologies or use other means to reduce settleable solids and floatable materials in stormwater discharges to China Basin Channel to levels equivalent to, or better than, City-treated combined sewer overflows. Such alternatives technologies could include one or more of the following: biofilter system, vortex sediment system, catch basin filters, and/or additional source control measures to remove particulates from streets and parking lots.

Noise

MCMB.5-1 (MCMB EIR):
UCSF shall require construction contractors to minimize unavoidable construction noise impacts by use of proper equipment and work scheduling:

- Limit construction hours to the following schedule. [Monday through Friday, 7 a.m. to 5 p.m. for “Not Noisy” work; and Monday through Friday 8 a.m. to 5 p.m. for
Noisy work] Approve extended hours [Monday through Friday, 5 p.m. to 8 p.m.; Saturday 7 a.m. to 8 p.m.; and Sunday 8 a.m. to 4:30 p.m.] only with advanced notice from the UCSF project manager. Prohibit high impact noise on Saturdays and Sundays.

- Designate a UCSF Community Contact to receive and resolve construction complaints.

Transportation

4.11-1 (LRDP Amendment #2 EIR):
To assure that construction and/or demolition activities minimize parking demand and circulation obstruction, UCSF shall require construction and/or demolition contractors to develop and implement construction traffic and parking management plans during demolition and/or construction activities at all campus sites. The plans would be expected to include measures such as the following:

- Develop a traffic management plan in consultation with the San Francisco DPT and Muni to minimize disruption due to lane closures. The plan should be consistent with the Regulations for Working in San Francisco Streets and Chapter 6 of the California Supplement to the Manual of Uniform Traffic Control Devices.
- Prepare an offsite parking plan for construction employees and subcontractor employees. An alternative plan would provide shuttle service to/from designated remote parking lots and/or public transportation transfer nodes. This plan would be incorporated into the construction contract between UCSF and the contractor.
- Schedule heavy-truck deliveries with the construction project manager at least one day in advance.
- Whenever possible, make deliveries using trucks of 40 feet maximum bumper-to-bumper length.
- Whenever possible schedule heavy trucks deliveries to arrive at off-peak hours, outside of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.
- Note any deliveries that cannot comply with the above requirements for heavy trucks on the schedule, and notify the UCSF construction project manager at least 48 hours in advance. The contractor may provide flagmen to direct traffic in those cases.

3.5 MITIGATION MONITORING

CEQA requires that when a public agency makes findings of significance based on an EIR, the public agency must adopt a reporting or monitoring program to ensure that action is completed on those mitigation measures which it has adopted, or made a condition of project approval, in order to mitigate or avoid the Project’s significant effects on the environment (Public Resources Code Section 21081.6). Upon certification of this EIR and approval of the proposed Project, a mitigation monitoring program would be adopted.
3.6 REQUIRED APPROVALS

**Action by the University:**
Anticipated Project actions and approvals include the following:
- approval of the plaza design and traffic improvement measures (including traffic monitoring plan)
- offers of dedication of property to the City and County of San Francisco for street widening and curb radii
- agreement to air rights lease terms for future pedestrian bridges (including bridge design standards) across Fourth Street and underground utilities lease terms
- public sidewalk easements for City on Third Street

University approval of the design of the pedestrian bridges will be considered at the time MCMB Phase II is proposed.

**Action by Other Agencies:**
The following are the City approvals that are anticipated at this time. As the University and City move forward in the approvals phase following environmental review, there may be other actions identified that are required to implement the proposed Project.

**Mayor**
- Approval of Mission Bay Minor Infrastructure Plan Amendment

**City and County of San Francisco Board of Supervisors**
- Major Encroachment Permit for the plaza and Fourth Street, including maintenance agreements
- Acceptance of land for street widening and turning radii
- Approval of lease for air rights for future pedestrian bridges across Fourth Street and underground utilities crossing underneath Fourth Street
- Legislation to approve Owens Street and Fourth Street as dedicated public streets
- Public sidewalk easement from the University on Third Street
- Acceptance of easements from the University for curb ramps on University property
- Acceptance of gift from the University for installation of curb ramp/crossing on the northwest corner of Owens/16th Streets
- Approval of master agreement with the University concerning the rights and obligations of the University and the City in regard to construction of public improvements

**Department of Public Works**
- Street Improvement Permit for Owens Street redesign
- Approval of traffic improvement measures, including traffic monitoring plan
- Approval of all public infrastructure on Fourth Street, Owens Street, Third Street, and Mariposa Street and all other actions under the Board of Supervisors

**San Francisco Municipal Transportation Agency**
- Approval of the traffic improvement measures including traffic monitoring plan
Successor Agency and/or Oversight Board of the former San Francisco Redevelopment Agency

- Approval of plaza schematic design
- Mission Bay Minor Infrastructure Plan Amendment (also all affected City departments)
CHAPTER 4
ENVIRONMENTAL SETTING, IMPACTS, AND MITIGATION MEASURES

4.0 APPROACH TO IMPACT ANALYSIS

This section of the Environmental Impact Report (EIR) presents potential environmental impacts of the proposed Project. The scope of the analysis and key terms are presented below to assist readers in understanding the manner in which the impact analysis has been conducted in this EIR.

This document is tiered from the UCSF MCMB EIR. The analysis contained herein relies upon transportation analyses conducted for the Fourth Street Closed to Through-Traffic (No Fourth Street) Alternative in the MCMB EIR, which has been supplemented for this EIR to address triggers for proposed traffic improvement measures and traffic monitoring (see Section 4.3.1, pg. 4.3-1 of this EIR). In addition, this EIR relies upon the MCMB EIR in the analysis of cumulative impacts pertaining to aesthetics, land use, and transportation, although this EIR updates those analyses where applicable.

The preparation of this EIR was preceded by an Initial Study (included in Appendix A). The Initial Study evaluated the existing physical conditions on the Project site and determined which environmental topics require further analysis in the EIR. The topics that the Initial Study determined would be studied further in the EIR are: Aesthetics, Land Use, and Traffic. Following the publication of the Initial Study, a public scoping meeting was held to receive public comment on the Initial Study and the topics to be analyzed in the EIR. Based on oral comments received at the public scoping meeting and on a written comment letter received during the 30-day public comment period (see Appendix A for written comment letter received), the following topics were added to the scope of the EIR analyses: analysis of planned shuttle operations on the operation and safety of Fourth Street on the Project site, including conflicts between shuttles and pedestrians and bicyclists; and inclusion of a “shared street” alternative.

The following topics were determined in the Initial Study to require no further analysis in the EIR: Agriculture and Forestry Resources, Air Quality, Biological Resources, Cultural Resources, Geology/Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Mineral Resources, Noise, Population/Housing, Public Services, Recreation, and Utilities/Service Systems. Accordingly, these topics are not discussed in this EIR.

For each of the resource areas evaluated in the sections that follow, the EIR describes the existing environmental setting, the potential for the proposed Project to significantly affect the existing
resources, and recommended mitigation measures that could reduce or avoid potentially significant impacts. Each of the resource sections also clearly identifies those impacts that were determined in the Initial Study to be less than significant, and thus, do not require detailed evaluation in this EIR.

Relevant mitigation measures adopted by The Regents in conjunction with the approval of the 1996 LRDP, LRDP Amendment #2, and the MCMB are included in and made a part of the proposed Project. The analysis presented in the subsequent sections evaluates environmental impacts that would result from Project implementation after the application of these mitigation measures.

4.0.1 LEVELS OF SIGNIFICANCE

The EIR uses a variety of terms to describe the levels of significance of adverse impacts identified during the course of the environmental analysis. The following are definitions of terms used in this EIR:

- **Significant Impact.** Impacts that exceed the defined standards of significance and that can be eliminated or reduced to a less than significant level through the implementation of feasible mitigation measures.

- **Less Than Significant Impact.** Impacts that are adverse but that do not exceed the specified standards of significance.

- **No Impact.** The project would not create an impact.

4.0.2 ANALYSIS OF CUMULATIVE EFFECTS

The geographic extent of potential Project-related cumulative effects differs according to environmental topic. For each environmental topic area, the analysis specifies the geographic scope of the cumulative impact, considers whether implementation of the proposed Project in conjunction with past, present and probable future projects would result in adverse cumulative impacts, and finally, determines whether the proposed Project’s contribution to that effect would be “cumulatively considerable.” Cumulative impacts are discussed under each environmental topic.
4.1 AESTHETICS

4.1.1 INTRODUCTION

This section addresses the existing visual characteristics of the Project site and the surrounding area, and evaluates the significance of the changes in visual character that would result from the proposed Project. As discussed in the Initial Study, the proposed Project would have a less than significant impact with regards to creating shadows in public places and with regard to altering pedestrian-level wind speeds. Therefore, Project effects related to shadows and wind are not discussed further in this section.

4.1.2 ENVIRONMENTAL SETTING

The Project is located within the City and County of San Francisco, a relatively dense urban environment that is developed in most areas with a diverse mix of land uses. The Project site is within the Mission Bay Redevelopment Area, comprised of the Mission Bay North and South project areas encompassing approximately 303 acres of land.

The Mission Bay North project area is mostly developed, consisting primarily of residential and retail uses in new mid- and high-rise buildings or rehabilitated warehouse structures. Just outside of the Redevelopment Area is AT&T Park at King/Third Streets. The transportation infrastructure of the Caltrain commuter rail system visually dominates Townsend Street between 4th and 7th Streets and 7th Street between Townsend and 16th Streets.

The visual environment in the Mission Bay South project area is in transition (see Figure 4.1-1). The Mission Bay South project area is only partially developed, and is planned primarily for residential uses, life sciences research buildings, the UCSF Mission Bay campus site, commercial industrial and retail uses, and public open spaces. Streets are developed on the principle of adjacency --- that is, as buildings or open spaces are constructed, adjacent public streets are developed as well. Most development to date in the Mission Bay South project area has occurred on or near the UCSF Mission Bay campus site, bounded by Third Street, Mission Bay Boulevard South, Owens Street, and Mariposa Street.

On the UCSF Mission Bay campus site, five research buildings have been constructed pursuant to UCSF’s LRDP, as well as a campus community center, housing, open space, and support facilities such as childcare and parking. Another research building is under construction. In addition, construction of Phase I of the UCSF Medical Center at Mission Bay is underway (see Figures 4.1-2 and 4.1-3): a six-story inpatient building of about 105 feet in height to contain three specialty hospitals; an outpatient building of six stories and about 105 feet in height; and to the west of Fourth Street, a ten-level parking structure of about 105 feet in height.

The proposed Fourth Street Public Plaza project site is comprised of about 1.6 acres and is located on Fourth Street between 16th and Mariposa Streets partially within the public right-of-way on
Fourth Street and partially on University land. The site is currently vacant and used for construction laydown and staging of Phase I of the MCMB (see Figure 4.1-2).

The area is relatively flat characterized primarily by made-made visual landmarks, such as the UCSF Mission Bay campus buildings, the industrial and residential/live-work structures to the south, and the elevated Interstate 280 freeway to the west. Beyond I-280 to the west and south of the campus site respectively are the Showplace Square and Dogpatch neighborhoods, which consist of multifamily flats, commercial buildings, and industrial uses. The Potrero Hill neighborhood to the southwest of Mission Bay, comprised mostly of low-density residential structures, is just west of I-280. Natural features include the slopes of Potrero Hill to the southwest, and San Francisco Bay to the east.

The existing view to the north (up Fourth Street) is of the campus and of other more distant buildings (such as the China Basin Landing Building and One Rincon) (Figure 4.1-4). The view to the west consists of the undeveloped parcels for the future MCMB Phase II, Owens Street extension, and Mariposa Park; and the existing elevated I-280 freeway. Views to the south are of the industrial buildings along Mariposa Street (Figures 4.1-5 and 4.1-6). None of these views have aesthetic attributes that could be considered scenic.
Source: UCSF

Figure 4.1-2
Project Site, looking Northeast from Mariposa/Fourth Streets

Source: UCSF

Figure 4.1-3
UCSF Medical Center at Mission Bay
Looking East from Mariposa Street
Source: UCSF

**Figure 4.1-4**

UCSF Medical Center at Mission Bay
Looking North up Fourth Street (at Mariposa Street)

Source: UCSF

**Figure 4.1-5**

Looking South down Fourth Street
(at Nelson Rising Lane)
4.1.3 REGULATORY CONSIDERATIONS

UCSF Facilities Design Guidelines

New development at UCSF is guided by the Facilities Design Guidelines. The guidelines set forth design objectives and special considerations for UCSF projects, with an emphasis on a project’s functional requirements, overall economy, and technical guidelines.

The UCSF Facilities Design Guidelines also contain specific policies related to landscaping at UCSF campuses sites. These policies include designing landscapes at entrances and exits to UCSF facilities (e.g., roadways, parking lots and pedestrian areas) to maximize visibility and allow adequate lighting. Vegetation should be compatible with the natural limitations presented by the Bay Area’s climate and soil conditions, and also be appropriate for man-made environments (e.g., adequate for use as street trees). Additional policies related to landscaping include incorporating water and energy conservation and utilizing low-maintenance materials.

UCSF Physical Design Framework

Development at UCSF is also guided by the Physical Design Framework (PDF), which sets forth a vision for the physical development of UCSF campus sites throughout the City and County of
San Francisco. It serves as the foundation for UCSF to plan and design future projects according to a clear and consistent set of planning and design principles, guidelines and strategies. The PDF contains six planning principles that are universally applicable to UCSF campus sites. They express key thematic concepts of Context, Connectivity, Cohesiveness, Collegiality, Community, and Conservation:

- Respond to Context while reinforcing identity
- Welcome the Community
- Ensure Connectivity to and within the campus
- Improve campus Cohesiveness
- Create spaces to promote Collegiality
- Lead through Conservation and sustainability

Each of the above principles contains related specific guidelines, such as designing buildings to fit within their urban context, considering massing, style, pattern, and color of buildings in the vicinity; relating buildings to pedestrians and scale to human activity and visual interest; providing a positive campus interface at campus edges; providing comfortable, activated campus open spaces; and incorporating sustainability features in buildings.

The PDF contains a section specific to Mission Bay, and identifies six strategies for implementing the universal planning and design principles. These strategies include:

- Strengthen UCSF’s identity and wayfinding
- Enhance the pedestrian experience
- Complete the open space network
- Enhance the campus core
- Develop opportunity areas
- Develop transportation facilities

**Mission Bay South Redevelopment Plan and Design for Development**

The San Francisco Redevelopment Agency’s *Mission Bay South Plan and Design for Development* document contain objectives and policies that serve as design guidelines for future development in the plan area surrounding the UCSF campus site at Mission Bay. These guidelines support the creation of a pattern of streets, parks and buildings that yields a high-density, urban streetscape while preserving and maximizing views to and from the area. The *Mission Bay South Plan* intends for new development to recognize the physical transition from the higher elevations of Potrero Hill to the lower elevations of the shoreline, thus allowing taller buildings closer to Potrero Hill and stepping down to lower building heights closer to the shoreline. The plan establishes major public open space corridors and uses building height limits and other design guidelines throughout the plan area to ensure access to sunlight, to reduce wind effects, and to create a diverse and pleasant urban environment. The plan also establishes view corridors, based on the following principles: to preserve the orientation and visual linkages to the Bay and Channel, as well as to vistas to hills, the Bay Bridge and the downtown skyline; and to preserve orientation.
and visual linkages that provide a sense of place within Mission Bay. View corridors follow street alignments identified in the Design for Development street grid map. The Fourth Street right-of-way, the site of the proposed Project, is a designated view corridor.

**San Francisco Redevelopment Agency / University Memorandum of Understanding**

As noted in the MCMB EIR Chapter 3 Project Description, on November 1, 2005, the Redevelopment Agency of the City and County of San Francisco and the University entered into a Memorandum of Understanding (SFRA MOU), in which the parties agreed to a unified set of assumptions concerning UCSF’s development of the MCMB site. The SFRA MOU contains design guidelines applicable to the MCMB with respect to building heights, bulk, setbacks, streetwall, view corridors, parking, streetscape, signage and other standards, which were negotiated with the SFRA in recognition of the fact that the Design for Development for the Mission Bay South Project Area did not originally anticipate hospital development at the site, which has different functional requirements than the research and development (R&D) and commercial development uses originally planned there. The SFRA MOU also calls for UCSF to provide the Redevelopment Agency with opportunities to review and comment on the design of any project implemented on the project site throughout the project design process, which would include the proposed Fourth Street Public Plaza project.

On February 1, 2012, the Redevelopment Agency was dissolved pursuant to AB 26, approved by the California Governor in June 2011 and the December 2011 decision of the California Supreme Court upholding AB 26. In its place, the City as the Redevelopment Successor Agency, assumes all responsibilities and obligations of the Redevelopment Agency, including the SFRA MOU, and has established an Oversight Board to exercise land use, development and design approval authority under the enforceable obligations for the Mission Bay South Redevelopment Project Area and certain other redevelopment project areas.

The SFRA MOU, Attachment 3, incorporates design standards specific to the design of medical center uses which were not anticipated by the standards and design objectives that were previously included in the Design for Development for the Mission Bay South Project Area. In addition, UCSF has been working with the City on design standards that will apply to the bridges when they are designed and proposed for construction in Phase II of the MCMB.

**San Francisco General Plan**

The City of San Francisco’s San Francisco General Plan includes policies that pertain to views and visual quality. The policies most relevant to the proposed Project are contained in the Urban Design Element of the General Plan.

Policies 1 through 5 of the City Pattern section of the Urban Design Element relate to the appearance of buildings and landscaping, and their total effect that characterizes the various city districts. These policies also recognize and protect major views in the city, with particular
attention to views of open space. Policies 4, 5, and 6 of the Conservation section of the Urban Design Element address notable landmarks of aesthetic or other importance, as well as convey a need to respect the character of nearby older development in the design of new buildings. The Major New Development section of the Urban Design Element, Policies 1 through 7, relate to building design and the visual relationship between new and established development, with an emphasis on promoting a harmonious relationship between existing and new buildings, relating building heights to important attributes of the city pattern and to heights of existing buildings, and recognizing the special urban design problems posed in development of large properties. Policies 12, 13, and 15 of the Neighborhood Environment section of the Urban Design Element include requirements for protecting the livability and character of neighborhoods from intrusion of incompatible new development (City of County of San Francisco, 1997). Although the University is not subject to local planning policies whenever using land under its control in furtherance of its educational mission, the University strives to be consistent with local policies where feasible. In cases where the proposed Project would be inconsistent with General Plan or other policies, these inconsistencies are discussed in Section 4.1.4, Impacts and Mitigation Measures.

4.1.4 SIGNIFICANCE STANDARDS AND METHODOLOGY

Significance Criteria

The impacts of the proposed Project on aesthetics and wind would be considered significant if it would exceed the following standards of significance, in accordance with Appendix G of the State CEQA Guidelines and the UC CEQA Handbook:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a State scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings;
- Create a new source of substantial light or glare that would adversely affect day or nighttime views in the area; or
- Exceed the LRDP EIR significance standard by substantially reducing sunlight or significantly increasing shadows in public open space areas, or by increasing pedestrian-level wind speeds above the hazard level set forth in the San Francisco Planning Code.

Issues Not Discussed Further

The Initial Study for the proposed Project determined that the proposed Project’s effect on scenic vistas and visual character or quality should be evaluated in an EIR. Accordingly, these topics will be analyzed in this chapter.

The Initial Study for the proposed Project found that implementation of the proposed Project would have no impact on scenic resources within a State scenic highway, and would not create a new source of substantial light or glare that would adversely affect day or nighttime views in the
area. Additionally, the Initial Study for the proposed Project found that the proposed Project would have a less than significant impact with regards to creating shadows in public places and with regard to altering pedestrian-level wind speeds. These issues are not discussed further in this section.

### 4.1.5 IMPACTS AND MITIGATION MEASURES

**Impact AES-1: The proposed Project could have a substantial adverse effect on a scenic vista. (Less than Significant)**

As noted in the MCMB EIR, a scenic vista is defined as a public view from existing parks, plazas, roadways or other public areas, and gateway or panoramic views from areas generally available to the general public. Views from private residences and non-public areas are not considered to be scenic views because they are not available to the general public.

As discussed in the MCMB EIR, the Mission Bay South Design for Development standards indicate that view corridors are based on the following principles: to preserve the orientation and visual linkages to the Bay and Channel as well as to vistas to the hills, the Bay Bridge and the downtown skyline; and to preserve orientation and visual linkages that provide a sense of place within Mission Bay. As demonstrated in photographs of existing conditions in Section 4.1.2 Environmental Setting, and in visual simulations in MCMB EIR pp. 4.1-14 through 4.1-21, northerly views toward downtown San Francisco from this segment of Fourth Street are obscured by other development and in the future would be somewhat limited by the planned curvature along this segment of Fourth Street. There are no views of San Francisco Bay or of the Bay Bridge from this segment of Fourth Street, as views to the east are currently of the MCMB Phase I construction. There are no other views from this segment of Fourth Street that have attributes that could be considered scenic (see Figures 4.1-4 and 4.1-5).

The proposed public plaza on Fourth Street with its landscaping, trees, and light standards would have minimal effect on views. However, the proposed plaza would include a small amphitheater that incorporates a berm of about 12 feet in height. The placement of the berm on University property toward the eastern side of the Project site and its relatively modest height would result in the berm minimizing its effect on views in either direction on Fourth Street. Nonetheless, the amphitheater may further obscure or block views up and down Fourth Street. In addition, the tree grove and promenade would include trees placed in the Fourth Street right-of-way, which could also obscure or block pedestrian-level views (see Project Description Figures 3-9 through 3-12). However, views from Fourth Street looking southward are not considered scenic (see Figure 4.1-5), comprised primarily of the MCMB project and, in the distance, two-story industrial buildings on the south side of Mariposa Street. From points south of the proposed amphitheater and grove, views from Fourth Street looking northward could be somewhat affected as the amphitheater would be in view on the east side of Fourth Street and the grove would be in the Fourth Street right-of-way and could obscure or block portions of northerly views. However, as mentioned above, northerly views toward downtown San Francisco from this segment of Fourth Street are not considered scenic (see Figure 4.1-4), are already obscured.
by other development, and in the future would be somewhat limited by the planned curvature along this segment of Fourth Street. In addition, at a modest height of about 12 feet, the amphitheater could provide an elevated vantage point from which views up and down Fourth Street and of the surrounding area can be seen.

As mentioned, UCSF has been working with the City on design standards that will apply to the bridges when they are designed and proposed for construction in Phase II of the MCMB. These standards limit the number of bridges to two, dictate a maximum width of 20 feet and height of two stories, and require that they connect to the MCMB structures on either side of Fourth Street at no lower than the third floor level, among other restrictions. While the bridges have not been designed in detail, these standards provide sufficient information regarding height, bulk and location to assess their impacts on views and visual quality.

As discussed in the MCMB EIR, in Phase II of the MCMB the proposed pedestrian bridges across Fourth Street at the second and third floors would alter the view corridor along Fourth Street, but, while noticeable, would not constitute a substantial adverse change. The current proposal to raise the bridges an additional floor (at the request of the City and County of San Francisco staff) would likewise have no significant impact with respect to views for the reasons stated above – the views of downtown San Francisco are already obscured and no views currently exist from Fourth Street of San Francisco Bay or the Bay Bridge. The proposed bridges on the third and fourth levels would have minimal effect on views, and could be somewhat beneficial by providing an additional floor level of clearance underneath the bridges allowing for potential “framed” views of development up Fourth Street, although such views could be somewhat limited by the proposed amphitheater as discussed above. As views from Fourth Street do not constitute scenic vistas and would be minimally impacted by the proposed plaza and bridges, and as the proposed Project would be consistent with the Mission Bay South Design for Development standards in relation to view corridors, Project impacts with respect to views would be less than significant.

**Mitigation Measure:** None required

**Impact AES-2:** The proposed Project could substantially degrade the existing visual character or quality of the site and its surroundings. (Less than Significant)

Fourth Street currently exists only as a “paper” street as it is planned but not yet built. The site is used for construction staging and laydown as it is adjacent to the MCMB Phase I which is now under construction. The proposed landscaped plaza and passenger-drop-off areas would represent an improvement to visual quality compared to existing conditions and compared to plans for Fourth Street as a through-vehicular street. The MCMB EIR states that under the Fourth Street Closed to Through Traffic Alternative (MCMB EIR p. 6-12), “the aesthetics at the pedestrian level could be enhanced over the proposed Project conditions because through traffic would not be accommodated and the street right of way could be developed with additional
landscaping and plazas that would not be feasible with 4th Street open to through traffic.” The proposed bridges on the third and fourth floors would have little effect on visual quality, as the Phase I and Phase II structures on either side of the bridges would continue to be much taller at six stories. The resultant increase in clearance beneath the bridges would allow for more light and air at ground level, improving the visual character and overall experience at pedestrian level. Although the proposed amphitheater, at a height of about 12 feet, would tend to lessen the openness of the plaza at and immediately around the site of the amphitheater, the amphitheater would provide a gathering space and visual focal point that would have a beneficial effect on visual character. Thus, impacts on visual quality and character would be less than significant.

Mitigation Measure: None required

Impact AES-3: Proposed Project activities could have a substantial cumulative adverse effect on a scenic vista, or substantially degrade the existing visual character or quality of the site and its surroundings. (Less than Significant)

As described in the 2005 EIR on LRDP Amendment #2, Hospital Replacement Program (p. 4.1-19), the Mission Bay South Plan and the Port of San Francisco’s Waterfront Land Use Plan identify a future mix of land uses and increased density in the Mission Bay Area, which is considered the geographic area where potential cumulative aesthetic effects could occur. A public plaza on the Project site would be designed in accordance with the MOU between the SFRA and the University, and would be consistent with the Design for Development provisions. As such, the Project would be visually consistent with the development patterns and planned urban environment called for in the Mission Bay South Plan, and would not contribute to cumulative adverse impacts related to visual quality.

Mitigation Measure: None required

4.1.6 REFERENCES

City and County of San Francisco, General Plan Urban Design Element, amended 1997.

University of California, San Francisco, Final EIR on LRDP Amendment #2, Hospital Replacement Program, certified by The Regents on March 17, 2005 (State Clearinghouse Number 2004072067)

University of California, San Francisco, Facilities Design Guidelines, September 1996
http://www.fm.ucsf.edu/cp/FDG110403.pdf

University of California, San Francisco, Physical Design Framework, September 2010
4.2 LAND USE

4.2.1 INTRODUCTION

This section addresses the consistency of the proposed Project with applicable land use plans, policies or regulations of agencies with jurisdiction over the Project.

4.2.2 ENVIRONMENTAL SETTING

Regional Setting

While the regional setting for the proposed Project is the San Francisco Bay Area, the Project is contained within the City and County of San Francisco, a relatively dense urban environment that is built out in most areas. Few large tracts of vacant or underused land are available for new development. San Francisco consists of a number of neighborhoods, each with its unique physical characteristics and mix of land uses. Mission Bay is situated within the northeastern quadrant of the City, approximately 1.5 miles south of the Financial District, and adjacent to the City’s eastern waterfront.

Local Setting

The Project site is within the Mission Bay Redevelopment Area, comprised of the Mission Bay North and South project areas encompassing approximately 303 acres of land. The Mission Bay North project area is mostly developed, consisting primarily of residential and retail uses in new mid- and high-rise buildings or rehabilitated warehouse structures. Just outside of the Redevelopment Area is AT&T Park at King/Third Streets. The transportation infrastructure of the Caltrain commuter rail system occupies Townsend Street between 4th and 7th Streets and 7th Street between Townsend and 16th Streets.

The Mission Bay South project area is only partially developed, planned primarily for residential uses, life sciences research buildings, the Mission Bay campus site, commercial industrial and retail uses, and public open spaces. Streets are developed on the principle of adjacency --- that is, as buildings or open spaces are constructed, adjacent public streets are developed as well. Most development to date in the Mission Bay South project area has occurred on or near the UCSF Mission Bay campus site, bounded by Third Street, Mission Bay Boulevard South, Owens Street, and Mariposa Street.

On the UCSF Mission Bay campus site, five research buildings have been constructed pursuant to UCSF’s LRDP, as well as a campus community center, housing, open space, and support facilities such as childcare and parking (see Figure 4.2-1). Another research building is under construction. In addition, construction of Phase I of the UCSF Medical Center at Mission Bay is underway (see Figure 4.2-2): a six-story inpatient building of about 105 feet in height to contain
three specialty hospitals; an outpatient building of six stories and about 105 feet in height; and to the west of Fourth Street, a ten-level parking structure of about 105 feet in height.

Adjacent and nearby structures include the UCSF Mission Bay campus buildings, the industrial and residential/live-work structures to the south, and the elevated Interstate 280 freeway to the west. Beyond I-280 to the west and south of the campus site respectively are the Showplace Square and Dogpatch neighborhoods, which consist of multifamily flats, commercial buildings, and industrial uses. The Potrero Hill neighborhood to the southwest of Mission Bay, comprised mostly of low-density residential structures, is just west of I-280.

Source: UCSF

Figure 4.2-1
Mission Bay Environs, 2010

(Note: Above photo taken prior to development of the Medical Center at Mission Bay, which is now under construction.)
4.2.3 REGULATORY CONSIDERATIONS

UCSF Long Range Development Plan

Each campus within the University of California system is required to prepare a Long Range Development Plan, which sets forth concepts, principles, and plans intended to guide future physical growth and change of the campus. Current development at UCSF is guided by the 1996 LRDP, as amended, which includes specific policies related to future program development and space needs at Parnassus Heights and Mount Zion, as well as development of a “major new site,” subsequently approved at Mission Bay. LRDP Amendment #1 amended the UCSF Mission Bay space program to provide for on-site student housing. LRDP Amendment #2 in 2005 presented an update to LRDP Chapter 3, Clinical Programs, to describe the hospital replacement planning process and UCSF’s recommendations for future clinical uses at Parnassus Heights, Mount Zion and Mission Bay. At that time, the University adopted the recommendation to develop three integrated specialty hospitals at Mission Bay, which are now under construction. LRDP Amendment #3 added the MCMB site to the UCSF Mission Bay boundaries, and identified the functional zones for the MCMB site, including the Project site. The LRDP governs those portions of the Project that occur on University land on the MCMB site.
Mission Bay North and South Redevelopment Plans, Design for Development, and EIR

The Mission Bay North and South Plans (Mission Bay Plans), adopted by the San Francisco Redevelopment Agency in 1998, established a concept for a new neighborhood in Mission Bay. The Mission Bay Plans identify land uses specific for the redevelopment project area and does not rely on the adopted City zoning classifications.

The Mission Bay Plans establish a north and south project area, which refers to the areas north and south of Mission Creek. Both areas encompass a total of 303 acres. The Project is located within the Mission Bay South project area, which totals approximately 238 acres between China Basin Channel to the north, Mariposa Street to the south, 7th Street/Pennsylvania Avenue to the west, and San Francisco Bay to the east. The Mission Bay South Plan and Design for Development document contain objectives and policies that serve as design guidelines for future development in the plan area surrounding the UCSF campus site at Mission Bay. These guidelines support the creation of a pattern of streets, parks and buildings that yields a high-density, urban streetscape while preserving and maximizing views to and from the area. The Mission Bay South Plan intends for new development to recognize the physical transition from the higher elevations of Potrero Hill to the lower elevations of the shoreline, thus allowing taller buildings closer to Potrero Hill and stepping down to lower building heights closer to the shoreline. The plan establishes major public open space corridors and uses building height limits and other design guidelines throughout the plan area to ensure access to sunlight, to reduce wind effects, and to create a diverse and pleasant urban environment.

The original 43-acre UCSF Mission Bay campus site (bounded by Mission Bay Boulevard South, Third Street, 16th Street, and Owens Street) is noted as the UCSF Subarea. The Mission Bay Subsequent EIR, certified in September 1998, evaluates the potential environmental effects associated with implementation of the new land use designations and development intensity in the 303-acre Mission Bay project area. The Mission Bay Subsequent EIR not only addresses environmental effects associated with land use changes, but also evaluates potential impacts associated with the expansion and/or improvement of transportation and utility infrastructure in the project area.

San Francisco Redevelopment Agency / University Memorandum of Understanding

As noted in the MCMB EIR Chapter 3 Project Description, on November 1, 2005, the Redevelopment Agency of the City and County of San Francisco and the University entered into a Memorandum of Understanding (SFRA MOU), in which the parties agreed to a unified set of

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9 Since the adoption of the Mission Bay Plans, UCSF has added the 14.5-acre MCMB site to its Mission Bay campus site. As the hospital complex was not contemplated at the time the Mission Bay Plans was prepared, it was not included in the Mission Bay Subsequent EIR analysis.
assumptions concerning UCSF’s development of the MCMB site. The SFRA MOU contains design guidelines applicable to the MCMB with respect to building heights, bulk, setbacks, streetwall, view corridors, parking, streetscape, signage and other standards, which were negotiated with the SFRA in recognition of the fact that the Design for Development for the Mission Bay South Project Area did not originally anticipate hospital development at the site, which has different functional requirements than the research and development (R&D) and commercial development uses originally planned there. The SFRA MOU also calls for UCSF to provide the Redevelopment Agency with opportunities to review and comment on the design of any project implemented on the project site throughout the project design process, which would include the proposed Fourth Street Public Plaza project.

On February 1, 2012, the Redevelopment Agency was dissolved pursuant to AB 26, approved by the California Governor in June 2011 and the December 2011 decision of the California Supreme Court upholding AB 26. In its place, the City as the Redevelopment Successor Agency, assumes all responsibilities and obligations of the Redevelopment Agency, including the SFRA MOU, and has established an Oversight Board to exercise land use, development and design approval authority under the enforceable obligations for the Mission Bay South Redevelopment Project Area and certain other redevelopment project areas.

The SFRA MOU, Attachment 3, incorporates design standards specific to the design of medical center uses which were not anticipated by the standards and design objectives that were previously included in the Design for Development for the Mission Bay South Project Area. The MOU recognizes that the University may request pedestrian bridges across Fourth Street at the MCMB site.

**San Francisco General Plan**

The *San Francisco General Plan* contains comprehensive objectives and policies that guide land use in the City. Although the University is constitutionally exempt from regulation by local agencies when using its properties to further its educational mission, the University strives to be consistent with local policies where feasible.

The manner in which the general goals are to be attained is set forth through a statement of objectives and policies in a series of elements, which apply citywide, with each element dealing with a particular topic. The General Plan contains the following elements: Housing, Commerce and Industry, Recreation and Open Space, Community Facilities, Transportation, Community Safety, Air Quality, Environmental Protection, Urban Design and Arts. The San Francisco General Plan also provides that the Mission Bay North and Mission Bay South Redevelopment Plans establish General Plan policies for Mission Bay.

**San Francisco Planning Code**

The San Francisco Planning Code is the City’s zoning ordinance and implements the objectives and policies of the *San Francisco General Plan*, as well as the various area plans, through location-
specific regulation, such as use restrictions and building height and bulk limitations. In the case of Mission Bay, the Planning Code provides that the land uses in the area of Mission Bay included in the Mission Bay North and Mission Bay South Redevelopment Plans will be subject to the provisions of those redevelopment plans and not the Planning Code. These provisions are administered by the City as the Redevelopment Successor Agency.

San Francisco Better Streets Plan

The San Francisco Better Streets Plan, adopted by the San Francisco Board of Supervisors on December 7, 2010, provides guidance and recommends best practices for the design of streets, sidewalks and intersections, toward the betterment of public rights-of-way and enhancement of the pedestrian environment. The plan contains goals and policies, as well as specific but flexible guidelines for, among other things, the design of street curbs, medians, parking lane treatments, street lighting, site furniture, and paving.

San Francisco Bicycle Plan

The overarching goal of the San Francisco Bicycle Plan is to increase safe bicycle use in the City of San Francisco. The plan contains objectives, polices, and action items toward this end, and makes recommendations for near-term and long-term improvements to the bicycle network. The plan also discusses bicycle parking, access to transit and bridges, and bicycle safety education. The plan was last updated in June, 2009.

Public Trust Lands

The State of California, upon admission to the United States in 1850, was granted title to all submerged lands and tidelands, then held by the United States, to be held in trust for public use for commerce, navigation and fisheries. Under the common law, public trust uses were traditionally limited to water-related commerce, navigation, and fishing. In more recent years, however, the courts have determined the public trust is sufficiently flexible to encompass changing public needs, such as the preservation of the lands in their natural state for scientific study, as open space and as wildlife habitat. These principles are generally referred to as the Public Trust Doctrine.

The Legislature is the ultimate administrator of the trust lands. However, all uses, including those specifically authorized by the Legislature, must take into account the overarching principle of the Public Trust Doctrine that trust lands belong to the public and are to be used to promote public rather than exclusively private purposes. The Legislature cannot commit trust lands irrevocably to private development because it would be abdicating the public trust. However, the Legislature has considerable discretion in specifying appropriate uses within the confines of the Public Trust Doctrine.

While the Legislature has given the California State Lands Commission authority over most of California’s public trust lands, it has granted certain public trust lands to local governments for
management. A grantee must manage trust lands consistent with its own granting statutes and the Public Trust Doctrine.

The State Lands Commission exercises oversight over all granted lands. Generally, this means the Commission works cooperatively with grantees to assure that requirements of the legislative grants and the Public Trust Doctrine are carried out and to achieve trust uses. The Commission also has the power to approve land exchanges and boundary line agreements involving granted lands.

In 1991, the Legislature adopted Senate Bill No. 1183 to promote public trust uses in accordance with the Mission Bay Specific Plan adopted by the City and County of San Francisco. Senate Bill 1183 was amended in 1997. Senate Bill 1183, as amended by Senate Bill 1215, authorized the reconfiguration of the public trust on parcels in the Mission Bay Redevelopment Plan area in order to provide for public and private development (including a new campus for UCSF) while preserving the State’s public trust interest. The reconfiguration would be carried out through a series of land exchanges between the State, acting through the State Lands Commission, on the one hand, and the City and County of San Francisco and private owners, on the other hand. Senate Bill 1183, as amended by Senate Bill 1215, and the resulting exchange agreement designated the Fourth Street right-of-way between 16th and Mariposa Streets to be trust land and subject to the common law public trust, with the City and County of San Francisco being the grantee.

4.2.4 SIGNIFICANCE STANDARDS AND METHODOLOGY

Significance Criteria

The impact of the proposed Project on land use would be considered significant if it would exceed the following standards of significance, in accordance with Appendix G of the State CEQA Guidelines and the UC CEQA Handbook:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to, the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect;
- Conflict with any applicable habitat conservation plan or natural community conservation plan; or
- Exceed an applicable LRDP EIR standard of significance by being substantially incompatible with existing land uses, or by substantially conflicting with use, density, height and bulk restrictions of local zoning, although UCSF is exempt from such restrictions.
Issues Not Discussed Further

The Initial Study for the proposed Project determined that the potential for the Project to conflict with applicable land use plans, policies, or regulations of agencies with jurisdiction over the Project should be evaluated in the EIR. Although the Initial Study found that the Project would not conflict with the LRDP because the Project would occur in part on public land which is beyond the jurisdiction of the LRDP, a portion of the Project would occur on University property. Therefore, the Project’s consistency with the LRDP will be analyzed in this chapter. While the Project would not be subject to local zoning, the Initial Study determined that potential conflicts with the Mission Bay Redevelopment Plan or with the MOU between the SFRA and UCSF should be discussed in the EIR. Further, a portion of the Project will be constructed on City property, the development of which is guided by applicable City land use policies. Potential conflicts with applicable City land use policies will be discussed in the EIR. Accordingly, these topics will be analyzed in this chapter. In addition, as the Project would be located on lands subject to the public trust, potential conflicts with Public Trust Doctrine will also be discussed.

The Initial Study for the proposed Project determined that implementation of the proposed Project would not physically divide an established community as the proposed plaza and bridges would instead unify both sides of the MCMB site across Fourth Street. The Initial Study also found that the proposed Project would not conflict with any applicable habitat conservation plan or natural community conservation plan as no habitat conservation plan or natural community conservation plan is applicable to the Project site. These issues are not discussed further in this section.

4.2.5 IMPACTS AND MITIGATION MEASURES

Impact LU-1: The proposed Project could conflict with applicable land use plans, policies, or regulations of an agency with jurisdiction over the Project. (Less than Significant)

UCSF LRDP

A portion of the Fourth Street Public Plaza project site (the area exclusive of Fourth Street between 16th and Mariposa Streets) is on University property on the MCMB site and therefore is governed by the UCSF LRDP, as amended. This portion of the Project site is within a designated Clinical Care zone identified in Figure 16 of LRDP Amendment #3 approved by The Regents on September 17, 2008. The proposed use of this site as a public plaza, including the proposed amphitheater, tree grove, and other landscaping and open space features, would be consistent with the Clinical Care functional zone designation because the plaza would provide an amenity in support of the MCMB hospital complex.
The LRDP sets forth goals and objectives for a major new site (later identified as Mission Bay). These goals and objectives are applicable to the Medical Center at Mission Bay, which is part of the Mission Bay campus site. The Project would be consistent with the following goals and objectives relating to open space and landscaping:

- Create and reinforce a UCSF campus identity;
- Define campus entries and edges and create unity within the site;
- Organize the site to retain views to and from the site, to the extent feasible
- Preserve and create open space, including spaces for interaction and gathering at campus sites; and
- Provide locations for recreational activities.

There are no LRDP policies with which the proposed Project would conflict. For these reasons and the reasons stated above, the Project would be consistent with the LRDP.

**Mission Bay Plans and Design for Development**

The University is not subject to local land use regulations with regard to projects developed in furtherance of the University’s educational and research mission on land that the University owns or leases. However, the University seeks to cooperate with local jurisdictions to reduce any physical consequences of potential land use conflicts to the extent feasible. Development on the MCMB site is guided by the Mission Bay Plans and the MOU between the SFRA and UCSF. Further, the portion of the Project within the Fourth Street right-of-way is governed by the applicable land use policies of the City and County of San Francisco.

Under the Redevelopment Plan for the Mission Bay South Project Area, which establishes the land uses for the Fourth Street area of the Project, Fourth Street between 16th and Mariposa Streets is designated as a public right-of-way. Section 303.1 of the Mission Bay South Redevelopment Plan establishes that public rights-of-way may be used for railroads, vehicular and/or pedestrian traffic, as well as for public improvements, public and private utilities, and activities typically found in the public right-of-way. The City recognizes that public open space, such as the proposed plaza, is considered an appropriate land use for a public right-of-way. The San Francisco Public Works Code Section 2.4.4(t) defines public right-of-way to include the “area across, along, beneath, in, on, over, under, upon, and within the dedicated public . . . spaces, streets, and ways within the City as they now exist or hereafter exist . . .” Public Works Code Section 2.4.4 further defines streets to include “places” and defines places as “any public park or pleasure ground and common, which has been dedicated and accepted according to law . . .” Consequently, the proposed plaza as part of Fourth Street wholly conforms with the City’s permissible uses of a public right-of-way.

Neither the Mission Bay South Redevelopment Plan nor the Design for Development document establishes density, height or bulk restrictions for structures on public open space, such as the proposed amphitheater. As such, the proposed plaza, including the amphitheater, would not substantially conflict with density, height or bulk standards. At a height of about 12 feet, the
The proposed amphitheater would be of relatively modest size. Such gathering spaces are not uncommon in public open spaces in San Francisco and would not result in a significant land use impact.

Currently, the Mission Bay South Infrastructure Plan identifies this portion of Fourth Street to be a vehicular through-street with one travel lane and one parking lane in each north-south direction. The University would seek a major encroachment permit from the City and County of San Francisco for development of the plaza and related entitlements on Fourth Street, and the property would remain under the ownership of the City and County of San Francisco. In addition, UCSF would request a minor amendment to the Mission Bay South Infrastructure Plan to reflect the proposed Project, including changes to Owens and Fourth Streets. Therefore, because the Project proposes uses of Fourth Street between 16th and Mariposa Streets that are consistent with the uses allowed in a public right-of-way in the Mission Bay South Redevelopment Plan, consistent with the definition of a public right-of-way as that term is further defined by the San Francisco Public Works Code, and would continue to be a designated public right-of-way as provided in the Mission Bay South Redevelopment Plan, no inconsistency with the Mission Bay South Redevelopment Plan would occur, and no amendment of the Redevelopment Plan would be required.

The Mission Bay South Redevelopment Plan does not preclude bridges and the City recognizes that the proposed bridges are appropriate above the Fourth Street right-of-way. The MOU between UCSF and the San Francisco Redevelopment Agency includes a scenario in which, in Phase II, direct pedestrian access and/or utility system connections between structures on Blocks 36 and X-3 (Phase I) to the east of Fourth Street and structures on Blocks 38 and 39 (Phase II) to the west of Fourth Street could be established. In the MOU, the parties agreed that UCSF may propose a dedicated means of connecting buildings under, on and/or over Fourth Street, subject to approval by the required governmental agencies. Therefore, the proposed bridges would be consistent with the MOU.

San Francisco General Plan

No conflicts or inconsistencies between the Project and objectives or policies of the San Francisco General Plan have been identified. The proposed Project would be consistent with the following objectives and policies of the San Francisco General Plan:

Recreation and Open Space Element

- Objective 2: Develop and maintain a diversified and balanced citywide system of high quality public open space
- Policy 2.1: Provide an adequate total quantity and equitable distribution of public open spaces throughout the City.
- Objective 4: Provide opportunities for recreation and the enjoyment of open space in every San Francisco neighborhood.
Revised Draft Recreation and Open Space Element (June 2011)

Proposed Policies:

- Policy 1.9: Reduce or eliminate automobile traffic in and around public open spaces
- Policy 3.1: Creatively develop existing publicly-owned rights of way and streets into open space

Transportation Element

- Policy 1.2: Ensure the safety and comfort of pedestrians throughout the city.
- Objective 23: Improve the City’s pedestrian circulation system to provide for efficient, pleasant and safe movement.
- Objective 24: Improve the ambience of the pedestrian environment.

The Project would not conflict with the bicycle network shown on Map 13 of the San Francisco General Plan Transportation Element, as the planned bicycle route in the Fourth Street right-of-way on the Project site would remain and would be incorporated into the proposed plaza design.

San Francisco Better Streets Plan and San Francisco Bicycle Plan

No conflicts or inconsistencies between the Project and objectives or policies of the San Francisco Better Streets Plan or the San Francisco Bicycle Plan have been identified. The proposed Project would be consistent with the following objectives and policies of these plans:

Better Streets Plan

- Policy 2.1: Design streets with comfortable spaces for casual interaction and gathering
- Policy 4.1: Design streetscapes that have a variety of seating opportunities for all users
- Policy 4.3: Design streets with a comfortable micro-climate for walking, sitting, or interacting
- Policy 6.1: Design pedestrian crossings to maximize pedestrian safety and comfort

Bicycle Plan

As discussed in the Project Description, the Class 2 bicycle route planned for Fourth Street would remain and would be enhanced with clear bicycle path markings and the proposed development of the promenade. Therefore, the bicycle network as described in the San Francisco Bicycle Plan would be unchanged. Most objectives and action items of the San Francisco Bicycle Plan relate to the bicycle network as a whole or actions that the City should undertake in bicycle safety education and bicycle promotion. Most of these items are not directly applicable to the Project. However, the Project would be consistent with the objective to “utilize innovative designs, where appropriate, to improve bicycle usage and safety” identified on page 1-1. The Project would also be consistent with the objective to ensure bicycle route network is well-signed, well-striped and well-paved.
**Public Trust**

A portion of the Project site, the Fourth Street right-of-way between 16th and Mariposa Streets, is a designated public trust parcel subject to the Public Trust Doctrine. The University does not propose to acquire the property and instead would seek a major encroachment permit from the City and County of San Francisco for the proposed plaza. When considering any request for long-term entitlements, the City would, in consultation with the State Lands Commission, determine whether the proposed use is consistent with Public Trust Doctrine.

On September 17, 2001 the State Lands Commission adopted a policy statement regarding the administration of Public Trust lands, supported by a paper describing what the courts have found to be proper trust uses in the past and what can be gleaned from case law regarding proposals for new and different uses of Public Trust lands. Trust uses are generally limited to those that are water-dependent or related, but may also include open space, among other uses. Uses that are generally not permitted on Public Trust lands are those that are not trust-use related, do not serve a public purpose, and can be located on non-waterfront property.

Section 2(h)(7)(C) of Senate Bill 1183, as amended by Senate Bill 1215, notes that on lands subject to the public trust upon completion of exchanges contemplated by the statute, “no uses shall be allowed on lands other than public parks [and] open space,” among other uses. The City and University have consulted the State Lands Commission on the appropriateness of the proposed use. Open space available for public use, such as that proposed by the Project, is a land use consistent with the Public Trust Doctrine and the prescribed uses in Senate Bill 1183, as amended by Senate Bill 1215. Therefore, the Project would be consistent with the common law or statutory Public Trust Doctrine.

As discussed above, the proposed project is consistent with the UCSF LRDP, the *Mission Bay Plans*, the MOU between the SFRA and UCSF, the *San Francisco General Plan* and other applicable San Francisco plans and policies, and the Public Trust Doctrine. Therefore, impacts relative to land use and planning would be less than significant.

**Mitigation Measure:** None required

**Impact LU-2: Proposed project activities could have a substantial cumulative adverse effect on land use plans or policies. (Less than Significant)**

As discussed in the MCMB EIR (p. 4.4-11), a number of land use plans would result in cumulative growth in and around the Mission Bay area. Besides build-out of remaining entitlement of the *Mission Bay South Redevelopment Plan*, the Port of San Francisco has prepared a Preferred Master Plan for Pier 70, a 69-acre site approximately two blocks to the southeast of the Project site. Plans include rehabilitating historic structures, providing new shoreline open space,
allowing for new infill development and continuing historic ship repair operations. Also, surrounding the Mission Bay South Redevelopment Plan area are the Eastern Neighborhoods Area Plans which created specified zones where “production, distribution and repair” businesses would be preserved, and which would allow for increased residential development in other zones in the Eastern Neighborhoods. The MCMB EIR concluded that development at Mission Bay, Pier 70, and the Eastern Neighborhoods would be completed within prescribed regulations, controls and zoning restrictions that would not physically divide an established neighborhood, or be significantly incompatible with existing land use, and therefore would result in less than significant cumulative impacts. The proposed project would add a plaza in a portion of the Fourth Street right-of-way, and together with other projects or plans in the vicinity would not physically divide an established neighborhood or be significantly incompatible with existing land uses, plans or policies. Therefore, the project would result in a less-than-significant cumulative impact.

**Mitigation Measure:** None required

### 4.2.6 REFERENCES

City and County of San Francisco, *General Plan* (as amended 1997)

San Francisco Redevelopment Agency, Redevelopment Plan for the Mission Bay South Redevelopment Project, November 2, 1998

University of California, San Francisco, Long Range Development Plan, 1996
[http://campusplanning.ucsf.edu/physical/lrdp.php](http://campusplanning.ucsf.edu/physical/lrdp.php)
4.3 TRANSPORTATION

4.3.1 INTRODUCTION

This section describes the existing transportation setting in the Project area and analyzes the potential traffic impacts of the proposed Project. This section is based on the traffic report dated September 5, 2008 prepared for the MCMB EIR, in which the construction of a plaza within the Fourth Street right-of-way and the closure of Fourth Street to vehicular through-traffic were analyzed under the Fourth Street Closed to Through Traffic Alternative.9 This transportation report is contained in this EIR in Appendix B. In addition, a February 8, 2012 memorandum discusses the proposed traffic improvement measures, the triggers for the traffic improvement measures, and a traffic monitoring program.10 The memorandum, contained within Appendix C of this EIR, provides the basis for the discussion of those measures in this chapter.

4.3.2 ENVIRONMENTAL SETTING

The setting information is substantially the same as discussed in the MCMB EIR (pp. 4.5-1 through 4.5-8), which is hereby incorporated by reference. However, the current conditions of the Project site have changed in that all existing structures and paving on the site have been demolished and site work and construction of the hospital complex are substantially underway. In addition, the Phase I parking structure location and size have changed from that described in the MCMB EIR. The Phase I parking structure discussed in the MCMB EIR was proposed to be located just north of South Connector Road, and was to be about 90 feet in height and contain about 600 parking spaces. The Phase I parking structure was later revised and proposed to be approximately 105 feet in height and to contain approximately 626 parking spaces at a location to the north of that previously analyzed in the MCMB EIR. It was analyzed in the Final Supplemental Environmental Impact Report for the UCSF Medical Center at Mission Bay Phase I Garage, certified in June 2011. The Phase I parking structure is now under construction.

4.3.3 SIGNIFICANCE STANDARDS AND METHODOLOGY

Significance Criteria

The impact of the proposed Project on the transportation setting would be considered significant if it would exceed the following standards of significance, in accordance with Appendix G of the State CEQA Guidelines and the UC CEQA Handbook:

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10 Adavant Consulting, Assessment of Traffic Improvement Measure Triggers for the UCSF Medical Center at Mission Bay (Fourth Street Public Plaza Project), February 8, 2012.
• Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit
• Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways
• Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks
• Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)
• Result in inadequate emergency access
• Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities
• Exceed the applicable LRDP EIR standard of significance by causing substantial conflict among autos, bicyclists, pedestrians, and transit vehicles

With regard to analysis of traffic impacts, the analysis methodology of the MCMB EIR remains unchanged. Traffic impacts are analyzed using the concept of Level of Service (LOS), which describes the level of the performance of an intersection based on the average delay per vehicle. Intersection LOS ranges from LOS A, which indicates free-flow conditions with little or no delays, to LOS F, which indicates congested or overloaded conditions with extremely long delays. LOS D, which indicates increasingly unacceptable, yet tolerable, delays, is considered to be the minimum acceptable level of service.

**Issues Not Discussed Further**

The Initial Study for the proposed Project determined that the potential for the Project to affect the performance of the traffic circulation system and level-of-service at nearby intersections should be evaluated in the EIR. Accordingly, these topics will be analyzed in this chapter.

During the scoping meeting conducted on January 23, 2012 for the EIR, a commenter requested that shuttle operations within the proposed cul-de-sacs on Fourth Street be evaluated for safety issues and for general operational impacts to Fourth Street on the Project site; and that a “shared-street” alternative should be analyzed. The commenter also requested that the EIR undertake a comprehensive evaluation of all shuttles within the Mission Bay area, to review potential redundancies and ways to consolidate service or gain efficiencies in operations. Further, the commenter also expressed opposition to the Project because it would eliminate non-emergency vehicular through-traffic on this segment of Fourth Street and, in the opinion of the commenter, privatize this segment of Fourth Street. In response to these comments, shuttle operations within and in the vicinity of the proposed plaza will be analyzed in this chapter, and Chapter 6 Alternatives includes the Fourth Street Open as a Shared Street Alternative.
As the purpose of the EIR is to evaluate the physical environmental impacts of a proposed project, the EIR is not the appropriate study in which to undertake a comprehensive evaluation of all shuttle service within the Mission Bay area, a much broader topic that extends beyond the scope of the Project. Therefore, the broader shuttle operations in the Mission Bay area will not be analyzed in this EIR. The commenter submitted a written comment letter at the scoping meeting, included in Appendix A of this EIR, which reiterates the oral comments made at the scoping meeting and argues that the Project is not needed.

The Initial Study for the proposed Project determined that implementation of the proposed Project would not result in a change to air traffic patterns; substantially increase hazards due to a design feature; result in inadequate emergency access; conflict with adopted plans, policies or programs concerning public transit, bicycle or pedestrian facilities; or cause substantial conflict among autos, pedestrians, bicyclists, and transit vehicles. These issues are not discussed further in this section, except that safety issues related to shuttle vehicles on the project site will be discussed in the EIR as noted above.

4.3.4 IMPACTS AND MITIGATION MEASURES

Construction Impacts

Impact TRANS-1: Construction of the proposed Project could result in significant construction-period impacts. (Less than Significant)

The MCMB EIR concluded that MCMB construction activities would temporarily increase traffic on area roadways (due to construction employee auto trips and construction truck traffic), as well as demand for parking in the area. The MCMB EIR concluded that the LRDP Amendment #2 – Hospital Replacement EIR mitigation measure 4.11-1, which includes limiting the use of local roads as haul routes, and/or limiting truck trips to off-peak hours, and/or developing a parking plan for construction employees, would ensure transportation-related construction impacts would be reduced to less than significant levels. Construction of the Phase I parking structure earlier than anticipated in the MCMB EIR will also provide available parking on-site for construction workers. This mitigation measure will be implemented as part of the proposed Project. Therefore, construction-period transportation impacts associated with the Project would be less than significant.

Mitigation Measure: None required.

Operational Impacts

Impact TRANS-2: In Phase I, the proposed Project could result in a significant traffic impact on the adjacent roadway network. (Less than Significant)
With the proposed closure of Fourth Street between 16th and Mariposa Streets to non-emergency vehicular through-traffic, vehicles that would have otherwise travelled on this segment of Fourth Street would instead travel on surrounding streets: 16th Street, Owens Street, Mariposa Street, and Third Street. The MCMB EIR analyzed impacts associated with the closure of Fourth Street to vehicular through-traffic in the Fourth Street Closed to Through Traffic Alternative. That analysis concluded that traffic impacts in Phase I of the Medical Center at Mission Bay would be less than significant, as all study intersections would continue to operate at level-of-service D or better. Table 4.3-1 below summarizes the traffic conditions discussed in the MCMB EIR with Fourth Street Closed to Through-Traffic. As shown, no significant traffic impacts would occur in Phase I with Fourth Street closed to non-emergency vehicular through-traffic. All study intersections would continue to operate at acceptable levels. Since this analysis, no change in circumstances has occurred that would materially alter the results of the traffic analysis. As the traffic circulation patterns of the proposed Project would be the same as the Fourth Street Closed to Through Traffic Alternative, traffic impacts in Phase I resulting from the proposed Fourth Street Public Plaza project would be less than significant.

Mitigation Measure: None required.

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<td>12</td>
<td>Seventh Street/Mission Bay Drive</td>
<td>Traffic Signal</td>
<td>31.2</td>
<td>C</td>
<td>35.8</td>
<td>D</td>
</tr>
</tbody>
</table>

Source: Adavant Consulting, 2008

1 Intersection delay presented in seconds per vehicle.

2 For unsignalized intersections, delay is presented for the worst stop-controlled approach.

3 Bold indicates intersection operates at unsatisfactory LOS and delay.

4 Assumes a 650-bed hospital.
Impact TRANS-3: In Phase II, the proposed Project could result in a significant traffic impact on the adjacent roadway network. (Less than Significant)

Phase II of the MCMB hospital project would further increase traffic at intersections on the adjacent roadway network in Phase II. As shown in Table 4.3-1, significant traffic impacts could occur at the following intersections in Phase II with Fourth Street closed to vehicular through-traffic, if the traffic improvement measures were not included as part of this Project:

- Mariposa Street/Third Street
- 16th Street/Third Street
- 16th Street/Owens Street
- Owens Street/Center Garage Access
- Owens Street/South Connector Road

UCSF proposes as part of this Project to obtain City approval for traffic improvement measures (see Figures 4.3-1 and 4.3-2) that would reduce the level of delay at these intersections to acceptable levels. UCSF would then implement them either before or by the time they are needed. With implementation of the various traffic improvement measures as described in the Project Description and repeated below, following City approval, traffic impacts resulting from the Project in Phase II would be less than significant:

Traffic Improvement Measures: As discussed in the Project Description, since 2008, the University has been working with the San Francisco Redevelopment Agency and various agencies of the City and County of San Francisco, including the Municipal Transportation Agency, the Planning Department, and the Department of Public Works to reach conceptual agreement on the appropriate scope, timing, and triggers for the traffic improvement measures at the above intersections. City staff is agreeable to having UCSF implement some of the measures as part of the Phase I development, that is, before they are needed. For other measures, the City prefers that they not be implemented until they are needed. To address the timing of implementation of these measures, UCSF is proposing to implement a traffic monitoring plan as part of the Project. UCSF would track conditions at the relevant intersections and use the monitoring information to decide, with the City, the timing of implementation of the measures as the need arises. Although all of the traffic improvement measures would ultimately be required to mitigate significant traffic impacts in Phase II with Fourth Street closed to vehicular through-traffic, these measures are proposed as traffic improvement measures as part of this Project, because they are not required at this time as mitigation. They would either be implemented before they are needed or by the time they are needed. UCSF would commit to their implementation and obtain City approval to implement the measures as part of this Project. In addition, if and when Phase II is proposed, project-level environmental review of Phase II will be conducted. At that time, Phase II traffic impacts will be analyzed with the currently proposed traffic improvement measures in place or planned, and any traffic mitigation measures required for Phase II will be identified.
Measures 1 through 4 are improvement measures affecting the future Owens Street extension Between 16th and Mariposa Streets and are proposed to be implemented early (i.e. in Phase I) before they are triggered in Phase II, to coincide with the initial construction of that street. Measures 5 through 8 would be implemented as needed based on the traffic monitoring plan. Measures 9 through 11 are proposed to be implemented as part of Phase I.

- **Measure 1**
  16th Street and Owens Intersection.  **Southbound Approach:** conversion of the exclusive left turn lane to a shared through-left turn lane and conversion of the shared through-right turn lane to an exclusive right turn lane, resulting in a lane configuration of one shared through-left turn lane, one through lane, and one exclusive right turn lane at this approach. This measure can be accomplished by re-striping the travel lanes within the existing right-of-way and no roadway widening would be necessary.
  
  **Timing:** During construction of Phase I of the MCMB

- **Measure 2**
  16th Street and Owens Intersection.  **Northbound Approach:** provision of space in Phase I for an additional exclusive left turn lane if needed for Phase II development, resulting in a lane configuration of two exclusive left turn lanes, one through lane, and one shared through-right turn lane at this approach. This measure would involve an increase to the width of the roadway by approximately 19 feet to the east to accommodate the additional lane and a median, from 16th Street to the Center Garage Access Road. The additional space for the left turn lane would be developed in the interim as an extension of the street median, until needed as a left turn lane.
  
  This revised design of Owens Street may be implemented either by widening Owens Street after construction of the roadway as originally planned, or by constructing Owens Street in its widened condition upon initial construction. The City, in its reasonable discretion, will determine whether to implement, with funding from UCSF, this measure or implement other measures that would result in acceptable intersection levels of service, as defined by the San Francisco Planning Department.

  **Note:** The above measure provides for space for an additional left turn lane. The lane itself would not be constructed until and unless warranted based on level-of-service analysis pursuant to the traffic monitoring plan.

  **Timing:** During construction of Phase I of the MCMB

- **Measure 3**
  Owens Street at the Center Garage Access.  **Left Turn Lane:** provision of an exclusive left turn lane resulting in a lane configuration of one exclusive left turn lane, one through lane, and one shared through right turn lane at the northbound and southbound approaches. This measure will require widening the street right-of-way an additional 16 feet to the east between the North and South Connector roads.

  **Timing:** During construction of Phase I of the MCMB
- **Measure 4**
  
  **Owens Street at the South Connector Road. Southbound Left Turn Lane:** provision of a new southbound left turn lane at the South Connector Road. This would increase the width of the roadway by approximately 16 feet to the east to accommodate the additional turn lane and median, from the Center Garage Access to the south side of the South Connector Road.

  **Timing:** During construction of Phase I of the MCMB

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**Figure 4.3-1**

Proposed Traffic Improvement Measures
Proposed Traffic Improvement Measures on Owens Street

Source: Adavant Consulting

Figure 4.3-2
In advance of the implementation of the traffic improvement measures described below, UCSF would monitor traffic volumes pursuant to a monitoring plan developed with the City and County of San Francisco. Should it be anticipated that the significant traffic impact at these intersections will occur as a result of Phase II of the MCMB, UCSF would work with City and County of San Francisco staff to implement the measures as described below or to determine equally or more effective alternate lane configurations necessary to maintain an acceptable level of service (currently defined as LOS D or better) at that time.

- **Measure 5**
  **Owens Street at the Center Garage Access. Signalization:** monitor traffic conditions on Owens Street at the Center Garage Access and work with the City and County of San Francisco to install a traffic signal when warranted to maintain an acceptable level of service (currently defined as LOS D or better). UCSF would coordinate with the City and County of San Francisco in the periodic update of the Mission Bay traffic triggers survey and would monitor on-site parking access and circulation on Owens Street in order to determine the need and timing for a traffic signal at this intersection.

  Timing: This intersection will be monitored and a traffic signal installed when warranted, based on the City’s standard traffic signal warrants.

- **Measure 6**
  **Mariposa and 3rd Street Intersection. Southbound Approach:** provision of an exclusive right turn lane and conversion of the shared through-right turn lane to a through lane, resulting in a lane configuration of one exclusive left turn lane, two through lanes and one exclusive right turn lane at this approach. This would involve widening the street right-of-way an additional 11 feet to the west compared to the Mission Bay Plan, for a length of approximately 150 feet, by dedicating UCSF land.

  Timing: This intersection will be monitored and this measure or an equally or more effective design solution necessary to maintain an acceptable level of service (currently defined as LOS D or better) will be determined and implemented prior to the time a significant impact is anticipated to occur.

- **Measure 7**
  **16th Street and 3rd Street Intersection. Eastbound Approach:** conversion of the exclusive left turn lane to a shared through-left turn lane and conversion of the shared through-right turn lane to an exclusive right turn lane, resulting in a lane configuration of one shared through-left turn lane, one through lane, and one exclusive right turn lane at this approach.

  This measure can be accomplished by re-striping the travel lanes within the existing right-of-way and no roadway widening would be necessary.

  Timing: This intersection will be monitored and this measure or an equally or more effective design solution necessary to maintain an acceptable level of service (currently defined as LOS D or better) will be determined and implemented prior to the time a significant impact is anticipated to occur.
• Measure 8

16th Street and 3rd Street Intersection. Westbound Approach: conversion of the exclusive left turn lane to a shared through-left turn lane, resulting in a lane configuration of one shared through-left turn lane and one shared through-right turn lane at this approach.

This measure can be accomplished by re-stripping the travel lanes within the existing right-of-way and no roadway widening would be necessary.

Timing: This intersection will be monitored and this measure or an equally or more effective design solution necessary to maintain an acceptable level of service (currently defined as LOS D or better) will be determined and implemented prior to the time a significant impact is anticipated to occur.

As discussed in Chapter 3, Project Description, additional traffic improvement measures are proposed by the University that require approval by the City. These measures are not needed as mitigation for Phase II. These traffic improvement measures are proposed as follows, subject to final review and approval by City agencies with jurisdiction over the proposed measures following completion of environmental review.

• Measure 9

3rd Street. Southbound lane along the length of the Energy Center: a new truck pullout curb lane, or refuge lane, would be built between the two driveways – truck access and egress to/from the loading dock - to facilitate the turn and minimize the potential for trucks to block the two southbound lanes on 3rd Street. The MCMB project is set back from the UCSF property line to accommodate this lane and allow a continuous sidewalk.

Timing: During construction of Phase I of the MCMB

• Measure 10

16th and Owens Streets. Northwest corner: expansion of the corner sidewalk and realignment of the pedestrian crosswalk across Owens Street, thereby reducing the Owens Street crossing distance on the north side of 16th Street to about 90 feet (down from about 100 feet) and reducing the 16th Street crossing distance on the west side of Owens to about 95 feet (down from about 105 feet).

Timing: During construction of Phase I of the MCMB

• Measure 11

16th and Owens Streets. Southeast Corner: expansion of the corner sidewalk, reducing the Owens Street crossing distance on the south side of 16th Street to about 85 feet (down from its current design of about 89 feet).

Timing: During construction of Phase I of the MCMB

Mitigation Measure: None required.
Impact TRANS-4: Shuttle operations at the Project site could have a significant adverse effect on Fourth Street operations, including the safety of pedestrians and bicyclists. (Less than Significant)

UCSF provides weekday shuttle bus service to transport faculty, staff, students, patients, and visitors among its campus sites. The UCSF shuttle system has operated for over 30 years, and in FY09-10, there were over 2.3 million passenger boardings system-wide. Currently, there are five direct routes from the Mission Bay campus site to six other campus locations (Parnassus Heights via the Grey Route; San Francisco General Hospital, Parnassus Heights, and Mount Zion via the Gold [clockwise] and Blue [counterclockwise] routes, the Mission Center Building and 16th Street BART Station via the Red Route, and China Basin Landing and 654 Minnesota Street via the Green Route). Access to other campus locations (Laurel Heights, Kezar, Aldea San Miguel housing, the San Francisco Veterans Administration Medical Center, and 3360 Geary Street) require a transfer to different shuttle routes. All UCSF shuttle buses serving the Mission Bay campus site currently stop along Fourth Street between Gene Friend Way and 16th Street. Shuttle buses do not run on weekends. Headways for each route are generally 15 to 20 minutes.

With the development of the MCMC, UCSF shuttle service is planned to be extended from the UCSF Mission Bay research campus north of 16th Street to the MCMC site south of 16th Street. This would occur with or without the proposed Project. While plans are not firm, it is anticipated that UCSF shuttle service (perhaps the Grey, Blue/Gold, and Green routes) could be extended to the northern part of the MCMC site if the Project is approved. In addition, or alternatively, the University could consider a jitney system whereby a small bus would transport passengers around the Mission Bay campus site, including to/from the MCMC site and to/from the shuttle bus stops on the UCSF Mission Bay research campus site.

It would be desirable for the MCMC shuttle or jitney stop to be as close as possible to the population being served for reasons of customer service, passenger convenience, and personal safety. A shuttle or jitney stop in the northern cul-de-sac, close to the Outpatient building and just north of the hospital entrances, would meet these needs. The cul-de-sac has been designed to safely accommodate the smaller shuttles (the 22-passenger vehicles) that could use the cul-de-sac. Visual and non-visual cues would indicate to drivers to slow travel speeds when entering the cul-de-sac, and indicate to pedestrians that the cul-de-sac is for vehicle use. Designated bike pathways in the vicinity would be clearly marked. Therefore, no significant impacts would occur with regard to pedestrian/bicycle safety in relation to shuttle operations on the Project site.

For larger shuttle buses (such as the 30- to 33-passenger vehicles), a shuttle stop on the north side of North Connector Road near Fourth Street is planned. The design of North Connector Road could be widened at this location to allow for a shuttle stop while retaining two travel lanes (one westbound and one eastbound). The planned sidewalk for pedestrians would remain. Therefore, no significant impacts would occur with regard to pedestrian/bicycle safety in relation to shuttle operations at his location.
UCSF shuttles at the Project site would operate on a stop-and-go basis, stopping only long enough for passengers to disembark and embark. No staging, queuing, or idling of shuttles would occur. Therefore, the impact of shuttle activities on the operations of Fourth Street on or near the Project site would be less than significant.

**Mitigation Measure**: None required.

**Impact TRANS-5: Proposed Project activities could have a substantial cumulative adverse effect on traffic conditions in the vicinity. (Less than Significant)**

As discussed in the MCMB EIR (p. 4.6-30), all of the proposed Project’s traffic impacts were identified using a standard traffic engineering analytical methodology to establish the Project component of traffic, to identify the existing and future traffic conditions against which the Project component would be compared, and to identify impacts and mitigation measures. Future traffic volumes were determined based on the San Francisco County Transportation Authority forecast model, and include all planned and approved cumulative development and associated cumulative traffic. Therefore, the Project impacts presented in this section fully account for all cumulative impacts of the proposed Project. The traffic improvement measures discussed previously would assure that cumulative traffic conditions to which the Project contributes would not result in unacceptable levels of service. Therefore, the Project would not make a considerable contribution to cumulative traffic impacts.

Further, the proposed Project would not conflict with the San Francisco Congestion Management Program (CMP), as it would not exceed the level-of-service standard for intersections in the vicinity of the proposed Project. In addition, the CMP discusses the importance of transportation demand management (TDM). UCSF has had an active and growing TDM program since 1971, which consists of the UCSF shuttle system, vanpools, a commuter bus club, carpools, ride-sharing (Zimride) participation, carshare, and emergency ride home program, bicycle parking, on-site transit pass sales, and a pre-tax transit pass program. All of these TDM program amenities would be available to UCSF’s MCMB employees. For the reasons noted above, the Project would result in a less than considerable contribution to significant cumulative traffic impacts.

**Mitigation Measure**: None required.

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12 The December 2011 CMP discusses, among other things, the potential for a change in the way traffic impacts are typically analyzed in CEQA documents by San Francisco agencies. Rather than the current level-of-service methodology, the San Francisco County Transportation Authority is considering a methodology whereby the net new automobile trips of a project are quantified and, based on the number of trips generated, an impact fee could be imposed as mitigation (CMP pp. 55-56). The impact fee would fund citywide and local area projects designed to address environmental impacts caused by projects. This change in methodology requires legislation for the proposed fee, and so is not expected to take place until late 2012 or early 2013.
4.3.5 REFERENCES

CHAPTER 5
CEQA STATUTORY SECTIONS

5.1 SIGNIFICANT AND UNAVOIDABLE ENVIRONMENTAL IMPACTS

In accordance with Section 21067 of the California Environmental Quality Act (CEQA), and with Sections 15040, 15081, and 15082 of the State CEQA Guidelines, the purpose of this section is to identify impacts that could not be eliminated or reduced to an insignificant level by mitigation measures included as part of the Project, or by other mitigation measures that could be implemented, as described throughout Chapter 4 Environmental Setting, Impacts and Mitigation Measures, of this EIR. This chapter is subject to final determination by the University as part of the certification process for the EIR. If necessary, this chapter will be revised in the Final EIR to reflect the findings of the University.

There would be no significant and unavoidable environmental impacts as a result of the proposed Project.

5.2 CUMULATIVE IMPACTS

Information regarding the methodology for assessment of cumulative impacts is the same as discussed in the UCSF Medical Center at Mission Bay EIR (pp. 5-2 to 5-3). The proposed Project’s contribution to cumulative impacts is discussed in this EIR and Initial Study for the Project under each environmental topic. The Project would contribute to cumulative impacts in the areas of aesthetics (views and visual character), construction air quality emissions, greenhouse gas emissions, construction noise, and traffic. However, with the exception of construction air quality emissions, none of the cumulative impacts would be significant. With regard to significant cumulative construction air quality emissions, the Project’s contribution would be very small and would not represent a cumulatively considerable contribution.

5.3 GROWTH-INDUCING IMPACTS

Projects are considered growth-inducing if they foster economic or population growth or the construction of additional housing, directly or indirectly. Typically, growth inducement occurs when a project extends urban services or transportation infrastructure to previously un-served or under-served areas, or removes major barriers to development.

The proposed Project would serve the employee, patient, and visitor population of the Medical Center at Mission Bay. As a public plaza, it would not foster economic or population growth or
result in the construction of additional housing. Nor would the Project extend urban services or transportation infrastructure or remove barriers to development.

5.4 EFFECTS FOUND NOT TO BE SIGNIFICANT

Section 15128 of the State CEQA Guidelines requires an EIR to briefly describe any potential environmental effects that were determined not to be significant during the Initial Study and EIR scoping process and were, therefore, not discussed in detail in the EIR. A discussion of these less than significant effects of the proposed Project on agriculture and forestry resources, air quality, biological resources, cultural resources, geology/soils, greenhouse gas emissions, hazards and hazardous materials, hydrology and water quality, mineral resources, noise, population and housing, public services, recreation, utilities and service systems is presented in the Initial Study which is included in Appendix A of this EIR.

5.5 SIGNIFICANT IRREVERSIBLE ENVIRONMENTAL CHANGES

Section 15126.2(c) of the State CEQA Guidelines requires a discussion of the extent to which a proposed Project would commit nonrenewable resources to uses that future generations would be unable to reverse. The State CEQA Guidelines describe three distinct categories of irreversible changes that should be considered.

Changes in Land Use which Commit Future Generations

The proposed Project would not have irreversible impacts because as with the previous development at the site, the proposed Project could be removed in the future and the site developed as a vehicular through-street as previously planned. Furthermore, the Project would not result in the conversion of any land that has not already been disturbed and developed.

Consumption of Natural, Nonrenewable Resources

Analysis of the degree to which a proposed Project would consume nonrenewable resources includes assessments of increased energy consumption, consumption of agricultural lands and loss of access to mining reserves. Completion of the proposed Project would irretrievably commit nonrenewable resources to proposed plaza construction and operation. Construction materials and energy consumed as part of the Project would include, but would not be limited to, nonrenewable and limited resources such as oil, gasoline, aggregate, and water. Increased energy demands would result from maintenance of the site.

As explained in the Initial Study, the proposed Project site contains no areas used for agricultural purposes or designated as agricultural land, nor does it contain any significant mineral deposits. As such, the proposed Project would not result in irreversible changes related to the consumption of those types of resources.
Irreversible Damage from Environmental Accidents

As detailed in the Initial Study, the proposed Project does not involve any on-site long term use of hazardous materials, so there is no risk of irreversible damage from environmental accidents.
CHAPTER 6

ALTERNATIVES

6.1 ALTERNATIVES TO THE PROJECT

The California Environmental Quality Act (CEQA) requires an evaluation of the comparative effects of a range of reasonable alternatives that would attain most of the basic objectives of the proposed project and avoid or substantially lessen one or more of the significant adverse effects of the proposed project, including alternatives that are more costly or could otherwise impede to some degree the attainment of the project’s objectives.

This chapter discusses two alternatives to the proposed Project:

- No Project Alternative
- Fourth Street Open as a Shared Street Alternative

6.1.1 NO PROJECT ALTERNATIVE

CEQA requires that a “No Project” alternative be considered. Under this alternative, Fourth Street would be developed as a vehicular through-street as envisioned in the Mission Bay South Redevelopment Plan and as assumed in the MCMB EIR. Under this alternative, no plaza would be constructed in the Fourth Street right-of-way, but the Fourth Street frontage on MCMB property could be designed with a small plaza and landscaping. The cul-de-sacs would be located on MCMB property as assumed in the MCMB EIR. Under this alternative, no pedestrian bridges across Fourth Street would be constructed in Phase II.

The No Project Alternative would meet the Project objective to maintain adequate access to the Medical Center emergency room and urgent care facilities, but would not meet the other main objectives of the proposed Project.

Aesthetics

With the proposed Project, impacts on views and visual quality would be less than significant. Under the No Project Alternative, no construction of a plaza or bridges would occur within the Fourth Street right-of-way. Therefore, there would be no impacts upon the Fourth Street view corridor. Relative to visual quality, the construction of Fourth Street as a vehicular through-street may not be as aesthetically pleasing as a public landscaped plaza, but its presence in a developed, urban neighborhood would not have a significant adverse aesthetic effect. Therefore, as with the proposed Project, impacts on views and visual quality under the No Project Alternative would be less than significant.
Land Use

The proposed Project would result in less than significant land use impacts because it would not conflict with the Mission Bay South Redevelopment Plan, it would be developed consistent with the MOU between the SFRA and the University, and it would not conflict with applicable City plans or policies identified in other documents such as the San Francisco General Plan, Better Streets Plan, or San Francisco Bicycle Plan. In addition, the Project would be consistent with the Public Trust Doctrine administered by the State Lands Commission. The No Project Alternative would develop Fourth Street without bridges and as a vehicular through-street, consistent with the planned land use and traffic patterns envisioned in the Mission Bay South Redevelopment Plan. Therefore, as with the proposed Project, impacts on land use under the No Project Alternative would be less than significant.

Transportation

The proposed Project would result in no significant traffic impacts in Phase I. Were it not for the proposed traffic improvement measures, significant traffic impacts from the proposed Project would occur in Phase II at the following intersections: Mariposa/Third Streets, 16th/Owens Streets, 16th/Third Streets, the Owens Street/Center Garage Access, and Owens Street at South Connector Road. However, implementation of various traffic improvement measures as described in the Project Description, following City approval, would ensure that significant traffic impacts resulting from the MCMB Phase II project would be avoided.

Under the No Project Alternative, with Fourth Street open to vehicular through-traffic, no significant traffic impacts would occur in Phase I. If Phase II were approved and constructed, the No Project Alternative could result in significant traffic impacts at the intersections of 16th/Owens Streets and the Owens Street/Center Garage Access. Consequently, under this alternative, only two of the eight traffic improvement measures required to mitigate significant traffic impacts of the Project in Phase II would be needed: Measure 1 (16th and Owens, southbound approach) and Measure 5 (Owens Street at the Center Garage Access, signalization). With implementation of these measures, the significant traffic impacts of this Alternative could be mitigated to less than significant levels.

Summary

The No Project Alternative would have less than significant impacts in the areas of aesthetics and land use, as with the proposed Project.

The No Project Alternative would avoid some of the Phase II traffic impacts of the proposed Project, but would continue to have a significant traffic impact in Phase II at two intersections: 16th/Owens and Owens Street/Center Garage Access. However, these significant traffic impacts could be mitigated to less than significant levels, as with the Project, to the same level of service as with the Project.
The No Project Alternative would not meet the Project objectives to (1) provide a safe and clear east/west connection between the Medical Center facilities on both sides of Fourth Street, particularly for children, the elderly, and those with compromised health or disabilities; (2) minimize conflicts among vehicles, pedestrians, and bicyclists; and (3) develop an open space that provides flexibility of use for UCSF events. The Project objective to develop a well-designed public open space that welcomes patients, visitors, staff, and the general public would only partially be met, but not at the scope and scale that the University desires.

### 6.1.2 FOURTH STREET OPEN AS A SHARED STREET ALTERNATIVE

Under the Fourth Street Open as a Shared Street Alternative, Fourth Street would be open to vehicular traffic but would also accommodate bicyclists and pedestrians within the same space as vehicles. The roadway would be designed utilizing traffic-calming measures to discourage vehicular through-traffic, and would include visual and non-visual cues to slow travel speeds and inform drivers and bicyclists of the presence of pedestrians. Under this alternative, it is anticipated that some vehicular through-traffic would still occur, but to a lesser degree than with Fourth Street fully open.

Under this alternative, a plaza could be partially constructed in the Fourth Street right-of-way, integrated with a roadway for vehicular traffic and one or two cul-de-sacs for patient drop-off. Although this Alternative would discourage through-traffic, Fourth Street would be open to the public and would continue to be owned by the City of San Francisco. Under this alternative, pedestrian bridges across Fourth Street would be constructed in Phase II.

The Fourth Street Open as a Shared Street Alternative would meet the Project objective to maintain adequate access to the Medical Center emergency room and urgent care facilities. It would only partially meet the Project objective to provide a safe and clear east/west connection between the Medical Center facilities on both sides of Fourth Street, particularly for children, the elderly, and those with compromised health or disabilities.

### Aesthetics

With the proposed Project, impacts on views and visual quality would be less than significant. Under the Fourth Street Open as a Shared Street Alternative, construction of a plaza would occur partially within the Fourth Street right-of-way. Bridges would continue to be proposed in Phase II, as with the proposed Project. Impacts on views and visual quality would be the same or similar to the proposed Project. Relative to visual quality, a modified design that integrates a through-roadway, cul-de-sacs, plaza and landscaping may or may not be as aesthetically pleasing

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1 A “shared street” is one that integrates different travel modes within the same space.
as the landscaped plaza proposed with the Project, depending on the design of the open space under this Alternative, but its construction in a developed, urban neighborhood would not have a significant adverse aesthetic effect. Therefore, as with the proposed Project, impacts on views and visual quality under the Fourth Street Open as a Shared Street Alternative would be less than significant.

**Land Use**

The proposed Project would result in less than significant land use impacts because it would not conflict with the Mission Bay South Redevelopment Plan, it would be developed consistent with the MOU between the SFRA and the University, and it would not conflict with applicable City plans or policies identified in other documents such as the San Francisco General Plan, Better Streets Plan, or San Francisco Bicycle Plan. In addition, the Project would be consistent with the Public Trust Doctrine administered by the State Lands Commission. The Fourth Street Open as a Shared Street Alternative would develop Fourth Street as a vehicular through-street, and would include the development of a plaza and pedestrian bridges, consistent with the planned land use and traffic patterns envisioned in the Mission Bay South Redevelopment Plan. Therefore, as with the proposed Project, these impacts would be less than significant under this Alternative.

As discussed in this EIR in section 4.1 Land Use, Fourth Street between 16th and Mariposa Streets is a designated public trust parcel subject to the Public Trust Doctrine, and is under the jurisdiction of the State Lands Commission. With the proposed Project, the University would not acquire the property and instead would seek a major encroachment permit from the City and County of San Francisco, and because the site would be open space accessible to the public, the Project would be consistent with the Public Trust Doctrine. Under the Fourth Street Open as a Shared Street Alternative, the City could continue to own the land and grant the University an encroachment permit for use of a portion of the Fourth Street right-of-way as a public plaza, as with the proposed Project. Both the roadway and the plaza would continue to be open to the public, and would be consistent with the Public Trust Doctrine. Therefore, land use impacts under the Fourth Street Open as a Shared Street Alternative would be less than significant, as with the proposed Project.

**Transportation**

The proposed Project would result in no significant traffic impacts in Phase I. In Phase II, significant traffic impacts from the proposed Project would occur at the following intersections: Mariposa/Third Streets, 16th/Owens Streets, 16th/Third Streets, the Owens Street/Center Garage Access, and Owens Street/South Connector Road. However, implementation of various traffic improvement measures as described in the Project Description, following City approval, would ensure that traffic impacts resulting from the MCMB Phase II project would be less than significant.

For purposes of this analysis, the traffic impacts associated with the Fourth Street Open as Shared Street Alternative are the same as the traffic impacts for the Fourth Street Open as Private
Roadway Alternative described and analyzed in the MCMB EIR. The major features of these Alternatives are the same – that of a street that is open to vehicular through-traffic but emphasizes slow travel speeds, and bicycle and pedestrian travel.

Under the Fourth Street Open as a Shared Street Alternative, with Fourth Street open to vehicular through-traffic, no significant traffic impacts would occur in Phase I. In Phase II, the Fourth Street Open as a Shared Street Alternative would result in significant traffic impacts at the intersections of 16th/Third Streets, 16th/Owens Streets and the Owens Street/Center Garage Access. Consequently, under this alternative, six of the eight traffic improvement measures required to mitigate significant traffic impacts of the Project in Phase II would be needed: Measure 1 (16th and Owens, southbound approach), Measure 2 (16th and Owens, northbound approach), Measure 3 (Owens Street at Center Garage Access, left turn lane), Measure 5 (Owens Street at Center Garage Access, signalization), Measure 7 (16th and Third, eastbound approach), and Measure 8 (16th and Third, westbound approach). With the implementation of these measures, the significant traffic impacts of this Alternative could be mitigated to less than significant levels.

Summary

The Fourth Street Open as a Shared Street Alternative would have less than significant impacts in the areas of aesthetics and land use, as with the proposed Project. The Fourth Street Open as a Shared Street Alternative would avoid some of the traffic impacts of the proposed Project, but would continue to have a significant traffic impact at three intersections: 16th/Third, 16th/Owens and Owens Street/Center Garage Access.

The Fourth Street Open as a Shared Street Alternative would only partially meet the Project objectives to (1) develop a well-designed public open space that welcomes patients, visitors, staff, and the general public; and (2) develop an open space that provides flexibility of use for UCSF events. These objectives would partially be met, but not at the scope and scale that the University desires.

6.1.3 ENVIRONMENTALLY SUPERIOR ALTERNATIVE

An EIR is required to identify the environmentally superior alternative—that is, the alternative having the fewest significant environmental impacts—from among the alternatives evaluated. The environmentally superior alternative among those evaluated within this EIR is the No Project Alternative. Other than the No Project Alternative, the remaining alternative, the Fourth Street Open as a Shared Street Alternative, is the environmentally superior alternative.
CHAPTER 7

REPORT PREPARATION

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CHAPTER 8
COMMENTS AND RESPONSES

8.1 OVERVIEW

This chapter contains the public comments received regarding the Draft EIR prepared for the proposed Project, and the responses to those comments. Comments were received during the public comment period from February 15, 2012 to April 2, 2012. In addition, a public hearing was held on the UCSF Mission Bay campus site on March 22, 2012, at which the public was given an opportunity to provide oral testimony. Three letters via e-mail were received. There was no oral testimony at the public hearing. The comments and responses follow. Comments shown are verbatim from letters. Copies of the comment letters and the public hearing transcript are provided at the end of this chapter.

8.2 COMMENTS AND RESPONSES

1. Comment from Toby Levine, Mission Bay Citizens Advisory Committee

Hello. I am a member of the Mission Bay CAC. Have seen the presentation on several occasions. I like the plan very much. But there is one thing I feel is a big mistake and that is having the pedestrian way be a bicycle way, too. The bikes should be separate. You will have small children, sick people, patients who are not very mobile, etc. You will have an accident waiting to happen. Children move in funny ways, as do people who are not mobile, and their moves may not be anticipated by the bicyclists. Create a separate path, or have the bikers walk their bikes. I am a member of the Bicycle Coalition and support them. But it is clear that one cannot have everything one wants in life.

Response

Thank you for your comment. The University views pedestrian safety as a priority for the Project, particularly given the fragile patient population that would use the plaza as you indicate in your comment, as well as the presence of children, visitors, and staff. For this reason, the University has gone to great lengths to ensure that the plaza is designed to minimize conflicts between pedestrians and bicyclists. Designs, re-designs, and refinement of designs have involved many stakeholders over the course of many months, including the City of San Francisco’s disability access coordinator. As proposed, the Project includes distinct and clearly marked bicycle paths on the north and south ends of the site, to separate bicyclists from vehicular and pedestrian traffic.

Along the western edge of the site within the proposed multi-use promenade, bicycle traffic would be mixed with pedestrians. However, the promenade is designed with visual cues and signage to ensure slow travel speeds by bicyclists and to alert bicyclists to the presence of
pedestrians, and vice-versa, in particular at the central east-west pedestrian crossing. Thus, conflicts between pedestrians and bicyclists would be minimized, and the Project is not expected to result in a safety hazard. While it is understandable that concerns regarding safety remain, there is no evidence to suggest that the proposed mixed-use promenade would result in substantial pedestrian-bicyclist conflicts. Many mixed-use open spaces that are temporarily closed to vehicular traffic exist throughout the City without significant problems, such as the Saturday closures of John F. Kennedy Drive in Golden Gate Park, and the Sunday Streets closures on various streets in San Francisco. Within those spaces, pedestrians, runners, bicyclists, rollerbladers, skateboarders, dogs and others, travel freely within the open roadway.

The mixed-use promenade is one component of the proposed plaza. Elsewhere, the plaza provides space for gathering and walking, free of bicycles, and pedestrians may opt to walk within those spaces instead of the promenade. In addition, if the Project is approved and constructed, the University would monitor any safety issues on the plaza, including pedestrian safety issues that may arise, and address them accordingly.

2. **Comment from Janet Carpinelli, President, Dogpatch Neighborhood Association**

   Attached please find our Association letter of support dated July 28, 2011 for the above referenced project. UCSF did a follow up presentation to our association at our March 2012 meeting as well, showing design updates and taking questions from our group.

   We remain in favor of the plaza and believe the updates improve the overall project and make it an even more multi-user-friendly, traffic-calming plaza.

   **Response**

   Thank you for your comment.

3. **Comment from Richard DeWilde**

   As a close neighbor of the pending 4th St Plaza, I just wanted to say I have no issues with it, and am fine with it as presented.

   **Response**

   Thank you for your comment.
8.3 COMMENT LETTERS AND PUBLIC HEARING TRANSCRIPT

The comments included in this chapter were taken from letters submitted by interested parties. There was no oral testimony at the public hearing. Copies of the written comments follow, as well as the public hearing transcript.
Dear Ms. Wong,

Hello. I am a member of the Mission Bay CAC. Have seen the presentation on several occasions. I like the plan very much. But there is one thing I feel is a big mistake and that is having the pedestrian way be a bicycle way, too. The bikes should be separate. You will have small children, sick people, patients who are not very mobile, etc. You will have an accident waiting to happen. Children move in funny ways, as do people who are not mobile, and their moves may not be anticipated by the bicyclists. Create a separate path, or have the bikers walk their bikes. I am a member of the Bicycle Coalition and support them. But it is clear that one cannot have everything one wants in life.

Toby Levine
Resident of Mission Bay
255 Berry Street, # 609
San Francisco, Ca. 94158
647-3052
March 29, 2012

Re: UCSF Medical Center at Mission Bay – Fourth Street Public Plaza Draft EIR
Dogpatch Neighborhood Support

Attached please find our Association letter of support dated July 28, 2011 for the above referenced project. UCSF did a follow up presentation to our association at our March 2012 meeting as well, showing design updates and taking questions from our group.

We remain in favor of the plaza and believe the updates improve the overall project and make it an even more multi-user-friendly, traffic-calming plaza.

Thank you,

Janet Carpinelli
282-5516

President
Dogpatch Neighborhood Association
1459 18th St., No. 227
San Francisco, CA 94107
www.mydogpatch.org
July 28, 2011

Ms Catherine Reilly
Ms Kelley Kahn
SF Redevelopment Agency
1 South Van Ness Avenue, Fifth Floor
San Francisco CA 94103

Re: UCSF Mission Bay Hospital 4th Street configuration between Mariposa St./16th St.

Dear Catherine and Kelley:

The Dogpatch Neighborhood Association voted, after the most recent presentation by UCSF at our July meeting, to overwhelmingly support the plan to have 4th Street between Mariposa St. and 16th St. be a pedestrian and bike through path, with motorized vehicles having access to and from the hospital for drop off/pick up and “major emergency” vehicle use only—no through traffic.

We have been advocating for a plan such as this for quite awhile. We feel that it will be more pleasant for the hospital environment and for the neighborhood. We do not want to encourage traffic through our neighborhood for vehicles which would use 4th Street as a through way north and south in and out of San Francisco which might well be the case as this area becomes more built out. The plan to upgrade the off-ramp at Mariposa St. and expand Owens St. and direct traffic to the main routes of Owens, 16th St. and Third St. will keep Dogpatch the livable small-scale neighborhood that it is.

We are pleased that the SF Bicycle Coalition has worked with us and UC to put a great bike path in place.

That said, we all need to continue to work out details of 16th St., Third St., Illinois St. and especially Mariposa St., to better the connections between Potrero Hill, Dogpatch and Mission Bay for a network of pedestrian, bike and vehicular streets/paths/greenways/parks that will be inviting for people using all modes of transportation.

We urge SF Redevelopment Agency to support this 4th Street plan.

Sincerely,

Janet Carpinelli
President
Hello,

As a close neighbor of the pending 4th St Plaza, I just wanted to say I have no issues with it, and am fine with it as presented.

Thank you,

Richard DeWilde
UCSF Mission Bay Campus
600 16th Street
Genentech Hall - Auditorium
San Francisco, CA

UCSF Medical Center at Mission Bay
Fourth Street Public Plaza Proposal
Draft EIR Public Hearing

Thursday, March 22, 2012
7:00 P.M.

Reported by
Tahsha Sanbrailo
APPEARANCES

Present:

Diane Wong
UCSF Campus Planning
MS. WONG: Good evening. My name is Diane Wong and I'm the Environmental Coordinator for the University of California, San Francisco. I will be the Hearing Officer for tonight's public hearing on the Draft Environmental Impact Report, or Draft EIR, for the UCSF Medical Center at Mission Bay Fourth Street Public Plaza Project.

The primary purpose of this hearing is to receive public testimony and evidence regarding the adequacy of the Environmental Review for the proposed project. This is not a hearing on the proposed project, itself. We have held several community meetings regarding the project where we received comments about the project and its designs.

Tonight’s hearing is being conducted pursuant to the University of California’s procedures for implementation of the California Environmental Quality Act, or CEQA.

Public Notice regarding this hearing and the availability of the Draft EIR included advertisements in the San Francisco Examiner, postcard mailing to adjacent property owners, and about 3,800 households in the Mission Bay and Dog Patch neighborhoods, email notifications to a Listserv of about 450 people and organizations, and posting on the Campus Planning Website, Community Relations Website, and UCSF Events Calendar.
This hearing will be transcribed by a Reporter. A complete transcript of this proceeding, as well as all written comments received during the EIR public review period, will be included in and responded to in the Final EIR. All comments will be presented to the decision maker, the President of the University of California, for review before considering the certification of the Final EIR.

If you do not wish to speak tonight, you may submit written comments, which are given equal weight, with oral remarks. Written comment sheets are available on the table if you would like to use them. You may also supplement any oral testimony given tonight with additional written material.

I would like to note that all comments must be received by the close of the public review period on Monday, April 2nd, 2012, at 5:00 p.m. in order to be considered as part of the record. Correspondence should be sent to me, Diane Wong, Campus Planning, 654 Minnesota Street, San Francisco, California 94143-0286.

Regarding the hearing tonight, if you would like to speak and have not already signed up, please fill out a speaker card now and return it to the staff. In order for your testimony to be accurately recorded, and so that we may respond accurately in the Final EIR, please come forward when called and use the microphone. As you begin your
remarks, please spell your name for the Reporter and
indicate the name of any organization you represent.
Because the purpose of this hearing is to receive testimony
and evidence for the decision maker to consider, UCSF staff
will not attempt to respond to the testimony this evening,
or engage in a dialogue with the public; however, I will be
happy to answer any procedural questions about the hearing.

Are there any questions that have not been
addressed by my comments? Are there any speakers who would
like to speak to the Draft EIR? All right, hearing none,
this public hearing is closed. Thank you very much.

-oOo-

[Public Hearing Adjourned.]
CHAPTER 9
MITIGATION MONITORING AND REPORTING PROGRAM

9.1 OVERVIEW

The California Environmental Quality Act (CEQA) requires that a Lead Agency establish a program to monitor and report on mitigation measures adopted as part of the environmental review process to avoid or reduce the severity and magnitude of potentially significant environmental impacts associated with project implementation. CEQA (Public Resources Code Section 21081.6 (a)(1)) requires that a Mitigation Monitoring and Reporting Program (MMRP) be adopted at the time that the agency determines to carry out a project for which an EIR has been prepared, to ensure that mitigation measures identified in the EIR are fully implemented.

The MMRP for the proposed Project is presented in the following table, which includes the full text of mitigation measures identified in the Final EIR. The MMRP includes the mitigation measures adopted as part of the UCSF Medical Center at Mission Bay project that are included as part of the Project, as well as the LRDP Amendment #2 mitigation measures that are applicable to the project. The MMRP describes implementation and monitoring procedures, responsibilities, and timing for each mitigation measure identified in the EIR, including:

**Significant Impact:** Identifies the Impact Number and statement from the Final EIR.

**Mitigation or Improvement Measures:** Provides full text of the mitigation measures as provided in the Final EIR.

**Implementation:** Summarizes the steps to be taken to implement the measure.

**Responsible Unit:** Designates responsibility for implementation of the measure.

**Report Mechanism:** Specifies procedures for documenting and reporting mitigation implementation.

Consistent with UC policy, UCSF may modify the means by which a mitigation measure will be implemented, as long as the alternative means ensure compliance during project implementation. The responsibilities of mitigation implementation, monitoring and reporting extend to several UCSF departments and offices. The manager or department lead of the identified unit or department will be directly responsible for ensuring the responsible party complies with the mitigation. The UCSF Campus Planning Department is responsible for the overall administration of the program and for assisting relevant departments and project managers in their oversight and reporting responsibilities. The Department is also responsible for ensuring the relevant
parties understand their charge and complete the required procedures accurately and on schedule.
MITIGATION MONITORING AND REPORTING PROGRAM
EIR FOR THE UCSF MEDICAL CENTER AT MISSION BAY – FOURTH STREET PUBLIC PLAZA

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MITIGATION MEASURES NEWLY IDENTIFIED IN THE EIR FOR THE UCSF MEDICAL CENTER AT MISSION BAY – FOURTH STREET PUBLIC PLAZA

No new mitigation measures are required.

MITIGATION MEASURES IDENTIFIED IN PRIOR EIRS THAT ARE APPLICABLE TO THE FOURTH STREET PUBLIC PLAZA PROJECT

AESTHETICS

4.1-1 (LRDP Amendment #2 EIR): New hospital development at any of the sites could increase light and glare which could affect nighttime views at the selected site in its vicinity. [note: as only certain portions of this mitigation measure are applicable to the proposed Project, the mitigation measure has been revised accordingly.]

Minimize light and glare from new hospital development through the orientation of buildings, the proposed project through use of landscaping materials, and choice of primary facade materials. Design standards and guidelines to minimize light and glare would be adopted for the new hospital development, including:

- Reflective metal walls and mirrored glass walls shall not be used as primary building materials for facades.
- Installation of illuminated building signage shall strive to be consistent with City Planning Code sign requirements and/or Mission Bay design guidelines.
- Exterior light fixtures shall be configured to emphasize close spacing and lower intensity light. Light fixtures shall use luminaries that direct the cone

Issue instructions to the architect/landscape architect to incorporate the mitigations as design criteria.

Working with the Project Manager, require architect/landscape architect and design professionals to document how siting and design measures are addressed and incorporated. Review design plans for the proposed project to ensure that such features have been incorporated in the design to address the impacts.

UCSF Medical Center Project Manager, Campus Planning

Provide written verification to Monitor during design phase regarding compliance with this mitigation measure.
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<td>4.1-2 (LRDP Amendment #2 EIR): Construction of a new hospital could result in flood lighting at any of the sites during nighttime construction activities.</td>
<td>UCSF would shall require a condition in construction contracts that flood or area lighting for construction activities be placed and directed so as to avoid potential disturbances to adjacent residences or other uses.</td>
<td>Include the lighting restrictions in construction contracts. Working with the project and construction managers, require contractors to document compliance with construction lighting measures. Review construction documentation to ensure that mitigation is included to address lighting effects.</td>
<td>UCSF Medical Center and construction project manager</td>
<td>Provide written verification in report form to Monitor within 10 working days of each contract bid to certify that selected bid includes provisions for construction lighting. During construction phase, construction manager shall document compliance with this mitigation measure.</td>
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**AIR QUALITY**

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<td>4.2-2 (LRDP Amendment #2 EIR): Demolition and construction activities associated with the hospital construction would generate fugitive dust and criteria pollutant emissions that could adversely affect local air quality. [note: this mitigation measure has been updated to be consistent with more recent BAAQMD dust control guidelines]</td>
<td>During construction, UCSF shall require the construction contractor to implement the appropriate level of BAAQMD’s dust control procedures for all construction sites. UCSF shall include this requirement in all construction contracts. This mitigates this impact to less than significant. Elements of the basic dust control program include, but are not necessarily limited to, the following:</td>
<td>Issue instructions in each bid package of each construction project for contractors to incorporate the mitigation. The successful contractor will prepare a construction air pollution control strategy to report on the implementation of the mitigation measure.</td>
<td>UCSF Medical Center and construction project manager</td>
<td>Provide written verification in report form to Monitor within 10 working days of each contract bid to certify that selected bid includes provisions for construction air pollution control. Provide a report on construction air pollution control strategies and report to Monitor upon request; but no less than quarterly after beginning of construction activities.</td>
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- Water active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible.
### Significant Impact

- Cover trucks hauling soil, sand, and other loose materials or require trucks to maintain at least 2 feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer);

- Pave, apply water three times daily, or apply nontoxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites;

- Sweep daily (with water sweepers, using reclaimed water if possible) if soil material visible all paved access roads, parking areas, and staging areas at construction sites;

- Sweep streets daily (with water sweepers, using reclaimed water if possible) if visible soil material is carried onto adjacent public streets.

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.

- All haul trucks transporting soil, sand or other loose material off-site shall be covered.

- All visible mud or dirt track-out
**Significant Impact** | **Mitigation Measure** | **Implementation** | **Responsible Unit** | **Report Mechanism**  
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onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.  
- All vehicle speeds on unpaved roads shall be limited to 15 mph.  
- All roadways, driveways and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.  
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.  
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified visible emissions evaluator.  
- Post a publicly visible sign with
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<td>the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations.</td>
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<td>If the working area of any construction site exceeds four acres at any one time, implement the enhanced PM10 control measures, in addition to the basic control measures listed above, in accordance with the BAAQMD CEQA Guidelines:</td>
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<td>• Hydroseed or apply nontoxic soil stabilizers to inactive construction areas;</td>
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<td>• Enclose, cover, water twice daily or apply non-toxic soil binders to exposed stockpiles;</td>
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<td>• Limit vehicle speed on construction site unpaved roads to 15 miles per hour;</td>
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<td>• Install sandbags or other erosion control measures to prevent silt runoff to public roadways;</td>
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<td>• Replant vegetation in disturbed areas as quickly as possible.</td>
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<td>If the working area of any</td>
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### MITIGATION MONITORING AND REPORTING PROGRAM (Continued)

**EIR FOR THE UCSF MEDICAL CENTER AT MISSION BAY – FOURTH STREET PUBLIC PLAZA**

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<td>Construction site is located near sensitive receptors, the following measures are strongly encouraged in addition to those listed above:</td>
<td>• Install wheel washers or wash off the tires of trucks and equipment leaving the site;</td>
<td>Issue instructions in each bid package of each construction project for contractors to incorporate the mitigation. The successful contractor will prepare a construction air pollution control strategy to report on the implementation of the mitigation measure.</td>
<td>UCSF Medical Center and construction project manager</td>
<td>Provide written verification in report form to the Monitor within 10 working days of each contract bid to certify that selected bid includes provision for construction air pollution control. Provide a report on construction air pollution control strategies and report to Monitor upon request; but no less than quarterly after beginning of construction activities.</td>
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<td>• Install wind breaks at the windward side(s) of construction areas;</td>
<td>• Suspend excavation and grading when winds exceed 25 miles per hour;</td>
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<td>• Limit the area subject to excavation, grading, and other construction activity at any one time.</td>
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**MCMB.2-1 (MCMB EIR):** Demolition and construction activities associated with the Medical Center at Mission Bay project would generate fugitive dust and criteria pollutant emissions that could adversely affect local air quality.

To further mitigate less than significant project level impacts, additional measures related to The 2007 CARB off-road diesel rule on equipment exhaust emissions from construction equipment shall be required in UCSF construction contracts to comply with the following measures:

• Prohibit the use of conventional cutback asphalt for paving to restrict the maximum VOC content of asphalt emulsion. Diesel portable generators less than 50 horsepower shall not be allowed at
the construction site, except for those used by welders.

- All diesel-fueled engines used for on- and offsite construction activities shall be fueled only with ultralow sulfur diesel, which contains no more than 15 ppm sulfur.

- All construction diesel engines used for on- and offsite activities that have a rating of 100 hp or more shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless it is certified by the construction contractor that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be a Tier 1 engine. In the event a Tier 1 or Tier 2 engine is not available for any offroad engine larger than 100 hp, that engine shall be equipped with a CARB Level 3-verified diesel emission control device (e.g., catalyzed diesel particulate filter), unless the engine manufacturer or the construction contractor certifies that the use of such

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<td>devices is not practical for specific engine types. In the event that a CARB Level 3 verified diesel emission control device is not practical for the specific engine type, then the engine shall be equipped with a CARB Level 1- or 2-verified control device (e.g., diesel oxidation catalyst), unless the engine manufacturer or the construction contractor certifies that such devices are not available for the engine in question. For purposes of this condition, the use of such devices is “not practical” if, among other reasons:</td>
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<td>1. The construction equipment is intended to be onsite for ten (10) days or less.</td>
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<td>2. The use of the diesel emission control device is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or reduced power output due to an excessive increase in backpressure.</td>
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<td>3. The diesel emission control device is causing or is reasonably expected to cause significant engine damage.</td>
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<td>In the event that the use of a diesel emission control device is to be</td>
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- Construction equipment shall be properly tuned and maintained in accordance with manufacturers’ specifications.

- Best management construction practices shall be used to avoid (or limit) unnecessary emissions (e.g., trucks and vehicles in loading and unloading queues would turn their engines off when not in use, and to the extent practical, all diesel heavy construction equipment shall not remain running at idle for more than five minutes)

- Use alternative fueled equipment when feasible (such as ULSD, CNG, biodiesel, water emulsion fuel, and electric). The construction contracts shall require each contractor and subcontractor to consider this measure and adopt it for their work unless they can demonstrate to UCSF the inapplicability or infeasibility of the measure to their specific work, or can provide mitigation measures with equivalent or better effectiveness. This information shall be reported as part of the Mitigation Monitoring Reporting
### MITIGATION MONITORING AND REPORTING PROGRAM (Continued)

#### EIR FOR THE UCSF MEDICAL CENTER AT MISSION BAY – FOURTH STREET PUBLIC PLAZA

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<td>and Compliance Program.</td>
<td>• Use on-site power when feasible to reduce reliance on portable generators. The construction contracts shall require each contractor and subcontractor to consider this measure and adopt it for their work unless they can demonstrate to UCSF the inapplicability or infeasibility of the measure to their specific work, or can provide mitigation measures with equivalent or better effectiveness. This information shall be reported as part of the Mitigation Monitoring Reporting and Compliance Program.</td>
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#### CULTURAL (ARCHAEOLOGICAL) RESOURCES

4.3-1 (LRDP Amendment #2 EIR): Building construction, including excavation and grading associated with the proposed project, could cause substantial adverse change to archaeological resources at the project sites.

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<td>Should an archaeological artifact be discovered at the Mission Bay site during project construction and excavation, pursuant to CEQA Guidelines 15064.5 (i), “provisions for historical or unique archaeological resources accidentally discovered during construction” should be instituted. In the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 100 feet of the resources shall be halted and UCSF shall consult with a qualified archaeologist or paleontologist to assess the significance of the find</td>
<td>Issue instructions in each bid package for contractors to incorporate the mitigation. The successful contractor will demonstrate knowledge of procedures and requirements when cultural resources are discovered during construction activities.</td>
<td>UCSF Medical Center and construction project manager.</td>
<td>Provide written verification in report form to the Monitor within 10 working days of each contract bid to certify that selected bid includes provision for mitigation if cultural resources are discovered during construction activities. Provide construction status report to Monitor upon request.</td>
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MITIGATION MONITORING AND REPORTING PROGRAM (Continued)
EIR FOR THE UCSF MEDICAL CENTER AT MISSION BAY – FOURTH STREET PUBLIC PLAZA

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<td>(per Public Resource Code Section 5024.1, Title 14 CCR, Section 4852 and/or Public Resource Code 21083.2 in the event of a unique archaeological find). If any find is determined to be significant and will be adversely affected by the project, representatives of UCSF and the qualified archaeologist and/or paleontologist would meet to determine the appropriate avoidance measures or other appropriate mitigation (per CEQA Guidelines 15064.5 (b) and Public Resource Code 21083.2). All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and documented by the qualified archaeologist according to current professional standards (Per the Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716)). If the discovery includes human remains, CEQA Guidelines 15064.5 (e)(1) shall be followed:</td>
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<td>• In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:</td>
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<td>(1) There shall be no further excavation or disturbance of the</td>
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UCSF Medical Center at Mission Bay – Fourth Street Public Plaza EIR 9-13
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<tr>
<th>Significant Impact</th>
<th>Mitigation Measure</th>
<th>Implementation</th>
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<tr>
<td>site or any nearby area</td>
<td>reasonably suspected to overlie adjacent human remains until:</td>
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<td>(A)</td>
<td>The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and</td>
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<tr>
<td>(B)</td>
<td>If the coroner determines the remains to be Native American: (1) The coroner shall contact the Native American Heritage Commission within 24 hours. (2) The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. (3) The most likely descendant may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or</td>
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<td>(2)</td>
<td>Where the following conditions occur, the landowner</td>
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UCSF Medical Center at Mission Bay – Fourth Street Public Plaza EIR
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<tr>
<th>Significant Impact</th>
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<th>Report Mechanism</th>
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<tr>
<td>or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.</td>
<td>(A) The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.</td>
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<td>(B) The descendant identified fails to make a recommendation; or</td>
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<td>(C) The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.</td>
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12M4-2 (1996 LRDP EIR): If construction activities associated with the Major New Site and Mission Bay occurred within areas shown on Figure 12-28, UCSF would implement mitigation measures, as adapted from Mitigation Measures
### Significant Impact

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<tr>
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<td>J.1, J.2, J.3 and J.6 of the Mission Bay Mitigation Monitoring Program to protect historic archaeological resources:</td>
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<tr>
<td>- UCSF would retain the services of an archaeologist to instruct construction crews regarding potential historic archaeological resources and appropriate procedures to follow if such resources are uncovered.</td>
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<tr>
<td>- As required, the constructing archaeologist would develop archaeological exploration programs for the areas shown on Figure 12-28 having potential historic cultural resources. As required, the archaeologist would provide archaeological monitoring during construction in these areas. Particular attention would be given if development were proposed in the area occupied by the late 19th-century city dump.</td>
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<tr>
<td>D.3 (1998 Mission Bay SEIR): Retain the services of an archaeologist, because of the strong possibility of encountering the remains of cultural or historic artifacts or features in the six historic resources areas. The Environmental Review Officer (ERO) in consultation with the President of the Landmarks Preservation Advisory Board (LPAB)</td>
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and the archaeologist would determine: 1) whether the archaeologist should instruct all excavation and foundation crews on the project site of the potential for discovery of historic archaeological deposits and artifacts, and the procedures to be followed if such materials are uncovered; and 2) prior to the commencement of foundation excavation, a program of archaeological testing.

Regain a qualified historic archaeologist to supervise a pre-foundation excavation testing program for each phase of Project Area development or each construction site, as appropriate, using a series of mechanical, exploratory borings or other testing methods determined by the archaeologist to be appropriate. A qualified historical archaeologist would supervise the testing in the six historic resource areas to determine the probability of finding cultural and historical remains. At the completion of the archaeological testing program, the archaeologist would submit a written report first and directly to the ERO and the President of the LPAB, with a copy to the project sponsor, which described the findings, assesses their significance and proposes appropriate recommendations for
### Significant Impact

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<th>Significant Impact</th>
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<td>any additional procedures necessary for the mitigation of adverse impacts to cultural resources determined to be significant.</td>
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<tr>
<td>Retain a certified archaeologist to supervise a program of on-site monitoring during site excavation in the six historic resource areas, following site clearance and pre-excavation testing. The certified archaeologist would record observations in a permanent log.</td>
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<tr>
<td>Should cultural or historic artifacts be found following commencement of excavation activities, the archaeologist would assess the significance of the find, and immediately report to the ERO and the President of LPAB. Upon receiving the advice of the consultant and the LPAB, the ERO would recommend specific mitigation measures, if necessary. The monitoring program, whether or not there are finds of significance, would result in a written report to be submitted first and directly to the ERO and the President of LPAB, with a copy to the project sponsor.</td>
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<tr>
<td>Suspend excavation or construction activities which might damage discovered cultural resources for a total maximum of four weeks over the course of construction at each site to permit inspection,</td>
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**UCSF Medical Center at Mission Bay – Fourth Street Public Plaza EIR**
### MITIGATION MONITORING AND REPORTING PROGRAM (Continued)

**EIR FOR THE UCSF MEDICAL CENTER AT MISSION BAY – FOURTH STREET PUBLIC PLAZA**

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<tr>
<th>Significant Impact</th>
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<td>recommendation and retrieval, if appropriate.</td>
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<td>Implement an appropriate security program to prevent looting or destruction, if cultural resources of potential significance are discovered.</td>
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<tr>
<td>Any discovered cultural artifact assessed as significant by the archaeologist upon concurrence by the ERO and the President of the LPAB would be placed in a repository designated for such materials or possibly exhibited in a public display. Following approval of the archaeological testing and monitoring program reports by the ERO and the President of LPAB, a final report would be sent to the California Archaeological Site Survey Office at Sonoma State University, the Foundation for San Francisco’s Architectural Heritage and the State Office of Historic Preservation. The Office of Environmental Review would receive three final copies of the final archaeological findings report. Archaeological testing could be coordinated with other site investigations for geotechnical and toxic waste purposes.</td>
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#### GEOLOGY/SOILS

4.4-4 (LRDP Amendment #2 EIR): In the event of a major earthquake in the region, seismic ground shaking could

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<tr>
<td>A site-specific, design-level geotechnical investigation shall be completed based on the proposed project design and shall provide</td>
<td>A geotechnical assessment shall be prepared and the results of the investigation incorporated into the project design to address impacts.</td>
<td>UCSF Medical Center Project Manager</td>
<td>Provide the Monitor with final geotechnical investigation that reports feasible measures and incorporates</td>
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</table>
### MITIGATION MONITORING AND REPORTING PROGRAM (Continued)

**EIR FOR THE UCSF MEDICAL CENTER AT MISSION BAY – FOURTH STREET PUBLIC PLAZA**

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<tr>
<td>expose people and property to liquefaction and earthquake-induced settlement at Mission Bay.</td>
<td>engineering recommendations for mitigation of liquefiable soils, in accordance with the California Geological Survey’s Geology Guidelines for Evaluating and Mitigating Seismic Hazards (CGS Special Publication 117, 1997). These geotechnical recommendations shall be incorporated into the final design of the project.</td>
<td>Information from the geotechnical investigation for the MCMB may be used, as applicable.</td>
<td></td>
<td>them into project design.</td>
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### HYDROLOGY/WATER QUALITY

4.6-3 (LRDP Amendment #2 EIR): Construction of new hospital buildings at the Mission Bay North or South sites by the LRDP Phase or Future Phases could result in hydrology and water quality impacts at Mission Bay.

- UCSF shall adopt Mitigation Measures K.2, K.3 and K.4 of the Mission Bay Subsequent EIR as follows:
  - K.2 Participate in the City’s existing Water Pollution Prevention Program. Facilitate implementation of the City’s Water Pollution Prevention Program by providing and installing wastewater sampling ports in any building anticipated to have a potentially significant discharge of pollutants to the sanitary sewer, as determined by the Water Pollution Prevention Program of the San Francisco Public Utilities Commission’s Bureau of Environmental Regulation and Management, and in locations as determined by the Water Pollution Prevention Program.
  - K.3 Design and construct sewer improvements such that potential

- Issue instructions in each bid package for contractor to incorporate the mitigation measures

- Provide written verification in report form to the Monitor within 10 working days of each contract bid to certify that selected bid includes provision for mitigation measures. Provide construction status report to Monitor upon request.
flows to the City’s combined sewer system from the project do not contribute to an increase in the annual overflow volume as projected by the Bayside Planning Model by providing increased storage in oversized pipes, centralized storage facilities, smaller dispersed storage facilities, or detention basins, or through other means to reduce or delay stormwater discharges to the City system.

This mitigation measure could be implemented by including the Water Pollution Prevention Program in the review process, as each individual construction is proposed. The Water Pollution Prevention Program would review each project, determine if one or more sampling ports should be installed in a particular building, and specify the location of the sampling port(s).

K.4 Implement alternative technologies or use other means to reduce settleable solids and floatable materials in stormwater discharges to China Basin Channel to levels equivalent to, or better than, City-treated combined sewer overflows. Such alternatives technologies could include one or more of the following: biofilter system, vortex sediment system, catch basin filters, and/or additional source control measures to
### NOISE

**MCMB.5-1 (MCMB EIR):** Demolition and construction activities associated with the proposed project would elevate noise levels in and around the project site, and particularly at nearby sensitive receptors.

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<td>remove particulates from streets and parking lots.</td>
<td>Issue instructions in each bid package for contractors to incorporate the mitigation. The successful contractor will prepare a construction noise impact abatement plan to report on the implementation of the mitigation measure.</td>
<td>UCSF Medical Center and construction project manager</td>
<td>Provide written verification in report form to the Monitor within 10 working days of each contract bid to certify that selected bid includes provisions for construction noise abatement (including limitations on construction hours). Provide a report on construction noise abatement to Monitor upon request; but no less than quarterly after the beginning of construction activities.</td>
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</table>

- Limit construction hours to the following schedule: [Monday through Friday, 7 a.m. to 5 p.m. for “Not Noisy” work; and Monday through Friday 8 a.m. to 5 p.m. for Noisy work] Approve extended hours [Monday through Friday, 5 p.m. to 8 p.m.; Saturday 7 a.m. to 8 p.m.; and Sunday 8 a.m. to 4:30 p.m.] only with advanced notice from the UCSF project manager. Prohibit high impact noise on Saturdays and Sundays.

- Designate a UCSF Community Contact to receive and resolve construction complaints.

- Designate a UCSF Community Contact to receive and resolve construction noise complaints.

### 4.6 TRANSPORTATION

**4.11-1 (LRDP Amendment #2 EIR):** Building construction, including demolition, excavation, and grading associated with the proposed

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<td></td>
<td>To assure that construction and/or demolition activities minimize parking demand and circulation obstruction, UCSF shall require construction and/or demolition</td>
<td>Issue instructions in each bid package for contractors to incorporate the mitigation. Require the successful contractor to prepare a construction traffic and circulation plan to report on the implementation of the mitigation measure.</td>
<td>UCSF Medical Center and construction project manager</td>
<td>Provide written verification to the Monitor within 10 working days of the first contract bid identifying the UCSF Community Contact and contact information.</td>
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</table>

- Provide written verification to the Monitor within 10 working days of each contract bid to certify that selected bid includes provisions for a construction traffic and circulation plan. |
**Significant Impact**

Project could cause substantial adverse impacts to traffic flow, circulation and access as well as to transit, pedestrian, and parking conditions.

**Mitigation Measure**

Contractors to develop and implement construction traffic and parking management plans during demolition and/or construction activities at all campus sites. The plans would be expected to include measures such as the following:

- Develop a traffic management plan in consultation with the San Francisco DPT and Muni to minimize disruption due to lane closures. The plan should be consistent with the Regulations for Working in San Francisco Streets and Chapter 6 of the California Supplement to the Manual of Uniform Traffic Control Devices.
- Prepare an offsite parking plan for construction employees and subcontractor employees. An alternative plan would provide shuttle service to/from designated remote parking lots and/or public transportation transfer nodes. This plan would be incorporated into the construction contract between UCSF and the contractor.
- Schedule heavy-truck deliveries with the construction project manager at least one day in advance.
- Whenever possible, make

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<tr>
<td>Project could cause substantial adverse impacts to traffic flow, circulation and access as well as to transit, pedestrian, and parking conditions.</td>
<td>Contractors to develop and implement construction traffic and parking management plans during demolition and/or construction activities at all campus sites. The plans would be expected to include measures such as the following:</td>
<td>Plan for the proposed project and to report on the implementation of the mitigation measure.</td>
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<td>Significant Impact</td>
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<td>deliveries using trucks of 40 feet maximum bumper-to-bumper length.</td>
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<td>• Whenever possible schedule heavy trucks deliveries to arrive at off-peak hours, outside of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.</td>
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<td>• Note any deliveries that cannot comply with the above requirements for heavy trucks on the schedule, and notify the UCSF construction project manager at least 48 hours in advance. The contractor may provide flagmen to direct traffic in those cases.</td>
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APPENDIX A

INITIAL STUDY
INITIAL STUDY

University of California, San Francisco
Medical Center at Mission Bay
Fourth Street Public Plaza

Lead Agency: The University of California

Prepared by: UCSF Campus Planning
654 Minnesota Street
San Francisco, CA 94143-0286

December 21, 2011
Organization of the Initial Study

This Initial Study is organized into the following sections:

Section I – Project Information: provides information about the proposed project, including project location, lead agency, and contact information.

Section II – Project Description: describes the proposed project, the elements included in the project, and the project approvals.

Section III – Environmental Factors Potentially Affected: identifies which environmental factors, if any, would be affected by the project.

Section IV – Determination: indicates whether impacts associated with the proposed project are significant, and what, if any, environmental documentation is required.

Section V – Evaluation of Environmental Impacts: contains the Environmental Checklist form for each resource area. The checklist is used to assist in evaluating the potential environmental impacts of the proposed project. This section also presents an explanation of all checklist answers.

Section VI – Supporting Information Sources: lists the references used in the preparation of this document.

Section VII – Initial Study Preparers
I. PROJECT INFORMATION

1. Project title:
UCSF Medical Center at Mission Bay -- Fourth Street Public Plaza

2. Lead agency name and address:
The Regents of the University of California
1111 Franklin Street
Oakland, California 94607

3. Contact person and phone number:
UCSF Campus Planning
Diane Wong, Senior Planner
(415) 502-5952

4. Project location:
UCSF Medical Center at Mission Bay
Fourth Street between 16th and Mariposa Streets, and Portions of Blocks 36 and 37
San Francisco, California 94107

5. Project sponsor’s name and address:
The Regents of the University of California (see above)

6. Custodian of the administrative record for this project:
UCSF Campus Planning (see above)

7. Identification of previous EIRs relied upon for tiering purposes (including all applicable LRDP and project EIRs) and address where a copy is available for inspection.)

- Final EIR for UCSF Medical Center at Mission Bay, certified by The Regents on September 17, 2008 (State Clearinghouse No. 2008012075)

Related UCSF documents that are referenced:

- Final EIR on the 1996 LRDP certified by The Regents on January 17, 1997 (State Clearinghouse No. 1995123032)

- Final EIR on LRDP Amendment #2, Hospital Replacement Program, certified by The Regents on March 17, 2005 (State Clearinghouse Number 2004072067)

Copies of all relevant CEQA documents are available at UCSF Campus Planning.
II. PROJECT DESCRIPTION

A. INTRODUCTION

Pursuant to Section 15063 of the California Environmental Quality Act (CEQA) Guidelines (Title 14, California Code of Regulations, Sections 15000 et seq.), an Initial Study is a preliminary environmental analysis that is used by the lead agency as a basis for determining whether an Environmental Impact Report ("EIR"), a Mitigated Negative Declaration, or a Negative Declaration is required for a project. The State CEQA Guidelines require that an Initial Study contain a project description, including the location of the project, description of environmental setting, identification of environmental effects by checklist or other similar form, explanation of environmental effects, discussion of mitigation for significant environmental effects, evaluation of the project's consistency with existing, applicable land use controls, and the names of the persons who prepared or participated in the study.

The purpose of this Initial Study is to evaluate the potential environmental impacts of the proposed University of California, San Francisco ("UCSF") Medical Center at Mission Bay -- Fourth Street Public Plaza project to determine what level of environmental review is appropriate. As shown in the Determination in Section IV of this document, and based on the analysis contained in this Initial Study, it has been determined that the proposed project could result in potentially significant impacts. Therefore, preparation of an EIR is appropriate. This document is tiered from the UCSF Medical Center at Mission Bay EIR, certified by The Regents of the University of California on September 17, 2008.

B. BACKGROUND

Each campus of the University of California ("University") is required to prepare a Long Range Development Plan ("LRDP") that sets forth concepts, principles, and plans to guide future growth of that campus. The Board of Regents of the University of California ("The Regents") adopted the UCSF 1996 LRDP, which outlines development proposals through the academic year 2011/12. The LRDP has since had three major amendments: LRDP Amendment #1 finalized the functional zones for the Mission Bay campus site and redistributed the 2.65 million gross square foot (gsf) space program for the campus to include housing; LRDP Amendment #2 established Mission Bay as the location for expansion of UCSF's clinical activities, including a new hospital, associated outpatient clinics, and support facilities such as parking; and LRDP Amendment # 3, expanded the boundary of the Mission Bay campus site to include the 14.5-acre Medical Center at Mission Bay (MCMB) site, for a total of 57 acres at the Mission Bay campus site, and established a functional zone for the MCMB. An EIR was prepared for each major amendment. The 1996 LRDP EIR, together with the three EIRs prepared for LRDP amendments, are collectively the “LRDP EIR.”

In September 2008, the Regents certified the UCSF MCMB EIR, which analyzed the UCSF MCMB hospital complex in two major phases, the LRDP Phase (Phase I), which was analyzed at a project level, and Future Phase (Phase II), which was analyzed at a program level. Phase I included a 289-bed hospital, consisting of three specialty hospitals for women, children, and cancer patients; a medical helipad; an Outpatient building and a Cancer Outpatient building, consisting of 336,500 gross square feet (GSF); a 36,000 GSF Energy Center; and a 600-space parking structure with 475-surface parking spaces, totaling 1,075-parking spaces. Phase II would include a 261-bed hospital and approximately 225 to 925 parking spaces. Phase II, as analyzed in the MCMB EIR, also would include the construction of two pedestrian bridges on the second and third floors of the hospitals and Outpatient building that would connect Phase I development on the east side of Fourth Street to Phase II development on the west side of Fourth Street.
Upon completion of both phases, the UCSF Medical Center at Mission Bay would provide a total of 550 hospital beds, outpatient facilities, and associated support space comprising a total of about 1.8 million GSF, and parking. The Regents approved the Phase I hospital, the Energy Center, the Outpatient building, surface parking and construction of the medical helipad in September 2008. Groundbreaking for the approved components of Phase I began in December 2010, with the hospital complex scheduled to open in early 2015.

Following the 2008 Regents’ approval of Phase I, the University prepared two supplemental analyses related to the Medical Center at Mission Bay. In April 2009, the University certified a Supplemental EIR ("SEIR") for the UCSF Medical Center at Mission Bay — Residential Sound Reduction Program for Helicopter Operations, and subsequently approved operation of the helipad, which is under construction; and in April 2011 the University certified an SEIR for the UCSF Medical Center at Mission Bay — Phase I Parking Structure, and subsequently approved the Phase I parking structure project, which is now under construction. Approval of the remaining building in Phase I, the Cancer Outpatient building, is planned to occur at a future date.

The University now proposes to construct and maintain a public plaza on the Fourth Street right-of-way between 16th and Mariposa Streets that would result in the closure of Fourth Street to vehicular through-traffic at this location (referred to in this document as the “Fourth Street Public Plaza Project” or the “Project”). The City and County of San Francisco’s planned pedestrian access and bicycle route through Fourth Street would be maintained.

Currently, Fourth Street terminates at 16th Street. Fourth Street between 16th and Mariposa Streets adjacent to the MCMB site exists only as a paper street as it is planned but not yet constructed. The medical center project analyzed in the MCMB EIR assumed that Fourth Street between 16th and Mariposa Streets adjacent to the MCMB site would be constructed and open to vehicular through-traffic. The MCMB EIR did analyze an alternative in which Fourth Street would be closed to vehicular through-traffic, but would allow pedestrian and bicycle traffic on Fourth Street through the site (the Fourth Street Closed to Through Traffic Alternative). Under this Alternative, it was envisioned that both northbound and southbound vehicular traffic on Fourth Street would end at two separate cul-de-sacs or traffic circles, one near the north side of the site and one near the south, where passengers could be dropped off. The cul-de-sacs were separated by a large plaza. The Alternative analyzed in the MCMB EIR also included as part of Phase II a connector building that would span two levels at the second and third floors across Fourth Street.

As discussed below, the layout of the Project’s plaza and cul-de-sacs would be similar to the Fourth Street Closed to Through Traffic Alternative. The MCMB Alternative contemplated that the City and County of San Francisco ("City") would transfer the Fourth Street right-of-way between 16th and Mariposa Streets to the University. Under the proposed Project, the right-of-way would remain City land and the University would seek a major encroachment permit from the City. Like the MCMB project, the proposed Project includes two pedestrian bridges across Fourth Street, to be constructed if and when Phase II of the MCMB is approved and constructed, but the bridges would be located at the third and fourth levels, rather than at the second and third levels as proposed in the MCMB project. Finally, the Project would include implementation of various transportation system improvement measures. For the most part, these measures were identified in the MCMB EIR as needed in conjunction with the Phase II project and not needed, even with implementation of the Fourth Street Closed to Through Traffic Alternative, with the Phase I project. Nevertheless, UCSF proposes to include the improvement measures as part of the
Project and, if approved, continue to work with the City on a traffic monitoring plan to determine the appropriate timing of implementation. These measures are explained further below.

C. PROJECT LOCATION AND DESCRIPTION

Location

The Mission Bay campus site is one of three major UCSF campus sites in San Francisco. As shown in Figure 1, UCSF Campus Sites, the 57-acre Mission Bay campus site is located approximately one and one-half miles south of downtown, within the Mission Bay South Redevelopment Plan Area. The Mission Bay campus site is bounded by Mission Bay Boulevard South to the north, Third Street to the east, Mariposa Street to the south, and Owens Street to the west (see Figure 2, Mission Bay Campus Site). The MCMB site is within the Mission Bay campus site on Mission Bay South Plan Parcels 36-39, and X3, bordered by 16th Street to the north, 3rd Street to the east, and Mariposa Street to the south. To the west are undeveloped land and the Interstate 280 freeway. In the future, a new segment of Owens Street would extend south of 16th Street to form the western boundary of the MCMB site.

As discussed above, Fourth Street currently terminates at 16th Street. Fourth Street adjacent to the MCMB site exists only as a paper street as it is planned but not yet constructed. The proposed Fourth Street Public Plaza would be located on a portion of the Fourth Street right-of-way between 16th and Mariposa Streets (see Figure 3, Project Site). The proposed plaza would also extend onto UCSF property on parcels 36-39 and X-3 on the east and west sides of Fourth Street.

Fourth Street Public Plaza

The MCMB EIR projected that over 3,500 daily pedestrian trips across Fourth Street would occur with the opening of the Phase I hospital complex in 2015, and that pedestrian trips would increase with the construction of the Phase II hospital complex. The proposed Fourth Street Public Plaza is intended to provide a safe and clear east/west connection between the hospital entrances on the east side of Fourth Street and, in Phase I, the parking facilities on the west side of Fourth Street. In Phase II, the connection to the west side of Fourth Street would be to future medical center buildings and additional parking. In addition, the Project is intended to provide to MCMB visitors, staff and the general public a welcoming, landscaped open space with lawns, gardens and seating areas for all to enjoy.

As discussed above, the project analyzed in the MCMB EIR and approved in September 2008 assumed Fourth Street between 16th and Mariposa Streets would be open to vehicular through-traffic (see Figure 4). The proposed Fourth Street Public Plaza would involve the closure of this segment of Fourth Street to vehicular through-traffic, allowing vehicles only for passenger drop-off within two cul-de-sacs, one on the north side of the plaza and one on the south side (see Figure 5). Each of the cul-de-sacs would contain a vehicular travel lane and a passenger drop-off lane.
Figure 1: UCSF Campus Sites
Project Site is located within the Mission Bay Campus

Source: UCSF
Figure 2: Mission Bay Campus Site

Source: UCSF Campus Planning
Figure 3: Project Site

Source: UCSF Campus Planning
Figure 4: Medical Center at Mission Bay Site Plan with Fourth Street open to through traffic, as approved in September 2008

Source: Anshen & Allen Architects
Figure 5: Proposed Plaza Concept Plan

Source: CMG Landscape Architecture and UCSF, 2011
The proposed public plaza is intended to provide a variety of open space experiences, from open, active gathering spaces to quieter and more enclosed seating areas. The proposed Project would include clearly designated bicycle paths to facilitate bicycle travel and to minimize conflicts amongst bicycles, motor vehicles and pedestrians. On the north end of the site and on the south end of the Project site, a Class 2 bicycle lane is proposed on Fourth Street (northbound on the east side of Fourth Street and southbound on the west side of Fourth Street). Between North Connector Road and South Connector Road, the bicycle lanes in both the northbound and southbound directions would be located on the west side of Fourth Street. The plaza would also include clearly designed pedestrian pathways to direct safe pedestrian travel through the plaza and to designated crossings across Fourth Street, as well as to the mid-block crossing leading to the MCMB parking facilities on the west side of Fourth Street. The specific layout of the landscaping, seating, and gathering areas is still being refined but will be presented in the upcoming EIR.

Pedestrian Bridges

As analyzed in the MCMB EIR, the MCMB project in Phase II included at the hospitals and Outpatient building two enclosed pedestrian bridges at the second and third floors across Fourth Street that would connect Phase I development on the east side of Fourth Street to Phase II on the west side of Fourth Street. The pedestrian bridges are proposed to be approved as part of the Project, to be constructed if and when the Phase II project is approved. At the request of the City and County of San Francisco staff, the bridges would be located on the third and fourth floors, instead of the second and third floors as was proposed in the MCMB EIR.

Traffic Improvement Measures

The MCMB Phase I project approved by the University in 2008 included a number of traffic improvement measures. All of these measures require approval by the City and County of San Francisco for their implementation. The City has not yet approved these measures and, therefore, none of the measures has been implemented. The measures were identified in the MCMB EIR as needed for the purpose of transportation mitigation with the implementation of the Phase II project, or with the Phase II project together with the Fourth Street Closed to Through Traffic Alternative. With the approval of the Phase II project, with or without the Fourth Street Closed to Through Traffic Alternative, and with the implementation of these measures, significant traffic impacts were found to be reduced to less than significant levels. None of these measures were identified as needed mitigation measures with implementation of the Phase I project alone or with the Phase I and Fourth Street Closed to Through Traffic Alternative. The University has not approved implementation of Phase II, so based on the prior LRDP EIR analyses, these measures are not known to be needed as mitigation measures at this time. However, UCSF is proposing as part of the Project to commit to implement these measures and to obtain City approval of the measures so that it has approval to implement them if needed as part of the Phase II project.

Since 2008, the University has been working with the San Francisco Redevelopment Agency and various agencies of the City and County of San Francisco, including the Municipal Transportation Agency (MTA), the Planning Department, and the Department of Public Works to reach conceptual agreement on the appropriate scope, timing, and triggers for the traffic improvement measures. The outgrowth of these

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1 The two traffic mitigation measures first identified in the 2005 EIR were the 16th/Owens intersection southbound approach lane restriping and the 3rd/Mariposa southbound exclusive right turn lane.
meetings is a traffic monitoring plan that UCSF would implement so that the measures can be implemented as the need arises. A traffic monitoring plan is also proposed as part of the Project.

This Initial Study and the upcoming EIR for the proposed Fourth Street Public Plaza project updates those traffic improvement measures, as revised in some cases, to reflect these recent discussions with the City. These measures would ultimately be required to mitigate significant traffic impacts in Phase II with Fourth Street closed to vehicular through-traffic, but as Phase II is not yet approved, these measures are referred to hereinafter as traffic improvement measures as they are not required at this time.

The following are traffic improvement measures proposed to be implemented as part of the Project. Measures 1 through 3 are improvement measures affecting the future Owens Street extension between 16th and Mariposa Streets and are proposed to be implemented early (i.e. in Phase I) before they are triggered in Phase II, to coincide with the initial construction of that street. Measures 4 and 5 would be implemented as needed based on the traffic monitoring plan. Measures 6 and 7 are proposed to be implemented as part of Phase I.

**Measure 1: 16th Street and Owens Intersection**

- **Southbound Approach:** conversion of the exclusive left turn lane to a shared through-left turn lane and conversion of the shared through-right turn lane to an exclusive right turn lane, resulting in a lane configuration of one shared through-left turn lane, one through lane, and one exclusive right turn lane at this approach. This measure can be accomplished by re-striping the travel lanes within the existing right-of-way and no roadway widening would be necessary.

- **Northbound Approach:** provision of space for an additional exclusive left turn lane if needed, resulting in a lane configuration of two exclusive left turn lanes, one through lane, and one shared through-right turn lane at this approach. This measure would involve an increase to the width of the roadway by approximately 12 to 16 feet to the east to accommodate the additional lane and a median, from 16th Street to the Center Garage Access Road. This revised design of Owens Street may be implemented either by widening Owens Street after construction of the roadway as originally planned, or by constructing Owens Street in its widened condition upon initial construction.

  *Note:* The above measure provides for space for an additional left turn lane. The lane itself would not be constructed until and unless warranted based on level-of-service analysis pursuant to the traffic monitoring plan.

- **Northwest Corner:** expansion of the corner sidewalk, thereby reducing the Owens Street crossing distance on the north side of 16th Street to about 90 feet (down from about 100 feet) and reducing the 16th Street crossing distance on the west side of Owens to about 95 feet (down from about 105 feet).

- **Southeast Corner:** expansion of the corner sidewalk, reducing the Owens Street crossing distance on the south side of 16th Street to about 85 feet (down from its current design of about 89 feet).

**Timing:** During construction of Phase I of the MCMB
Measure 2: Owens Street at the Center Garage Access

- Left Turn Lane: provision of an exclusive left turn lane resulting in a lane configuration of one exclusive left turn lane, one through lane, and one shared through right turn lane at the northbound and southbound approaches. This measure will require widening the street right-of-way an additional 16 feet to the east between the North and South Connector roads.

Timing: During construction of Phase I of the MCMB

- Signalization: monitor traffic conditions on Owens Street at the Center Garage Access and work with the City and County of San Francisco to install a traffic signal when warranted to maintain level-of-service (LOS) D or better. UCSF would coordinate with the City and County of San Francisco in the periodic update of the Mission Bay traffic triggers survey and would monitor on-site parking access and circulation on Owens Street in order to determine the need and timing for a traffic signal at this intersection.

Timing: This intersection will be monitored and a traffic signal installed when warranted, based on the City’s standard traffic signal warrants.

Measure 3: Owens Street at the South Connector Road

- Southbound Left Turn Lane: provision of a new southbound left turn lane at the South Connector Road. This would increase the width of the roadway by approximately 16 feet to the east to accommodate the additional turn lane and median, from the Center Garage Access to the south side of the South Connector Road.

Timing: During construction of Phase I of the MCMB

In advance of the implementation of the improvement measures described below, UCSF would monitor traffic volumes pursuant to a monitoring plan to be developed with the City and County of San Francisco. Should it be anticipated that the significant traffic impact at these intersections will occur, UCSF would work with City and County of San Francisco staff to implement the measures as described below or to determine equally or more effective alternate lane configurations necessary to maintain LOS D or better at that time.

Measure 4: Mariposa and 3rd Street Intersection

- Southbound Approach: provision of an exclusive right turn lane and conversion of the shared through-right turn lane to a through lane, resulting in a lane configuration of one exclusive left turn lane, two through lanes and one exclusive right turn lane at this approach. This would involve widening the street right-of-way an additional 11 feet to the west compared to the Mission Bay Plan, for a length of approximately 150 feet, by dedicating UCSF land.

Timing: This intersection will be monitored and this measure or an equally or more effective design solution necessary to maintain LOS D or better will be determined and implemented prior to the time a significant impact is anticipated to occur.
Measure 5: 16th Street and 3rd Street Intersection

- **Eastbound Approach:** conversion of the exclusive left turn lane to a shared through-left turn lane and conversion of the shared through-right turn lane to an exclusive right turn lane, resulting in a lane configuration of one shared through-left turn lane, one through lane, and one exclusive right turn lane at this approach.

- **Westbound Approach:** conversion of the exclusive left turn lane to a shared through-left turn lane, resulting in a lane configuration of one shared through-left turn lane and one shared through-right turn lane at this approach.

These two measures at 16th/3rd Streets can be accomplished by re-striping the travel lanes within the existing right-of-way and no roadway widening would be necessary.

**Timing:** This intersection will be monitored and this measure or an equally or more effective design solution necessary to maintain a LOS D or better will be determined and implemented prior to the time a significant impact is anticipated to occur.

In addition to the traffic improvement measures identified above which are needed to mitigate significant traffic impacts in Phase II, additional traffic improvement measures are proposed by the University that require approval by the City. These measures are not needed as mitigation for Phase II. The measure identified below and discussed in the MCMB EIR would continue to be a traffic improvement measure proposed as part of the Project as it would not be required to mitigate a significant traffic impact. The traffic improvement measure is proposed as follows, subject to final review and approval by City agencies with jurisdiction over the proposed measures following completion of environmental review.

Measure 6: 3rd Street

- **Southbound lane along the length of the Energy Center:** a new truck pullout curb lane, or refuge lane, would be built between the two driveways – truck access and egress to/from the loading dock - to facilitate the turn and minimize the potential for trucks to block the two southbound lanes on 3rd Street. The MCMB project is set back from the UCSF property line to accommodate this lane and allow a continuous sidewalk.

**Timing:** During construction of Phase I of the MCMB

In addition, the following improvement measure has been newly identified in recent discussions with the City, and is included in the proposed Project:

Measure 7: 16th and Owens Streets

- **Northwest corner:** extension of the sidewalk to create a corner “bulb-out” and realignment of the pedestrian crosswalk across Owens Street.

**Timing:** During construction of Phase I of the MCMB
LRDP EIR, MCMB EIR, and Mission Bay SEIR Mitigation Measures Included in the Project as Proposed

In addition to the traffic improvement measures discussed above, the Project includes the following mitigation measures from the LRDP EIR, LRDP Amendment #2 EIR, MCMB EIR, and 1998 Mission Bay Final Subsequent EIR prepared by the City and County of San Francisco:

Aesthetics (Light and Glare)

4.4-1 (LRDP Amendment #2 EIR): [note: as only certain portions of this mitigation measure are applicable to the proposed Project, the mitigation measure has been revised accordingly.]
Minimize light and glare from the proposed hospital development through the orientation of buildings, use of landscaping materials, and choice of primary facade materials. Design standards and guidelines to minimize light and glare would be adopted for the proposed hospital development, including:

- Reflective metal walls and mirrored glass walls shall not be used as primary building materials for facades.
- Installation of illuminated building signage shall strive to be consistent with City Planning Code sign requirements and/or Mission Bay design guidelines.
- Exterior light fixtures shall be configured to emphasize close spacing and lower intensity light. Light fixtures shall use luminaries that direct the cone of light downward.

4.1-2 (LRDP Amendment #2 EIR):
UCSF would require a condition in construction contracts that flood or area lighting for construction activities be placed and directed so as to avoid potential disturbances to adjacent residences or other uses.

Air Quality

The LRDP Amendment #2 EIR construction-period air quality mitigation measure below has been modified by incorporating the latest recommended mitigation measures from the Bay Area Air Quality Management District (BAAQMD).

4.2-2 (LRDP Amendment #2 EIR):
During construction, UCSF shall require the construction contractor to implement the appropriate level of BAAQMD’s dust control procedures for all construction sites. UCSF shall include this requirement in all construction contracts. This mitigates this impact to less than significant.
Elements of the basic dust control program include, but are not necessarily limited to, the following:

- Water active construction areas at least twice daily. Watering should be sufficient to prevent airborne dust from leaving the site. Increased watering frequency may be necessary whenever wind speeds exceed 15 miles per hour. Reclaimed water should be used whenever possible;
- Cover trucks hauling soil, sand, and other loose materials or require trucks to maintain at least 2 feet of freeboard (i.e., the minimum required space between the top of the load and the top of the trailer);
- Pave, apply water three times daily, or apply nontoxic soil stabilizers on all unpaved access roads, parking areas, and staging areas at construction sites;
- Sweep daily (with water sweepers, using reclaimed water if possible) if soil material visible all paved access roads, parking areas, and staging areas at construction sites;
- Sweep streets daily (with water sweepers, using reclaimed water if possible) if visible soil material is carried onto adjacent public streets.
- All exposed surfaces (e.g. parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand or other loose material off-site shall be covered.
- All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.
- All roadways, driveways and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of the California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturer’s specifications. All equipment shall be checked by a certified visible emissions evaluator.
- Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The Air District’s phone number shall also be visible to ensure compliance with applicable regulations.

If the working area of any construction site exceeds four acres at any one time, implement the enhanced PM10 control measures, in addition to the basic control measures listed above, in accordance with the BAAQMD CEQA Guidelines:
- Hydroseed or apply nontoxic soil stabilizers to inactive construction areas;
- Enclose, cover, water twice daily or apply non-toxic soil binders to exposed stockpiles;
- Limit vehicle speed on construction site unpaved roads to 15 miles per hour;
- Install sandbags or other erosion control measures to prevent silt runoff to public roadways;
- Replant vegetation in disturbed areas as quickly as possible.

If the working area of any construction site is located near sensitive receptors, the following measures are strongly encouraged in addition to those listed above:
- Install wheel washers or wash off the tires of trucks and equipment leaving the site;
- Install wind breaks at the windward side(s) of construction areas;
- Suspend excavation and grading when winds exceed 25 miles per hour;
- Limit the area subject to excavation, grading, and other construction activity at any one time.

MCMB.2-1 (MCMB EIR):
To further mitigate less than significant project level impacts, additional measures related to the 2007 CARB off-road diesel rule on equipment exhaust emissions from construction equipment shall be required in UCSF construction contracts to comply with the following measures:
• Prohibit the use of conventional cutback asphalt for paving to restrict the maximum VOC content of asphalt emulsion. Diesel portable generators less than 50 horsepower shall not be allowed at the construction site, except for those used by welders.
• All diesel-fueled engines used for on- and offsite construction activities shall be fueled only with ultralow sulfur diesel, which contains no more than 15 ppm sulfur.
• All construction diesel engines used for on- and offsite activities that have a rating of 100 hp or more shall meet, at a minimum, the Tier 2 California Emission Standards for Off-Road Compression-Ignition Engines as specified in California Code of Regulations, Title 13, section 2423(b)(1) unless it is certified by the construction contractor that such engine is not available for a particular item of equipment. In the event a Tier 2 engine is not available for any off-road engine larger than 100 hp, that engine shall be a Tier 1 engine. In the event a Tier 1 or Tier 2 engine is not available for any offroad engine larger than 100 hp, that engine shall be equipped with a CARB Level 3-verified diesel emission control device (e.g., catalyzed diesel particulate filter), unless the engine manufacturer or the construction contractor certifies that the use of such devices is not practical for specific engine types. In the event that a CARB Level 3 verified diesel emission control device is not practical for the specific engine type, then the engine shall be equipped with a CARB Level 1- or 2-verified control device (e.g., diesel oxidation catalyst), unless the engine manufacturer or the construction contractor certifies that such devices are not available for the engine in question. For purposes of this condition, the use of such devices is “not practical” if, among other reasons:
  1. The construction equipment is intended to be onsite for ten (10) days or less.
  2. The use of the diesel emission control device is excessively reducing normal availability of the construction equipment due to increased downtime for maintenance, and/or reduced power output due to an excessive increase in backpressure.
  3. The diesel emission control device is causing or is reasonably expected to cause significant engine damage.

In the event that the use of a diesel emission control device is to be terminated, the construction contractor shall be required to inform the UCSF project manager within 10 days prior to such termination.
• Construction equipment shall be properly tuned and maintained in accordance with manufacturers’ specifications.
• Best management construction practices shall be used to avoid (or limit) unnecessary emissions (e.g., trucks and vehicles in loading and unloading queues would turn their engines off when not in use, and to the extent practical, all diesel heavy construction equipment shall not remain running at idle for more than five minutes)
• Use alternative fueled equipment when feasible (such as ULSD, CNG, biodiesel, water emulsion fuel, and electric). The construction contracts shall require each contractor and subcontractor to consider this measure and adopt it for their work unless they can demonstrate to UCSF the inapplicability or infeasibility of the measure to their specific work, or can provide mitigation measures with equivalent or better effectiveness. This information shall be reported as part of the Mitigation Monitoring Reporting and Compliance Program.
• Use on-site power when feasible to reduce reliance on portable generators. The construction contracts shall require each contractor and subcontractor to consider this measure and adopt it for their work unless they can demonstrate to UCSF the inapplicability or infeasibility of the measure to their specific work, or can provide mitigation measures with equivalent or better effectiveness. This information shall be reported as part of the Mitigation Monitoring Reporting and Compliance Program.
Cultural (Archaeological) Resources

4.3-1 (LRDP Amendment #2 EIR):
Should an archaeological artifact be discovered at the Mission Bay site during project construction and excavation, pursuant to CEQA Guidelines 15064.5 (f), “provisions for historical or unique archaeological resources accidentally discovered during construction” should be instituted. In the event that any prehistoric or historic subsurface cultural resources are discovered during ground disturbing activities, all work within 100 feet of the resources shall be halted and UCSF shall consult with a qualified archaeologist or paleontologist to assess the significance of the find (per Public Resource Code Section 5024.1, Title 14 CCR, Section 4852 and/or Public Resource Code 21083.2 in the event of a unique archaeological find). If any find is determined to be significant and will be adversely affected by the project, representatives of UCSF and the qualified archaeologist and/or paleontologist would meet to determine the appropriate avoidance measures or other appropriate mitigation (per CEQA Guidelines 15064.5 (b) and Public Resource Code 21083.2). All significant cultural materials recovered shall be subject to scientific analysis, professional museum curation, and documented by the qualified archaeologist according to current professional standards (Per the Secretary of the Interior’s Standards and Guidelines for Archeology and Historic Preservation (48 FR 44716)).

If the discovery includes human remains, CEQA Guidelines 15064.5 (e)(1) shall be followed:
- In the event of the accidental discovery or recognition of any human remains in any location other than a dedicated cemetery, the following steps should be taken:
  1. There shall be no further excavation or disturbance of the site or any nearby area reasonably suspected to overlie adjacent human remains until:
     A. The coroner of the county in which the remains are discovered must be contacted to determine that no investigation of the cause of death is required, and
     B. If the coroner determines the remains to be Native American: (1) The coroner shall contact the Native American Heritage Commission within 24 hours. (2) The Native American Heritage Commission shall identify the person or persons it believes to be the most likely descended from the deceased Native American. (3) The most likely descendent may make recommendations to the landowner or the person responsible for the excavation work, for means of treating or disposing of, with appropriate dignity, the human remains and any associated grave goods as provided in Public Resources Code Section 5097.98, or
  2. Where the following conditions occur, the landowner or his authorized representative shall rebury the Native American human remains and associated grave goods with appropriate dignity on the property in a location not subject to further subsurface disturbance.
     A. The Native American Heritage Commission is unable to identify a most likely descendent or the most likely descendent failed to make a recommendation within 24 hours after being notified by the commission.
     B. The descendant identified fails to make a recommendation; or
     C. The landowner or his authorized representative rejects the recommendation of the descendant, and the mediation by the Native American Heritage Commission fails to provide measures acceptable to the landowner.
12M4-2 (1996 LRDP EIR):
If construction activities associated with the Major New Site and Mission Bay occurred within areas shown on Figure 12-28, UCSF would implement mitigation measures, as adapted from Mitigation Measures J.1, J.2, J.3 and J.6 of the Mission Bay Mitigation Monitoring Program to protect historic archaeological resources:

- UCSF would retain the services of an archaeologist to instruct construction crews regarding potential historic archaeological resources and appropriate procedures to follow if such resources are uncovered.
- As required, the constructing archaeologist would develop archaeological exploration programs for the areas shown on Figure 12-28 having potential historic cultural resources.

As required, the archaeologist would provide archaeological monitoring during construction in these areas. Particular attention would be given if development were proposed in the area occupied by the late 19th-century city dump.

Retain the services of an archaeologist, because of the strong possibility of encountering the remains of cultural or historic artifacts or features in the six historic resources areas. The Environmental Review Officer (ERO) in consultation with the President of the Landmarks Preservation Advisory Board (LPAB) and the archaeologist would determine: 1) whether the archaeologist should instruct all excavation and foundation crews on the project site of the potential for discovery of historic archaeological deposits and artifacts, and the procedures to be followed if such materials are uncovered; and 2) prior to the commencement of foundation excavation, a program of archaeological testing.

Retain a qualified historic archeologist to supervise a pre-foundation excavation testing program for each phase of Project Area development or each construction site, as appropriate, using a series of mechanical, exploratory borings or other testing methods determined by the archaeologist to be appropriate. A qualified historical archaeologist would supervise the testing in the six historic resource areas to determine the probability of finding cultural and historical remains. At the completion of the archaeological testing program, the archaeologist would submit a written report first and directly to the ERO and the President of the LPAB, with a copy to the project sponsor, which described the findings, assesses their significance and proposes appropriate recommendations for any additional procedures necessary for the mitigation of adverse impacts to cultural resources determined to be significant.

Retain a certified archaeologist to supervise a program of on-site monitoring during site excavation in the six historic resource areas, following site clearance and pre-excitation testing. The certified archaeologist would record observations in a permanent log. Should cultural or historic artifacts be found following commencement of excavation activities, the archaeologist would assess the significance of the find, and immediately report to the ERO and the President of LPAB. Upon receiving the advice of the consultant and the LPAB, the ERO would recommend specific mitigation measures, if necessary. The monitoring program, whether or not there are finds of significance, would result in a written report to be submitted first and directly to the ERO and the President of the LPAB, with a copy to the project sponsor.

Suspend excavation or construction activities which might damage discovered cultural resources for a total maximum of four weeks over the course of construction at each site to permit inspection, recommendation and retrieval, if appropriate.

Implement an appropriate security program to prevent looting or destruction, if cultural resources of potential significance are discovered. Any discovered cultural artifact assessed as
significant by the archaeologist upon concurrence by the ERO and the President of the LPAB would be placed in a repository designated for such materials or possibly exhibited in a public display. Following approval of the archaeological testing and monitoring program reports by the ERO and the President of LPAB, a final report would be sent to the California Archaeological Site Survey Office at Sonoma State University, the Foundation for San Francisco’s Architectural Heritage and the State Office of Historic Preservation. The Office of Environmental Review would receive three final copies of the final archaeological findings report. Archaeological testing could be coordinated with other site investigations for geotechnical and toxic waste purposes.

**Geology/Soils**

**4.4-4 (LRDP Amendment #2 EIR):**
A site-specific, design-level geotechnical investigation shall be completed based on the proposed project design and shall provide engineering recommendations for mitigation of liquefiable soils, in accordance with the California Geological Survey’s Geology Guidelines for Evaluating and Mitigating Seismic Hazards (CGS Special Publication 117, 1997). These geotechnical recommendations shall be incorporated into the final design of the project.

**Hydrology and Water Quality**

**4.6-3 (LRDP Amendment #2 EIR):**
UCSF shall adopt Mitigation Measures K.2, K.3 and K.4 of the Mission Bay Subsequent EIR as follows:

K.2 Participate in the City’s existing Water Pollution Prevention Program. Facilitate implementation of the City’s Water Pollution Prevention Program by providing and installing wastewater sampling ports in any building anticipated to have a potentially significant discharge of pollutants to the sanitary sewer, as determined by the Water Pollution Prevention Program of the San Francisco Public Utilities Commission’s Bureau of Environmental Regulation and Management, and in locations as determined by the Water Pollution Prevention Program.

K.3 Design and construct sewer improvements such that potential flows to the City’s combined sewer system from the project do not contribute to an increase in the annual overflow volume as projected by the Bayside Planning Model by providing increased storage in oversized pipes, centralized storage facilities, smaller dispersed storage facilities, or detention basins, or through other means to reduce or delay stormwater discharges to the City system.

This mitigation measure could be implemented by including the Water Pollution Prevention Program in the review process, as each individual construction is proposed. The Water Pollution Prevention Program would review each project, determine if one or more sampling ports should be installed in a particular building, and specify the location of the sampling port(s).

K.4 Implement alternative technologies or use other means to reduce settleable solids and floatable materials in stormwater discharges to China Basin Channel to levels equivalent to, or better than, City-treated combined sewer overflows. Such alternatives technologies could include one or more of the following: biofilter system, vortex sediment system, catch basin filters, and/or additional source control measures to remove particulates from streets and parking lots.
Noise

MCMB.5-1 (MCMB EIR): UCSF shall require construction contractors to minimize unavoidable construction noise impacts by use of proper equipment and work scheduling:

- Limit construction hours to the following schedule. [Monday through Friday, 7 a.m. to 5 p.m. for “Not Noisy” work; and Monday through Friday 8 a.m. to 5 p.m. for Noisy work]
- Approve extended hours [Monday through Friday, 5 p.m. to 8 p.m.; Saturday 7 a.m. to 8 p.m.; and Sunday 8 a.m. to 4:30 p.m.] only with advanced notice from the UCSF project manager.
- Prohibit high impact noise on Saturdays and Sundays.
- Designate a UCSF Community Contact to receive and resolve construction complaints.

Transportation

4.11-1 (LRDP Amendment #2 EIR):
To assure that construction and/or demolition activities minimize parking demand and circulation obstruction, UCSF shall require construction and/or demolition contractors to develop and implement construction traffic and parking management plans during demolition and/or construction activities at all campus sites. The plans would be expected to include measures such as the following:

- Develop a traffic management plan in consultation with the San Francisco DPT and Muni to minimize disruption due to lane closures. The plan should be consistent with the Regulations for Working in San Francisco Streets and Chapter 6 of the California Supplement to the Manual of Uniform Traffic Control Devices.

- Prepare an offsite parking plan for construction employees and subcontractor employees. An alternative plan would provide shuttle service to/from designated remote parking lots and/or public transportation transfer nodes. This plan would be incorporated into the construction contract between UCSF and the contractor.

- Schedule heavy-truck deliveries with the construction project manager at least one day in advance.

- Whenever possible, make deliveries using trucks of 40 feet maximum bumper-to-bumper length.

- Whenever possible schedule heavy trucks deliveries to arrive at off-peak hours, outside of 7:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m.

- Note any deliveries that cannot comply with the above requirements for heavy trucks on the schedule, and notify the UCSF construction project manager at least 48 hours in advance. The contractor may provide flagmen to direct traffic in those cases.

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Construction Schedule

The Project construction would begin in 2013 and is expected to be completed by the time Phase I of the Medical Center at Mission Bay is operational by early 2015.

Construction of the traffic improvement measures would occur during Phase I or Phase II as indicated above.

Construction of the pedestrian bridges would occur if and when Phase II is approved.

D. DISCRETIONARY APPROVALS

Action by the University:
Anticipated Project actions and approvals include the following:
- approval of the plaza design
- offers of dedication of property to the City and County of San Francisco for street widening and curb radii
- agreement to air rights lease terms for future pedestrian bridges across Fourth Street and underground utilities lease terms
- approval of pedestrian bridge design (will not be considered for approval until Phase II)
- public sidewalk easements for City on Third Street

Action by Other Agencies:
Anticipated Project action and approvals include the following:

City and County of San Francisco Board of Supervisors
- Major Encroachment Permit for the plaza and Fourth Street, including maintenance agreements
- Approval of traffic improvement measures, including traffic monitoring plan (by the MTA and Board of Supervisors)
- Acceptance of land for street widening and turning radii
- Agreement to air rights lease terms for future pedestrian bridges across Fourth Street and underground utilities lease terms
- Public sidewalk easement from the University on Third Street

Department of Public Works
- Street Improvement Permit for Owens Street redesign

San Francisco Redevelopment Agency
- Approval of plaza schematic design
- Minor Infrastructure Plan Amendment (also Mayor)
E. CONSISTENCY WITH THE LRDP

Current development at UCSF is guided by the 1996 LRDP, as amended, which includes specific policies related to future development and space needs at the various UCSF campuses. The LRDP was analyzed under the 1996 LRDP EIR. In addition, each of the three LRDP amendments has been analyzed under its own EIR, tiered from the 1996 LRDP EIR. The 1996 LRDP EIR and each of the EIRs for the amendments are collectively referred to as the “LRDP EIR.”

As discussed in the Project Description, the MCB EIR assumed Fourth Street would be open to vehicular through-traffic. A plaza was contemplated on the MCB site east of Fourth Street. The Project would continue to include plaza space on the MCB site east of Fourth Street, consistent with the MCB project as approved under the LRDP. However, the design has now been modified and would now involve extension of the plaza onto Fourth Street, resulting in the closure of Fourth Street to vehicular through-traffic. The extension of the plaza onto Fourth Street and the closure of Fourth Street to vehicular through-traffic would occur in the Fourth Street right-of-way, which is under the jurisdiction of the City and County of San Francisco. Therefore, there would be no conflict or inconsistency with the LRDP.

UCSF values community consultation on projects involving exterior design and landscape elements. The project team has been meeting with the San Francisco Redevelopment Agency and various agencies of the City and County of San Francisco, including the Planning Department, the MTA, and the Department of Public Works on the design of the plaza and Fourth Street. In addition, the project team has met with the Redevelopment Agency’s Mission Bay Citizens Advisory Committee; a subgroup of the UCSF Mission Bay Community Advisory Group (CAG), the Mission Bay CAG Action Team; the Dogpatch Neighborhood Association; the South Beach-Rincon-Mission Bay Neighborhood Association; other neighbors; and the San Francisco Bicycle Coalition, among other groups -- on the proposed plaza and Fourth Street design. The proposed designs of the plaza, Fourth Street, and adjacent intersections that are the subject of the traffic analyses and proposed traffic improvement measures (to be discussed further in the upcoming EIR) are the result of consultation with those stakeholders.

III. ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

The environmental factors checked below would be potentially affected by this project, involving at least one impact that is a “Potentially Significant Impact” as indicated by the checklist on the following pages.

- Aesthetics
- Biological Resources
- Greenhouse Gas Emissions
- Land Use/Planning
- Population/Housing
- Transportation/Traffic

- Agriculture and Forestry Resources
- Cultural Resources
- Hazards & Hazardous Materials
- Mineral Resources
- Public Services
- Utilities/Service Systems

- Air Quality
- Geology/Soils
- Hydrology/Water Quality
- Noise
- Recreation

Mandatory Findings of Significance
IV. DETERMINATION: (To be completed by the Lead Agency)

On the basis of the initial evaluation that follows:

☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.

☐ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.

☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.

☐ I find that the proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on the attached sheets. AN ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed.

☐ I find that although the proposed project could have a significant effect on the environment, because all potentially significant effects (1) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (2) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required.

Diane Wong, Environmental Coordinator
University of California, San Francisco

12/21/11
Date
V. EVALUATION OF ENVIRONMENTAL IMPACTS

During the completion of the environmental evaluation, the lead agency relied on the following categories of impact noted as column headings in the Initial Study checklist:

A. “Potentially Significant Impact” is appropriate if there is substantial evidence that the project’s effect may be significant. If there are one or more “Potentially Significant Impacts,” a Project EIR will be prepared.

B. “Less Than Significant With Mitigation Incorporated” applies where the incorporation of mitigation measures would reduce an effect from “Potentially Significant Impact” to a “Less Than Significant Impact.” All mitigation measures must be described, including a brief explanation of how the measures would reduce the effect to a less than significant level.

C. “Less Than Significant Impact” applies where the project would not result in a significant effect (i.e., the project impact would be less than significant without the need to incorporate mitigation).

D. “No Impact” applies where a project would not result in any impact in the category or the category does not apply (for instance, the project site is not within a surface fault rupture hazard zone; there are no agricultural lands present on or near the site).

Impact Questions and Responses

The impact questions identified in this Section are the same as those in Appendix G of the CEQA Guidelines. Additionally, in several impact topics there are impact questions that relate to significance standards established in UCSF’s LRDP Final EIR, where they are not otherwise covered by Appendix G.

The impact questions consist of two types: those that require a qualitative evaluation, and those that require a quantitative analysis. In general, the impact questions themselves constitute the standards of significance, and where applicable, additional explanation and/or quantitative thresholds are provided under the appropriate environmental topic.

<table>
<thead>
<tr>
<th>Issues</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant Impact with Project Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>1. AESTHETICS – Would the project:</td>
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<tr>
<td>a) Have a substantial adverse effect on a scenic vista?</td>
<td>■</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>■</td>
</tr>
<tr>
<td>c) Substantially degrade the existing visual character or quality of the site and its surroundings?</td>
<td>■</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
</tbody>
</table>
### Issues

<table>
<thead>
<tr>
<th>Issues</th>
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<th>Less than Significant with Project Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?</td>
<td>☐</td>
<td>☐</td>
<td>☑</td>
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</tr>
<tr>
<td>e) Exceed the LRDP EIR significance standard by substantially reducing sunlight or significantly increasing shadows in public open space areas, or by increasing pedestrian-level wind speeds above the hazard level set forth in the San Francisco Planning Code?</td>
<td>☐</td>
<td>☐</td>
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</table>

### Standards of Significance

The impact questions above constitute the significance standards for this environmental topic.

### Discussion of Checklist Questions

#### Relevant Project Elements:

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

#### Potential Project Impacts:

The construction of the MCMB Phase I is currently underway. The MCMB project analyzed in the MCMB EIR and approved in September 2008 included a plaza and passenger drop-off areas on UCSF property on the east side of Fourth Street, and assumed that Fourth Street between 16th and Mariposa Streets would be open to vehicular through-traffic. The MCMB Phase I project also included the development of traffic improvement measures at surrounding intersections and, in Phase II, the construction of two pedestrian bridges across Fourth Street at the second and third floors of the hospitals and Outpatient building. While approved by the University as part of the Phase I approval, the traffic improvement measures require City approval, which has not yet occurred and these measures have not been implemented. The evaluation of visual quality in the Medical Center at Mission Bay EIR considered the potential effects of these components on visual character, views, light and glare, and wind.

1a) A scenic vista is defined as a public view from existing parks, plazas, roadways or other public areas, and gateway or panoramic views from areas generally available to the general public. Views from private
residences and non-public areas are not considered to be scenic views because they are not available to the general public. The impacts of the proposed Project with regard to scenic views will be addressed in the EIR.

1b) Neither Fourth Street nor adjacent streets contain scenic resources such as trees, rock outcroppings or historic buildings within a state scenic highway. Therefore, the Project would have no impact with regard to these resources and this topic will not be discussed further in the EIR.

1c) Currently, the Fourth Street right-of-way exists only as a paper street as it is planned but not yet built. The Project site is vacant and is adjacent to the MCMB Phase I which is now under construction. The impacts of the proposed Project with regard to visual quality and character will be addressed in the EIR.

1d) The Medical Center at Mission Bay EIR analyzed the potential for the construction and operation of the proposed development to increase the amount of light and glare in the area. The EIR concluded that any impacts associated with light and glare would be less than significant with the inclusion of the 2005 EIR Mitigation Measure 4.1-1 to minimize light and glare through the orientation of buildings and exterior lighting, use landscaping materials, and choice of primary façade materials. The mitigation measure would be included as part of the proposed Project, but only that portion of the mitigation measure that is applicable to the proposed Project (i.e. use of landscaping materials and orientation of exterior lighting) (see p. 14 of this Initial Study). With regard to construction activity, Mitigation Measure 4.1-2 identified in the LRDP Amendment #2 EIR would be included in the proposed Project, requiring that flood or area lighting for construction activities be placed and directed so as to avoid potential disturbances to adjacent residences or other uses (see p. 14 of this Initial Study). Thus, with the incorporation of these measures into the Project, impacts with respect to this topic would be less than significant.

1e) The public open spaces nearest to the Project site consist of Aqua Vista Park about three blocks to the east, Mission Bay Commons about four blocks to the north, and Esprit Park about two blocks to the south. In addition, numerous other open spaces in the vicinity are planned under the Mission Bay Redevelopment Plan, including Mariposa Park directly adjacent to and south of the MCMB site. The proposed Project would have minimal effects on sunlight and shading. The proposed plaza would contain seating, landscaping, pedestrian-level amenities and trees. Plaza features would have no potential to shade the public open spaces that are two to four blocks away. Nor would the proposed plaza have the potential to cast substantial shade on the future Mariposa Park, which is to the southwest of the Project site, as shadows cast from the plaza would fall to the north, northwest, and northeast. In Phase II, the proposed bridges would likewise have no potential to shade public open space, as the bridges would be flanked by taller structures. The bridges would cast shadows on the proposed plaza itself, but shadowing by the bridges would be of limited duration. Again, because the plaza and bridges would be flanked by larger structures, shading of the plaza would more likely be due to these larger structures, except for the brief duration when the sun would be directly above the bridges.

A wind study was conducted in 2008 as part of the MCMB EIR, in response to the Mission Bay South Redevelopment Area requirement to identify and mitigate significant impacts of pedestrian-level winds. Overall, wind impacts of the MCMB were determined to be less than significant (MCMB EIR pp. 4.1-23 to 4.1-26). As stated in the MCMB EIR Fourth Street Closed to Through Traffic Alternative (p. 6-12), “pedestrian level wind speeds would be the same as the proposed Project or could be reduced due to the additional landscaping and other fixtures that could provide additional shielding from the wind at the pedestrian level that would not be possible under the proposed Project with 4th Street open to traffic.”
The proposed plaza, with its landscaped islands and trees, would not have a significant adverse effect on wind conditions and could have a beneficial impact as stated above. Based on the MCMB EIR analysis, persons using the plaza would not be exposed to significant pedestrian-level winds. The proposed bridges would have little effect on the wind environment. Wind impacts are generally caused by large building masses extending substantially above their surroundings, and by buildings oriented such that a large wall catches a prevailing wind, particularly if such a wall has little or no articulation. Generally, buildings less than 100 feet tall do not alter wind conditions at pedestrian level. The proposed bridges on the third and fourth floor levels would not be sufficiently tall to alter wind conditions at the pedestrian level, and the adjoining Phase I and Phase II buildings would remain taller. As such, Project impacts on wind conditions would be less than significant.

For the reasons noted, sunlight, shadow and wind impacts would be less than significant and will not be discussed further in the EIR.

Discussion of Potential Cumulative Impacts
The proposed Project combined with other current projects and probable future projects could have cumulative impacts with respect to views and visual character that will be addressed in the EIR. As there are no scenic resources in the vicinity such as trees, rock outcroppings or historic buildings within a state scenic highway, no cumulative impact to such resources would result. The 2008 wind analysis discussed above accounted for potential cumulative development in the Mission Bay vicinity, and concluded the MCMB and Fourth Street Closed to Through Traffic Alternative would have a less than significant impact with respect to winds. As the Project would not alter wind conditions as explained above, cumulative wind impacts would be less than significant and will not be discussed further in the EIR.
2. **AGRICULTURAL RESOURCES** – Would the project:

   a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?

   b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?

   c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)) or timberland (as defined in Public Resources Code section 4526)?

   d) Result in the loss of forest land or conversion of forest land to non-forest use?

   e) Involve other changes in the existing environment, which, due to their location or nature, could result in conversion of Farmland to non-agricultural use?

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<tbody>
<tr>
<td>a) Convert Prime Farmland</td>
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<tr>
<td>b) Conflict with existing zoning for agricultural use</td>
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<tr>
<td>c) Conflict with existing zoning for, or cause rezoning of,</td>
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<td>forest land (as defined in Public Resources Code section 12220(g))</td>
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<td>or timberland (as defined in Public Resources Code section 4526)?</td>
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<tr>
<td>d) Result in the loss of forest land or conversion of forest land</td>
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<td>to non-forest use</td>
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<td>e) Involve other changes in the existing environment, which, due to</td>
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<td>their location or nature, could result in conversion of Farmland to</td>
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<td>non-agricultural use</td>
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**Standards of Significance**

The impact questions above constitute the significance standards for this environmental topic. There are no additionally applicable LRDP significance standards.

**Discussion of Checklist Questions**

**Relevant Project Elements:**

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.
Potential Project Impacts:

2a)- e): The proposed Project would not be constructed on Farmland or land otherwise in agricultural use. The Project site is not on forest land. The site is located in a dense urban area, zoned for urban uses. Therefore, the proposed Project would have no impact on forest or agricultural resources and impacts with respect to these topics would be less than significant and will not be discussed further in the EIR.

Discussion of Potential Cumulative Impacts
The City of San Francisco is urban in nature, and is not designated as Important Farmland on maps prepared pursuant to the Farmland Mapping and Monitoring Program. As a result, anticipated future development in San Francisco, including the proposed project, would not result in the loss of important farmland. In addition, land in the City is zoned for urban uses. Therefore, anticipated future development in San Francisco would not displace land zoned for agricultural use or forest land or timberland, and would not conflict with land under a Williamson Act contract. The impact of cumulative development on agricultural and forest resources would be less than significant.
3. **AIR QUALITY** – Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the project:

<table>
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<th>No Impact</th>
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</thead>
<tbody>
<tr>
<td>a) Conflict with or obstruct implementation of the applicable air quality plan?</td>
<td>□</td>
<td>□</td>
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</tr>
<tr>
<td>b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation (e.g., induce mobile source carbon monoxide (CO) emissions that would cause a violation of the CO ambient air quality standard)?</td>
<td>□</td>
<td>□</td>
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<tr>
<td>c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?</td>
<td>□</td>
<td>□</td>
<td>■</td>
<td>□</td>
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<tr>
<td>d) Expose sensitive receptors to substantial pollutant concentrations?</td>
<td>□</td>
<td>□</td>
<td>■</td>
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<tr>
<td>e) Create objectionable odors affecting a substantial number of people?</td>
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<td>□</td>
<td>■</td>
<td>□</td>
</tr>
<tr>
<td>f) Exceed the applicable LRDP EIR standard of significance by exposing receptors to toxic air contaminant emissions that (1) result in a cancer risk greater than 10 cancer cases per 1 million people exposed in a lifetime; or (2) for acute or chronic effects, result in concentrations of toxic air contaminant emissions with a Hazard Index of 1.0 or greater.</td>
<td>□</td>
<td>□</td>
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**Standards of Significance**

The impact questions above constitute the significance standards for this environmental topic.
Discussion of Checklist Questions

Relevant Project Elements:

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

Potential Project Impacts:

3a-d) and f) The Project site is located in the San Francisco Bay Area Air Basin, which is currently designated a non-attainment area for PM10, PM2.5, and ozone. The proposed Project would not conflict with or obstruct implementation of an air quality plan. The proposed public open space would serve already approved adjacent development, and would not by itself generate trips, require equipment, or have operational effects that could lead to significant air quality impacts.

Because Fourth Street between 16th and Mariposa Streets would be closed to vehicular through-traffic under the proposed Project, vehicles that would otherwise travel through this segment of Fourth Street would travel through adjacent streets instead, primarily 16th, Third, Owens, and Mariposa Streets. The relocation of trips would not result in significant air quality impacts as criteria air pollutant emissions would remain the same. Overall traffic congestion and level of service at study intersections would not degrade with the inclusion of traffic improvement measures proposed as part of the Project.

The San Francisco Bay Area Air Basin is currently designated a non-attainment area for ozone. Ozone formation in the Bay Area is limited by the availability of precursor reactive organic gases (ROG). The Project would produce de minimis quantities of ROG, well below the significance thresholds established by the BAAQMD.

Development of the plaza could lead to criteria air pollutants and toxic air contaminants during construction activities. Construction-related fugitive dust emissions would vary, depending on the type of construction activity, silt content of the soil, and the weather. It is estimated that the proposed Project construction would result in emissions of 4.89 pounds per day of PM10, and 1.65 pounds per day of PM2.5. The Project would implement the recommended BAAQMD best management practices for construction emissions. The proposed Project includes LRDP Amendment #2 EIR Mitigation Measure 4.2-2, requiring dust control measures identified by the BAAQMD, and MCMB EIR Mitigation Measure MCMB.2-1, requiring measures to minimize emissions from off-road diesel equipment (see pp. 14-15 of this Initial Study). With these measures incorporated into the proposed Project, construction-period emissions would be less than significant.

With regard to toxic air contaminants, estimates of toxic air contaminants from Project construction (primarily from diesel particulate matter) would fall well below significance thresholds established by the BAAQMD. There are no sensitive receptors within 1,000 feet of the Project site that could be affected by...
Project construction activities. Construction of the Project would occur at a time when most of the site work associated with the MCMB would be completed, but the buildings themselves would not yet be completed or occupied. In addition, naturally-occurring asbestos, also a toxic air contaminant, is present in the Mission Bay area soils. Naturally-occurring asbestos on the Project site was addressed in 2010-2011 during site remediation work for construction of the MCMB. The Project would not disturb a large amount of native soils as substantial excavation is not proposed. Any naturally-occurring asbestos in the soils encountered during construction of the Project would be addressed under BAAQMD regulations. For these reasons impacts associated with toxic air contaminants would be less than significant.

The two pedestrian bridges were included in the analysis of the MCMB project, and the current proposal involves only their relocation to the third and fourth floors. No air quality impacts would result from this change.

3e) The proposed plaza, street closure and bridges are not expected to generate odors. Construction of the Project would require the use of diesel-fueled equipment which may generate odors. However, these odors would be short term and temporary and would not be pervasive enough to affect a substantial number of people or to be objectionable. Consequently, construction of the proposed Project would not cause or be affected by odors, and the impact would be less than significant.

Concerning operation, odors are not typically associated with public plazas, enclosed bridges, or traffic cul-de-sacs. If odors from traffic entering and exiting the cul-de-sacs became problematic, existing nuisance laws would regulate any odors, and the University could establish policies limiting idling vehicles. Therefore, operation of the proposed Project would not cause or be affected by odors, and the impact is considered less than significant.

Discussion of Potential Cumulative Impacts
The proposed Project combined with other current projects and probable future projects and projected regional growth would result in significant cumulative impacts with regards to criteria air pollutants, particularly in combination with the approved MCMB project. However, for the reasons noted above, the Project’s contribution would be very small and would not represent a cumulatively considerable contribution to criteria air pollutant impacts, which would occur with or without the Project. As such, the Project’s contribution to air quality emissions would be less than significant.

For the reasons stated above, air quality impacts of the proposed Project would be less than significant and will not be discussed further in the EIR.
4. **BIOLOGICAL RESOURCES** – Would the project:

<table>
<thead>
<tr>
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</tr>
</thead>
<tbody>
<tr>
<td>a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>■</td>
</tr>
<tr>
<td>b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Game or US Fish and Wildlife Service?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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<tr>
<td>c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?</td>
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<tr>
<td>d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?</td>
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<tr>
<td>e) Conflict with any applicable policies protecting biological resources?</td>
<td>☐</td>
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<tr>
<td>f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other applicable habitat conservation plan?</td>
<td>☐</td>
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<tr>
<td>g) Exceed the applicable LRDP EIR standard of significance by damaging or removing heritage or landmark trees or native oak trees of a diameter specified in a local ordinance?</td>
<td>☐</td>
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**Standards of Significance**

The impact questions above constitute the significance standards for this environmental topic. In addition, the significance standard related to local tree ordinances is used as a basis to evaluate potential
heritage or landmark trees at UCSF campus sites.

Discussion of Checklist Questions

Relevant Project Elements:

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

Potential Project Impacts:

4a) As discussed previously, Fourth Street between 16th and Mariposa Streets has not yet been constructed. It is currently vacant and adjacent to the Medical Center at Mission Bay, which is under construction. The Project site currently has no habitat value. No suitable habitat for sensitive mammal, reptile, amphibian, or fish species exists on the Project site. There would be no impact with regard to this criterion.

4b) No riparian habitat or other sensitive natural community is present on the Project site or in the Project vicinity. As such, the Project would not affect riparian habitat or other sensitive natural communities. There would be no impact with regard to this criterion.

4c) There are no wetlands on the Project site or vicinity, as defined by the federal Clean Water Act or the California Fish and Game Code. There would be no impact with respect to this criterion.

4d) San Francisco Bay is an important link in the Pacific Flyway,² providing a refuge for shorebirds. The Project site is within Mission Bay Redevelopment Plan area, and is located somewhat inland about one-quarter mile from the shoreline of San Francisco Bay to the east. Between the Project site and the San Francisco Bay are intervening buildings and vacant former industrial lands. To the north of the Project site are 16th Street and the UCSF Mission Bay research campus site; to the east are Third Street and commercial and industrial uses; to the south are Mariposa Street and live/work, commercial and industrial uses; and to the west are vacant parcels planned for future Owens Street and commercial/biotechnology uses. As mentioned, the site is currently vacant and adjacent to the construction site of the MCMB. There are no trees or vegetation on the Project site, and the site currently has no habitat value. The surrounding area is developed with buildings and other structures that exceed the height of the proposed bridges. Given the conditions present on the Project site and area, it is unlikely that the proposed plaza and bridges would interfere with any wildlife movement through the Project site. Further, the City of San Francisco has recently adopted Section 139 of the Planning Code, Standards for Bird-Safe Buildings, which provides standards for building design to minimize hazards to birds. The standards include consideration of location, façade, glass and lighting treatments. UCSF is

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² The Pacific Flyway is a major north-south route of travel for migratory birds in America extending from Alaska to Patagonia. Every year, migratory birds travel some or all of this distance both in spring and in fall, following food sources, heading to breeding grounds, or travelling to overwintering sites. Wikipedia, [http://en.wikipedia.org/wiki/Pacific_Flyway](http://en.wikipedia.org/wiki/Pacific_Flyway), accessed December 18, 2011.
constitutionally exempt from local controls for projects on land that it controls and that are in furtherance of its educational mission, although it seeks to work cooperatively with local agencies in matters of design. The proposed Project is partially located on the Fourth Street right-of-way, and would be subject to the Standards for Bird-Safe Buildings. UCSF has been working closely with various stakeholders and agencies of the City and County of San Francisco on the layout, design and functionality of the plaza, and would incorporate bird-safe treatments as necessary as part of the City’s review and approval process. While the bridges are not yet designed, their design would be subject to design review by the City if and when they are proposed for construction in Phase II, pursuant to the MOU between the University and the SFRA. For these reasons, impacts with respect to this criterion would be less than significant.

4e) As a state entity, the University is exempted by the state constitution from compliance with local land use regulations, including San Francisco General Plan policies for the protection of urban biological resources. However, because of the site’s vacant, highly disturbed condition and its location in a densely developed area, construction of the proposed Project at this location would not conflict with any existing policies. There would be no impact with regard to this criterion.

4f) No adopted habitat conservation plan or natural community conservation plan applies to the Project site. There would be no impact with respect to this criterion.

4g) There are no trees located on the Project site. New trees would be planted on the proposed plaza. There would be no impact with respect to this criterion.

Discussion of Potential Cumulative Impacts
Anticipated future development in some portions of San Francisco has the potential to adversely affect biological resources in the City. However, the proposed Project would have little or no project-level impacts on biological resources. Therefore, the proposed Project would make little or no contribution to a cumulative impact on biological resources that could result from other development in the city.

Project impacts on biological resources would be less than significant and will not be addressed further in the EIR.
5. **CULTURAL RESOURCES** – Would the project:

   a) Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5? □ □ ■ □

   b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5? □ □ ■ □

   c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? □ □ ■ □

   d) Disturb any human remains, including those interred outside of formal cemeteries? □ □ ■ □

**Standards of Significance**

The impact questions above constitute the significance standards for this environmental topic. There are no additionally applicable LRDP significance standards.

**Discussion of Checklist Questions**

**Relevant Project Elements:**

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

**Potential Project Impacts:**

5a) The Project site is vacant. There are no structures or features on the Project site that could be considered historic. Therefore, this impact is considered less than significant.

5b), d) The LRDP Amendment #2 – Hospital Replacement EIR assessed the proposed Mission Bay “South Site” (the site of the now-approved MCMB) for potential archaeological resources and concluded that it would be unlikely for archaeological artifacts to be discovered during construction. There are no known
human remains, including those interred outside of formal cemeteries, located within the vicinity of the Mission Bay campus site. Upon certification of that EIR, The Regents adopted Mitigation Measure 4.3-1, which outlined the comprehensive measures to be taken in the event of accidental discovery of archaeological artifacts or human remains. The mitigation measure would require that in the event that archaeological resources or human remains are encountered, construction work would halt and a qualified archaeologist or paleontologist would be consulted to determine the significance of the resource and the appropriate next steps.

The 1996 LRDP EIR identified Mitigation Measure 12M4-2, calling for the retention of an archaeologist to instruct construction crews regarding potential historic archaeological resources and appropriate procedures to follow if such resources are uncovered, and if required, development of an archaeological exploration program and archaeological monitoring during construction. The City and County of San Francisco’s Mission Bay Subsequent EIR certified in 1998 identified Mitigation Measure D.4 to address archaeological resources, including possible pre-foundation excavation testing and possible on-site monitoring. Both measures were applicable to the MCMB project.

In preparation for construction of the MCMB, a report was prepared to review the archaeological background information available to date and to make site-specific recommendations for the MCMB project. The report concluded that because of the low potential for encountering significant historical archaeological resources, no on-site monitoring or pre-construction exploration program was necessary, and provisions for accidental discovery identified in Mitigation Measure 4.3-1 of the LRDP Amendment #2 EIR were adequate. Excavation of the MCMB site has since occurred, and foundations developed. While some random objects were uncovered, no items of historic archaeological significance were found.

The three mitigation measures identified above would apply to the proposed Project and are included in and made a part of the Project (see pp. 17-18 of this Initial Study). However, the likelihood of encountering significant archaeological resources remains low, and it is anticipated that only provisions for accidental discovery need be implemented. The proposed construction of the plaza would occur at ground level with little excavation, and the proposed bridges would be well above ground and have no impact on archaeological resources. With the inclusion of the three mitigation measures in the proposed Project, impacts upon archaeological resources would be less than significant.

5c) There are no known paleontological resources or unique geologic features on site. Furthermore, due to the long history of settlement in San Francisco and the fact that the Project does not involve excavation, there is minimal potential that Project excavation would encounter or result in damage to significant paleontological resources.

Discussion of Potential Cumulative Impacts
Anticipated future development in some portions of San Francisco has the potential to adversely affect cultural resources in the City. However, the proposed Project would have little or no project-level impacts on cultural resources. Therefore, the proposed Project would make little or no contribution to a cumulative impact on cultural resources that could result from other development in the city.

Project impacts on cultural resources would be less than significant and will not be addressed further in the EIR.

6. GEOLOGY AND SOILS – Would the project:

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

   i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.

   □  □  □  ■

   ii) Strong seismic ground shaking?

   □  □  ■  □

   iii) Seismic-related ground failure, including liquefaction?

   □  □  ■  □

   iv) Landslides?

   □  □  □  ■

b) Result in substantial soil erosion or the loss of topsoil?

   □  □  □  □

c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?

   □  □  □  □

d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994) (California Building Code), creating substantial risks to life or property?

   □  □  □  □

e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?

   □  □  □  ■

f) Exceed the applicable LRDP EIR standard of significance by exposing people to structural hazards in an existing building rated Poor, or Very Poor, under the University’s seismic performance rating system, or substantial nonstructural hazards?

   □  □  □  ■
Standards of Significance

The impact questions above constitute the significance standards for this environmental topic.

Discussion of Checklist Questions

Relevant Project Elements:

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

Potential Project Impacts:

6a(i) The Project site is not in an Alquist-Priolo Earthquake Fault Zone, and no known active fault exists on or in the immediate vicinity of the site. The closest Alquist-Priolo Earthquake Fault Zone is located approximately 8 miles to the south-southwest along the Peninsula segment of the San Andreas fault. The Project site is not considered subject to surface fault rupture hazard, and there would be no impact with regard to this criterion.

6a(ii) The Project site is located in an area potentially subject to strong seismic ground shaking from earthquakes along several active faults. The proposed plaza would not expose persons or structures to substantial adverse effects. The plaza itself would have trees, landscaped islands and light standards, but there would be no structures within the plaza that would pose a risk of loss, injury or death during a seismic event. The plaza would be constructed adjacent to the MCMB, which is designed to current seismic standards, and therefore building façade elements would not pose a falling hazard to persons on the plaza below. The University of California Seismic Safety Policy requires that all “new buildings...comply with the current provisions of the California Building Code, or local seismic requirements, whichever is more stringent” and that “no new University structures...[will] be constructed on the trace of a known active fault.” The guiding principle (Basic Policy) of the UC Seismic Safety Policy is “to acquire, build, maintain, and rehabilitate buildings and other facilities which provide an acceptable level of earthquake safety.” For these reasons, the bridges now proposed to be located on the third and fourth floors would not pose a safety risk during a seismic event. Although risks related to seismic groundshaking cannot be entirely avoided, adherence to current building codes would ensure that impacts are less than significant.

6a(iii) As discussed in the LRDP Amendment #2 EIR, the Project site (“Mission Bay South Site”) and surrounding area are located in a Seismic Hazard Zone for liquefaction according to the California Geological Survey. The LRDP Amendment #2 EIR included Mitigation Measure 4.4-4, requiring the preparation of a site-specific geotechnical investigation with engineering recommendations for mitigation of liquefiable soils. The MCMB EIR incorporated Mitigation Measure 4.4-4 into the MCMB project. The design of the MCMB project and landscaped areas on the MCMB site incorporated engineering recommendations to address liquefiable soils, and the proposed Project would likewise incorporate recommendations in the development of the plaza and cul-de-sacs. With the inclusion of Mitigation
Measure 4.4-4 as part of the proposed Project (see p. 19 of this Initial Study), impacts from liquefiable soils would be less than significant.

6a)(iv) The Project site and the surrounding area are characterized by generally flat topography and therefore are not considered subject to landslide hazards. There would be no impact with regard to this criterion.

6b) The Project site was previously graded and was first developed in the early 1900s. Prior uses on and around the site include railroad freight storage, warehousing, offices, a bar, and accessory parking. Further disturbance would have occurred during the recent removal of the prior site improvements. As discussed previously, the Project site is currently vacant. Construction of the proposed Project would require grading, which would disturb site soils, potentially contributing to erosion and resulting in increased off-site delivery of sediment. However, as indicated in the LRDP Amendment #2 EIR (pp. 4.4-16 through 4.4-17) and the MCMB EIR NOP/IS (pg. 19), since the hospital project is required to follow code standards for drainage and earth work, the impact on soil erosion was found to be less than significant. The proposed Project would similarly be required to meet code standards with regard to drainage and earthwork. Therefore, Project impacts with regard to soil erosion would be less than significant.

6c) Slope stability issues are addressed under response 6a)(iv) above, and liquefaction and related hazards are addressed in response 6a)(iii). For the reasons stated in those sections, impacts with regard to unstable soils would be less than significant.

6d) As indicated in the MCMB EIR, the Mission Bay area is comprised of fill, and is known from previous surveys not to have expansive soils. The proposed Project would have less than significant impacts with regard to this impact topic.

6e) The proposed Project would not involve the installation of septic tanks or alternative wastewater disposal systems. There would be no impact with regard to this criterion.

6f) The proposed Project would not put people in an existing seismically deficient building. There would be no impact with regard to this criterion.

Discussion of Potential Cumulative Impacts
Most of the geologic impacts such as those related to risk from faults, liquefaction potential, slope stability, landslide potential, expansive and compressible soils are site specific and do not cumulate. The proposed Project and other development on the campus site and its vicinity would not result in a significant cumulative impact related to geologic risks, as engineering recommendations noted above under 6a)iii and code requirements discussed under 6b) would account for cumulative development on the campus including the MCMB. Thus cumulative impacts would be less than significant.

Project impacts with respect to geology and soils would be less than significant and will not be discussed further in the EIR.
<table>
<thead>
<tr>
<th>Issues</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tbody>
<tr>
<td>7. GREENHOUSE GAS EMISSIONS – Would the project:</td>
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<tr>
<td>a) Generate greenhouse gas emissions, either directly or indirectly,</td>
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<td>that may have a significant impact on the environment?</td>
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<td>b) Conflict with any applicable plan, policy or regulation of an</td>
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<td>agency adopted for the purpose of reducing the emissions of greenhouse gases?</td>
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Standards of Significance

The impact questions above constitute the significance standards for this environmental topic. There are no additionally applicable LRDP significance standards.

Discussion of Checklist Questions

Relevant Project Elements:

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

Potential Project Impacts:

7a) The proposed plaza would serve the already approved Medical Center at Mission Bay, and its use would not by itself generate trips, require equipment, or have operational effects that would generate a substantial amount of greenhouse gas emissions. The closure of Fourth Street between 16th and Mariposa Streets to through-traffic would result in the relocation of through traffic from Fourth Street onto adjacent streets – 16th Street, Third Street, Mariposa Street and Owens Street. This would have no effect on greenhouse gas emissions relative to existing conditions, because this segment of Fourth Street has not yet been constructed and is not yet open to through traffic. Relative to planned conditions with Fourth Street open to through traffic, the Project impacts on greenhouse gas emissions would be negligible, as no additional vehicle trips would be generated by the Project, which itself would not generate trips. Vehicle trips would merely be relocated to the adjacent streets noted above, which, in contrast to Fourth Street, were intended to accommodate the bulk of traffic in the Mission Bay South area. Level of service at study intersections would not degrade with the implementation of traffic improvement measures proposed as
part of the Project. Estimates of greenhouse gas emissions resulting from increased traffic on adjacent streets would fall well below BAAQMD significance thresholds.

Construction of the proposed plaza would result in one-time emissions of greenhouse gases. Greenhouse gas emissions are expressed in terms of “carbon dioxide equivalents,” or CO2e. The primary greenhouse gases during construction are CO₂ (carbon dioxide), CH₄ (methane) and N₂O (nitrous oxide). These emissions are the result of fuel combustion by construction equipment and motor vehicles. The other GHGs defined by state law (hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) are typically associated with specific industrial sources and processes and would not be emitted during construction of the proposed Project. The URBEEMIS2007 Environmental Management Software was used to estimate the construction-related CO₂ emissions. Construction of the proposed plaza is anticipated to commence in 2013 and continue for approximately one year. Based on the modeling, it is estimated that construction of the proposed Project would generate a total of about 108 metric tons of CO₂e.

The BAAQMD does not have a quantitative threshold of significance for construction-related GHG emissions. However, the BAAQMD CEQA Air Quality Guidelines requires the Lead Agency to quantify and disclose GHG emissions that would occur during construction. Given the small amount of greenhouse gas emissions identified, the fact that they are much lower than the threshold for operational emissions of 1,110 metric tons of CO₂e per year, and the fact that these would be one-time emissions, the effect on global climate change from the proposed Project’s construction would not be substantial.

The two pedestrian bridges were included in the MCMB EIR project analysis, and the current proposal involves only their relocation to the third and fourth floors, which would have no effect upon the MCMB EIR greenhouse gas analysis.

7b) The proposed Project would not conflict with or obstruct implementation of a greenhouse gas reduction plan.

Discussion of Potential Cumulative Impacts
By definition, GHG emissions are a global cumulative impact. For the reasons stated above, the project’s contribution to cumulative GHG emissions would not be cumulatively considerable and therefore would be less than significant.

For the reasons discussed above, the impacts of the proposed Project on greenhouse gas emissions would be less than significant and will not be discussed further in the EIR.
8. **HAZARDS AND HAZARDOUS MATERIALS** – Would the project:

<table>
<thead>
<tr>
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<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?</td>
<td>□</td>
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<tr>
<td>b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?</td>
<td>□</td>
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<tr>
<td>c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?</td>
<td>□</td>
<td>□</td>
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<tr>
<td>d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?</td>
<td>□</td>
<td>□</td>
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<tr>
<td>e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?</td>
<td>□</td>
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<tr>
<td>f) For a project within the vicinity of a private airstrip, would the project result in a safety hazard for people residing or working in the project area?</td>
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<tr>
<td>g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?</td>
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<tr>
<td>h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?</td>
<td>□</td>
<td>□</td>
<td>□</td>
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</tbody>
</table>
Standards of Significance

The impact questions above constitute the significance standards for this environmental topic. There are no additionally applicable LRDP significance standards.

Discussion of Checklist Questions

Relevant Project Elements:

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

Potential Project Impacts:

8a) Although small quantities of hazardous materials could be used on site during Project construction, compliance with local, state, and federal regulations would minimize risks associated with the routine transport, use, or disposal of hazardous materials during Project construction. The operation of the proposed Project would not involve the routine transport, use or disposal of hazardous materials. Impacts with regard to the routine transport, use, or disposal of hazardous materials are expected to be less than significant.

8b), d) As discussed in the LRDP Amendment #2 EIR (p. 4.5-2 and p. 4.5-20), soil and groundwater underlying Mission Bay has been contaminated by historic filling and by industrial and commercial activities. Extensive subsurface testing has been conducted throughout the Mission Bay site, including at the Mission Bay South (now MCMB) site. Development within the Mission Bay Redevelopment Area must adhere to the 1999 Risk Management Plan (RMP), as described in the 1998 Mission Bay Subsequent EIR prepared by the City and County of San Francisco. UCSF, the City and County of San Francisco, and Catellus Development Corporation are the original signatories to the covenant requiring compliance with the RMP. All subsequent property owners in the Mission Bay Redevelopment Area are required by recorded deed restrictions, which are approved and enforceable by the San Francisco Bay Regional Water Quality Control Board (RWQCB), to comply with the RMP. The 1999 RMP approved by the RWQCB includes measures specifying compliance with the Maher Ordinance. Compliance with the Maher Ordinance requires testing of subsurface soil to determine the magnitude and extent of soil contamination for any excavation disturbing more than 50 cubic yards of soil, and remediation of conditions reaching hazardous levels. As compliance with the RMP is required, impacts with respect to this topic would be less than significant.

8c) The closest schools to the proposed Project are about one-half mile away in the lower Potrero Hill neighborhood to the west of I-280. Parcel 14 on the northwest corner of the Mission Bay research campus, about one-third of a mile to the northwest of the Project site, is a planned school site, although no specific development proposal has been made. However, as discussed in response 8(a) above, once construction is completed, operation of the proposed Project would not involve the routine transport, use, or disposal of hazardous materials and would not therefore result in hazardous emissions or require the handling of
hazardous waste. There would be no long-term impact with respect to this criterion. The limited use of hazardous materials (paving media, vehicle fuels and lubricants, etc.) required to construct the Project would take place in strict compliance with all applicable local, state, and federal regulations; construction-related impacts are therefore also determined to be less than significant.

8e) The nearest airport is San Francisco International Airport, located approximately 10 miles south of the Project site. The Project site is not within an airport land use plan or within 2 miles of a public airport. There would be no impact with regard to this criterion.

8f) The proposed Project is not located in the vicinity of a private airstrip. A medical helipad was approved as part of the MCMB project, to be located at an elevation of about 140 feet on the roof of the Outpatient Building on the MCMB site, which is now under construction. The proposed Project would not result in a safety hazard for people residing or working in the Project area, as all proposed Project improvements would be located at ground level, or in the case of the bridges, on the third and fourth floors, and would not interfere with helicopter flights which would occur at about 140 feet in elevation or higher. Therefore, there would be no impact with regard to this criterion.

8g) The Project site is located in an urban area, and construction and operation of the proposed Project would not substantially interfere with the operation of traffic in the vicinity, as the streets surrounding the MCMB site would remain open to vehicular traffic and would maintain an acceptable level-of-service with the inclusion of improvement measures as part of the Project (to be discussed in the upcoming EIR). In addition, the MCMB site contains two private roadways, North Connector Road and South Connector Road, that provide means of vehicular travel through the MCMB site, connecting the Fourth Street cul-de-sacs to Owens Street. The closure of Fourth Street to vehicular through-traffic would not physically interfere with an adopted emergency response plan or emergency evacuation plan. Should an emergency evacuation from the Mission Bay area become necessary in the event of a major disaster, numerous roadways surrounding the MCMB site and adjacent to the Project would be available, such as Third Street, 16th Street, Owens Street, Mariposa Street, and I-280.

UCSF has an emergency response plan which outlines the immediate actions and operations required for a major disaster or emergency. Any emergency plans specific to the MCMB site would be developed with consideration of the proposed Project circulation. Regarding access to MCMB facilities, vehicular access to the emergency room and urgent care department of the MCMB Children’s Hospital would still be available via Fourth Street at Mariposa Street. In addition, the proposed plaza is being designed to accommodate emergency vehicle access. Therefore, impacts with regard to this criterion would be less than significant.

8h) The Project site is located in an extensively urbanized area at a substantial distance from the closest wildland areas. There would be no impact with regard to this criterion.

Discussion of Potential Cumulative Impacts

Anticipated future development in San Francisco has the potential to expose the public and the environment to risks associated with hazards from on-site contamination and routine use of hazardous materials. Compliance with the RMP discussed above under items 8b) and 8d) would mitigate cumulative hazards from on-site soil and groundwater contamination in all of Mission Bay. Therefore, cumulative impacts with regard to soil and groundwater would be less than significant. As the Project would not involve the routine use or transport of hazardous materials, be located within a local airport land use plan area or near a private airstrip, the Project would have no contribution to cumulative
impacts relative to these topics. Similarly, the project would not interfere with emergency response or emergency evacuation plans, and would not contribute to a significant cumulative impact.

For the reasons stated above, impacts related to hazards and hazardous materials would be less than significant and will not be addressed in the EIR.
9. **HYDROLOGY AND WATER QUALITY** – Would the project:

<table>
<thead>
<tr>
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<th>Less than Significant with Project Mitigation</th>
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</tr>
</thead>
<tbody>
<tr>
<td>a) Violate any water quality standards or waste discharge requirements?</td>
<td>□</td>
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<tr>
<td>b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?</td>
<td>□</td>
<td>■</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on or off site?</td>
<td>□</td>
<td>■</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on or off site?</td>
<td>□</td>
<td>■</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?</td>
<td>□</td>
<td>■</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>f) Otherwise substantially degrade water quality?</td>
<td>□</td>
<td>■</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?</td>
<td>□</td>
<td>□</td>
<td>■</td>
<td>□</td>
</tr>
<tr>
<td>h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?</td>
<td>□</td>
<td>□</td>
<td>■</td>
<td>□</td>
</tr>
<tr>
<td>Issues</td>
<td>Potentially Significant Impact</td>
<td>Less than Significant with Project Mitigation</td>
<td>Less Than Significant Impact</td>
<td>No Impact</td>
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<tr>
<td>----------------------------------------------------------------------</td>
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</tr>
<tr>
<td>i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>■</td>
</tr>
<tr>
<td>j) Inundate by seiche, tsunami, or mudflow?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>■</td>
</tr>
</tbody>
</table>

**Standards of Significance**

The impact questions above constitute the significance standards for this environmental topic. There are no additionally applicable LRDP significance standards.

**Discussion of Checklist Questions**

**Relevant Project Elements:**

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

**Potential Project Impacts:**

9a) During construction, there is a limited potential for erosion, sedimentation, and discharge of polluted runoff from the Project site due to the infill nature of the Project site. As discussed in the MCMB EIR, construction-related grading and other activities on one acre or more would be regulated by the State Water Quality Control Board (SWQCB) and subject to the requirements of the National Pollutant Discharge Elimination System (NPDES) General Permit for Discharges of Stormwater Runoff Associated with Construction Activity (General Construction Permit). The General Construction Permit (Order 2009-0009-DWQ) was established for the purpose of reducing impacts to surface waters that may occur due to construction activities. In accordance with the NPDES requirements, UCSF would comply with the General Construction Permit that requires the preparation and implementation of a stormwater pollution prevention plan (SWPPP). The MCMB project included development of a SWPPP that included erosion control measures and measures to avoid the entrainment of pollutants in site runoff.

In addition, although dewatering during construction is not anticipated due to the shallow grading associated with construction of the Project, should groundwater be encountered and dewatering be required, groundwater pumped from the Project site would be subject to requirements of the City’s Industrial Waste Ordinance, which requires that groundwater meet specified water quality standards.
before it is discharged into the combined sewer system. For these reasons, the impact to water quality during construction is considered less than significant.

During construction, all site runoff would be routed to the City’s combined sewer system, and would be treated prior to discharge to standards contained in the City’s NPDES Permit for the Southeast Water Pollution Control Plant. As part of the development of the MCMB, additional infrastructure is being developed as part of the separated sewer system for all of Mission Bay (see item (e) below). By the time the MCMB and proposed Project become operational, all site runoff of the Project area would be routed to the City’s Mission Bay Pump Station No. 5, and would be treated prior to discharge to standards contained in the City’s NPDES Permit for this future discharge point. In addition, runoff from the site would be subject to the San Francisco Public Utilities Commission’s (SFPUC) adopted Storm Water Design Guidelines, which SFPUC has adopted to satisfy Clean Water Act requirements on storm water discharges enforced by the RWQCB, and the design of the Project would be required to conform to these guidelines. Therefore, water quality impacts during operation would also be less than significant.

9b) The Project would not use groundwater as a source of water supply, as the RWQCB RMP prohibits the use of groundwater in the Mission Bay area. Although, as noted above, Project grading is not expected to intercept groundwater, should dewatering be necessary, construction dewatering would be a short-term operation and, particularly considering the Project’s limited footprint, is not expected to result in a significant impact on groundwater levels. The Project site is currently vacant, but for many years prior to the recent site clearing was developed with warehouse structures and extensive hardscape. Moreover, it is located in a developed area where little if any groundwater recharge occurs. Consequently, although the Project would construct hardscape on a site that currently supports a pervious surface, it would not substantially reduce infiltration by comparison with long-term prevailing site conditions, nor would it affect infiltration in an area important to groundwater recharge. In addition, under planned conditions with Fourth Street open to through traffic, Fourth Street was to be entirely paved. In comparison, proposed Project conditions would result in both hardscape and pervious landscaped surfaces on the Fourth Street Public Plaza, resulting in a lesser impact on groundwater recharge than under planned conditions with Fourth Street open to vehicular traffic. Impacts related to groundwater recharge are evaluated as less than significant.

9c) The Project site is relatively flat, although there are small variations in ground elevation. The proposed Project would not materially change the topography of the site. As discussed above, for many years prior to the recent site clearing, the site was developed with warehouse structures and extensive hardscape. Under planned conditions with Fourth Street open to through traffic, Fourth Street was to be entirely paved. In comparison, proposed Project conditions would result in both hardscape and pervious landscaped surfaces on the Fourth Street Public Plaza, resulting in less runoff than under planned conditions with Fourth Street open to vehicular traffic. The proposed bridges on the third and fourth floors would have no effect on site drainage. Therefore, impacts with respect to this criterion would be less than significant.

9d) The Project would add hardscape to a currently pervious site and would therefore increase runoff by comparison with existing conditions; however, as identified above, prior to the recent site clearing operations, the site was developed with hardscape, so the Project in effect represents a return to long-term runoff conditions. As a result, the proposed Project would not increase off-site delivery of runoff in a manner that would result in on- or off-site flooding. In addition, the proposed Project would result in less runoff than under planned conditions with Fourth Street open to vehicular traffic. Further, as discussed in the previous response, by the time the MCMB and proposed Project become operational, all
site runoff of the Project area would be routed to the City’s Mission Bay Pump Station No. 5, and would be treated prior to discharge to standards contained in the City’s NPDES Permit for this future discharge point. In addition, runoff from the site would be subject to the San Francisco Public Utilities Commission’s (SFPUC) adopted Storm Water Design Guidelines, and the design of the Project would be required to conform to these guidelines. Therefore, impacts with regard to this criterion would be less than significant.

9e) As discussed in the previous response, the proposed Project would not substantially increase site runoff above prior longstanding conditions, and would not overload the City storm drain system. The Mission Bay Subsequent EIR identified Mitigation Measures K.2, K.3, and K.4, (see p. 19 of this Initial Study) requiring developers in the Mission Bay Redevelopment Area to participate in the City’s Water Pollution Prevention Program, and requiring the construction of sewer improvements such that potential flows to the City’s combined sewer system from individual projects do not contribute to an increase in the annual overflow volume as projected by the Bayside Planning Model by providing increased storage in oversized pipes, centralized storage facilities, smaller dispersed storage facilities, or detention basins, or through other means to reduce or delay stormwater discharges to the City system. The MCMB project included the adoption of these mitigation measures. The Project site is also covered by these mitigation measures. Consequently, impacts on runoff quality would be less than significant. Impacts under this criterion are considered less than significant overall.

9f) See responses 9(a) through (e) above. No other potential Project impacts to water quality were identified.

9g-i) There are no areas prone to surface flooding in San Francisco. The City and County of San Francisco is working with the Federal Emergency Management Agency (FEMA) to develop new designated flood zone maps. The proposed Project is not located within a designated flood zone on the draft FEMA maps, nor is the Project area identified as an at-risk area for flooding on the Bay Conservation and Development Commission (BCDC) maps projecting a 55-inch rise in sea level by the year 2100. Therefore, the Project would not place structures within an area at risk of flood flows. There would be no impact with regard to these criteria.

9j) Tsunamis are seismic waves that are generated in the open ocean while seiches are seismic waves that are generated in an enclosed body of water, such as a lake or bay. The Project site is not located within a Tsunami Inundation Zone. It would therefore not be subject to tsunami or seiches. In addition, the Project site and surrounding area are relatively flat, and therefore would not be subject to mudflow. There would be no impact with regard to this criterion.

Discussion of Potential Cumulative Impacts
As discussed above, during construction the proposed project would control discharge of pollutants to the combined sewer system through the implementation of a SWPPP. During operation, all storm water generated in the Mission Bay area is subject to the City’s Water Pollution Prevention Program. By the time the Project becomes operational, site runoff from the Project area would be routed to Mission Bay Pump Station No. 5 and treated prior to discharge. As a result, the cumulative impact of development within the vicinity with regard to water quality would be less than significant.

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4 City and County of San Francisco. 1997, San Francisco General Plan Community Safety Element.
5 Association of Bay Area Governments. 2009. Tsunami Inundation Map for Coastal Evacuation. Available at: http://quake.abag.ca.gov/tsunamis/
Drainage patterns in the Project vicinity would not be expected to be altered significantly as a result of cumulative development. Site drainage from development sites would be designed and constructed in accordance with the current California Building Code and applicable City requirements and as discussed above be routed to the City’s sewer system. As a result, the cumulative impact with regard to site drainage would be less than significant.

Anticipated future development in San Francisco would not place housing or structures within a 100-year flood hazard area or floodplain. However, anticipated future development in San Francisco could place housing or structures within a Tsunami run-up zone. As the project site is not located in a Tsunami run-up zone or within a Tsunami Inundation Zone, the proposed project would not contribute to this impact.

For the reasons identified above, the proposed Project impacts with respect to hydrology and water quality would be less than significant. This topic will not be discussed further in the EIR.
10. **LAND USE AND PLANNING** – Would the project:

a) Physically divide an established community? □ □ □ ■

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

c) Conflict with any applicable habitat conservation plan or natural community conservation plan? □ □ □ ■

d) Exceed an applicable LRDP EIR standard of significance by being substantially incompatible with existing land uses, or by substantially conflicting use, density, height and bulk restrictions of local zoning, although UCSF is exempt from such restrictions? ■ □ □ □

**Standards of Significance**

The impact questions above constitute the significance standards for this environmental topic.

**Discussion of Checklist Questions**

**Relevant Project Elements:**

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

**Potential Project Impacts:**

10a) The proposed Project would be located on and around the MCMB site, which is under construction. The UCSF Mission Bay campus site is a new campus within a Redevelopment Plan area that is still in its infancy. The proposed plaza initially is intended to provide clear, safe passage between Phase I of the MCMB on the east side of Fourth Street and parking facilities on the west side of Fourth Street.
II, the proposed plaza and bridges would connect Phase I of the MCMB to Phase II of the MCMB on the west side of Fourth Street. Therefore, the Project, which is not physically divisive and instead seeks to unite both sides of the Medical Center site across Fourth Street, would not divide an established community.

10b) The Project would continue to include plaza space on the MCMB site east of Fourth Street, consistent with the MCMB project as approved under the LRDP. Therefore, there would be no conflict or inconsistency with the LRDP. As the Project includes a plaza on and bridges over the Fourth Street right-of-way, the potential for the Project to conflict with applicable land use plans, policies, or regulations of agencies with jurisdiction over the Project will be discussed in the EIR.

10c) There is no habitat conservation plan or natural community conservation plan applicable to the Project site, and there would be no impact related to this criterion.

10d) UCSF development is not subject to local zoning. However, the University seeks to cooperate with local jurisdictions to reduce any physical consequences of potential land use conflicts to the extent feasible. Development on the MCMB site is guided by the San Francisco Redevelopment Plan and the MOU between the SFRA and UCSF. The potential for the Project to conflict with these documents will be discussed in the EIR.

Discussion of Potential Cumulative Impacts
Cumulative impacts with respect to consistency with applicable land use plans, policies or regulations of agencies with jurisdiction over the project will be discussed in the EIR. The Project site is within the Mission Bay Redevelopment Plan Area, a 303-acre redevelopment area on former industrial lands. As there is no established community on the Project site or within the redevelopment area, the Project, in combination with other development at Mission Bay, would not physically divide an established community.
11. **MINERAL RESOURCES** – Would the project:

<table>
<thead>
<tr>
<th>Issues</th>
<th>Potentially Significant Impact</th>
<th>Less Than Significant with Mitigation Incorporated</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the state?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>■</td>
</tr>
<tr>
<td>b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>■</td>
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</tbody>
</table>

**Standards of Significance**

The impact questions above constitute the significance standards for this environmental topic. There are no additionally applicable LRDP significance standards.

**Discussion of Checklist Questions**

**Relevant Project Elements:**

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

**Potential Project Impacts:**

11a – b) According to the San Francisco General Plan, minerals are not found to any appreciable extent in the City. As a result, no known or potential mineral resources of state, regional, or local importance are located on the Project site, and the site is not in an area used for mineral extraction (for example, sand and gravel). Moreover, the established urban character of the surrounding area would preclude new extractive uses. Therefore, development of the Project would not impede extraction or result in the loss of availability of a known mineral resource. There would be no impacts with regard to these criteria, and this topic will not be discussed further in the EIR.

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6 City and County of San Francisco. 2004. *San Francisco General Plan Environmental Protection Element.* (San Francisco 2004)
Discussion of Potential Cumulative Impacts
The City of San Francisco is urban in nature, and, as discussed above, minerals are not found to any appreciable extent in the City. As a result, anticipated future development in San Francisco, including the proposed project, would not result in the loss of availability of a known resource. The impact of cumulative development would be less than significant.
12. **NOISE** – Would the project result in:

<table>
<thead>
<tr>
<th>Issues</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Exposure of persons to or generation of noise levels in excess of standards established in any applicable plan or noise ordinance, or applicable standards of other agencies?</td>
<td>□</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels?</td>
<td>□</td>
<td>[ ]</td>
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<td>[ ]</td>
</tr>
<tr>
<td>c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?</td>
<td>□</td>
<td>[ ]</td>
<td>[ ]</td>
<td>[ ]</td>
</tr>
<tr>
<td>d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project (including construction)?</td>
<td>□</td>
<td>[ ]</td>
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<td>[ ]</td>
</tr>
<tr>
<td>e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td>□</td>
<td>[ ]</td>
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</tr>
<tr>
<td>f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?</td>
<td>□</td>
<td>[ ]</td>
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<td>[ ]</td>
</tr>
<tr>
<td>g) Exceed an applicable LRDP EIR standard of significance by contributing to an increase in average daily noise levels (Ldn) of 3 dB(A) or more at property lines, if ambient noise levels in areas adjacent to proposed development already exceed local noise levels set forth in local general plans or ordinances for such areas based on their use?</td>
<td>□</td>
<td>[ ]</td>
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</tbody>
</table>
Standards of Significance

The impact questions above constitute the significance standards. Regarding question g), a project could have a significant noise impact if it contributes to an increase in already exceeded noise ordinance levels.

Discussion of Checklist Questions

Relevant Project Elements:

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

Potential Project Impacts:

12a-d, g) The Medical Center at Mission Bay EIR concluded that demolition and construction activities associated with the MCMB project would temporarily elevate noise to significant levels in and around the Project site, particularly near sensitive receptors. The closest sensitive receptors are located in the Mission Bay research campus site, north of the Project site, which includes a child care center on Block 18 and the 430 residential units on Block 20. There is also the potential for a child care center on Block 23 and possibly a public school on Block 14. Additional residential uses are located south of the medical center site, along Mariposa and Pennsylvania Streets.

To address construction noise, the MCMB EIR identified Mitigation Measure MCMB.5-1, which would require contractors to minimize construction noise impacts by using proper equipment and limiting construction hours. The proposed Project would involve only the construction of surficial site elements. Grading activity would be undertaken on a much smaller scale than with the MCMB project. Noisy activities associated with the development of building foundations or steel erection would not occur. Nonetheless, Mitigation Measure MCMB.5-1 has been included in the Project as proposed to ensure that Project noise impacts are less than significant (see p. 20 of this Initial Study).

There are no activities associated with the proposed Project that have the potential to generate groundborne noise or vibration. Impacts with respect to this criterion would be less than significant.

Given the nature of the proposed Project -- a plaza and enclosed pedestrian bridges -- the proposed Project would not generate excessive amounts of noise during the course of its operation. Ambient noise levels in the vicinity of the Project site are dominated by vehicular traffic, including trucks, cars, buses, and emergency vehicles, and periodic construction-related noise from nearby development. The primary noise source from the Project would be from vehicular traffic at the site. As discussed previously, the Project would not be the generator of such traffic, as vehicle trips would be generated by the approved MCMB. However, the closure of Fourth Street between 16th and Mariposa Street would result in additional traffic on surrounding streets (16th, Mariposa, Third, and future Owens Streets), as vehicles that would otherwise have travelled on this segment of Fourth Street would instead travel on
surrounding streets. Generally, traffic must double in volume to produce a noticeable increase in average noise levels. Based on the traffic analysis (which will be discussed in the upcoming EIR), a doubling of traffic would not occur on any surrounding streets as a result of the Project. Therefore, impacts with respect to this criterion would be less than significant.

12e) The proposed Project is not located within the immediate vicinity of an airport. The nearest airport is San Francisco International Airport (SFO), located approximately 10 miles south of the Project site. Other than aircraft overflights, which are routed to avoid unnecessary disturbance to the City, the Project site would not be exposed to noise from public airports. There would be no impact with respect to this criterion.

12f) The proposed Project is not located in the vicinity of a private airstrip. A medical helipad was approved as part of the MCMB project, to be located at an elevation of about 140 feet on the roof of the Outpatient Building on the MCMB site, which is now under construction.

The proposed Project would not result in excessive noise for people using the Fourth Street Public Plaza. The MCMB EIR concluded that operation of the helipad would increase noise levels at nearby sensitive receptors; however, helicopter operations would not exceed the CNEL (Community Noise Equivalent Level) standard, therefore the proposed Project would not expose persons to excessive noise above the CNEL standard. In addition, only an average of about three helicopter flights per day is anticipated.

Discussion of Potential Cumulative Impacts
Construction activities associated with the proposed Project combined with the construction of other current projects such as the MCMB and probable future projects on the campus site could result in cumulative impacts with regards to noise. However, with the inclusion of the construction noise mitigation measure identified above for both the MCMB and the proposed Project, and with future campus projects also being subject to environmental review and construction noise mitigation, cumulative noise impacts would be less than significant. Noise from Project operations would be negligible and would not substantially contribute to cumulative noise effects.

For the above reasons, Project impacts with regard to noise would be less than significant. This topic will not be discussed further in the EIR.
Issues

<table>
<thead>
<tr>
<th>13. POPULATION AND HOUSING – Would the Project:</th>
<th>Less than Significant Impact</th>
<th>Less than Significant Impact with Project Mitigation</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>d) Exceed an applicable LRDP or Program EIR standard of significance by creating a demand for housing outside the market area where the facilities or site are located?</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
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</table>

Standards of Significance

The impact questions above constitute the significance standards for this environmental topic. Population and housing changes, in and of themselves, are not normally considered significant impacts (substantial, adverse impacts on the physical environment). However, CEQA does allow inclusion of secondary effects as indicators and influences on other impacts, such as traffic, public services, and air quality.

Discussion of Checklist Questions

Relevant Project Elements:

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

Potential Project Impacts:

13a) The proposed Project would serve the employee, patient and visitor population of the already approved MCMB, and would not induce substantial population growth in the area. No impact would occur with regard to this criterion.
13b-c) The Project site is currently vacant. No displacement of housing or displacement of substantial numbers of people would result, and there would be no impact with regard to these criteria.

13d) The proposed Project would not create a demand for housing outside the market area of the Project site. No impact would occur with regard to this criterion.

Discussion of Potential Cumulative Impacts
Anticipated future development in the area in and around Mission Bay would result in an increase in population. As discussed above, the Project would serve the MCMB and would not itself generate an employee, patient or visitor population. Therefore, the proposed Project would not contribute to this impact.

For the reasons stated above, the Project impacts on population and housing would be less than significant. This topic will not be discussed further in the EIR.
14 PUBLIC SERVICES –

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

<table>
<thead>
<tr>
<th>Issues</th>
<th>Potentially Significant Impact</th>
<th>Less than Significant with Project Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
</tr>
</thead>
<tbody>
<tr>
<td>a) Fire protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>■</td>
</tr>
<tr>
<td>b) Police protection?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>■</td>
</tr>
<tr>
<td>c) Schools?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>■</td>
</tr>
<tr>
<td>d) Parks?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>■</td>
</tr>
<tr>
<td>e) Other public facilities?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
<td>■</td>
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</tbody>
</table>

Standards of Significance

The impact questions above constitute the significance standards for this environmental topic. There are no additionally applicable LRDP significance standards.

Discussion of Checklist Questions

Relevant Project Elements:

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

Potential Project Impacts:

14a) - e) The LRDP Amendment #2- Hospital Replacement EIR assessed the proposed Mission Bay South (now MCMB) site for potential impacts under these checklist topics and concluded that the Project’s demand for police services, fire services, emergency medical service, and local school enrollments would
be less than significant. As noted in CEQA topic 15) Recreation, the impacts of the proposed Project on parks would also be less than significant. The MCMB EIR concluded that the implementation of the MCMB would not result in new impacts not previously considered and potential impacts on public services would be less than significant. Because the proposed Project would serve the MCMB employee, patient and visitor population and would not itself add population in need of public services, there would be no project impacts with respect to fire and police protection and public schools. As the proposed Project would provide an open space available to the public, it could provide some modest benefit with respect to parks.

Discussion of Potential Cumulative Impacts
As discussed above, the Project would serve the MCMB and would not itself generate population that could require public services. Therefore, the proposed Project would not contribute to this impact.

For the reasons stated, Project impacts with regard to public services would be less than significant, and this topic will not be addressed further in the EIR.
15. RECREATION –

a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?

- - - ■

b) Does the project include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment?

- - - ■

Standards of Significance

The impact questions above constitute the significance standards for this environmental topic. There are no additionally applicable LRDP significance standards.

Discussion of Checklist Questions

Relevant Project Elements:

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

Potential Project Impacts:

15a)-b) As indicated in CEQA topic 14, Public Services, the proposed Project would serve the MCMB employee, patient and visitor population and would not itself add population in need of recreation facilities. There would be no Project impacts with respect to this topic. The proposed Project includes the development of open space available to the public, and as such it could provide some modest benefit with respect to parks. This topic will not be discussed further in the EIR.

Discussion of Potential Cumulative Impacts

As discussed above, the Project would serve the MCMB and would not itself generate population that could require recreational services. Therefore, the proposed Project would not contribute to this impact.
16. TRANSPORTATION/TRAFFIC – Would the project:

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<tr>
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<th>Less than Significant with Project Mitigation</th>
<th>Less Than Significant Impact</th>
<th>No Impact</th>
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<tr>
<td>a) Conflict with an applicable plan, ordinance, or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?</td>
<td>□</td>
<td>■</td>
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<tr>
<td>b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?</td>
<td>■</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>e) Result in inadequate emergency access?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
</tr>
<tr>
<td>g) Exceed the applicable LRDP EIR standard of significance by causing substantial conflict among autos, bicyclists, pedestrians, and transit vehicles?</td>
<td>□</td>
<td>□</td>
<td>□</td>
<td>□</td>
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<tr>
<td>h) Exceed the applicable LRDP EIR standard of significance by generating transit demand that transit systems or projected transit service would not be able to accommodate?</td>
<td>☐</td>
<td>☐</td>
<td>☐</td>
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### Standards of Significance

The impact questions above constitute the significance standards for this environmental topic.

### Discussion of Checklist Questions:

#### Relevant Project Elements:

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

#### Potential Project Impacts:

16a-b) Traffic impacts of the proposed Project as a result of the closure of the Fourth Street to vehicular through-traffic will be analyzed in the EIR.

16c) A medical helipad atop the Outpatient Building was approved as part of the MCMB project. The MCMB EIR evaluated hazards associated with aeromedical helicopter flight operations and concluded, based on the statistics, that helicopter accidents that cause serious injuries or death to third parties (persons not aboard the helicopter) are extremely rare. The MCMB EIR therefore concluded that the risk to human safety is less than significant. For this reason, the proposed Project would not expose persons to a substantial safety risk.

16d, f, g) The purpose of the proposed Project is to provide safe passage between the MCMB site east and west of Fourth Street. The proposed plaza, passenger drop off areas, pedestrian pathways, and bicycle paths have been designed to reduce conflicts among these modes, with much review and input from various stakeholders including the SFMTA, SFRA, and Planning Department. Discussions amongst these agencies and other interested stakeholders are ongoing as the plaza design is refined. Discussions include shared street concepts,\(^7\) and details such as surface materials, signage, and other design features that provide cues for pedestrians and bicyclists to ensure conflicts are minimized. The proposed Project traffic improvement measures would be designed to current roadway engineering standards, taking into account

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\(^7\) A “shared street” is one that integrates different travel modes within the same space.
account pedestrian crossing distances and truck turning radii. Therefore, there would be no increase in hazards, nor would there be a conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities.

16e) As discussed above under CEQA topic 8, Hazards and Hazardous Materials, the Project site is located in an urban area. Construction and operation of the proposed Project would not substantially interfere with the operation of traffic in the vicinity, as the streets surrounding the MCMB site would remain open to vehicular traffic and would maintain an acceptable level-of-service with the inclusion of improvement measures as part of the Project (to be discussed in the upcoming EIR). In addition, the MCMB site includes two private roadways, North Connector Road and South Connector Road, that would provide means of vehicular travel through the MCMB site, connecting the Fourth Street cul-de-sacs to Owens Street. The closure of Fourth Street to vehicular through-traffic would not physically interfere with an adopted emergency response plan or emergency evacuation plan. Should an emergency evacuation from the Mission Bay area become necessary in the event of a major disaster, numerous roadways surrounding the MCMB site would be available, such as Third Street, 16th Street, Owens Street, Mariposa Street, and I-280.

UCSF has an emergency response plan which outlines the immediate actions and operations required for a major disaster or emergency. Any emergency plans specific to the MCMB site would be developed with consideration of the proposed Project circulation. Regarding access to MCMB facilities, vehicular access to the emergency room and urgent care department of the MCMB Children’s Hospital would still be available via Fourth Street at Mariposa Street. In addition, the proposed plaza is being designed to accommodate emergency vehicle access. Therefore, impacts with regard to this criterion would be less than significant.

16h) The proposed Project would serve the employee, patient and visitor population of the MCMB and would not itself generate trips or add to the need for public transit service. No public transit route is planned for Fourth Street between 16th and Mariposa Streets. A UCSF shuttle stop would likely be established on this segment of Fourth Street, connecting patients, visitors and staff to other UCSF campus sites, which would help ease burdens on public transit. Therefore, impacts on public transit service would be less than significant.

For the reasons discussed, Project impacts with regard to transportation and traffic topics 16c) through h) would be less than significant and will not be discussed further in the EIR. Topics 16a) and b) will be discussed in the EIR.

Discussion of Potential Cumulative Impacts
The proposed project combined with other current projects and probable future projects and projected regional growth could result in significant cumulative impacts with regards to transportation/traffic. This issue will be addressed in the EIR.
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<td>17. <strong>UTILITIES AND SERVICE SYSTEMS</strong> – Would the project:</td>
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<tr>
<td>a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?</td>
<td>□</td>
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<tr>
<td>b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
<td>□</td>
<td>□</td>
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<tr>
<td>c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?</td>
<td>□</td>
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<tr>
<td>d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded entitlements needed?</td>
<td>□</td>
<td>□</td>
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<td>□</td>
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<tr>
<td>e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project’s projected demand in addition to the provider’s existing commitments?</td>
<td>□</td>
<td>□</td>
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<tr>
<td>f) Be served by a landfill with sufficient permitted capacity to accommodate the project’s solid waste disposal needs?</td>
<td>□</td>
<td>□</td>
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<tr>
<td>g) Comply with applicable federal, state, and local statutes and regulations related to solid waste?</td>
<td>□</td>
<td>□</td>
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<tr>
<td>h) Result in the wasteful, inefficient and unnecessary consumption of energy (see CEQA Statutes Section 21100(b)(3))?</td>
<td>□</td>
<td>□</td>
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<td>□</td>
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<tr>
<td>i) Exceed the applicable LRDP EIR standard of significance by requiring or resulting in the construction of new electrical or natural gas facilities, which would cause significant environmental effects?</td>
<td>□</td>
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</tr>
<tr>
<td>Issues</td>
<td>Less than Significant Impact</td>
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<tr>
<td>j) Exceed the applicable LRDP EIR standard of significance by requiring or resulting in the construction of new chilled water or steam generation facilities, the construction of which would cause significant environmental effects?</td>
<td>□</td>
<td>□</td>
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</tr>
</tbody>
</table>

Standards of Significance

The impact questions above constitute the significance standards for this environmental topic.

Discussion of Checklist Questions

Relevant Project Elements:

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.

Potential Project Impacts:

17a) –j) The MCMB EIR concluded that for the Fourth Street Closed to Through Traffic alternative, impacts with respect to utilities would be less than significant. Demand for utility service would be virtually the same as with the MCMB project, and the alternative would not result in any substantial change from the MCMB and would have less than significant impacts. Thus, the proposed Project would have less than significant impacts with regard to this topic. This topic will not be discussed further in the EIR.

Discussion of Potential Cumulative Impacts

Anticipated future development in San Francisco would increase the extent of development in the City, thus resulting in increased demand for water and increased generation of wastewater and solid waste. This increase in demand would also result in the increased need for new or expanded water, wastewater, and stormwater treatment and conveyance facilities. The increased demand for water could exceed available water supplies while the increase in wastewater and stormwater generation could exceed existing treatment capacities. In addition, the increase in solid waste generation could exceed the capacity of local landfills. Therefore expansion of existing utilities could be required. As discussed above, while the proposed project would result in increased demand for water and generate additional wastewater and solid waste, this increase would not be substantial. Therefore, the contribution of the proposed project to this impact would not be cumulatively considerable.
18. **MANDATORY FINDINGS OF SIGNIFICANCE** – The lead agency shall find that a project may have a significant effect on the environment and thereby require an EIR to be prepared for the project where there is substantial evidence, in light of the whole record, that any of the following conditions may occur. Where prior to commencement of the environmental analysis a project proponent agrees to mitigation measures or project modifications that would avoid any significant effect on the environment or would mitigate the significant environmental effect, a lead agency need not prepare an EIR solely because without mitigation the environmental effects would have been significant (per Section 15065 of the *State CEQA Guidelines*):

a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? □ □ □ □

b) Does the project have impacts that are individually limited, but cumulatively considerable? (“Cumulatively considerable” means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)? □ □ □ □

c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly? □ □ □ □

**Relevant Project Elements:**

The proposed Project involves the development of a plaza and passenger drop-off areas that would be located on the MCMB site east of Fourth Street and within the Fourth Street right-of-way, which would result in the closure of Fourth Street between 16th and Mariposa Streets to vehicular through-traffic. Transportation system improvement measures on adjacent streets (Third, 16th and future Owens Street) are proposed as part of the Project. In Phase II of the MCMB project, two pedestrian bridges across Fourth Street would be constructed on the third and fourth floors that would connect the Phase I hospitals and Outpatient building on the east side of Fourth Street to Phase II development on the west side of Fourth Street.
Potential Project Impacts:

18a) The proposed Project would not affect fish or wildlife habitat, populations, communities, or substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory.

18b) The proposed Project would not have impacts that are cumulatively considerable when viewed in connection with the effects of past, present, and probable future projects.

18c) The proposed Project would not have environmental effects that would cause substantial adverse effects on human beings, either directly or indirectly.

VI. SUPPORTING INFORMATION SOURCES


City and County of San Francisco. 1997. *San Francisco General Plan Community Safety Element*.

City and County of San Francisco. 2004. *San Francisco General Plan Environmental Protection Element*. (San Francisco 2004)

City and County of San Francisco. 1998. Final Mission Bay Subsequent Environmental Impact Report, State Clearinghouse No. 97092068.


VII. INITIAL STUDY PREPARERS

UCSF Campus Planning
UCSF 4th Street Plaza Proposal

I oppose UCSF’s proposal to close 4th Street between 16th Street and Mariposa Street and instead create a Plaza with access to the Cancer and Women’s Hospital from 16th Street and to the Benioff Children’s Hospital from Mariposa Street.

1. 4th Street is not Parnassus Avenue. It will not have two way Muni Bus (#6) traffic on the street. Muni service will be on 3rd Street and 16th Street. Pedestrians will not be crossing between the hospitals and outpatient clinics or medical offices, only between the hospitals and parking. Delivery trucks that currently either double park or park in the middle of Parnassus will have off-street access to the hospitals from 3rd Street. There is little or no off-street loading capacity on Parnassus. Shuttle service to the hospitals from other UCSF campuses should be minimized and must be studied in the EIR, including off-street staging.

2. Mission Bay will have very few through streets, either east-west or north-south, that connect with other parts of the City. Eliminating one of only three north-south through streets is a mistake. It would also require changes to the Mission Bay street grid and additional traffic mitigations, including at least one additional traffic lane on Owens Street, an additional turning lane on southbound 3rd Street and possibly additional traffic lanes on Mariposa Street.¹

3. When UCSF builds Phase 2 of the hospital on the west side of 4th Street, there will probably be a 2 level pedestrian bridge over the street, reducing the need for pedestrian crossing of the street.

4. If this segment of 4th Street is not initially constructed as a road, and it is later determined that it needs to be open to vehicle traffic, the entire “plaza” would have to be reconstructed as a street. This would be disruptive and expensive, and financial responsibility for the reconstruction has not been settled. Any later required reconfiguration should be at UCSF expense. UCSF should pay rent for privatizing that block of 4th Street.

4th Street between 16th and Mariposa could be constructed as a “shared street”, as described in the Planning Department’s Better Streets Plan². This might be a reasonable alternative to a traditional street, as it would discourage speeding on the street while still allowing vehicle traffic, and make the street less attractive as a through-road to Minnesota Street and the Dogpatch neighborhood to the south, which is of concern to Central Waterfront neighbors. as described in /cww 2/23/12

¹ In the Comments and Responses section of the UCSF Mission Bay Medical Center RFEIR (http://campusplanning.ucsf.edu/pdf/RFEIR/UCSFMissionBayMedCtrRFEIRChapter8.pdf, page 8-41), MTA states: “MTA is not prepared to support the closure of 4th Street … at this time. As the FEIR indicates, the closure of 4th Street would create several significant traffic impacts and require several mitigation measures to reduce these impacts to a less than significant level.” In its’ response to that comment, UCSF states that “UCSF is not proposing to close 4th Street as part of the proposed project. …this alternative may be pursued as part of planning for interim 4th Street conditions to serve the LRDP Phase Medical Center before the need for a permanent street is required.” (Italics added). If the proposal is truly for an interim period, the underlying street should be built as a street, whether or not SFMTA allows for either a shared street approach or temporary closure subject to further traffic analysis.

http://www.sf-planning.org/ftp/BetterStreets/docs/FINAL_5_Street_Designs.pdf, pages 55-58
APPENDIX B

TRANSPORTATION STUDY FOR THE MCMB EIR
Final Report

UCSF Medical Center at Mission Bay Transportation Study

Prepared for
Adavant Consulting

September 5, 2008
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</tr>
<tr>
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</tr>
<tr>
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</tr>
</tbody>
</table>
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Figure 22
UCSF Medical Center Alternative 2 (Phase 2) – Year 2025 Geometric Lane Configuration
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1. INTRODUCTION AND BACKGROUND

The University of California San Francisco (UCSF) is currently undertaking a major phase development for a Medical Center at Blocks X-3 and 36 through 39 in the Mission Bay South area of San Francisco. (Figure 1) As part of this work, UCSF is evaluating alternative alignments of Fourth Street and configurations of Fourth, Owens, Third, 16th and Mariposa Streets surrounding the Project Site.

The proposed UCSF Medical Center would consist of a hospital, an ambulatory care center (ACC), an energy center and parking and would be located in Blocks X-3 and 36 to 39. The site is bounded by 16th Street to the north, Mariposa Street to the south, Owens Street to the east and Third Street to the west. Fourth Street runs parallel to Third Street and Owens Street between the Blocks X-3, 36, 37 and 38 to 39. The location of Blocks X-3 and 36 to 39, and the surrounding street network are as shown in Figure 2.

The Medical Center would be built in two major phases. The first phase would consist of a 289-bed hospital, approximately 278,500 gross sq.ft. of ACC space and about 35,000 sq.ft. energy center, all located on Blocks X3, 36 and 37. The second phase would expand these uses to a total of 550-beds and potentially 436,500 gross sq.ft. of ACC space. The Phase 2 development would be located on Blocks 38 and 39. Table 1 below summarizes the expected staff and visitor population for each development phase on a typical weekday.

<table>
<thead>
<tr>
<th>Hospital/Ambulatory Care Center</th>
<th>Phase 1</th>
<th>Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>289-Bed +</td>
<td>550-Bed +</td>
</tr>
<tr>
<td></td>
<td>ACC 278,500 gsf</td>
<td>ACC 436,500 gsf</td>
</tr>
<tr>
<td>Physician/Faculty</td>
<td>304</td>
<td>517</td>
</tr>
<tr>
<td>Hospital/ACC Staff</td>
<td>696</td>
<td>1,379</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>172</td>
<td>328</td>
</tr>
<tr>
<td>Subtotal</td>
<td>1,172</td>
<td>2,224</td>
</tr>
<tr>
<td>Hospital Patients</td>
<td>246</td>
<td>468</td>
</tr>
<tr>
<td>Visitors to Patients</td>
<td>615</td>
<td>1,170</td>
</tr>
<tr>
<td>Outpatients</td>
<td>1,810</td>
<td>2,838</td>
</tr>
<tr>
<td>Visitors to Outpatients</td>
<td>1,810</td>
<td>2,838</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>45</td>
<td>94</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>21</td>
<td>37</td>
</tr>
<tr>
<td>Subtotal</td>
<td>4,547</td>
<td>7,445</td>
</tr>
<tr>
<td>TOTAL Hospital/ACC</td>
<td>5,719</td>
<td>9,669</td>
</tr>
</tbody>
</table>

UCSF Campus Planning (June 2008)
The typical configuration of Fourth Street between 16<sup>th</sup> Street and Mariposa Street as defined in the current *Mission Bay South Infrastructure Plan* is a 50-foot travel way with one 17-foot traffic lane each way to facilitate vehicle and bicycle travel, plus an 8-feet wide on-street parking lane and a 12-foot sidewalk on both sides. The proposed Medical Center Project will maintain the alignment and right-of-way width of Fourth Street between 16<sup>th</sup> and Mariposa Streets, as presented in the *Mission Bay South Infrastructure Plan*, and will continue to operate as a public street.

In addition, UCSF is evaluating the possibility of changing the planned configuration of Fourth Street as part of the proposed development and is looking into two potential alternatives for the operation of Fourth Street through the Medical Center site. Both alternatives would convert the planned public street right-of-way to private (U.C. Regents') property.

- **Alternative 1** – Fourth Street provides access only to the Project Site from 16<sup>th</sup> Street on the north and from Mariposa Street on the South (drop offs and pick ups, deliveries, parking) with no though traffic allowed on Fourth Street between 16<sup>th</sup> Street and Mariposa Street.

- **Alternative 2** – Traffic is allowed to travel on Fourth Street between 16<sup>th</sup> Street and Mariposa Street, but through vehicles are discouraged with traffic calming measures and pedestrian crosswalks.
2. EXISTING CONDITIONS

This section describes current operating conditions of the study intersections considered for the proposed UCSF Medical Center project. The existing street patterns in the vicinity of the Mission Bay West subarea are shown in Figure 3.

2.1 Intersection Analysis Methodology

The operating characteristics of 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 range from LOS A, which indicates free flow conditions with short delays, to LOS F, which indicates congested or overloaded conditions with extremely long delays. Appendix A presents LOS descriptions for signalized and unsignalized intersections.

Both signalized and unsignalized intersections have been evaluated using the 2000 Highway Capacity Manual (HCM) 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 are presented for the intersection. For unsignalized intersections, the average delay and LOS operating conditions are calculated by approach (e.g., northbound) and movement (e.g., northbound left-turn), for those movements that are subject to delay. As such, in the LOS summary tables, the operating conditions for unsignalized intersections are presented for the worst approach.

2.2 Intersection Operating Conditions

Existing intersection operating conditions were evaluated for the weekday p.m. peak traffic hour (the highest 60-minute period between 4:00 p.m. and 6:00 p.m.) at the following eight key intersections, located along Mariposa Street and 16th Street in the vicinity of development Blocks X-3 and 36 to 39 in the Mission Bay area. Figures 4 and 5 present the existing traffic turning-movement volumes and the intersection geometric configurations at the study intersections, respectively.

- Mariposa St. / Third St.
- Mariposa St. / Minnesota St.
- Mariposa St. / I-280 NB off-ramp
- Mariposa St. / I-280 SB on-ramp
- 16th St. / Third St.
- 16th St. / Fourth St.
- 16th St. / Owens St.
- 16th St. / Seventh St.-Mississippi St.

---

1 As part of the HCM methodology, adjustments are typically made to the capacity of each intersection to account for various factors that reduce the ability of the streets to accommodate vehicle (such as the downtown nature of the area, number of pedestrians, vehicle types, lane widths, grades, on-street parking and queues). These adjustments are performed to ensure that the LOS analysis results reflect the operating conditions that are observed in the field.
EXISTING CONDITIONS – PM PEAK HOUR VOLUMES

LEGEND

- Unsignalized Intersection
- Signalized Intersection
- PM Peak Hour Volumes
Figure 5
EXISTING CONDITIONS – LANE CONFIGURATION

LEGEND
- Unsignalized Intersection
- Signalized Intersection
Four of the eight study intersections are currently controlled by traffic signals and the other four are unsignalized intersections. The traffic operations analysis has been performed using TRAFFIX software based on the Highway Capacity Manual 2000 (HCM 2000) methodology. Table 2 presents the results of the intersection LOS analysis for the existing weekday p.m. peak-hour conditions. Appendix B presents the detail LOS calculations for existing conditions.

Under the existing conditions, the intersection Mariposa Street/I-280 SB on-ramp operates as a two-way stop controlled intersection with a stop signal for eastbound approach and no control for westbound approach. TRAFFIX software package is not equipped to analyze stop-controlled intersections that have stop sign for only one of the two approaches of the major street. Therefore, a different procedure is followed so as to analyze this intersection under existing conditions for the purposes of this study; it is assumed that this intersection is a three-legged intersection with eastbound, southbound, and northbound approaches; instead of eastbound, westbound, and northbound approaches. The westbound approach is assumed to be operating as the southbound approach and the southbound through traffic, previously westbound left turn traffic serves as the opposing traffic to the eastbound vehicles. Thus, in the modified methodology eastbound approach is stop-controlled, while southbound approach has no control.

### Table 2
Intersection Delay and Level of Service
Existing PM Peak Hour
Existing Roadway Conditions

<table>
<thead>
<tr>
<th>Intersection Name</th>
<th>Traffic Control Device</th>
<th>Intersection Delay (sec./veh.)</th>
<th>Intersection Level of Service (LOS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mariposa St / Third St</td>
<td>Traffic Signal</td>
<td>20.0</td>
<td>C</td>
</tr>
<tr>
<td>Mariposa St / Minnesota St.</td>
<td>TWSC</td>
<td>7.6 (NB)</td>
<td>B</td>
</tr>
<tr>
<td>Mariposa St / I-280 NB off-ramp</td>
<td>Traffic Signal</td>
<td>49.9</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / I-280 SB on-ramp</td>
<td>OWSC</td>
<td>40.4 (EB)</td>
<td>E</td>
</tr>
<tr>
<td>16th St / Third St</td>
<td>Traffic Signal</td>
<td>20.0</td>
<td>C</td>
</tr>
<tr>
<td>16th St / Fourth St</td>
<td>TWSC</td>
<td>12.3 (SB)</td>
<td>B</td>
</tr>
<tr>
<td>16th St / Owens St</td>
<td>Traffic Signal</td>
<td>14.0</td>
<td>B</td>
</tr>
<tr>
<td>16th St. / Seventh St.-Mississippi St.</td>
<td>Traffic Signal</td>
<td>27.4</td>
<td>C</td>
</tr>
</tbody>
</table>

Notes:
- TWSC – Two-Way Stop-Controlled
- OWSC – One-Way Stop-Controlled
- For unsignalized intersections, delay is presented for the worst stop-controlled approach.
- **Bold** indicates intersection operates at unsatisfactory LOS and Delay


As Table 2 indicates, seven of the eight study intersections operate at LOS D or better during the p.m. peak hour conditions. The stop-sign-controlled approach at the unsignalized intersection of Mariposa Street / I-280 SB on-ramp operates at LOS E. This intersection is planned to be signalized in the future in accordance with the Mission Bay South Infrastructure Plan, agreed upon by Catellus Development Corporation and the City and County of San Francisco.
3. TRAVEL DEMAND

3.1 Trip Generation

The transportation analysis conducted for the UCSF Medical Center at Mission Bay is based on factors developed from extensive surveys conducted at existing UCSF facilities over the past ten years, data gathered by the San Francisco Planning Department, and information obtained from the UCSF Amendment #2 Hospital Replacement FEIR (2005) and the Mission Bay Plan Final SEIR (1998) documents. The following paragraphs describe the specific trip generation rates assumed for the medical uses at the site and their p.m. peak hour proportions, as well as their trip distribution characteristics, travel mode splits and typical vehicle occupancy rates.

The time period chosen for analysis of potential transportation impacts was the peak hour of the 4:00 p.m. to 6:00 p.m. afternoon commute period. This time of day traditionally comprises a larger more concentrated portion of the total daily trips in San Francisco, and consequently was chosen to reflect the worst case scenario within a typical weekday.

The average staff and visitation population at the Medical Center for Phase 1 and Phase 2 during a typical weekday are shown in Table 3 below. The daily trip rates and p.m. peak hour trip rates for each population group are shown in Table 4. The trip rates for the p.m. peak hour are given as percentages of the total weekday daily trips. As noted, the trip rates are based on multiple transportation surveys conducted at the different UCSF Medical Center facilities over the past ten years. More detailed results of the trip generation analysis are shown in Appendix C.

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Phase 1</th>
<th>Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician/Faculty</td>
<td>304</td>
<td>517</td>
</tr>
<tr>
<td>Hospital Staff</td>
<td>696</td>
<td>1,379</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>172</td>
<td>328</td>
</tr>
<tr>
<td><strong>Subtotal Faculty/Staff/Students</strong></td>
<td>1,172</td>
<td>2,224</td>
</tr>
<tr>
<td>Hospital Patients</td>
<td>246</td>
<td>468</td>
</tr>
<tr>
<td>Visitors to Patients</td>
<td>615</td>
<td>1,170</td>
</tr>
<tr>
<td>Outpatients</td>
<td>1,810</td>
<td>2,838</td>
</tr>
<tr>
<td>Visitors to Outpatients</td>
<td>1,810</td>
<td>2,838</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>45</td>
<td>94</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>21</td>
<td>37</td>
</tr>
<tr>
<td><strong>Subtotal Patients/Visitors</strong></td>
<td>4,547</td>
<td>7,445</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>5,719</td>
<td>9,669</td>
</tr>
</tbody>
</table>

Source: UCSF Campus Planning (June 2008)
### Table 4
UCSF Medical Center at Mission Bay
Person Trip Generation Rates

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Weekday Daily Person Trip Rate (1)</th>
<th>Weekday p.m. Peak Hour Trip Rate (Percent of Total Daily Trips)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician/Faculty</td>
<td>2.23</td>
<td>12%</td>
</tr>
<tr>
<td>Hospital Staff</td>
<td>2.23</td>
<td>23%</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>2.23</td>
<td>13%</td>
</tr>
<tr>
<td>Hospital Patients</td>
<td>2.00</td>
<td>9%</td>
</tr>
<tr>
<td>Visitors to Patients</td>
<td>2.00</td>
<td>7%</td>
</tr>
<tr>
<td>Outpatients</td>
<td>2.00</td>
<td>9%</td>
</tr>
<tr>
<td>Visitors to Outpatients</td>
<td>2.00</td>
<td>9%</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>2.00</td>
<td>7%</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>2.00</td>
<td>10%</td>
</tr>
</tbody>
</table>

Source: UCSF Amendment #2 Hospital Replacement FEIR (2005)

Table 5 and Table 6 present weekday daily and p.m. peak hour person-trip generation for the Phase 1 and Phase 2 of the Medical Center.

### Table 5
UCSF Medical Center at Mission Bay
Weekday Daily Person Trips

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Phase 1</th>
<th>Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician/Faculty</td>
<td>678</td>
<td>1,153</td>
</tr>
<tr>
<td>Hospital Staff</td>
<td>1,552</td>
<td>3,075</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>384</td>
<td>731</td>
</tr>
<tr>
<td><strong>Subtotal Faculty/Staff/Students</strong></td>
<td>2,614</td>
<td>4,960</td>
</tr>
<tr>
<td>Hospital Patients</td>
<td>492</td>
<td>936</td>
</tr>
<tr>
<td>Visitors to Patients</td>
<td>1,230</td>
<td>2,340</td>
</tr>
<tr>
<td>Outpatients</td>
<td>3,620</td>
<td>5,676</td>
</tr>
<tr>
<td>Visitors to Outpatients</td>
<td>3,620</td>
<td>5,676</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>90</td>
<td>188</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>42</td>
<td>74</td>
</tr>
<tr>
<td><strong>Subtotal Patients/Visitors</strong></td>
<td>9,094</td>
<td>14,890</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>11,708</td>
<td>19,850</td>
</tr>
</tbody>
</table>

Source: Adavant Consulting (2008)
Table 6
UCSF Medical Center at Mission Bay
Weekday PM Peak Hour Person Trips

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Phase 1</th>
<th>Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician/Faculty</td>
<td>81</td>
<td>138</td>
</tr>
<tr>
<td>Hospital Staff</td>
<td>357</td>
<td>707</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>50</td>
<td>95</td>
</tr>
<tr>
<td><strong>Subtotal Faculty/Staff/Students</strong></td>
<td>488</td>
<td>940</td>
</tr>
<tr>
<td>Hospital Patients</td>
<td>44</td>
<td>84</td>
</tr>
<tr>
<td>Visitors to Patients</td>
<td>86</td>
<td>164</td>
</tr>
<tr>
<td>Outpatients</td>
<td>326</td>
<td>511</td>
</tr>
<tr>
<td>Visitors to Outpatients</td>
<td>326</td>
<td>511</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>6</td>
<td>13</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td><strong>Subtotal Patients/Visitors</strong></td>
<td>792</td>
<td>1,290</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>1,280</td>
<td>2,230</td>
</tr>
</tbody>
</table>

Source: Adavant Consulting (2008)

3.2 Trip Distribution
The previously generated trips were distributed as originating from or being destined for the East Bay, South Bay, and North Bay or to San Francisco. The East Bay includes Alameda, Contra Costa, Napa and Solano Counties. The North Bay includes Marin and Sonoma Counties. The South Bay is defined as San Mateo and Santa Clara Counties. Table 7 shows the total trip distribution for the Medical Center.

Table 7
UCSF Medical Center at Mission Bay
Trip Distribution

<table>
<thead>
<tr>
<th>Geographic Region</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>San Francisco</td>
<td>61%</td>
</tr>
<tr>
<td>North Bay</td>
<td>(1)</td>
</tr>
<tr>
<td>East Bay</td>
<td>10%</td>
</tr>
<tr>
<td>South Bay</td>
<td>29%</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>100%</td>
</tr>
</tbody>
</table>

Note:
(1) Included in San Francisco geographic region

Source: UCSF Amendment #2 Hospital Replacement FEIR (2005)

3.3 Mode Choice
"Mode choice" is the designation of trips to the various means that people use to travel, such as automobile, transit, walking, bicycling, taxi or other mode of transportation. The determination of the mode of transportation used in trips to and from the Medical Center would depend on the population group (faculty, staff, vendor, patient, and visitor) and the purpose of the trip (work,
visit, surgery). Table 8 shows the mode choice factors used for the Medical Center by type of population. Tables 9 and 10 present daily peak hour person-trips by mode of transportation for Phase 1 and Phase 2 of the project.

### Table 8

**UCSF Medical Center at Mission Bay**

**Mode Choice Allocation**

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Drive Alone</th>
<th>Drop off</th>
<th>Car pool</th>
<th>Van pool</th>
<th>MUNI</th>
<th>Other Transit</th>
<th>Bike/Motorcycle</th>
<th>Walk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician/Faculty</td>
<td>59%</td>
<td>5%</td>
<td>11%</td>
<td>4%</td>
<td>6%</td>
<td>7%</td>
<td>2%</td>
<td>6%</td>
</tr>
<tr>
<td>Hospital Staff</td>
<td>36%</td>
<td>5%</td>
<td>15%</td>
<td>9%</td>
<td>21%</td>
<td>5%</td>
<td>2%</td>
<td>7%</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>36%</td>
<td>5%</td>
<td>15%</td>
<td>9%</td>
<td>21%</td>
<td>5%</td>
<td>2%</td>
<td>7%</td>
</tr>
<tr>
<td>Hospital Patients</td>
<td>36%</td>
<td>5%</td>
<td>15%</td>
<td>9%</td>
<td>21%</td>
<td>5%</td>
<td>2%</td>
<td>7%</td>
</tr>
<tr>
<td>Visitors to Patients</td>
<td>59%</td>
<td>5%</td>
<td>11%</td>
<td>4%</td>
<td>6%</td>
<td>7%</td>
<td>2%</td>
<td>6%</td>
</tr>
<tr>
<td>Outpatients</td>
<td>36%</td>
<td>5%</td>
<td>15%</td>
<td>9%</td>
<td>21%</td>
<td>5%</td>
<td>2%</td>
<td>7%</td>
</tr>
<tr>
<td>Visitors to Outpatients</td>
<td>36%</td>
<td>5%</td>
<td>15%</td>
<td>9%</td>
<td>21%</td>
<td>5%</td>
<td>2%</td>
<td>7%</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>59%</td>
<td>5%</td>
<td>11%</td>
<td>4%</td>
<td>6%</td>
<td>7%</td>
<td>2%</td>
<td>6%</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>100%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
</tbody>
</table>

**Note:**
Totals may not add up to 100 percent due to rounding

Source: UCSF Amendment #2 Hospital Replacement FEIR (2005)

### Table 9

**UCSF Medical Center at Mission Bay**

**Weekday Daily Person Trips by Mode of Transportation**

**Phase 1**

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Drive Alone</th>
<th>Drop off</th>
<th>Car pool</th>
<th>Van pool</th>
<th>MUNI</th>
<th>Other Transit</th>
<th>Bike/Motorcycle</th>
<th>Walk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician/Faculty</td>
<td>400</td>
<td>34</td>
<td>75</td>
<td>27</td>
<td>41</td>
<td>47</td>
<td>14</td>
<td>41</td>
</tr>
<tr>
<td>Hospital Staff</td>
<td>559</td>
<td>78</td>
<td>233</td>
<td>140</td>
<td>326</td>
<td>78</td>
<td>31</td>
<td>109</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>138</td>
<td>19</td>
<td>58</td>
<td>35</td>
<td>81</td>
<td>19</td>
<td>8</td>
<td>27</td>
</tr>
<tr>
<td><strong>Subtotal Faculty/Staff/Students</strong></td>
<td><strong>1,097</strong></td>
<td><strong>131</strong></td>
<td><strong>365</strong></td>
<td><strong>201</strong></td>
<td><strong>447</strong></td>
<td><strong>144</strong></td>
<td><strong>52</strong></td>
<td><strong>176</strong></td>
</tr>
<tr>
<td>Hospital Patients</td>
<td>177</td>
<td>25</td>
<td>74</td>
<td>44</td>
<td>103</td>
<td>25</td>
<td>10</td>
<td>34</td>
</tr>
<tr>
<td>Visitors to Patients</td>
<td>726</td>
<td>62</td>
<td>135</td>
<td>49</td>
<td>74</td>
<td>86</td>
<td>25</td>
<td>74</td>
</tr>
<tr>
<td>Outpatients</td>
<td>1,303</td>
<td>181</td>
<td>543</td>
<td>326</td>
<td>760</td>
<td>181</td>
<td>72</td>
<td>253</td>
</tr>
<tr>
<td>Visitors to Outpatients</td>
<td>1,303</td>
<td>181</td>
<td>543</td>
<td>326</td>
<td>760</td>
<td>181</td>
<td>72</td>
<td>253</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>53</td>
<td>5</td>
<td>10</td>
<td>4</td>
<td>5</td>
<td>6</td>
<td>2</td>
<td>5</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>42</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Subtotal Patients/Visitors</strong></td>
<td><strong>3,604</strong></td>
<td><strong>453</strong></td>
<td><strong>1,305</strong></td>
<td><strong>749</strong></td>
<td><strong>1,703</strong></td>
<td><strong>479</strong></td>
<td><strong>181</strong></td>
<td><strong>620</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,701</strong></td>
<td><strong>583</strong></td>
<td><strong>1,670</strong></td>
<td><strong>950</strong></td>
<td><strong>2,150</strong></td>
<td><strong>623</strong></td>
<td><strong>233</strong></td>
<td><strong>797</strong></td>
</tr>
</tbody>
</table>

Source: Adavant Consulting (2008)
Table 10
UCSF Medical Center at Mission Bay
Weekday Daily Person Trips by Mode of Transportation
Phase 2

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Drive Alone</th>
<th>Drop off</th>
<th>Car pool</th>
<th>Van pool</th>
<th>MUNI</th>
<th>Other Transit</th>
<th>Bike/Motorcycle</th>
<th>Walk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician/Faculty</td>
<td>680</td>
<td>58</td>
<td>127</td>
<td>46</td>
<td>69</td>
<td>81</td>
<td>23</td>
<td>69</td>
</tr>
<tr>
<td>Hospital Staff</td>
<td>1,107</td>
<td>154</td>
<td>461</td>
<td>277</td>
<td>646</td>
<td>154</td>
<td>62</td>
<td>215</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>263</td>
<td>37</td>
<td>110</td>
<td>66</td>
<td>154</td>
<td>37</td>
<td>15</td>
<td>51</td>
</tr>
<tr>
<td><strong>Subtotal Faculty/Staff/Students</strong></td>
<td>2,051</td>
<td>248</td>
<td>698</td>
<td>389</td>
<td>869</td>
<td>271</td>
<td>99</td>
<td>336</td>
</tr>
<tr>
<td>Hospital Patients</td>
<td>337</td>
<td>47</td>
<td>140</td>
<td>84</td>
<td>197</td>
<td>47</td>
<td>19</td>
<td>66</td>
</tr>
<tr>
<td>Visitors to Patients</td>
<td>1,381</td>
<td>117</td>
<td>257</td>
<td>94</td>
<td>140</td>
<td>164</td>
<td>47</td>
<td>140</td>
</tr>
<tr>
<td>Outpatients</td>
<td>2,043</td>
<td>284</td>
<td>851</td>
<td>511</td>
<td>1,192</td>
<td>284</td>
<td>114</td>
<td>397</td>
</tr>
<tr>
<td>Visitors to Outpatients</td>
<td>2,043</td>
<td>284</td>
<td>851</td>
<td>511</td>
<td>1,192</td>
<td>284</td>
<td>114</td>
<td>397</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>111</td>
<td>9</td>
<td>21</td>
<td>8</td>
<td>11</td>
<td>13</td>
<td>4</td>
<td>11</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>74</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td><strong>Subtotal Patients/Visitors</strong></td>
<td>5,989</td>
<td>741</td>
<td>2,121</td>
<td>1,207</td>
<td>2,732</td>
<td>791</td>
<td>296</td>
<td>1,012</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>8,040</td>
<td>989</td>
<td>2,819</td>
<td>1,596</td>
<td>3,601</td>
<td>1,062</td>
<td>396</td>
<td>1,347</td>
</tr>
</tbody>
</table>

Source: Adavant Consulting (2008)

3.4 Auto Occupancy

Automobile occupancy (the number of persons per vehicle) is also very sensitive to the population group and the type of trip. Table 11 details the average auto occupancy rates by population group. Tables 12 and 13 summarize the weekday daily and PM peak hour vehicle trips for Phase 1 and Phase 2 of the project.

Table 11
UCSF Medical Center at Mission Bay
Average Auto Occupancy Rates

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Average Auto Occupancy Rate (1)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician/Faculty</td>
<td>1.1</td>
</tr>
<tr>
<td>Hospital Staff</td>
<td>1.2</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>1.2</td>
</tr>
<tr>
<td>Hospital Patients</td>
<td>1.2</td>
</tr>
<tr>
<td>Visitors to Patients</td>
<td>1.1</td>
</tr>
<tr>
<td>Outpatients and their Visitors</td>
<td>2.4</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>1.1</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Note:
(1) Average number of persons per vehicle, including the driver

Source: UCSF Amendment #2 Hospital Replacement FEIR (2005)
### Table 12
**UCSF Medical Center at Mission Bay**  
**Weekday Daily Vehicle Trips**

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Phase 1</th>
<th>Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician/Faculty</td>
<td>511</td>
<td>869</td>
</tr>
<tr>
<td>Hospital Staff</td>
<td>852</td>
<td>1,688</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>211</td>
<td>402</td>
</tr>
<tr>
<td><strong>Subtotal Faculty/Staff/Students</strong></td>
<td><strong>1,574</strong></td>
<td><strong>2,959</strong></td>
</tr>
<tr>
<td>Hospital Patients</td>
<td>270</td>
<td>514</td>
</tr>
<tr>
<td>Visitors to Patients</td>
<td>927</td>
<td>1,764</td>
</tr>
<tr>
<td>Outpatients</td>
<td>1,987</td>
<td>3,116</td>
</tr>
<tr>
<td>Visitors to Outpatients</td>
<td>incl. above</td>
<td>incl. above</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>68</td>
<td>142</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>42</td>
<td>74</td>
</tr>
<tr>
<td><strong>Subtotal Patients/Visitors</strong></td>
<td><strong>3,295</strong></td>
<td><strong>5,610</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>4,869</strong></td>
<td><strong>8,569</strong></td>
</tr>
</tbody>
</table>

Source: Adavant Consulting (2008)

### Table 13
**UCSF Medical Center at Mission Bay**  
**Weekday PM Peak Hour Vehicle Trips**

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Phase 1</th>
<th>Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician/Faculty</td>
<td>61</td>
<td>104</td>
</tr>
<tr>
<td>Hospital Staff</td>
<td>196</td>
<td>389</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>27</td>
<td>53</td>
</tr>
<tr>
<td><strong>Subtotal Faculty/Staff/Students</strong></td>
<td><strong>284</strong></td>
<td><strong>546</strong></td>
</tr>
<tr>
<td>Hospital Patients</td>
<td>24</td>
<td>46</td>
</tr>
<tr>
<td>Visitors to Patients</td>
<td>65</td>
<td>124</td>
</tr>
<tr>
<td>Outpatients</td>
<td>179</td>
<td>281</td>
</tr>
<tr>
<td>Visitors to Outpatients</td>
<td>incl. above</td>
<td>incl. above</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>4</td>
<td>10</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>4</td>
<td>7</td>
</tr>
<tr>
<td><strong>Subtotal Patients/Visitors</strong></td>
<td><strong>276</strong></td>
<td><strong>468</strong></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>560</strong></td>
<td><strong>1,014</strong></td>
</tr>
</tbody>
</table>

Source: Adavant Consulting (2008)
3.5 Comparison with the Mission Bay Plan

The Mission Bay Plan (Final Mission Bay SEIR, September 1998) assumed that office, research & development and large retail would take place at Blocks X-3 and 36 through 39 in the area bounded by 16th Street to the north, Third Street to the east, Mariposa Street to the south and Owens Street to the west, all within the Mission Bay West Subarea. Table 14 summarizes the types and intensities planned for those blocks.

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Land Use Intensity (sq.ft.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office/Research &amp; Development</td>
<td>1,743,000</td>
</tr>
<tr>
<td>Neighborhood Retail</td>
<td>10,100</td>
</tr>
<tr>
<td>Large Retail</td>
<td>50,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>1,803,100</strong></td>
</tr>
</tbody>
</table>

Source: UCSF Amendment #2 Hospital Replacement FEIR (2005), Table 4.11-11, p. 4.11-35

Table 15 presents the weekday daily and p.m. peak hour person-trip generation by mode of travel for Blocks X-3 and 36 through 39, as envisioned in the Mission Bay Plan for each type of land use.

<table>
<thead>
<tr>
<th>Land Use Type</th>
<th>Auto</th>
<th>Transit</th>
<th>Other (1)</th>
<th>All Modes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office/Research &amp; Development</td>
<td>13,365</td>
<td>4,711</td>
<td>2,964</td>
<td>21,040</td>
</tr>
<tr>
<td>Neighborhood Retail</td>
<td>873</td>
<td>175</td>
<td>270</td>
<td>1,318</td>
</tr>
<tr>
<td>Large Retail</td>
<td>4,236</td>
<td>548</td>
<td>---</td>
<td>4,784</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>18,474</strong></td>
<td><strong>5,434</strong></td>
<td><strong>3,234</strong></td>
<td><strong>27,142</strong></td>
</tr>
</tbody>
</table>

Note:
(1) Other modes include walk, taxis, bicycles, motorcycles, etc.

Source: Mission Bay SEIR (1998)

Table 16 on the next page provides a comparison of daily and peak hour trips generated within Blocks X-3 and 36 through 39 according to the Mission Bay Plan and the UCSF Medical Center scenario by mode of travel. As shown in the table, the total number of person trips generated by the Medical Center represents approximately three-quarters (73 to 74 percent for the day and for the PM peak hour, respectively) of the total number of trips that would be generated by the Mission Bay Plan within the same development blocks.
Table 16
Daily and PM Peak Hour Trip Comparison by Mode of Travel
Blocks 36-39 and X3

<table>
<thead>
<tr>
<th>Scenario</th>
<th>Person Trips</th>
<th></th>
<th>Vehicle Trips</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Auto</td>
<td>Transit and Other (1)</td>
<td></td>
</tr>
<tr>
<td>Daily Trips</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission Bay Plan</td>
<td>18,474</td>
<td>8,668</td>
<td>27,142</td>
</tr>
<tr>
<td>UCSF Medical Center</td>
<td>13,444</td>
<td>6,406</td>
<td>19,850</td>
</tr>
<tr>
<td>Reduction</td>
<td>27%</td>
<td>26%</td>
<td>27%</td>
</tr>
<tr>
<td>PM Peak Hour Trips</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mission Bay Plan</td>
<td>2,097</td>
<td>1,033</td>
<td>3,130</td>
</tr>
<tr>
<td>UCSF Medical Center</td>
<td>1,590</td>
<td>740</td>
<td>2,330</td>
</tr>
<tr>
<td>Reduction</td>
<td>24%</td>
<td>28%</td>
<td>26%</td>
</tr>
</tbody>
</table>

Note:
(1) Other modes include walk, taxis, bicycles, motorcycles, etc.

Sources: Mission Bay SEIR (1998); Adavant Consulting (2008)

As seen in Table 16, the reduction in vehicle trips in the Medical Center scenario is higher (33 and 32 percent for the day and for the PM peak hour, respectively) than the reduction in person auto trips (27 and 24 percent) due to the higher average vehicle occupancy resulting from UCSF’s large scale carpool and vanpool programs. As a result, the number of vehicle trips generated by the Medical Center represents approximately two-thirds of those that would be generated by the Mission Bay Plan within the same development blocks.
4. MISSION BAY PLAN

4.1 Land Uses
The land uses assumed for Blocks X-3 and 36 through 39 in accordance with the Mission Bay Plan (Final Mission Bay SEIR, September 1998) are office, research & development and large retail, representing a total development of approximately 1.8 million sq.ft. Table 14 in Section 3.5 (page 16) summarizes the land use types and intensities assumed by the Mission Bay Plan for those five blocks.

4.2 Roadway Network
The Mission Bay Plan proposes substantial changes to the existing street patterns in the vicinity of the Mission Bay West subarea, as shown in Figure 6, and as discussed below. Third Street, 16th Street, Mariposa Street, and Owens Street will remain in substantially the same alignment as today.

Third Street has already been reconfigured as part of the Muni Third Street Light Rail project, to accommodate two traffic lanes and a median, with exclusive left-turn lanes at major intersections. The typical median width is 24 feet, necessary to accommodate a double track for the Muni Metro’s T-Third light rail service.

Seventh Street remains in its current alignment and configuration. A new intersection will be created at Mission Bay Drive, which will traverse the Caltrain tracks at a new highway-rail crossing at grade.

16th Street will maintain its existing right-of-way width; exclusive eastbound and westbound left turn lanes will be provided at all intersections between Owens Street and Terry François Boulevard.

Mariposa Street will be widened on the north side by approximately 15 feet, and left turn lanes will be provided at major intersections. The Mariposa Street Bridge over the Caltrain tracks will be restriped to provide two exclusive left turn lanes in the westbound direction for a total of three lanes.

At the same time, Owens Street will be extended from 16th Street to Mariposa Street, to connect with the I-280 on- and off-ramps and to create a new signalized intersection at Mariposa Street.
The northbound I-280 off-ramp would be widened to the east to provide an additional lane and better align with Owens Street. Mariposa Street between the I-280 on-ramp and Pennsylvania Avenue would be re-striped to accommodate the lane configurations described above.

The typical configuration of Fourth Street between 16th Street and Mariposa Street as defined in the current Mission Bay South Infrastructure Plan is a 50-feet travel way with one 17-feet traffic lane each way to facilitate vehicle and bicycle travel (Class III bicycle facility), plus an 8-feet wide on-street parking lane and a 12-feet sidewalk on both sides. According to the Mission Bay South Infrastructure Plan, Fourth Street is also planned to be a designated Class III bikeway (bicycle route signed but not striped), providing an important bicycle route connection between the Mission Bay North area and the UCSF campus.

In addition, the Final Mission Bay SEIR and the Mission Bay South Infrastructure Plan call for the following five intersections to be signalized as part of the Mission Bay Plan.

- Mariposa St. / Minnesota St.-Fourth St.
- Mariposa St. / I-280 SB on-ramp
- 16th St. / Fourth St.
- Seventh St. / Mission Bay Drive

4.3 Intersection Operating Conditions

The future PM peak hour turning movement volumes developed as part of the transportation analyses for Mission Bay SEIR are shown in Figure 7. These turning movement volumes represent a best estimate of future transportation conditions in the Mission Bay West subarea at the complete build up of the Mission Bay Plan. Figure 8 presents intersection geometric configurations at the six study intersections, as defined in the Mission Bay South Infrastructure Plan.

The transportation analyses conducted as part of the Mission Bay SEIR evaluated intersection operating conditions during the weekday p.m. peak traffic hour for the Mission Bay Plan buildout. Table 17 presents the results of the intersection LOS analysis for the Mission Bay Plan in 2025 during the weekday p.m. peak-hour conditions. As shown in the table, all of the study intersections would be controlled by traffic signals and would operate at LOS D or better during the p.m. peak hour conditions.
Figure 7
YEAR 2025 PM PEAK HOUR VOLUMES – MISSION BAY PLAN

LEGEND
- Signalized Intersection
- PM Peak Hour Volumes
Figure 8
YEAR 2025 LANE CONFIGURATIONS – MISSION BAY PLAN

LEGEND
 Signalized Intersection
### Table 17
Intersection Delay and Level of Service
Mission Bay Plan Buildout (2025) – PM Peak Hour
Mission Bay South Infrastructure Plan Roadway Conditions

<table>
<thead>
<tr>
<th>Intersection Name</th>
<th>Traffic Control Device</th>
<th>Intersection Delay (sec./veh.)</th>
<th>Intersection Level of Service (LOS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mariposa St / Third St</td>
<td>Traffic Signal</td>
<td>49.9</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / Minnesota St-Fourth St (1)</td>
<td>Traffic Signal</td>
<td>10.2</td>
<td>B</td>
</tr>
<tr>
<td>Mariposa St / I-280 NB off-ramp-Owens St.</td>
<td>Traffic Signal</td>
<td>39.9</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / I-280 SB on-ramp</td>
<td>Traffic Signal</td>
<td>35.3</td>
<td>D</td>
</tr>
<tr>
<td>16th St / Third St</td>
<td>Traffic Signal</td>
<td>43.1</td>
<td>D</td>
</tr>
<tr>
<td>16th St / Fourth St</td>
<td>Traffic Signal</td>
<td>43.2</td>
<td>D</td>
</tr>
<tr>
<td>16th St / Owens St</td>
<td>Traffic Signal</td>
<td>54.2</td>
<td>D</td>
</tr>
<tr>
<td>16th St./Seventh St.-Mississippi St.</td>
<td>Traffic Signal</td>
<td>20.8</td>
<td>C</td>
</tr>
<tr>
<td>Seventh St. / Mission Bay Dr.</td>
<td>Traffic Signal</td>
<td>23.1</td>
<td>C</td>
</tr>
</tbody>
</table>

**Note:**
(1) This intersection was not analyzed in the UCSF Amendment #2 Hospital Replacement FEIR (2005). Intersection delay and level of service results shown in this table for this intersection are taken from the Final Mission Bay SEIR (1998), Volume II, Table VII.G.4, p VII.58. Intersection delay and level of service calculated using the 1994 Highway Capacity Manual Methodology.

Source: UCSF Amendment #2 Hospital Replacement FEIR (2005), Table 4.11-22, p. 4.11-48
5. UCSF MEDICAL CENTER PROJECT – FOURTH ST. OPEN AS A PUBLIC ROADWAY

The proposed Medical Center project calls for Fourth Street to be built between 16th Street and Mariposa Street as a public roadway as it is defined in the Final Mission Bay Final SEIR and the Mission Bay South Infrastructure Plan and has been described in the previous chapter of this report (Section 4.2–Roadway Network).

5.1 Intersection Operating Conditions

As described in the first chapter of this report (1–Introduction and Background) the Medical Center would be built in two major phases. The following ten intersections were analyzed for the Phase 1 (Year 2015 after Phase 1 is built and operational) and Phase 2 buildout of Medical Center (Year 2025 after Phase 2 is built and operational) assuming Fourth Street is a public roadway open to all vehicular traffic. These intersections are located along Mariposa Street, Owens Street and 16th Street, surrounding the project site:

- Mariposa St. / Third St
- Mariposa St. / Minnesota St.–Fourth St.
- Mariposa St. / I-280 NB off-ramp–Owens St.
- Mariposa St. / I-280 SB on-ramp
- 16th St. / Third St.
- 16th St. / Fourth St.
- 16th St. / Owens St.
- Owens Street / Center Garage Access
- 16th St. / Seventh St. –Mississippi St.
- Seventh St. / Mission Bay Drive

The traffic volumes at the study intersections for the pm peak hour for the 2025 under this development scenario have been derived from a variety of sources, including forecast traffic volumes for the buildout of Mission Bay obtained from the traffic analysis for the Final Mission Bay SEIR, future volumes included in the UCSF LRDP Amendment #2 Hospital Replacement FEIR and the traffic generation estimates for the proposed Medical Center developed specifically for this study and described in the third chapter of this report (3–Travel Demand).

The Year 2015 traffic volumes under phase 1 condition were developed assuming that most of the Mission Bay Plan projects would be completed by Year 2015 and the traffic volumes would be 80 percent of the Year 2025 Volumes. The Year 2015 and Year 2025 PM peak hour turning movement volumes, which include the vehicular traffic generated and attracted to the UCSF Medical Center Complex after Phase 1 and Phase 2 is built and operational are shown in Figure 9 and Figure 10 respectively.
Figure 9
YEAR 2015 PM PEAK HOUR VOLUMES – UCSF MEDICAL CENTER
(PHASE - 1) WITH FOURTH ST. OPEN AS A PUBLIC ROADWAY

[Diagram showing traffic volumes at various intersections]
UCSF MEDICAL CENTER AT MISSION BAY - TRANSPORTATION STUDY

Figure 10
YEAR 2025 PM PEAK HOUR VOLUMES – UCSF MEDICAL CENTER (PHASE - 2) WITH FOURTH ST. OPEN AS A PUBLIC ROADWAY

LEGEND
1 Signalized Intersection
2 PM Peak Hour Volumes

NORTH NOT TO SCALE

Wilbur Smith Associates
The turning movement volumes for Phase 1 and Phase 2 for the UCSF Medical Center represents a best estimate of future transportation conditions in the Mission Bay area in the vicinity of Blocks X-3 and 36 to 39. PM peak hour turning movement volumes have been used in this analysis since this represents the time period when traffic volumes are typically highest. The transportation analyses for the Mission Bay SEIR and the UCSF LRDP Amendment #2 Hospital Replacement FEIR were also conducted for the PM peak hour only.

For this analysis, Fourth Street was assumed to be configured as one 17-foot wide traffic lane each way to accommodate bicycle lanes (Class II bicycle facility) plus some on-street parking on either sides of the road from 16th Street to Mariposa Street, with exclusive turn lanes provided on the approaches to 16th Street and Mariposa Street. Figures 11 and 12 show the geometric lane configuration and circulation patterns assumed for the analysis of this project.

The traffic operations analysis has been performed using TRAFFIX software based on the Highway Capacity Manual 2000 (HCM 2000) methodology. The results of the future intersection LOS analysis performed at the study intersections for the years 2015 and 2025 PM peak hour conditions are summarized in Tables 18 and 19. Detailed calculations are included in Appendix D.

### Table 18
Intersection Delay and Level of Service
Year 2015 PM Peak Hour
UCSF Medical Center Project (Phase 1)
Mission Bay South Infrastructure Plan Roadway Conditions
with Fourth St. Open as a Public Roadway

<table>
<thead>
<tr>
<th>Intersection Name</th>
<th>Traffic Control Device</th>
<th>Intersection Delay (sec./veh.)</th>
<th>Intersection Level of Service (LOS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mariposa St / Third St</td>
<td>Traffic Signal</td>
<td>27.9</td>
<td>C</td>
</tr>
<tr>
<td>Mariposa St / Minnesota St–Fourth St</td>
<td>Traffic Signal</td>
<td>18.9</td>
<td>B</td>
</tr>
<tr>
<td>Mariposa St / I-280 NB off-ramp–Owens St.</td>
<td>Traffic Signal</td>
<td>49.4</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / I-280 SB on-ramp</td>
<td>Traffic Signal</td>
<td>15.7</td>
<td>B</td>
</tr>
<tr>
<td>16th St / Third St</td>
<td>Traffic Signal</td>
<td>27.4</td>
<td>C</td>
</tr>
<tr>
<td>16th St / Fourth St</td>
<td>Traffic Signal</td>
<td>23.7</td>
<td>C</td>
</tr>
<tr>
<td>16th St / Owens St</td>
<td>Traffic Signal</td>
<td>39.1</td>
<td>D</td>
</tr>
<tr>
<td>Owens St. / Center Garage Access</td>
<td>Stop Sign</td>
<td>16.7 (WB)</td>
<td>C</td>
</tr>
<tr>
<td>16th St./Seventh St.-Mississippi St.</td>
<td>Traffic Signal</td>
<td>37.6</td>
<td>D</td>
</tr>
<tr>
<td>Seventh St. / Mission Bay Dr.</td>
<td>Traffic Signal</td>
<td>30.9</td>
<td>C</td>
</tr>
</tbody>
</table>

**Notes:**
- Stop Sign control for the minor (garage) approach only
- For unsignalized intersections, delay is presented for the worst stop-controlled approach.


As shown in Table 18, all the study intersections would operate at an acceptable level of service (LOS D or better) for Phase 1 (2015) during the PM peak hour, thus no mitigation measures are required.
Figure 11

UCSF MEDICAL CENTER PROJECT - YEAR 2025 GEOMETRIC LANE CONFIGURATION
WITH FOURTH STREET OPEN AS A PUBLIC ROADWAY - MITIGATED CONDITIONS

LEGEND

- Signalized Intersection
As shown in Table 18, all of the study intersections would operate at an acceptable level of service (LOS D or better) under Year 2015 with the UCSF Medical Center Phase 1 conditions.

### Table 19
Intersection Delay and Level of Service
Year 2025 PM Peak Hour
UCSF Medical Center Project (Phase 2)
Mission Bay South Infrastructure Plan Roadway Conditions with Fourth St. Open as a Public Roadway

<table>
<thead>
<tr>
<th>Intersection Name</th>
<th>Traffic Control Device</th>
<th>Intersection Delay (sec./veh.)</th>
<th>Intersection Level of Service (LOS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mariposa St / Third St</td>
<td>Traffic Signal</td>
<td>53.2</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / Minnesota St–Fourth St</td>
<td>Traffic Signal</td>
<td>20.2</td>
<td>C</td>
</tr>
<tr>
<td>Mariposa St / I-280 NB off-ramp–Owens St.</td>
<td>Traffic Signal</td>
<td>53.1</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / I-280 SB on-ramp</td>
<td>Traffic Signal</td>
<td>16.5</td>
<td>B</td>
</tr>
<tr>
<td>16th St / Third St</td>
<td>Traffic Signal</td>
<td>35.7</td>
<td>D</td>
</tr>
<tr>
<td>16th St / Fourth St</td>
<td>Traffic Signal</td>
<td>37.0</td>
<td>D</td>
</tr>
<tr>
<td>16th St / Owens St</td>
<td>Traffic Signal</td>
<td>70.4</td>
<td>E</td>
</tr>
<tr>
<td>Owens St. / Center Garage Access</td>
<td>Stop Sign</td>
<td>&gt;50.0 (WB)</td>
<td>F</td>
</tr>
<tr>
<td>16th St./Seventh St.-Mississippi St.</td>
<td>Traffic Signal</td>
<td>48.6</td>
<td>D</td>
</tr>
<tr>
<td>Seventh St. / Mission Bay Dr.</td>
<td>Traffic Signal</td>
<td>34.7</td>
<td>C</td>
</tr>
</tbody>
</table>

**Notes:**
- Stop Sign control for the minor (garage) approach only
- For unsignalized intersections, delay is presented for the worst stop-controlled approach.
- **Bold** indicates intersection operates at unsatisfactory LOS and delay


As shown in Table 19, eight out of ten study intersections would operate at an acceptable level of service (LOS D or better). The intersection of 16th and Owens Streets would operate at LOS E, while the minor (stop controlled) approach at the garage access at center of Owens Street would operate at LOS F with the operation of Phase 2 of the UCSF Medical Center.

The UCSF LRDP Amendment #2 Hospital Replacement FEIR prepared in 2005 identified the intersection of 16th and Owens Streets as a significant impact and provided a mitigation measure to reduce the impact to a non-significant level. This mitigation measure is further described in the following section.

### 5.2 Mitigation Measures for Phase 2
As shown in the analysis results described in the previous section for Phase 2 condition, it has been found that the signalized intersection of 16th Street and Owens Street as well as the unsignalized intersection at Owens Street and Center Garage Access would operate at an unacceptable level of service (LOS E or F) under Year 2025 during the PM peak hour with the implementation of Phase 2 of the UCSF Medical Center project. The following are the recommended mitigation measures designed to improve traffic conditions under Phase 2 at the intersections operating at unacceptable LOS.
16th Street and Owens Street Intersection
The implementation of a mitigation measure recommended from the *UCSF LRDP Amendment #2 Hospital Replacement FEIR* would improve the operating conditions at this intersection (non-significant impact). The *UCSF LRDP Amendment #2 Hospital Replacement FEIR* recommended the following mitigation measure at this location:

- **Southbound Approach**: Conversion of the exclusive left turn lane to a shared through-left turn lane and conversion of the shared through-right turn lane to an exclusive right turn lane, resulting in a lane configuration of one shared through-left turn lane, one through lane and one exclusive right turn lane at this approach. This measure can be accomplished by restriping the travel lanes within the existing right-of-way and no roadway widening would be required.

Owens Street and Center Garage Access Intersection

- Signalization of this intersection and also coordination of the signal phasing at this intersection with the intersections of 16th and Owens Streets, and of Mariposa and I-280 SB on-ramp Intersections.

The implementation of the mitigation measure described above at the intersection of 16th and Owens Streets would improve the LOS from E to D and would reduce the average vehicle delay from 70.4 sec/veh to 50.3 sec/veh. The installation of a new traffic signal at the intersection of Owens Street and Center Garage Access would improve the LOS from F to B.

The improved operation conditions at the mitigated study intersections for Phase 2 conditions are shown in Table 20 on the following page. More detailed mitigated intersection LOS calculations are included in Appendix D.
## Table 20
### Intersection Delay and Level of Service
#### Year 2025 PM Peak Hour
##### UCSF Medical Center Project (Phase 2)
##### Mission Bay South Infrastructure Plan Roadway Conditions
##### with Fourth St. Open as a Public Roadway
##### Mitigated Conditions

<table>
<thead>
<tr>
<th>Intersection Name</th>
<th>Traffic Control Device</th>
<th>Intersection Delay (sec./veh.)</th>
<th>Intersection Level of Service (LOS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mariposa St / Third St</td>
<td>Traffic Signal</td>
<td>53.2</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / Minnesota St–Fourth St</td>
<td>Traffic Signal</td>
<td>20.2</td>
<td>C</td>
</tr>
<tr>
<td>Mariposa St / I-280 NB off-ramp–Owens St.</td>
<td>Traffic Signal</td>
<td>53.1</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / I-280 SB on-ramp</td>
<td>Traffic Signal</td>
<td>16.5</td>
<td>B</td>
</tr>
<tr>
<td>16th St / Third St</td>
<td>Traffic Signal</td>
<td>35.7</td>
<td>D</td>
</tr>
<tr>
<td>16th St / Fourth St</td>
<td>Traffic Signal</td>
<td>37.0</td>
<td>D</td>
</tr>
<tr>
<td><strong>16th St / Owens St</strong></td>
<td><strong>Traffic Signal</strong></td>
<td><strong>50.3</strong></td>
<td><strong>D</strong></td>
</tr>
<tr>
<td><strong>Owens St. / Center Garage Access</strong></td>
<td><strong>Traffic Signal</strong></td>
<td><strong>15.5</strong></td>
<td><strong>B</strong></td>
</tr>
<tr>
<td>16th St./Seventh St./Mississippi St.</td>
<td>Traffic Signal</td>
<td>48.6</td>
<td>D</td>
</tr>
<tr>
<td>Seventh St. / Mission Bay Blvd</td>
<td>Traffic Signal</td>
<td>34.7</td>
<td>C</td>
</tr>
</tbody>
</table>

**Notes:**
- Delay is presented in seconds per vehicle.
- Mitigated intersections are shown in **bold italics**

**Source:** Wilbur Smith Associates (2008)
6. UCSF MEDICAL CENTER ALTERNATIVE 1 –
FOURTH ST. CLOSED TO THROUGH TRAFFIC

The proposed Medical Center project calls for Fourth Street to be built between 16th Street and Mariposa Street as a public roadway as it is defined in the Final Mission Bay Final SEIR and the Mission Bay South Infrastructure Plan. In addition, UCSF is evaluating the possibility of changing the planned configuration of Fourth Street as part of the proposed development and is looking into two potential alternatives. Under Alternative 1, Fourth Street would provide access only to the Project Site from 16th Street on the north and from Mariposa Street on the South with no through traffic allowed on Fourth Street between 16th Street and Mariposa Street.

6.1 Site Plan Description

Under this development alternative, Fourth Street would not be built in the center of the UCSF site. Fourth Street entrances on 16th and Mariposa Streets would be used for accessing the project site (drop offs and pick ups, access to the garages, deliveries, etc.) but not for through travel. The Fourth Street access points would lead to cul-de-sacs at the Medical Center and parking garage, with a connection to Owens Street and the nearby garage.

As described in Section 1 of this report, the Medical Center would be built in two major phases. Figures 12 and 13 show the Site Plan Circulation diagrams in Phases 1 and 2 of the project with Fourth Street closed to through traffic.

As shown diagrammatically in Figures 12 and 13, a combination of Class I (separate right of way for the exclusive use of bicycles) and Class II (striped bicycle lane adjacent to the traffic lane within the street right-of-way) bicycle facilities would connect 16th and Mariposa Streets following a north-south alignment. Bicycle lanes (Class II) would be provided between 16th Street and the North Access Road and between the South Access Road and Mariposa Street. A dedicated path (Class I) for the exclusive use of bicyclists would connect the North and South Access Roads through the center of the UCSF Medical Centre complex.

6.2 Intersection Operating Conditions

Twelve intersections were analyzed for the Phase 1 of Medical Center (Year 2015 after Phase 1 is built and operational) and Phase 2 buildout of Medical Center (Year 2025 after Phase 2 is built and operational) assuming Fourth Street closed to through traffic. These intersections are located along Mariposa Street, Owens Street, 16th Street, and Seventh Street in the vicinity of the project site. It should be noted that the intersection Owens Street and Center Garage Access does not exist during Phase 1 condition, since the proposed garage is not fully built yet. The twelve study intersections are:

- Mariposa St. / Third St
- Mariposa St. / Minnesota St.–Fourth St.
- Mariposa St. / I-280 NB off-ramp–Owens St.
- Mariposa St. / I-280 SB on-ramp
- 16th St. / Third St.
- 16th St. / Fourth St.
16th St. / Owens St.

- Owens Street / North Access Road
- Owens Street / Center Garage Access
- Owens Street / South Access Road
- 16th St. / Seventh St.-Mississippi St.
- Seventh St. / Mission Bay Dr.

The traffic volumes at the study intersections for the pm peak hour in the Year 2015 and 2025 conditions have been derived by rerouting the through traffic assumed to travel through Fourth Street, as shown in Figure 9 and Figure 10 respectively, to alternative paths such as via Third and Owens Streets. The resulting turning movement volumes are shown in Figure 14 for Year 2015 with Phase 1 conditions and Figure 15 for Year 2025 with Phase 2 conditions.

For this analysis, Fourth Street was assumed to be configured as a single lane roadway in both directions from 16th Street and Mariposa Street to drop off locations at the project site, with striped bicycle lanes and exclusive turn lanes provided on the approaches to 16th Street and Mariposa Street. Figure 16 and Figure 17 show the geometric lane configuration at the study intersections for the Year 2015 and Year 2025 conditions, respectively. The traffic operations analysis at the twelve study intersections was conducted based on the HCM 2000 methodology.

The results of the future intersection LOS analysis performed at the study intersections for the Phase 1 conditions are summarized in Table 21 (p. 40). Detailed calculations are included in Appendix E. All of the study intersections would operate at an acceptable level of service (LOS D or better) under Phase 1 (Year 2015) conditions, thus no mitigation measures are required.
Figure 14
UCSF MEDICAL CENTER ALTERNATIVE 1 (PHASE 1) - YEAR 2015 PM PEAK HOUR TURNING MOVEMENT VOLUMES WITH FOURTH STREET CLOSED TO THROUGH TRAFFIC
Figure 15

UCSF MEDICAL CENTER ALTERNATIVE 1 (PHASE 2) - YEAR 2025 PM PEAK HOUR TURNING MOVEMENT VOLUMES WITH FOURTH STREET CLOSED TO THROUGH TRAFFIC

LEGEND

- Signalized Intersection
- Unsignalized Intersection
- PM Peak Hour Volumes

NOT TO SCALE
Figure 16

UCSF MEDICAL CENTER ALTERNATIVE 1 (PHASE 1) - YEAR 2015 GEOMETRIC LANE CONFIGURATIONS WITH FOURTH STREET CLOSED TO THROUGH TRAFFIC

LEGEND
- Signalized Intersection
- Unsignalized Intersection

NORTH
NOT TO SCALE
Figure 17
UCSF MEDICAL CENTER ALTERNATIVE 1 (PHASE 2) - YEAR 2025 GEOMETRIC LANE CONFIGURATIONS WITH FOURTH STREET CLOSED TO THROUGH TRAFFIC

NOT TO SCALE

LEGEND
- Signalized Intersection
- Unsignalized Intersection
### Table 21
Intersection Delay and Level of Service
Year 2015 PM Peak Hour
UCSF Medical Center Alternative 1 (Phase 1)
Mission Bay South Infrastructure Plan Roadway Conditions
with Fourth St. Closed to Through Traffic

<table>
<thead>
<tr>
<th>Intersection Name</th>
<th>Traffic Control Device</th>
<th>Intersection Delay (sec./veh.)</th>
<th>Intersection Level of Service (LOS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mariposa St / Third St</td>
<td>Traffic Signal</td>
<td>35.0</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / Minnesota St–Fourth St</td>
<td>Traffic Signal</td>
<td>15.2</td>
<td>B</td>
</tr>
<tr>
<td>Mariposa St / I-280 NB off-ramp–Owens St.</td>
<td>Traffic Signal</td>
<td>32.0</td>
<td>C</td>
</tr>
<tr>
<td>Mariposa St / I-280 SB on-ramp</td>
<td>Traffic Signal</td>
<td>16.5</td>
<td>B</td>
</tr>
<tr>
<td>16th St / Third St</td>
<td>Traffic Signal</td>
<td>46.9</td>
<td>D</td>
</tr>
<tr>
<td>16th St / Fourth St</td>
<td>Traffic Signal</td>
<td>26.1</td>
<td>C</td>
</tr>
<tr>
<td>16th St / Owens St</td>
<td>Traffic Signal</td>
<td>42.1</td>
<td>D</td>
</tr>
<tr>
<td>Owens St. / North Access Rd.</td>
<td>Stop Sign</td>
<td>10.9 (WB)</td>
<td>B</td>
</tr>
<tr>
<td>Owens St. / Center Garage Access</td>
<td>Not built in Phase 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owens St. / South Access Rd.</td>
<td>Stop Sign</td>
<td>14.1 (WB)</td>
<td>B</td>
</tr>
<tr>
<td>16th St. / Seventh St.-Mississippi St.</td>
<td>Traffic Signal</td>
<td>35.5</td>
<td>D</td>
</tr>
<tr>
<td>Seventh St. / Mission Bay Dr.</td>
<td>Traffic Signal</td>
<td>31.2</td>
<td>C</td>
</tr>
</tbody>
</table>

**Notes:**
- Stop Sign control for the minor (garage) approach only
- For unsignalized intersections, delay is presented for the worst stop-controlled approach.


The results of the future intersection LOS analysis performed at the study intersections for the Phase 2 conditions are summarized in Table 22 on the next page. Detailed calculations are included in Appendix E. Eight out of the twelve study intersections would operate at an acceptable level of service (LOS D or better) under Phase 2 (Year 2025) conditions. The intersection of Mariposa and Third Streets would operate at LOS E, the intersection of 16th and Owens Streets would operate at LOS F, and the intersection of 16th and Third Streets would operate at LOS E. In addition, the minor (stop controlled) approach at the garage access at the center of Owens Street would operate at LOS F.
Table 22
Intersection Delay and Level of Service
Year 2025 PM Peak Hour
UCSF Medical Center Alternative 1 (Phase 2)
Mission Bay South Infrastructure Plan Roadway Conditions
with Fourth St. Closed to Through Traffic

<table>
<thead>
<tr>
<th>Intersection Name</th>
<th>Traffic Control Device</th>
<th>Intersection Delay (sec./veh.)</th>
<th>Intersection Level of Service (LOS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mariposa St / Third St</td>
<td>Traffic Signal</td>
<td>63.9</td>
<td>E</td>
</tr>
<tr>
<td>Mariposa St / Minnesota St–Fourth St</td>
<td>Traffic Signal</td>
<td>14.2</td>
<td>B</td>
</tr>
<tr>
<td>Mariposa St / I-280 NB off-ramp–Owens St.</td>
<td>Traffic Signal</td>
<td>43.3</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / I-280 SB on-ramp</td>
<td>Traffic Signal</td>
<td>17.8</td>
<td>B</td>
</tr>
<tr>
<td>16th St / Third St</td>
<td>Traffic Signal</td>
<td>75.4</td>
<td>E</td>
</tr>
<tr>
<td>16th St / Fourth St</td>
<td>Traffic Signal</td>
<td>46.9</td>
<td>D</td>
</tr>
<tr>
<td>16th St / Owens St</td>
<td>Traffic Signal</td>
<td>81.8</td>
<td>F</td>
</tr>
<tr>
<td>Owens St. / North Access Rd.</td>
<td>Stop Sign</td>
<td>13.2 (WB)</td>
<td>B</td>
</tr>
<tr>
<td>Owens St. / Center Garage Access</td>
<td>Stop Sign</td>
<td>&gt;50.0 (WB)</td>
<td>F</td>
</tr>
<tr>
<td>Owens St. / South Access Rd.</td>
<td>Stop Sign</td>
<td>43.9 (WB)</td>
<td>E</td>
</tr>
<tr>
<td>16th St./Seventh St./Mississippi St.</td>
<td>Traffic Signal</td>
<td>47.1</td>
<td>D</td>
</tr>
<tr>
<td>Seventh St. / Mission Bay Blvd</td>
<td>Traffic Signal</td>
<td>35.8</td>
<td>D</td>
</tr>
</tbody>
</table>

Notes:
- Stop Sign control for the minor (garage) approach only
- For unsignalized intersections, delay is presented for the worst stop-controlled approach.
- **Bold** indicates intersection operates at unsatisfactory LOS and delay


Table 22 indicates that the intersection of 16th and Owens Street is estimated to operate at an unacceptable level of service (LOS E) in 2025 during the p.m. peak hour with the operation of Phase 2 of the UCSF Medical Center. The UCSF LRDP Amendment #2 Hospital Replacement FEIR prepared in 2005 identified this significant impact and provided a mitigation measure to reduce the impact to a non-significant level. This mitigation measure is further described in the following section.

### 6.3 Mitigation Measures for Phase 2

As shown in Table 22, the signalized intersections of Mariposa Street and Third Street, 16th Street and Owens Street and 16th Street and Third Street, as well as the unsignalized intersections at Owens Street with the Center Garage Access and South Garage access roads would operate at an unacceptable level of service (LOS E or F) during the PM peak hour in 2025 with the implementation of Phase 2 of the UCSF Medical Center project. The following are the recommended mitigation measures designed to improve traffic conditions at the intersections operating at unacceptable LOS.
Mariposa Street and Third Street Intersection

- **Southbound Approach**: Provision of an exclusive right turn lane and conversion of the shared through-right turn lane to a through lane, resulting in a lane configuration of one exclusive left turn lane, two through lanes and one exclusive right turn lane at this approach. This measure would require widening street right-of-way an additional 11 feet to the west compared to the Mission Bay Plan, for a length of approximately 150 feet.

16th Street and Owens Street Intersection

The implementation of a mitigation measure recommended from the *UCSF LRDP Amendment #2 Hospital Replacement FEIR* and provision of additional left turn lane at northbound approach would improve the operating conditions at this intersection (non-significant impact). The *UCSF LRDP Amendment #2 Hospital Replacement FEIR* recommended the following mitigation measure at this location:

- **Southbound Approach**: Conversion of the exclusive left turn lane to a shared through-left turn lane and conversion of the shared through-right turn lane to an exclusive right turn lane, resulting in a lane configuration of one shared through-left turn lane, one through lane and one exclusive right turn lane at this approach. This measure can be accomplished by restriping the travel lanes within the existing right-of-way and no roadway widening would be required.

In addition, the following measure would also need to be implemented at the intersection of 16th Street and Owens Street Intersection:

- **Northbound Approach**: Provision of an additional exclusive left turn resulting in a lane configuration of two exclusive left-turn lanes, one through lane and one shared through-right turn lane at this approach. This measure would require an increase in the width of the roadway by approximately 11 feet to the east, compared to the Mission Bay Plan, for a length of approximately 200 feet.

16th Street and Third Street Intersection

- **Eastbound Approach**: Conversion of the exclusive left turn lane to a shared through-left turn lane and conversion of the shared through-right turn lane to an exclusive right turn lane, resulting in a lane configuration of one shared through-left turn lane, one through lane and one exclusive right turn lane at this approach.

- **Westbound Approach**: Conversion of the exclusive left turn lane to a shared through-left turn lane, resulting in a lane configuration of one shared through-left turn lane and one shared through-right turn lane at this approach.

These two measures at the intersection of 16th Street and Third Street can be accomplished by restriping the travel lanes within the existing right-of-way and no roadway widening would be required.

Owens Street and Center Garage Access Intersection

- Signalization of this intersection and also coordination of the signal phasing at this intersection with the intersections of 16th Street and Owens Street, and of Mariposa and I-280 SB on-ramp Intersections.
• Provision of a center turn lane at the UCSF garage access locations. This improvement would increase the width of the roadway by approximately 11 feet to the east between the North and South garage access roads, compared to the Mission Bay Plan.

These two measures would also increase the attractiveness of this intersection to left turning vehicles, resulting in a decrease in expected traffic at the intersection of Owens Street with the South Garage access road, which would then operate at an acceptable level of service (LOS C).

Figure 18 on the next page shows the mitigated geometric lane configurations for Phase 2 at the twelve study intersections.

6.4 Improvement Measures

A traffic volume to capacity analysis of southbound Third Street between 16th Street and Mariposa Street has also been conducted as part of the analysis to ascertain the effects of trucks accessing the service yard at the UCSF Medical Center off of Third Street. The results are summarized in Table 23.

<table>
<thead>
<tr>
<th>PM Peak Hour</th>
<th>UCSF Medical Center Alternative 1</th>
<th>Mission Bay South Infrastructure Plan Roadway Conditions with Fourth St. Closed to Through Traffic</th>
</tr>
</thead>
</table>

### Table 23

**Traffic Volume-to-Capacity Analysis on Third St. SB from 16th St. to Mariposa St.**

<table>
<thead>
<tr>
<th>SB Traffic Volume (veh./h) (1)</th>
<th>No. of lanes available to SB traffic</th>
<th>Roadway Capacity (veh./h) (2)</th>
<th>Volume to Capacity Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phase 1 (2015)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,080</td>
<td>2 (3)</td>
<td>2,340</td>
<td>0.89</td>
</tr>
<tr>
<td>Phase 2 (2025)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2,390</td>
<td>2 (3)</td>
<td>2,340</td>
<td>1.02</td>
</tr>
<tr>
<td>2,390</td>
<td>3 (4)</td>
<td>3,350</td>
<td>0.71</td>
</tr>
</tbody>
</table>

Notes:
- (1) Includes adjustments to reflect peak hour factors and traffic composition
- (2) Adjusted to reflect the presence of trucks accessing the service yard and the potential partial blockage of southbound traffic on Third Street
- (3) Two existing SB lanes on Third St.
- (4) Two existing SB lanes on Third St. plus a truck pullout lane in front of the service yard


As shown in Table 23, the two existing southbound lanes on Third Street would not be sufficient (volume-to-capacity ratio above 1.0) in Phase 2 to accommodate the potential partial blockage of one of the lanes caused by trucks entering or exiting the service yard off of Third Street.
Figure 18
UCSF MEDICAL CENTER ALTERNATIVE I (PHASE 2) - YEAR 2025 GEOMETRIC LANE CONFIGURATIONS WITH FOURTH ST. CLOSED TO THROUGH TRAFFIC - MITIGATED CONDITIONS
It is therefore recommended that as an improvement measure a truck pullout lane 11 feet wide and approximately 230 feet long be provided between the two driveways. The provision of the truck pullout lane would add sufficient capacity for southbound traffic (volume-to-capacity ratio of 0.73, below 1.0) in the event of a partial blockage caused by trucks entering or exiting the service yard.

The implementation of the mitigation measure described above at the intersection of Mariposa Street and Third Street would improve the expected LOS from E to D and would reduce the average vehicle delay from approximately 63.9 sec/veh to 38.8 sec/veh. The mitigation measure at 16th and Owens Streets would improve the LOS from F to D and would reduce the average vehicle delay from 81.8 sec/veh to about 43.9 sec/veh. The mitigation measure at 16th Street and Third Street intersection would improve the LOS from E to D and would reduce the delay from 75.4 sec/veh to 50.6 sec/veh. The installation of a new traffic signal at the intersection of Owens Street and Center Garage Access and the implementation of center turn lanes would improve the LOS from F to B. The improved operation conditions at the mitigated study intersections are shown in Table 24. More detailed mitigated intersection LOS calculations are included in Appendix E.

### Table 24
Intersection Delay and Level of Service

<table>
<thead>
<tr>
<th>Year 2025 PM Peak Hour</th>
</tr>
</thead>
<tbody>
<tr>
<td>UCSF Medical Center Alternative 1 (Phase 2)</td>
</tr>
<tr>
<td>Mission Bay South Infrastructure Plan Roadway Conditions with Fourth St. Closed to Through Traffic Mitigated Conditions</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Intersection Name</th>
<th>Traffic Control Device</th>
<th>Intersection Delay (sec./veh.)</th>
<th>Intersection Level of Service (LOS)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Mariposa St / Third St</strong></td>
<td>Traffic Signal</td>
<td>38.8</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / Minnesota St–Fourth St</td>
<td>Traffic Signal</td>
<td>13.7</td>
<td>B</td>
</tr>
<tr>
<td>Mariposa St / I-280 NB off-ramp–Owens St.</td>
<td>Traffic Signal</td>
<td>45.2</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / I-280 SB on-ramp</td>
<td>Traffic Signal</td>
<td>17.8</td>
<td>B</td>
</tr>
<tr>
<td><strong>16th St / Third St</strong></td>
<td>Traffic Signal</td>
<td>50.6</td>
<td>D</td>
</tr>
<tr>
<td>16th St / Fourth St</td>
<td>Traffic Signal</td>
<td>46.9</td>
<td>D</td>
</tr>
<tr>
<td><strong>16th St / Owens St</strong></td>
<td>Traffic Signal</td>
<td>43.9</td>
<td>D</td>
</tr>
<tr>
<td>Owens St. / North Access Rd.</td>
<td>Stop Sign</td>
<td>13.2 (WB)</td>
<td>B</td>
</tr>
<tr>
<td><strong>Owens St. / Center Garage Access</strong></td>
<td>Traffic Signal</td>
<td>10.5</td>
<td>B</td>
</tr>
<tr>
<td>Owens St. / South Access Rd.</td>
<td>Stop Sign</td>
<td>16.5 (WB)</td>
<td>C</td>
</tr>
<tr>
<td>16th St./Seventh St.-Mississippi St.</td>
<td>Traffic Signal</td>
<td>47.1</td>
<td>D</td>
</tr>
<tr>
<td>Seventh St. / Mission Bay Dr.</td>
<td>Traffic Signal</td>
<td>35.8</td>
<td>D</td>
</tr>
</tbody>
</table>

**Notes:**
- Stop Sign control for the minor (garage) approach only
- For unsignalized intersections, delay is presented for the worst stop-controlled approach.
- Mitigated intersections are shown in **bold italics**

7. UCSF MEDICAL CENTER ALTERNATIVE 2 –
FOURTH ST. OPEN AS A PRIVATE ROADWAY

A second alternative that UCSF is evaluating calls for maintaining the proposed alignment of Fourth Street per the Mission Bay Plan so that traffic would be allowed to travel the entire length between 16th Street and Mariposa Street, but through vehicles would be discouraged with traffic calming measures and pedestrian crosswalks.

7.1 Site Plan Description

Under this development alternative Fourth Street would be open through the center of the UCSF site but as a private (U.C. Regents) roadway. Fourth Street would be used primarily for accessing the project site (drop offs and pick ups, access to the garages, deliveries, etc.) but could also be used for through travel. The design of Fourth Street would discourage through traffic with the use of traffic calming measures such as raised crosswalks, narrow lanes and sidewalk bulbouts. A striped bicycle lane adjacent to the vehicle travel lane in the street right-of-way (Class II bicycle facility) would be provided on both sides of Fourth Street, between 16th and Mariposa Streets. It is estimated that approximately 250 to 350 vehicles would travel on Fourth Street during the PM peak hour, compared to 750 to 900 vehicles per hour under public street conditions.

7.2 Intersection Operating Conditions

The same 12 study intersections identified in the previous section have been analyzed for this development option. As a baseline condition for this analysis, Fourth Street was assumed to be configured as a single lane roadway in both directions from 16th Street to Mariposa Street, with very limited on-street parking and with exclusive turn lanes provided on the approaches to 16th Street and Mariposa Street.

The future turning movement volumes estimated for the Year 2015 (Phase 1) and Year 2025 (Phase 2) conditions during the p.m. peak hour for this roadway alternative are shown in Figures 19 and 20, respectively. Figures 21 and 22 show the geometric lane configuration at the study intersections for Year 2015 and Year 2025 conditions, respectively. The geometric lane configurations and the traffic control devices at the study intersections used for the analysis of this alternative also include the mitigation measures proposed for Phase 2 (Year 2025) assuming that Fourth Street is closed for through traffic, with the exception of the reconfiguration of the eastbound and westbound lanes at the intersection of 16th and Third Streets. The eastbound and westbound (16th Street) approaches to this intersection would retain the same lane configuration as proposed in the Mission Bay Plan and shown in Figure 8, one exclusive left turn, one through lane and one shared through-right turn lane.

The results of the future intersection LOS analysis performed at the study intersections for the year 2015 and 2025 conditions during the p.m. peak hour are summarized in Tables 25 and 26, respectively (pp. 52 and 53). Detailed calculations are included in Appendix F. As shown in Tables 25 and 26, under year 2015 and 2025 conditions, all the study intersections would operate at an acceptable level of service (LOS D or better).
Figure 19
UCSF MEDICAL CENTER ALTERNATIVE 2 (PHASE 1) - YEAR 2015 PM PEAK HOUR TURNING MOVEMENT VOLUMES WITH FOURTH STREET OPEN AS A PRIVATE ROADWAY

LEGEND

Signalized Intersection
Unsignalized Intersection
PM Peak Hour Volumes

NOT TO SCALE

16th St.

Mariposa St.

Connecticut St.

Missouri St.

Texas St.

Pennsylvania St.

Illinois St.

Minnesota St.

Indiana St.

Wisconsin St.

Arkansas St.

Connecticut St.

Wisconsin St.

Tennessee St.

Indiana St.

Missouri St.

Connecticut St.

Arkansas St.

Texas St.

Missouri St.

Pennsylvania St.

Illinois St.

Minnesota St.

Indiana St.

Wisconsin St.

Carolina St.

16th St.

17th St.

18th St.

19th St.

20th St.

Mariposa St.

Pennsylvania St.

Illinois St.

Minnesota St.

Indiana St.

Wisconsin St.

Arkansas St.

Connecticut St.

Wisconsin St.

Tennessee St.

Indiana St.

Missouri St.

Connecticut St.

Arkansas St.

Texas St.

Missouri St.

Pennsylvania St.

Illinois St.

Minnesota St.

Indiana St.

Wisconsin St.

Carolina St.

16th St.

17th St.

18th St.

19th St.

20th St.

Mariposa St.

Pennsylvania St.

Illinois St.

Minnesota St.

Indiana St.

Wisconsin St.

Arkansas St.

Connecticut St.

Wisconsin St.

Tennessee St.

Indiana St.

Missouri St.

Connecticut St.

Arkansas St.

Texas St.

Missouri St.

Pennsylvania St.

Illinois St.

Minnesota St.

Indiana St.

Wisconsin St.
Figure 21
UCSF MEDICAL CENTER ALTERNATIVE 2 (PHASE - 1)
YEAR 2015 GEOMETRIC LANE CONFIGURATION WITH FOURTH STREET OPEN AS A PRIVATE ROADWAY
Figure 22
UCSF MEDICAL CENTER ALTERNATIVE 2 (PHASE - 2)
YEAR 2025 GEOMETRIC LANE CONFIGURATION WITH FOURTH STREET OPEN AS A PRIVATE ROADWAY - MITIGATED CONDITIONS

LEGEND
- Signalized Intersection
- Unsignalized Intersection
Table 25
Intersection Delay and Level of Service
Year 2015 PM Peak Hour
UCSF Medical Center Alternative 2 (Phase 1)
Mission Bay South Infrastructure Plan Roadway Conditions
with Fourth Street Open as a Private Roadway

<table>
<thead>
<tr>
<th>Intersection Name</th>
<th>Traffic Control Device</th>
<th>Intersection Delay (sec./veh.)</th>
<th>Intersection Level of Service (LOS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mariposa St / Third St</td>
<td>Traffic Signal</td>
<td>38.4</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / Minnesota St–Fourth St</td>
<td>Traffic Signal</td>
<td>18.3</td>
<td>B</td>
</tr>
<tr>
<td>Mariposa St / I-280 NB off-ramp–Owens St.</td>
<td>Traffic Signal</td>
<td>24.9</td>
<td>C</td>
</tr>
<tr>
<td>Mariposa St / I-280 SB on-ramp</td>
<td>Traffic Signal</td>
<td>16.5</td>
<td>B</td>
</tr>
<tr>
<td>16th St / Third St</td>
<td>Traffic Signal</td>
<td>35.5</td>
<td>D</td>
</tr>
<tr>
<td>16th St / Fourth St</td>
<td>Traffic Signal</td>
<td>27.3</td>
<td>C</td>
</tr>
<tr>
<td>16th St / Owens St</td>
<td>Traffic Signal</td>
<td>42.3</td>
<td>D</td>
</tr>
<tr>
<td>Owens St. / North Garage Access</td>
<td>Stop Sign</td>
<td>10.6 (WB)</td>
<td>B</td>
</tr>
<tr>
<td>Owens St. / Center Garage Access</td>
<td>Not built in Phase 1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Owens St. / South Garage Access</td>
<td>Stop Sign</td>
<td>13.2 (WB)</td>
<td>B</td>
</tr>
<tr>
<td>16th St./Seventh St.-Mississippi St.</td>
<td>Traffic Signal</td>
<td>35.5</td>
<td>D</td>
</tr>
<tr>
<td>Seventh St. / Mission Bay Dr.</td>
<td>Traffic Signal</td>
<td>31.2</td>
<td>C</td>
</tr>
</tbody>
</table>

Notes:
- Stop Sign control for the minor (garage) approach only
- For unsignalized intersections, delay is presented for the worst stop-controlled approach.

Table 26
Intersection Delay and Level of Service
Year 2025 PM Peak Hour
UCSF Medical Center Alternative 2 (Phase 2)
Mission Bay South Infrastructure Plan Roadway Conditions
with Fourth Street Open as a Private Roadway
Mitigated Conditions

<table>
<thead>
<tr>
<th>Intersection Name</th>
<th>Traffic Control Device</th>
<th>Intersection Delay (sec. /veh.)</th>
<th>Intersection Level of Service (LOS)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mariposa St / Third St</td>
<td>Traffic Signal</td>
<td>49.1</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / Minnesota St–Fourth St</td>
<td>Traffic Signal</td>
<td>18.5</td>
<td>B</td>
</tr>
<tr>
<td>Mariposa St / I-280 NB off-ramp–Owens St.</td>
<td>Traffic Signal</td>
<td>41.8</td>
<td>D</td>
</tr>
<tr>
<td>Mariposa St / I-280 SB on-ramp</td>
<td>Traffic Signal</td>
<td>17.8</td>
<td>B</td>
</tr>
<tr>
<td><strong>16th St / Third St</strong></td>
<td><strong>Traffic Signal</strong></td>
<td><strong>45.6</strong></td>
<td><strong>D</strong></td>
</tr>
<tr>
<td>16th St / Fourth St</td>
<td>Traffic Signal</td>
<td>43.1</td>
<td>D</td>
</tr>
<tr>
<td><strong>16th St / Owens St</strong></td>
<td><strong>Traffic Signal</strong></td>
<td><strong>44.0</strong></td>
<td><strong>D</strong></td>
</tr>
<tr>
<td>Owens St. / North Garage Access</td>
<td>Stop Sign</td>
<td>12.6 (WB)</td>
<td>B</td>
</tr>
<tr>
<td><strong>Owens St. / Center Garage Access</strong></td>
<td><strong>Traffic Signal</strong></td>
<td><strong>10.5</strong></td>
<td><strong>B</strong></td>
</tr>
<tr>
<td>Owens St. / South Garage Access</td>
<td>Stop Sign</td>
<td>15.1 (WB)</td>
<td>C</td>
</tr>
<tr>
<td>16th St./Seventh St.-Mississippi St.</td>
<td>Traffic Signal</td>
<td>47.1</td>
<td>D</td>
</tr>
<tr>
<td>Seventh St. / Mission Bay Dr.</td>
<td>Traffic Signal</td>
<td>35.8</td>
<td>D</td>
</tr>
</tbody>
</table>

Notes:
- Stop Sign control for the minor (garage) approach only
- For unsignalized intersections, delay is presented for the worst stop-controlled approach.
- Mitigated intersections are shown in *bold italics*

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

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Stopped Delay (seconds/vehicle)</th>
<th>Typical Traffic Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤ 10.0</td>
<td><strong>Very Low Delays:</strong> Progression is extremely favorable, and most vehicles arrive during the green phase. Most vehicles do not stop at all.</td>
</tr>
<tr>
<td>B</td>
<td>&gt; 10.0 and ≤ 20.0</td>
<td><strong>Minimal Delays:</strong> 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.</td>
</tr>
<tr>
<td>C</td>
<td>&gt; 20.0 and ≤ 35.0</td>
<td><strong>Acceptable Delays:</strong> 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.</td>
</tr>
<tr>
<td>D</td>
<td>&gt; 35.0 and ≤ 55.0</td>
<td><strong>Tolerable Delays:</strong> 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.</td>
</tr>
<tr>
<td>E</td>
<td>&gt; 55.0 and ≤ 80.0</td>
<td><strong>Significant Delays:</strong> 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.</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 80.0</td>
<td><strong>Excessive Delays:</strong> Considered to be unacceptable to most drivers. Often occurs with over saturation, 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.</td>
</tr>
</tbody>
</table>


Table A-2
Level of Service Criteria and Definitions for Two-way STOP-controlled Intersections

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Average Total Delay (seconds/vehicle)</th>
<th>Typical Traffic Condition</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤ 10</td>
<td>Little or no delay</td>
</tr>
<tr>
<td>B</td>
<td>&gt; 10 and ≤ 15</td>
<td>Short traffic delays</td>
</tr>
<tr>
<td>C</td>
<td>&gt; 15 and ≤ 25</td>
<td>Average traffic delays</td>
</tr>
<tr>
<td>D</td>
<td>&gt; 25 and ≤ 35</td>
<td>Long traffic delays</td>
</tr>
<tr>
<td>E</td>
<td>&gt; 35 and ≤ 50</td>
<td>Very long traffic delays</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 50</td>
<td>*</td>
</tr>
</tbody>
</table>

* 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.

<table>
<thead>
<tr>
<th>Level of Service</th>
<th>Average Total Delay (seconds/vehicle)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A</td>
<td>≤ 10</td>
</tr>
<tr>
<td>B</td>
<td>&gt; 10 and ≤ 15</td>
</tr>
<tr>
<td>C</td>
<td>&gt; 15 and ≤ 25</td>
</tr>
<tr>
<td>D</td>
<td>&gt; 25 and ≤ 35</td>
</tr>
<tr>
<td>E</td>
<td>&gt; 35 and ≤ 50</td>
</tr>
<tr>
<td>F</td>
<td>&gt; 50</td>
</tr>
</tbody>
</table>


Intersection Analysis

As part of the Highway Capacity Manual, 2000 methodology (HCM), adjustments are typically made to the capacity of each intersection to account for various factors that reduce the ability of the streets to accommodate vehicles. These adjustments are performed to ensure that the LOS analysis results reflect the operating conditions that are observed in the field.

The following are the standard HCM adjustments that were applied in the intersection analyses conducted for this project:
- Area type
- Lane width
- Grade
- Heavy vehicles
- Parking
- Bus blockages
- Conflicting pedestrians
- Vehicle arrival type
Scenario Report

Scenario: Existing PM
Command: Existing
Volume: Existing
Geometry: Existing
Impact Fee: Default Impact Fee
Trip Generation: Default Trip Generation
Paths: Default Paths
Routes: Default Routes
Configuration: Existing

Impact Analysis Report

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Base Del/ V/</th>
<th>Future Del/ V/</th>
<th>Change in</th>
</tr>
</thead>
<tbody>
<tr>
<td># 1 Mariposa Street at 3rd Street</td>
<td>C 20.0</td>
<td>C 20.0</td>
<td>+ 0.000</td>
</tr>
<tr>
<td># 2 Mariposa St / Minnesota St</td>
<td>B 0.6</td>
<td>B 0.6</td>
<td>+ 0.000</td>
</tr>
<tr>
<td># 3 Mariposa Street at I-280 Off R</td>
<td>D 49.9</td>
<td>D 49.9</td>
<td>+ 0.000</td>
</tr>
<tr>
<td># 4 Mariposa Street at I-280 On Ra</td>
<td>E 40.4</td>
<td>E 40.4</td>
<td>+ 0.000</td>
</tr>
<tr>
<td># 5 16th Street at 3rd Street</td>
<td>C 20.0</td>
<td>C 20.0</td>
<td>+ 0.000</td>
</tr>
<tr>
<td># 6 16th Street at 4th Street</td>
<td>B 12.3</td>
<td>B 12.3</td>
<td>+ 0.000</td>
</tr>
<tr>
<td># 7 16th Street at Owens Street</td>
<td>B 14.0</td>
<td>B 14.0</td>
<td>+ 0.000</td>
</tr>
<tr>
<td># 11 16th Street at 7th Street</td>
<td>C 27.4</td>
<td>C 27.4</td>
<td>+ 0.000</td>
</tr>
</tbody>
</table>

Traffix 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
### Level of Service Computation Report

#### 2002 HCM Operations Method (Base Volume Alternative)

**Interaction #1 Mission Street at Minnesota St**

<table>
<thead>
<tr>
<th>Cycle (sec)</th>
<th>Critical Vol./Cap.(x)</th>
<th>Loss Time (sec)</th>
<th>Average Delay (sec/veh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>72</td>
<td>0.60</td>
<td>12.2</td>
<td>25.6</td>
</tr>
</tbody>
</table>

**Optimal Cycle:** 90

**Level of Service:** C

#### 1994 HCM Unsignalized Method (Base Volume Alternative)

**Approach:**
- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

**Movement:**
- **L  -  T  -  R**
- **L  -  T  -  R**
- **L  -  T  -  R**
- **L  -  T  -  R**

**Rights:**
- Include
- Include
- Include
- Include

**Lanes:**
- 0  0  1  0  0
- 0  0  0  0  0
- 0  1  1  0  0
- 0  1  1  0  0

**Volume Module:**

**Base Vol:**
- 56  979  22  18  690  162  152  59  53  15  97  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:**
- 56  979  22  18  690  162  152  59  53  15  97  22

**Reduced Vol:**
- 63  1108  25  20  781  183  172  67  60  17  110  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

**Final Vol.:**
- 63  1108  25  20  781  183  172  67  60  17  110  25

---

**Saturation Flow Module:**

**Sat/Lane:**
- 1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900  1900

**Adjusted:**
- 0.84  0.82  0.82  0.84  0.79  0.79  0.84  0.78  0.78  0.84  0.81  0.81

**Lanes:**
- 1.00  1.00  0.94  1.00  1.00  1.62  0.38  1.00  1.05  0.95  1.00  1.63  0.37

**Final Sat.:**
- 1592  3055  69  1592  2461  573  1592  1558  1400  1592  2523  572

---

**Capacity Module:**

**Vol/Sat:**
- 0.04  0.36  0.36  0.01  0.32  0.32  0.11  0.04  0.04  0.01  0.04  0.04

**Crit Moves:**
- ****

**Green/Cycle:**
- 0.67  0.60  0.60  0.02  0.55  0.73  0.18  0.20  0.05  0.07  0.07

**Volume/Cap:**
- 0.58  0.61  0.61  0.61  0.58  0.44  0.61  0.21  0.21  0.21  0.61  0.61

**Delay/Veh:**
- 61.5  13.0  13.0  105.5  15.0  5.6  43.5  31.0  31.0  47.2  52.4  52.4

**User Del/Veh:**
- 1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00  1.00

**Adj/Veh:**
- 61.5  13.0  13.0  105.5  15.0  5.6  43.5  31.0  31.0  47.2  52.4  52.4

**LOS by Move:**
- E  B  B  F  R  A  D  C  D  C  D  D

---

**Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA**
# Level Of Service Computation Report

## 2000 HCM Unsignalized Method (Base Volume Alternative)

### Intersection #4 Mariposa Street at I-280 Off Ramp

**Intersection #4 Mariposa Street at I-280 On Ramp**

**Street Name:**
- North Bound: Mariposa Street
- South Bound: I-280 On Ramp
- East Bound: Mariposa Street
- West Bound: I-280 On Ramp

**Movement:**
- L - T - R
- L - T - R
- L - T - R
- L - T - R

**Control:**
- Uncontrolled
- Stop Sign

**Rights:**
- Include
- Include
- Include
- Ignore

**Lanes:**
- 0 0 0 0 0
- 0 0 1 0 1
- 1 0 0 0 1
- 0 0 0 0 0

**Volume Module:**
- Initial Bse: 465 0 132 0 0 0 0 99 0 0 99 0 0 420 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 1.00 1.00 1.00 1.00
- PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88
- PHF Volume: 526 0 149 0 0 0 0 112 0 0 112 0 0 475 0 112 0 0 475 0
- Reduced Vol: 526 0 149 0 0 0 0 112 0 0 112 0 0 475 0 112 0 0 475 0
- Final Vol.: 526 0 149 0 0 0 0 112 0 0 112 0 0 475 0 112 0 0 475 0

**Critical Gap Module:**
- Critical Gap: 6.4 6.2 3.3 0.6
- Control Del: 11.3 45.1

**Capacity Module:**
- Conflict Vol: 306 306 306 306
- Potent.Cap: 686 734 734
- Volume/Cap: 0.16 0.95

**Level Of Service Module:**
- Base Vol: 270 615 695
- User Adj: 1.00 1.00 1.00
- PHF Volume: 306 695
- Reduced Vol: 306 695
- Final Vol.: 306 695

**Saturation Flow Module:**
- Sat/Lane: 1900 1900 1900 1900
- Final Sat.: 1367 0 3184 0

**Capacity Analysis Module:**
- Viol.: 0.9 0.9 0.9 0.9
- Volume/Cap: 1.12 0.25 0.25 0.25
- Delay/Veh: 103.0 0.0 0.0 0.0
- LOS by Move: A A A A A A A A

Note: Queue reported is the number of cars per lane.

---

**Level Of Service Computation Report**

## 2000 HCM Operations Method (Base Volume Alternative)

### Intersection #3 Mariposa Street at I-280 Off Ramp

**Intersection #3 Mariposa Street at I-280 Off Ramp**

**Street Name:**
- North Bound: Mariposa Street
- South Bound: I-280 Off Ramp

**Movement:**
- L - T - R
- L - T - R
- L - T - R
- L - T - R

**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 1.00

**PHF Adj:**
- 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88

**Initial Bse:**
- 465 0 132 0 0 0 0 99 0 0 99 0 0 420 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 1.00

**PHF Adj:**
- 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88

**PHF Volume:**
- 526 0 149 0 0 0 0 112 0 0 112 0 0 475 0 112 0 0 475 0

**Reduced Vol:**
- 526 0 149 0 0 0 0 112 0 0 112 0 0 475 0 112 0 0 475 0

**Final Vol.:**
- 526 0 149 0 0 0 0 112 0 0 112 0 0 475 0 112 0 0 475 0

**Saturation Flow Module:**
- Sat/Lane: 1900 1900 1900 1900
- Final Sat.: 1367 0 3184 0

**Capacity Analysis Module:**
- Viol.: 0.9 0.9 0.9 0.9
- Volume/Cap: 1.12 0.25 0.25 0.25
- Delay/Veh: 103.0 0.0 0.0 0.0
- LOS by Move: A A A A A A A A

Note: Queue reported is the number of cars per lane.
### Level of Service Conditions

#### Existing PM Conditions

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>4th Street</th>
<th>16th Street</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach:</td>
<td>North Bound</td>
<td>South Bound</td>
</tr>
<tr>
<td>Movement:</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
<tr>
<td>Control:</td>
<td>Stop Sign</td>
<td>Stop Sign</td>
</tr>
<tr>
<td>Rights:</td>
<td>Include</td>
<td>Include</td>
</tr>
<tr>
<td>Lane:</td>
<td>0 1 0 0 0 0 0 0 0 0 0 0 0 0 0</td>
<td>0 0 1 0 0 0 0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>Volume Module:</td>
<td>Base Vol: 271 871 11 18 658 71 162 100 202 10 87 41</td>
<td>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 1.00 1.00</td>
</tr>
<tr>
<td>Reduct Vol:</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
</tr>
<tr>
<td>Reduced Vol:</td>
<td>0 0 0 0 0 0 0 0 0 0 0 0 0 0 0</td>
<td></td>
</tr>
<tr>
<td>MLF Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
</tr>
<tr>
<td>Critical Gap Module:</td>
<td>Critical Gp: xxxxx xxxx xxxx 6.8 xxxx 6.9 4.1 xxxx xxxx xxxx xxxx</td>
<td></td>
</tr>
<tr>
<td>Level of Service Module:</td>
<td>Level of Service Computation Report</td>
<td>Level of Service Computation Report</td>
</tr>
<tr>
<td>Movement:</td>
<td>LT - LTR - RT</td>
<td>LT - LTR - RT</td>
</tr>
<tr>
<td>LOS by Move:</td>
<td>B</td>
<td>B</td>
</tr>
<tr>
<td>HCM2kAvgQ:</td>
<td>3 10 10 1 1 9 9 5 2 6 4 4 4</td>
<td></td>
</tr>
</tbody>
</table>

Note: Queue reported is the number of cars per lane.

---

Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 16th Street at 7th Street

Cycle (sec): 110  Critical Vol./Cap. (X): 0.597
Loss Time (sec): 9 (Y+R=5.0 sec)  Average Delay (sec/veh): 14.0
Optimal Cycle: 26  Level Of Service: B

Movement:
- L - T - R  L - T - R  L - T - R  L - T - R

Rights:
- Include  Include  Include  Include

Min. Green:
- 0  0  0  0  0  0  0  0  0  0  0  0

Lanes:
- 0  0  0  0  0  0  0  0  0  0  0  0

Volume Module:
- Base Vol: 27 403 23 128 166 44 25 346 79 62 185 166
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Initial Bse: 27 403 23 128 166 44 25 346 79 62 185 166
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- PHF Adj: 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88 0.88
- PHF Vol: 31 456 26 145 188 50 28 352 89 70 209 188
- Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
- Reduced Vol: 31 456 26 145 188 50 28 352 89 70 209 188
- PCE Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Final Vol: 31 456 26 145 188 50 28 352 89 70 209 188

Saturation Flow Module:
- Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- Final Sat: 1769 1862 1583 1769 1426 378 177 2445 558 589 1757 1583

Capacity Analysis Module:
- Vol/Sat: 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00
- Crit Moves: *****  *****  *****  *****  *****  *****  *****  *****  *****  *****  *****  *****
- Volume/Cap: 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30 0.30
- Delay/Veh: 20.5 33.5 22.5 24.3 26.4 24.6 26.8 26.8 26.8 25.4 25.4 25.4
- User Del/Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Adel/Veh: 22.5 33.5 22.5 24.3 26.4 24.6 26.8 26.8 26.8 25.4 25.4 25.4
- HCM2kAvgQ: 1.14 1.33 1.33 1.33 1.33 1.33 1.33 1.33 1.33 1.33 1.33 1.33

Note: Queue reported is the number of vehicles per lane.

Traffix 7.8.015 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
UCSF Medical Center – Phase 1
289-Bed Hospital + 278,500 gsq.ft. ACC Program
## Trip Generation

### 289-Bed Hospital + 278,500 gsq.ft. ACC Program

**UCSF Medical Center at Mission Bay**

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Average Weekday Staff and Visitor Population</th>
<th>Daily Person Trip Rate /a/</th>
<th>Net External Daily Person Trips</th>
<th>Mode Splits /b/</th>
<th>Total All Modes</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hospital/ACC</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physician/Faculty</td>
<td>304 2.23 678</td>
<td>400 59% 34 5% 75 11%</td>
<td>27 4% 41 6% 47 7%</td>
<td>14 2% 41 6%</td>
<td>678 100%</td>
</tr>
<tr>
<td>Hospital Staff</td>
<td>696 2.23 1,052</td>
<td>559 36% 78 5% 233 15%</td>
<td>140 9% 326 21% 78 5%</td>
<td>31 2% 109 7%</td>
<td>1,552 100%</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>172 2.23 384</td>
<td>138 36% 19 5% 58 15%</td>
<td>35 9% 81 21% 19 5%</td>
<td>8 2% 27 7%</td>
<td>384 100%</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>1,172 2.23 2,614</td>
<td>1,097 42% 131 5% 365 14%</td>
<td>202 8% 447 17% 144 6%</td>
<td>52 2% 176 7%</td>
<td>2,614 100%</td>
</tr>
<tr>
<td>Hospital Inpatients</td>
<td>248 2.00 492</td>
<td>177 36% 25 5% 74 15%</td>
<td>44 9% 103 21% 25 5%</td>
<td>10 2% 34 7%</td>
<td>492 100%</td>
</tr>
<tr>
<td>Visitors to Inpatients</td>
<td>615 2.00 1,230</td>
<td>726 59% 62 5% 135 11%</td>
<td>49 4% 74 6% 86 7%</td>
<td>25 2% 74 6%</td>
<td>1,230 100%</td>
</tr>
<tr>
<td>ACC Outpatients</td>
<td>1,810 2.00 3,620</td>
<td>1,303 36% 181 5% 543 15%</td>
<td>326 9% 760 21% 181 5%</td>
<td>72 2% 253 7%</td>
<td>3,620 100%</td>
</tr>
<tr>
<td>Visitors with Outpatients</td>
<td>1,810 2.00 3,620</td>
<td>1,303 36% 181 5% 543 15%</td>
<td>326 9% 760 21% 181 5%</td>
<td>72 2% 253 7%</td>
<td>3,620 100%</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>45 2.00 90</td>
<td>53 59% 5 5% 10 11%</td>
<td>4 4% 5 6% 6 7%</td>
<td>2 2% 5 6%</td>
<td>90 100%</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>21 2.00 42</td>
<td>42 100%</td>
<td>0 0% 0 0%</td>
<td>0 0% 0 0%</td>
<td>0 0% 42 100%</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>4,547 2.00 9,094</td>
<td>3,604 40% 453 5% 1,305 14%</td>
<td>749 8% 1,703 19% 479 5%</td>
<td>181 2% 620 7%</td>
<td>9,094 100%</td>
</tr>
<tr>
<td><strong>Total Hospital / ACC</strong></td>
<td>5,719 11,708</td>
<td>4,701 40% 583 5% 1,670 14%</td>
<td>950 8% 2,150 18% 623 5%</td>
<td>233 2% 797 7%</td>
<td>11,708 100%</td>
</tr>
<tr>
<td><strong>Research/Office</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physician/Faculty</td>
<td>- 2.23 0</td>
<td>0 59% 0 5% 11 0%</td>
<td>4 0% 6 7% 2 0%</td>
<td>0 6% 0 0%</td>
<td></td>
</tr>
<tr>
<td>Research/Office Staff</td>
<td>- 2.23 0</td>
<td>0 36% 0 5% 15 0%</td>
<td>0 9% 21 0% 5 0%</td>
<td>2 0% 7 0%</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>0 0 0</td>
<td>0 0 0 0 0 - 0 - 0 - 0 - 0</td>
<td>0 0</td>
<td></td>
<td>0 0%</td>
</tr>
<tr>
<td>Visitors to Research Staff</td>
<td>- 2.00 0</td>
<td>0 59% 0 5% 11 0%</td>
<td>4 0% 6 7% 2 0%</td>
<td>0 6% 0 0%</td>
<td></td>
</tr>
<tr>
<td>Vendors to Research Staff</td>
<td>- 2.00 0</td>
<td>0 100% 0 0% 0 0%</td>
<td>0 0% 0 0% 0 0%</td>
<td>0 0% 0 0%</td>
<td></td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>0 0 0</td>
<td>0 0 0 0 0 - 0 - 0 - 0 - 0</td>
<td>0 0</td>
<td></td>
<td>0 0%</td>
</tr>
<tr>
<td><strong>Total Research/Office</strong></td>
<td>0 0 0</td>
<td>0 0 0 0 0 - 0 - 0 - 0 - 0</td>
<td>0 0</td>
<td></td>
<td>0 0%</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>5,719 2.05 11,708</td>
<td>4,701 40% 583 5% 1,670 14%</td>
<td>950 8% 2,150 18% 623 5%</td>
<td>233 2% 797 7%</td>
<td>11,708 100%</td>
</tr>
</tbody>
</table>

/a/ Daily trip rate from the UCSF LRDP EIR, 1997.
/b/ Mode of travel based on Parnassus and Mount Zion transportation surveys, and UCSF LRDP EIR.
/c/ Vehicle trips are calculated based on the following formula: Drive Alone trips + (Drop-off trips x 2) + (Carpool trips / 2) + (Vanpool trips / 10) + (Bike/Motorcycle trips / 4).

Note that outpatient visitors are assumed to accompany the outpatient; therefore, while outpatient visitors will generate person trips, additional vehicle trips would not be generated.

d/ Source: Parnassus Heights Transportation Surveys, 1992 and 1999
/e/ No parking absentee rate is assumed, as the average weekday faculty, staff, and student population already accounts for absentee rates.
/f/ For parking generation, Mode Split accounts for drive-alone, carpool and vanpool trips.
/g/ Based on UCSF LRDP EIR 1996, Volume 3, Appendix 3, Table2, Footnote (2), page A-54.

MB Med Center trip generation 2008 07 31.xls
289 Beds + 278.5 ksf ACC
### Trip Generation

**289-Bed Hospital + 278,500 gsq.ft. ACC Program**

**UCSF Medical Center at Mission Bay**

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Daily Vehicle Trips /cf</th>
<th>Average Vehicle Occupancy (pass. per vehicle)</th>
<th>All Daily Transit Trips</th>
<th>Peak Hour Percentages /d/</th>
<th>PM Peak Hour</th>
<th>Other Transit</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PM Peak Hour Vehicles</td>
<td>MUNI In</td>
<td>Total In</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>In</td>
<td>Out</td>
<td>In</td>
</tr>
<tr>
<td><strong>Hospital/ACC</strong></td>
<td></td>
<td></td>
<td></td>
<td>17%</td>
<td>3%</td>
<td>13%</td>
</tr>
<tr>
<td>Physician/Faculty</td>
<td>511</td>
<td>1.07</td>
<td>88</td>
<td>13%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Hospital Staff</td>
<td>852</td>
<td>1.22</td>
<td>404</td>
<td>26%</td>
<td>9%</td>
<td>72%</td>
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<tr>
<td>House Staff/Intern/Student</td>
<td>211</td>
<td>1.22</td>
<td>100</td>
<td>26%</td>
<td>13%</td>
<td>5%</td>
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<td>1.17</td>
<td>591</td>
<td>23%</td>
<td>18%</td>
<td>2%</td>
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<tr>
<td>Hospital Inpatients</td>
<td>270</td>
<td>1.22</td>
<td>128</td>
<td>26%</td>
<td>9%</td>
<td>78%</td>
</tr>
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<td>927</td>
<td>1.07</td>
<td>160</td>
<td>13%</td>
<td>7%</td>
<td>82%</td>
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<tr>
<td>ACC Outpatients</td>
<td>1,967</td>
<td>2.44</td>
<td>941</td>
<td>26%</td>
<td>22%</td>
<td>78%</td>
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<td>Visitors with Outpatients</td>
<td>68</td>
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<td>12</td>
<td>13%</td>
<td>7%</td>
<td>72%</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>42</td>
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<td>0%</td>
<td>10%</td>
<td>19%</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>42</td>
<td>1.07</td>
<td>0</td>
<td>0%</td>
<td>10%</td>
<td>19%</td>
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<td><strong>Subtotal</strong></td>
<td>3,295</td>
<td>1.91</td>
<td>2,182</td>
<td>24%</td>
<td>8%</td>
<td>11%</td>
</tr>
<tr>
<td><strong>Total Hospital / ACC</strong></td>
<td>4,869</td>
<td>1.67</td>
<td>2,773</td>
<td>24%</td>
<td>12%</td>
<td>13%</td>
</tr>
<tr>
<td><strong>Research/Office</strong></td>
<td></td>
<td></td>
<td></td>
<td>12%</td>
<td>3%</td>
<td>100%</td>
</tr>
<tr>
<td>Physician/Faculty</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Research/Office Staff</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Visitors to Research Staff</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td>Vendors to Research Staff</td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Subtotal</strong></td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Total Research/Office</strong></td>
<td>0</td>
<td>0.00</td>
<td>0</td>
<td>0%</td>
<td>0%</td>
<td>100%</td>
</tr>
<tr>
<td><strong>Grand Total</strong></td>
<td>4,869</td>
<td>1.67</td>
<td>2,773</td>
<td>24%</td>
<td>12%</td>
<td>13%</td>
</tr>
</tbody>
</table>
UCSF Medical Center – Phase 2
550-Bed Hospital + 436,500 gsf.f.t. ACC Program
<table>
<thead>
<tr>
<th>Population Group</th>
<th>Average Weekday Staff and Visitor Population</th>
<th>Daily Person Trip Rate</th>
<th>Daily Person Trips</th>
<th>Proportion of Internal UCSF Trips</th>
<th>Net External Daily Person Trips</th>
<th>Mode Splits /b/</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Drive Alone</td>
<td>Drop-off</td>
<td>Carpool</td>
<td>Vanpool</td>
<td>MUNI</td>
<td>Other Transit</td>
</tr>
<tr>
<td>Hospital/ACC</td>
<td>680 59%</td>
<td>58 5%</td>
<td>127 11%</td>
<td>46 4%</td>
<td>69 6%</td>
<td>81 7%</td>
</tr>
<tr>
<td>Physician/Faculty</td>
<td>1,107 36%</td>
<td>154 5%</td>
<td>461 15%</td>
<td>277 9%</td>
<td>646 21%</td>
<td>154 5%</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>263 36%</td>
<td>37 5%</td>
<td>110 15%</td>
<td>66 9%</td>
<td>154 21%</td>
<td>37 5%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>2,224 22%</td>
<td>4,960 0%</td>
<td>2,051 41%</td>
<td>248 5%</td>
<td>869 18%</td>
<td>271 5%</td>
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<tr>
<td>Hospital Inpatients</td>
<td>468 2.00</td>
<td>936 0%</td>
<td>0 0%</td>
<td>936</td>
<td>0 0%</td>
<td>0 0%</td>
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<tr>
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<td>1,170 2.00</td>
<td>2,340 0%</td>
<td>0 0%</td>
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<tr>
<td>ACC Outpatients</td>
<td>2,838 2.00</td>
<td>5,676 0%</td>
<td>0 0%</td>
<td>5,676</td>
<td>0 0%</td>
<td>0 0%</td>
</tr>
<tr>
<td>Visitors with Outpatients</td>
<td>2,043 36%</td>
<td>284 5%</td>
<td>851 15%</td>
<td>511 9%</td>
<td>1,192 21%</td>
<td>284 5%</td>
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<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>111 59%</td>
<td>9 5%</td>
<td>21 11%</td>
<td>8 4%</td>
<td>11 6%</td>
<td>13 7%</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>74 100%</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
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<tr>
<td>Subtotal</td>
<td>7,445 2.00</td>
<td>14,890 0%</td>
<td>5,899 40%</td>
<td>1,207 8%</td>
<td>2,732 18%</td>
<td>791 5%</td>
</tr>
<tr>
<td>Research/Office</td>
<td>- 2.23</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
</tr>
<tr>
<td>Physician/Faculty</td>
<td>- 2.23</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
</tr>
<tr>
<td>Research/Office Staff</td>
<td>- 2.23</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
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<td>- 0 0%</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
</tr>
<tr>
<td>Visitors to Research Staff</td>
<td>- 2.00</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
</tr>
<tr>
<td>Vendors to Research Staff</td>
<td>- 2.00</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
<td>0 0%</td>
</tr>
<tr>
<td>Subtotal</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
</tr>
<tr>
<td>Total Research / Office</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
<td>- 0 0%</td>
</tr>
<tr>
<td>Grand Total</td>
<td>9,669 2.05</td>
<td>19,850 0%</td>
<td>9,804 41%</td>
<td>1,596 8%</td>
<td>3,601 18%</td>
<td>1,062 5%</td>
</tr>
</tbody>
</table>

/a/ Daily trip rate from the UCSF LRDP EIR, 1997.
/b/ Mode of travel based on Parnassus and Mount Zion transportation surveys, and UCSF LRDP EIR.
/c/ Vehicle trips are calculated based on the following formula: Drive Alone trips + (Drop-off trips / 2) + (Carpool trips / 2) + (Vanpool trips / 10) + (Bike/Motorcycle trips / 4).

Note that outpatient visitors are assumed to accompany the outpatient; therefore, while outpatient visitors will generate person trips, additional vehicle trips would not be generated.

Source: Parnassus Heights Transportation Surveys, 1992 and 1999

No parking absentee rate is assumed, as the average weekday faculty, staff, and student population already accounts for absentee rates.

Based on UCSF LRDP EIR 1996, Volume 3, Appendix 3, Table 2, Footnote (2), page A-54.
## Trip Generation

### 550-Bed Hospital + 436,500 gsq.ft. ACC Program

#### UCSF Medical Center at Mission Bay

<table>
<thead>
<tr>
<th>Population Group</th>
<th>Daily Vehicle Trips /a</th>
<th>Average Vehicle Occupancy (pass. per vehicle)</th>
<th>All Daily Transit Trips</th>
<th>Peak Hour Percentages /b/</th>
<th>PM Peak Hour /d/</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>PM Peak Hour % of Daily</td>
<td>Vehicles % In % Out</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital/ACC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Physician/Faculty</td>
<td>869 1.07</td>
<td>150 13%</td>
<td>12% 0% 100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Hospital Staff</td>
<td>1,688 1.22</td>
<td>800 26%</td>
<td>23% 3% 97%</td>
<td>12 377 389</td>
<td>4 144 1 34</td>
</tr>
<tr>
<td>House Staff/Intern/Student</td>
<td>402 1.22</td>
<td>190 26%</td>
<td>13% 5% 95%</td>
<td>3 50 53</td>
<td>1 19 0 5</td>
</tr>
<tr>
<td>Subtotal</td>
<td>2,959 1.18</td>
<td>1,140 23%</td>
<td>18% 3% 97%</td>
<td>15 531 546</td>
<td>5 171 1 49</td>
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<tr>
<td>Hospital Inpatients</td>
<td>514 1.22</td>
<td>243 26%</td>
<td>9% 22% 78%</td>
<td>10 36 46</td>
<td>4 14 1 3</td>
</tr>
<tr>
<td>Visitors to Inpatients</td>
<td>1,764 1.07</td>
<td>304 13%</td>
<td>7% 28% 72%</td>
<td>35 89 124</td>
<td>3 7 3 8</td>
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<tr>
<td>ACC Outpatients</td>
<td>3,116 2.44</td>
<td>1,476 26%</td>
<td>9% 22% 78%</td>
<td>62 219 281</td>
<td>24 84 6 20</td>
</tr>
<tr>
<td>Visitors with Outpatients</td>
<td>3,116 2.44</td>
<td>1,476 26%</td>
<td>9% 22% 78%</td>
<td>0 0 0</td>
<td>24 84 6 20</td>
</tr>
<tr>
<td>Visitors to Hospital/ACC Staff</td>
<td>142 1.07</td>
<td>24 13%</td>
<td>7% 28% 72%</td>
<td>3 7 10</td>
<td>0 1 0 1</td>
</tr>
<tr>
<td>Vendors to Hospital/ACC Staff</td>
<td>74 1.00</td>
<td>0 0%</td>
<td>10% 19% 81%</td>
<td>1 6 7</td>
<td>0 0 0 0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>5,710 1.85</td>
<td>3,324 24%</td>
<td>8% 24% 76%</td>
<td>111 387 468</td>
<td>55 190 16 52</td>
</tr>
<tr>
<td>Total Hospital / ACC</td>
<td>8,569 1.61</td>
<td>4,663 23%</td>
<td>12% 12% 88%</td>
<td>126 888 1,014</td>
<td>60 361 17 101</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Research/Office</th>
<th>Daily Vehicle Trips /a</th>
<th>Average Vehicle Occupancy (pass. per vehicle)</th>
<th>All Daily Transit Trips</th>
<th>Peak Hour Percentages /b/</th>
<th>PM Peak Hour /d/</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physician/Faculty</td>
<td>0 0.00</td>
<td>0 0%</td>
<td>12% 0% 100%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Research/Office Staff</td>
<td>0 0.00</td>
<td>0 0%</td>
<td>23% 3% 97%</td>
<td>0 0 0</td>
<td>0 0 0 0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>0 0.00</td>
<td>0 0%</td>
<td>0% 0% 100%</td>
<td>0 0</td>
<td></td>
</tr>
<tr>
<td>Visitors to Research Staff</td>
<td>0 0.00</td>
<td>0 0%</td>
<td>7% 28% 72%</td>
<td>0 0 0</td>
<td>0 0 0 0</td>
</tr>
<tr>
<td>Vendors to Research Staff</td>
<td>0 0.00</td>
<td>0 0%</td>
<td>10% 19% 81%</td>
<td>0 0 0</td>
<td>0 0 0 0</td>
</tr>
<tr>
<td>Subtotal</td>
<td>0 0.00</td>
<td>0 0%</td>
<td>0% 0% 100%</td>
<td>0 0</td>
<td></td>
</tr>
<tr>
<td>Total Research / Office</td>
<td>0 0.00</td>
<td>0 0%</td>
<td>0% 0% 100%</td>
<td>0 0</td>
<td>0 0 0 0</td>
</tr>
</tbody>
</table>

| Grand Total      | 8,569 1.61             | 4,663 23%                                     | 12% 12% 88%            | 126 888 1,014           | 60 361 17 101   |                  |                          |
PROJECT: FOURTH ST. OPEN AS A PUBLIC ROADWAY
PHASE 1 (2015) – UNMITIGATED CONDITIONS
## Impact Analysis Report

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Base Del/ Veh</th>
<th>Base LOS Veh</th>
<th>Future Del/ Veh</th>
<th>Future LOS Veh</th>
<th>Change in LOS</th>
</tr>
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<tbody>
<tr>
<td># 1 Mariposa St / 3rd St</td>
<td>C 27.9 0.933</td>
<td>C</td>
<td>C 27.9 0.933</td>
<td></td>
<td>+ 0.000 D/V</td>
</tr>
<tr>
<td># 2 Mariposa St / Minnesota St / 4th</td>
<td>B 18.9 0.457</td>
<td>B</td>
<td>B 18.9 0.457</td>
<td></td>
<td>+ 0.000 D/V</td>
</tr>
<tr>
<td># 3 Mariposa St / I-280 NB Off-Ram</td>
<td>D 49.4 0.672</td>
<td>D</td>
<td>D 49.4 0.672</td>
<td></td>
<td>+ 0.000 D/V</td>
</tr>
<tr>
<td># 4 Mariposa St / I-280 SB On-Ramp</td>
<td>B 15.7 0.651</td>
<td>B</td>
<td>B 15.7 0.651</td>
<td></td>
<td>+ 0.000 D/V</td>
</tr>
<tr>
<td># 5 16th St / 3rd St</td>
<td>C 27.4 0.847</td>
<td>C</td>
<td>C 27.4 0.847</td>
<td></td>
<td>+ 0.000 D/V</td>
</tr>
<tr>
<td># 6 16th St / 4th St</td>
<td>C 23.7 0.777</td>
<td>C</td>
<td>C 23.7 0.777</td>
<td></td>
<td>+ 0.000 D/V</td>
</tr>
<tr>
<td># 7 16th St / Owens St</td>
<td>D 39.1 0.872</td>
<td>D</td>
<td>D 39.1 0.872</td>
<td></td>
<td>+ 0.000 D/V</td>
</tr>
<tr>
<td># 8 Garage Access at Owens</td>
<td>C 3.4 0.000</td>
<td>C</td>
<td>C 3.4 0.000</td>
<td></td>
<td>+ 0.000 D/V</td>
</tr>
<tr>
<td># 11 16th St / Mississippi St / 7th S</td>
<td>D 37.6 0.777</td>
<td>D</td>
<td>D 37.6 0.777</td>
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<td>+ 0.000 D/V</td>
</tr>
<tr>
<td># 12 7th and Mission Bay Drive</td>
<td>C 30.9 0.648</td>
<td>C</td>
<td>C 30.9 0.648</td>
<td></td>
<td>+ 0.000 D/V</td>
</tr>
</tbody>
</table>

**Level Of Service**
### Trafficix 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA

#### Level Of Service Computation Report

**2000 HCM Operations Method (Base Volume Alternative)**

**Intersection #1 Mariposa St / 3rd St**

**Critical Vol./Cap. (X):**
- Minimum Green: 0
- Demand: 74 1512 91 1540 221 218 162 241
- Optimal Cycle: 115
- Critical Volume: 0.457
- Loss Time: 8
- Average Delay: 18.9

**Approach:**
- North Bound: L - T - R
- South Bound: L - T - R
- East Bound: L - T - R
- West Bound: L - T - R

**Saturation Flow Module:**
- Sat/Lane:
  - 3rd St: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
  - Mariposa St: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Adjustment:**
- 0.93 0.91 0.91 0.91 0.93 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89

**Final Sat.:**
- 1769 3383 84 1769 2961 419 1076 1064 1604 344 2735 697

**Capacity Analysis Module:**
- **Vol/Sat:** 0.04 0.44 0.44 0.02 0.55 0.55 0.16 0.16 0.26 0.16 0.06 0.06
- **Crit Moves:** **** **** **** ****
- **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 1.00 1.00
- **MFL Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Final Vol.:** 75 1477 37 32 1621 229 171 254 418 56 165 42

**Note:** Queue reported is the number of cars per lane.

---

### Trafficix 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA

#### Level Of Service Computation Report

**2000 HCM Operations Method (Base Volume Alternative)**

**Intersection #2 Mariposa St / 4th St**

**Critical Vol./Cap. (X):**
- Minimum Green: 0
- Demand: 75 1572 91 1572 235 235 125 125 121 121 396 45 19 317 26

**Approach:**
- North Bound: L - T - R
- South Bound: L - T - R
- East Bound: L - T - R
- West Bound: L - T - R

**Saturation Flow Module:**
- Sat/Lane:
  - 4th St: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
  - Mariposa St: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Adjustment:**
- 0.93 0.91 0.91 0.93 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89 0.89

**Final Sat.:**
- 1769 3383 84 1769 2961 419 1076 1064 1604 344 2735 697

**Capacity Analysis Module:**
- **Vol/Sat:** 0.04 0.44 0.44 0.02 0.55 0.55 0.16 0.16 0.26 0.16 0.06 0.06
- **Crit Moves:** **** **** **** ****
- **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 1.00 1.00
- **MFL Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- **Final Vol.:** 54 9 95 235 5 125 121 396 45 19 317 26

**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

2000 HCM Operations Method (Base Volume Alternative)

### Intersection 3: Mariposa St / I-280 NB Off-Ramp

- **Critical Vol./Cap. (X):** 0.651
- **Loss Time (sec):** 7 (Y+R=4.0 sec)
- **Average Delay (sec/veh):** 15.7

### Traffic Module:

- **Initial Bse:** 0
- **User Adj:** 1.00
- **PHF Adj:** 0.95
- **PHF Volume:** 0
- **Reduct Vol:** 0
- **Reduced Vol:** 0
- **Sat/Lane:** 1900
- **Capacity Analysis Module:**
  - **Vol/Sat:** 0.50
  - **Capacity:** 0.29
  - **Volume/Cap:** 1.04
  - **User Drk Adj:** 1.00
  - **AdjDel/veh:** 93.3
  - **HCM Kilovg:** 28

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

#### 2000 HCM Operations Method (Base Volume Alternative)

**Cycle (sec):** 60  
**Critical Vol./Cap.(X):** 0.777  
**Loss Time (sec):** 12 (Y+R=4.0 sec)  
**Average Delay (sec/veh):** 23.7

<table>
<thead>
<tr>
<th>Street Name</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
</tr>
<tr>
<td>Control</td>
<td>Protected</td>
<td>Protected</td>
<td>Protected</td>
<td>Protected</td>
</tr>
<tr>
<td>Min. Green</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lanes</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
</tr>
</tbody>
</table>

**Base Vol:** 96 100 89 140 223 300 206 417 16 31 833 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  
**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:** 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  

**PHF Volume:** 101 105 94 147 235 316 217 439 17 33 877 23  
**Reduct Vol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**Reduced Vol:** 101 105 94 147 235 316 217 439 17 33 877 23  

**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  
**Optimal Cycle:** 75  
**Level Of Service:** C

### Saturation Flow Module

<table>
<thead>
<tr>
<th>Sat/Lane</th>
<th>Base Vol: 96 100 89 140 223 300 206 417 16 31 833 22</th>
<th>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</th>
</tr>
</thead>
<tbody>
<tr>
<td>Initial Bse: 96 100 89 140 223 300 206 417 16 31 833 22</td>
<td>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</td>
<td></td>
</tr>
</tbody>
</table>

**Initial Bse:** 96 100 89 140 223 300 206 417 16 31 833 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:** 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
**PHF Volume:** 101 105 94 147 235 316 217 439 17 33 877 23  
**Reduced Vol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**Reduced Vol:** 101 105 94 147 235 316 217 439 17 33 877 23  

**Final Vol:** 101 105 94 147 235 316 217 439 17 33 877 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:** 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  

### Capacity Analysis Module

<table>
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<tr>
<th>Vol/Sat</th>
<th>0.10 0.38 0.38 0.02 0.46 0.46 0.05 0.18 0.18 0.01 0.16 0.16</th>
</tr>
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<tbody>
<tr>
<td>Green/Cycle</td>
<td>0.12 0.63 0.63 0.03 0.54 0.54 0.06 0.23 0.23 0.02 0.19 0.19</td>
</tr>
<tr>
<td>Volume/Cap: 0.85 0.60 0.60 0.60 0.85 0.85 0.85 0.77 0.77 0.77 0.85 0.85</td>
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</tr>
<tr>
<td>Delay/Veh: 55.5 10.5 10.5 59.0 21.2 21.2 85.9 36.7 36.7 119.4 44.8 44.8</td>
<td></td>
</tr>
<tr>
<td>User Del/Veh: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
</tr>
</tbody>
</table>

**AdjDel/Veh:** 53.5 10.5 10.5 59.0 21.2 21.2 85.9 36.7 36.7 119.4 44.8 44.8  
**LOS by Move:** D B B E C C D  
**HCM2kAvgQ:** 8 12 12 2 23 23 5 10 10 2 11 11  

Note: Queue reported is the number of cars per lane.
2000 HCM Operations Method (Base Volume Alternative)

Level Of Service Computation Report

1994 HCM Unsignalized Method (Base Volume Alternative)

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## UCSF Medical Center at Mission Bay - Transportation Study

### 2000 HCM Operations Method (Base Volume Alternative)

#### Cycle (sec): 110
- Critical Vol./Cap. (X): 0.648
- Loss Time (sec): 9 (Y+R=5.0 sec)
- Average Delay (sec/veh): 30.9

#### Movement:
- **L - T - R**
- **L - T - R**
- **L - T - R**
- **L - T - R**

<table>
<thead>
<tr>
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<td>0</td>
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<tr>
<td>Lanes</td>
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<td>1</td>
<td>0</td>
<td>1</td>
</tr>
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#### 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: 0 758 62 529 280 0 0 0 0 73 0 581

#### 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

#### Final Vol.: 0 798 65 557 295 0 0 0 0 77 0 612

#### Volume Module:
- **Lanes:** 0.00 2.00 1.00 2.00 1.00 0.00 0.00 0.00 1.00 0.00 2.00
- **Volume:** 29 277 25 148 134 70 90 425 85 68 1201 454

#### Capacity Analysis Module:
- **Vol/Sat:** 0.02 0.15 0.02 0.12 0.12 0.33 0.33 0.33 0.44 0.44 0.30
- **Crit Moves:** **** **** **** ****
- **Mean/Cycle:** 0.24 0.24 0.24 0.20 0.20 0.20 0.48 0.48 0.48 0.45 0.45 0.65
- **Delay/Veh:** 32.7 41.2 32.7 39.4 42.7 42.7 24.5 24.5 24.5 52.5 52.0 18.1
- **LOS by Move:** A C C D B A A A A A A
- **HCM2kAvgQ:** 1 10 1 5 7 7 10 10 10 30 30 8

**Note:** Queue reported is the number of cars per lane.
PROJECT: FOURTH ST. OPEN AS A PUBLIC ROADWAY
PHASE 2 (2025) – UNMITIGATED CONDITIONS
Scenario Report

Scenario: 2025 Cumulative
Command: 2025 Cumulative
Volume: 2025 Cumulative
Geometry: Existing
Impact Fee: Default Impact Fee
Trip Generation: Default Trip Generation
Trip Distribution: Default Trip Distribution
Paths: Default Paths
Routes: Default Routes
Configuration: Existing

Impact Analysis Report

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Base Del/ V/</th>
<th>Future Del/ V/</th>
<th>Change</th>
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<tbody>
<tr>
<td></td>
<td>LOS Veh</td>
<td>C</td>
<td></td>
</tr>
<tr>
<td># 1 Mariposa St / 3rd St</td>
<td>D 53.2</td>
<td>1.095</td>
<td>+ 0.000 D/V</td>
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<tr>
<td># 2 Mariposa St / Minnesota St/4th St</td>
<td>C 20.2</td>
<td>0.581</td>
<td>+ 0.000 D/V</td>
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<tr>
<td># 3 Mariposa St / I-280 NB Off-Ramp</td>
<td>D 53.1</td>
<td>0.750</td>
<td>+ 0.000 D/V</td>
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<tr>
<td># 4 Mariposa St / I-280 SB On-Ramp</td>
<td>B 16.5</td>
<td>0.721</td>
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</tr>
<tr>
<td># 5 16th St / 3rd St</td>
<td>D 35.7</td>
<td>0.955</td>
<td>+ 0.000 D/V</td>
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<tr>
<td># 6 16th St / 4th St</td>
<td>D 37.0</td>
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<td>+ 0.000 D/V</td>
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<tr>
<td># 7 16th St / Owens St</td>
<td>E 70.4</td>
<td>1.068</td>
<td>+ 0.000 D/V</td>
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<td># 8 Garage Access at Owens</td>
<td>F 103.8</td>
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<td>+ 0.000 D/V</td>
</tr>
<tr>
<td># 11 16th St / Mississippi St/7th S</td>
<td>D 48.6</td>
<td>0.865</td>
<td>+ 0.000 D/V</td>
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<tr>
<td># 12 7th and Mission Bay Drive</td>
<td>C 34.7</td>
<td>0.767</td>
<td>+ 0.000 D/V</td>
</tr>
</tbody>
</table>

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### Level of Service Computation Report

**Intersection #1: Minnesota St / 3rd St**

#### Cycle (sec): 60  Critical Vol./Cap.(X): 0.581  Loss Time (sec): 8 (Y+R=4.0 sec)  Average Delay (sec/veh): 20.2

**Optimal Cycle:** 35  **Level Of Service:** C

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>Control</td>
<td>Protected</td>
<td>Protected</td>
<td>Protected</td>
<td>Protected</td>
</tr>
</tbody>
</table>

#### Volume Module:
- **Base Vol.**
- **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:**
- **Reduced Vol.**
- **PCE Adj.:**
- **MLF Adj.:**
- **Final Vol.:**

#### Saturation Flow Module:
- **Sat/Lane:**
- **Adjustment:**
- **Lanes:**

#### Capacity Analysis Module:
- **Vol/Sat:**
- **Crit Moves:**
- **Green/Cycle:**
- **Delay/Veh:**
- **Adj/Day/Veh:**

---

**Note:** Queue reported is the number of cars per lane.

---

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---

**Intersection #2: Mariposa St / 4th St**

#### Cycle (sec): 60  Critical Vol./Cap.(X): 0.581  Loss Time (sec): 8 (Y+R=4.0 sec)  Average Delay (sec/veh): 20.2

**Optimal Cycle:** 35  **Level Of Service:** C

<table>
<thead>
<tr>
<th>Approach</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
<td>L  -  T  -  R</td>
</tr>
<tr>
<td>Control</td>
<td>Protected</td>
<td>Protected</td>
<td>Protected</td>
<td>Protected</td>
</tr>
</tbody>
</table>

#### Volume Module:
- **Base Vol.**
- **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:**
- **Reduced Vol.**
- **PCE Adj.:**
- **MLF Adj.:**
- **Final Vol.:**

#### Saturation Flow Module:
- **Sat/Lane:**
- **Adjustment:**
- **Lanes:**

#### Capacity Analysis Module:
- **Vol/Sat:**
- **Crit Moves:**
- **Green/Cycle:**
- **Delay/Veh:**
- **Adj/Day/Veh:**

---

**Note:** Queue reported is the number of cars per lane.

---

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### Level Of Service Computation Report

#### 2000 HCM Operations Method (Base Volume Alternative)

**Intersection #3: Mariposa St / I-280 SB Off-Ramp**

**Cycle (sec):** Critical Vol./Cap. (X): 0.750

**Loss Time (sec):** 12 (Y+R=3.0 sec) Average Delay (sec/veh): 531

**Optimal Cycle:** 123

**Level Of Service:** D

**Street Name:** I-280 SB On-Ramp

**Approach:** North Bound

**Movement:** L  -  T  -  R

**Rights:** Include

**Min. Green:** 0 36 36 36

**Final Sat.:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Volume Module:**

| Base Vol: | 529 456 280 288 | 0 787 12 125 0 0 683 48 |
| Growth Adj: | 1.00 1.00 1.00 1.00 1.00 |
| Initial Bse: | 529 456 280 288 | 0 787 12 125 0 0 683 48 |
| User Adj: | 1.00 1.00 1.00 1.00 1.00 |
| PHF Adj: | 0.95 0.95 0.95 0.95 0.95 |
| PHF Volume: | 557 480 295 303 0 828 13 132 0 719 51 |
| Reduced Vol: | 0 0 0 0 0 0 0 0 0 0 0 0 |
| Reduced Vol: | 557 480 295 303 0 828 13 132 0 719 51 |
| PCE Adj: | 1.00 1.00 1.00 1.00 1.00 |
| MLF Adj: | 1.00 1.00 1.00 1.00 1.00 |
| Final Sat.: | 1787 2088 1282 1769 0 2786 309 3215 0 4702 330 |

**Saturation Flow Module:**

| Vol/Sat.: | 0.31 0.23 0.23 0.17 0.00 0.30 0.04 0.04 0.00 0.00 0.15 0.15 |
| Crit Moves: | 0.29 0.29 0.29 0.27 0.00 0.44 0.34 0.34 0.00 0.00 0.37 0.37 |
| Volume/Cap: | 1.06 0.79 0.79 0.64 0.00 0.68 0.15 0.12 0.00 0.00 0.90 0.90 |
| Delay/Veh: | 101.3 44.2 44.2 42.6 0.0 29.1 29.2 27.9 0.0 0.69 61.9 61.9 |
| User Del/Veh: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 0.00 0.00 0.00 0.00 |
| AdjDel/Veh: | 101.3 44.2 44.2 42.6 0.0 29.1 29.2 27.9 0.0 0.69 61.9 61.9 |

**Note:** Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

#### 2000 HCM Operations Method (Base Volume Alternative)

**Intersection #3: Mariposa St / I-280 SB On-Ramp**

**Cycle (sec):** Critical Vol./Cap. (X): 0.721

**Loss Time (sec):** 7 (Y+R=4.0 sec) Average Delay (sec/veh): 16.5

**Optimal Cycle:** 97

**Level Of Service:** B

**Street Name:** I-280 SB On-Ramp

**Approach:** North Bound

**Movement:** L  -  T  -  R

**Rights:** Include

**Min. Green:** 0 36 36 36

**Final Sat.:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

**Volume Module:**

| Base Vol: | 0 36 36 36 36 36 36 36 36 36 36 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 |
| Initial Bse: | 0 36 36 36 36 36 36 36 36 36 36 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 |
| PHF Adj: | 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 |
| PHF Volume: | 0 0 0 0 0 0 0 0 0 0 0 0 |
| Reduced Vol: | 0 0 0 0 0 0 0 0 0 0 0 0 |
| Reduced Vol: | 0 0 0 0 0 0 0 0 0 0 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 |
| MLF Adj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Final Sat.: | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |

**Saturation Flow Module:**

| Vol/Sat.: | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Crit Moves: | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Volume/Cap: | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Delay/Veh: | 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 |
| User Del/Veh: | 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 |
| AdjDel/Veh: | 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 |

**Note:** Queue reported is the number of cars per lane.
### Level Of Service Computation Report

**Intersection #6 16th St / 4th St**

- **Cycle (sec):** 133
- **Critical Vol./Cap.(X):** 0.948
- **Loss Time (sec):** 12 (Y+R=4.0 sec)
- **Average Delay (sec/veh):** 37.0
- **Optimal Cycle:** 94
- **Level Of Service:** D

#### Street Name:
- **North Bound:** 4th St
- **South Bound:** 16th St

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>South Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

- **Volume Module:**
  - **Base Vol:**
    - north bound: 162
    - south bound: 142
    - east bound: 135
    - west bound: 171
  - **Growth Adj:** 1.00
  - **Initial Bse:**
    - north bound: 162
    - south bound: 142
    - east bound: 135
    - west bound: 171
  - **Reduced Vol:**
    - north bound: 171
    - south bound: 149
    - east bound: 142
    - west bound: 180
  - **PCE Adj:** 1.00
  - **Final Sat.:**
    - north bound: 201
    - south bound: 190
    - east bound: 190
    - west bound: 190

- **Capacity Analysis Module:**
  - **Vol/Sat:**
    - north bound: 0.11
    - south bound: 0.41
    - east bound: 0.02
    - west bound: 0.52
  - **Crit Moves:**
    - 0.01
  - **Green/Cycle:**
    - north bound: 0.11
    - south bound: 0.62
    - east bound: 0.62
    - west bound: 0.54
  - **Delay/Veh:**
    - north bound: 190
    - south bound: 143
    - east bound: 143
    - west bound: 143
  - **Adj:Vol/Veh:**
    - north bound: 9.19
    - south bound: 14
    - east bound: 14
    - west bound: 12

Note: Queue reported is the number of cars per lane.

---

### Level Of Service Computation Report

**Intersection #6 16th St / 4th St**

- **Cycle (sec):** 133
- **Critical Vol./Cap.(X):** 0.948
- **Loss Time (sec):** 12 (Y+R=4.0 sec)
- **Average Delay (sec/veh):** 37.0
- **Optimal Cycle:** 94
- **Level Of Service:** D

#### Street Name:
- **North Bound:** 3rd St
- **South Bound:** 16th St

<table>
<thead>
<tr>
<th>Movement</th>
<th>L</th>
<th>T</th>
<th>R</th>
</tr>
</thead>
<tbody>
<tr>
<td>North Bound</td>
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</tr>
<tr>
<td>South Bound</td>
<td>0</td>
<td>0</td>
<td>0</td>
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</tbody>
</table>

- **Volume Module:**
  - **Base Vol:**
    - north bound: 355
    - south bound: 1370
    - east bound: 23
    - west bound: 38
  - **User Adj:** 1.00
  - **PHF Adj:** 0.95
  - **PHF Volume:**
    - north bound: 374
    - south bound: 1442
    - east bound: 24
    - west bound: 40
  - **PCE Adj:** 1.00
  - **Final Vol.:**
    - north bound: 374
    - south bound: 1442
    - east bound: 24
    - west bound: 40

- **Capacity Analysis Module:**
  - **Vol/Sat:**
    - north bound: 0.11
    - south bound: 0.41
    - east bound: 0.02
    - west bound: 0.45
  - **Crit Moves:**
    - 0.01
  - **Delay/Veh:**
    - north bound: 73.7
    - south bound: 11.6
    - east bound: 11.6
    - west bound: 11.6
  - **AdjVol/Veh:**
    - north bound: 9.14
    - south bound: 14
    - east bound: 14
    - west bound: 12

Note: Queue reported is the number of cars per lane.
UCSF Medical Center at Mission Bay - Transportation Study
Year 2025 - 4th St. Open as a Public Roadway

2000 HCM Operations Method (Base Volume Alternative)

Intersection #16th St. / Owens St

Critical Gp: xxxxx xxxxx xxxxx 6.0 xxxxx xxxxx xxxxx xxxxx xxxxx

Level of Service Computation Report

Street Name: Owens St

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### 2000 HCM Operations Method (Base Volume Alternative)

#### Intersection #12 7th and Mission Bay Drive

<table>
<thead>
<tr>
<th>Cycle (sec):</th>
<th>Critical Vol./Cap. (X):</th>
<th>110</th>
<th>0.856</th>
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<tbody>
<tr>
<td>Loss Time (sec):</td>
<td>9 (Y+R=5.0 sec)</td>
<td>3.52</td>
<td>48.6</td>
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<td>Optimal Cycle:</td>
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#### Critical Traffic

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<th>Cycle (sec):</th>
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<th>0.767</th>
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</thead>
<tbody>
<tr>
<td>Loss Time (sec):</td>
<td>9 (Y+R=5.0 sec)</td>
<td>3.52</td>
<td>48.6</td>
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<tr>
<td>Optimal Cycle:</td>
<td>63</td>
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#### Level Of Service Computation Report

<table>
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<tr>
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<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Movement</td>
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<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
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<td>Min. Green:</td>
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<td>0</td>
</tr>
<tr>
<td>Lanes:</td>
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<td>0 0 1 0 0 0</td>
<td>0 0 0 0 1 2</td>
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<tr>
<td>Volume Module:</td>
<td>Base Vol: 30 245 25 155 126 77 106 452 87 69 1522 540</td>
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<td>Growth Adj: 1.00 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95</td>
<td></td>
<td></td>
<td></td>
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<tr>
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<td>Initial Bse: 30 245 25 155 126 77 106 452 87 69 1522 540</td>
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</tr>
<tr>
<td></td>
<td>Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0</td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Reduced Vol: 32 258 26 163 133 81 112 476 92 73 1602 688</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td>Reduced Vol: 32 258 26 163 133 81 112 476 92 73 1602 688</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>PCE Adj: 0.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
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<td>Final Vol.: 32 258 26 163 133 81 112 476 92 73 1602 688</td>
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<td></td>
</tr>
<tr>
<td>Saturation Flow Module:</td>
<td>Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900</td>
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<td></td>
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<td></td>
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</tr>
<tr>
<td></td>
<td>Lanes: 1.00 1.00 1.00 1.00 0.62 0.38 0.39 1.00 0.00 0.00 1.00 0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Final Sat.: 1805 1900 1615 1805 1112 680 288 1230 237 135 2973 1615</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Capacity Analysis Module

| Vol/Sat: | 0.02 0.14 0.02 0.09 0.12 0.12 0.39 0.39 0.39 0.54 0.54 0.35 |
| Crit Moves: | **** |
| Green/Cycle: | 0.61 0.61 0.61 0.61 0.61 0.61 0.61 0.61 0.61 0.61 0.61 0.61 |
| Volume: | 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 0.08 |
| Delay/Veh: | 35.1 35.1 35.1 35.1 35.1 35.1 35.1 35.1 35.1 35.1 35.1 35.1 |
| Adj/Al/Veh: | 35.1 35.1 35.1 35.1 35.1 35.1 35.1 35.1 35.1 35.1 35.1 35.1 |
| HCMM/Avq: | 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9 1.9 |

Note: Queue reported is the number of cars per lane.

---

2025 Cumulative
Mon Feb 25, 2008 21:27:28
Page 12-1
### Scenario Report

**Scenario:** 2025 Cumulative  
**Command:** 2025 Cumulative  
**Volume:** 2025 Cumulative  
**Geometry:** Existing  
**Impact Fee:** Default Impact Fee  
**Trip Generation:** Default Trip Generation  
**Trip Distribution:** Default Trip Distribution  
**Paths:** Default Paths  
**Routes:** Default Routes  
**Configuration:** Existing

---

### Impact Analysis Report

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2000 HCM Operations Method (Base Volume Alternative)

Intersection #2 Mariposa St / Minnesota St

---

Cycle (sec): 90
Critical Vol./Cap.(X): 1.095
Loss Time (sec): 8 (Y+R=4.0 sec)
Average Delay (sec/veh): 2.0
Optimal Cycle: 180
Level of Service: D

---

2000 HCM Operations Method (Base Volume Alternative)

Intersection #1 Mariposa St / 3rd St

---

Cycle (sec): 60
Critical Vol./Cap.(X): 0.581
Loss Time (sec): 8 (Y+R=4.0 sec)
Average Delay (sec/veh): 2.0
Optimal Cycle: 35
Level of Service: C

---

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2025 Cumulative
Tue Feb 26, 2008 12:34:41
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UCSF Medical Center at Mission Bay - Transportation Study
Year 2025 - Fourth St. Open as a Public Roadway
Mitigated Conditions

Level of Service Computation Report

Level of Service Computation Report

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UCSF Medical Center at Mission Bay - Transportation Study
Year 2025 - Fourth St. Open as a Public Roadway
Mitigated Conditions

Level of Service Computation Report

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### Level Of Service Computation Report

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Year 2025 - Fourth St. Open as a Public Roadway

Level Of Service Computation Report

2000 HCM Operations Method (Base Volume Alternative)

Intersection #6 16th St / 4th St

Cycle (sec): 90  Critical Vol./Cap.(X): 0.955
Loss Time (sec): 8 (Y+R=4.0 sec)  Average Delay (sec/veh): 35.7
Optimal Cycle: 133  Level Of Service: D

Rights: Include  Include  Include  Include
Min. Green: 0    0     0     0    0     0     0    0     0     0    0     0

Lanes: 1  0  1  0  1    1  0  1  0  1    1  0  1  1  0

Volume Module:
Base Vol: 355 1370 23 38 1687 80 88 332 296 24 562 88
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: 355 1370 23 38 1687 80 88 332 296 24 562 88

Initial Bse: 355 1370 23 38 1687 80 88 332 296 24 562 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

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: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95

PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95

PHF Volume: 171 149 142 180 296 385 264 432 27 44 983 22

PHF Volume: 171 149 142 180 296 385 264 432 27 44 983 22

Reduced Vol: 0    0     0     0    0     0     0    0     0     0    0     0

Reduced Vol: 0    0     0     0    0     0     0    0     0     0    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 1.00

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

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

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.92 0.95 0.95 0.95 0.94 0.94 0.95 0.98 0.88 0.88 0.95 0.93 0.93

Adjustment: 0.92 0.95 0.95 0.95 0.94 0.94 0.95 0.98 0.88 0.88 0.95 0.93 0.93

Lanes: 2.00 1.97 0.6 1.00 0.91 0.09 1.00 0.16 0.94 1.00 1.73 0.27

Lanes: 2.00 1.97 0.6 1.00 0.91 0.09 1.00 0.16 0.94 1.00 1.73 0.27

Final Vol.: 374 1442 24 40 1776 84 93 349 312 25 592 93

Final Vol.: 374 1442 24 40 1776 84 93 349 312 25 592 93

Vol/Sat: 0.09 0.08 0.09 0.10 0.16 0.24 0.15 0.13 0.13 0.02 0.28 0.28

Vol/Sat: 0.09 0.08 0.09 0.10 0.16 0.24 0.15 0.13 0.13 0.02 0.28 0.28

CapAnalysis: 0.11 0.16 0.16 0.19 0.25 0.25 0.15 0.38 0.38 0.07 0.23 0.29

CapAnalysis: 0.11 0.16 0.16 0.19 0.25 0.25 0.15 0.38 0.38 0.07 0.23 0.29

Volume/Cap: 0.95 0.87 0.95 0.75 0.95 0.52 0.66 0.66 0.66 0.96 0.96 0.96

Volume/Cap: 0.95 0.87 0.95 0.75 0.95 0.52 0.66 0.66 0.66 0.96 0.96 0.96

Delay/Veh: 73.7 11.6 11.6 66.0 31.1 31.1 31.1 31.1 39.4 39.4 137.5 58.6 58.6

Delay/Veh: 73.7 11.6 11.6 66.0 31.1 31.1 31.1 31.1 39.4 39.4 137.5 58.6 58.6

LOS by Move: E  B  B  E  C  C  F  D  D  E  E  E

LOS by Move: E  B  B  E  C  C  F  D  D  E  E  E

Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
Intersection #8 Garage Access at Owens

Cycle (sec): 60
Loss Time (sec): 9 (Y+R=4.0 sec)
Average Delay (sec/veh): 15.5
Optimal Cycle: 43
Level Of Service: B

Approach: North Bound South Bound East Bound West Bound
Control: Protected Protected Protected Protected
Rights: Include Include Include Include

Lanes: 0 0 1 1 0 0 1 1 0 0 0 0 0 0 0 0

Base Vol: 0 482 34 36 779 0 0 0 0 176 0 266
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 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 0 507 36 38 820 0 0 0 0 185 0 280
Reduc Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol.: 0 507 36 38 820 0 0 0 0 185 0 280

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.95 0.95 0.95 1.00 1.00 0.85 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
Lanes: 1.00 1.33 0.67 0.08 1.92 1.00 1.00 1.86 0.14 1.00 1.97 0.03 1.00 1.00 1.00
Final Sat.: 1805 2402 1208 1523441 1615 1805 3499 263 1805 3723 65

Capacity Analysis Module:
Vol/Sat: 0.09 0.15 0.15 0.22 0.22 0.36 0.07 0.14 0.14 0.01 0.40 0.40
Crit Moves: 0
Green/Cycle: 0.09 0.16 0.16 0.23 0.30 0.38 0.07 0.37 0.37 0.12 0.42 0.42
Volume/Cap: 0.91 0.95 0.95 0.95 0.73 0.96 0.96 0.38 0.38 0.05 0.96 0.96
Delay/Veh: 160.7 101.7 0.0 19.9 136.5 59.4 116.3 25.3 41.4 44.5 44.5
User Del/Veh: 0.0 0.10 0.10 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Adj/Del/Veh: 160.7 101.7 0.0 19.9 136.5 59.4 116.3 25.3 41.4 44.5 44.5
LOS by Move: F E E E O E B E F E O
HCM2kAvgQ: 9 13 13 19 14 24 7 7 7 0 30 30
Note: Queue reported is the number of cars per lane.

Level Of Service Computation Report

Intersection #16th St / Owens St

Cycle (sec): 60
Critical Vol./Cap.(X): 0.663
Loss Time (sec): 9 (Y+R=4.0 sec)
Average Delay (sec/veh): 15.5
Optimal Cycle: 43
Level Of Service: B
Intersection #12 7th and Mission Bay Drive

Optimal Cycle: 63
Level Of Service: C

Approach: North Bound  South Bound  East Bound  West Bound

Movement: L  -  T  -  R  L  -  T  -  R  L  -  T  -  R  L  -  T  -  R

Control: Protected  Protected  Protected  Protected

Rights: Include  Include  Include  Include

Min. Green: 0  0  0  0

Lanes: 0  0  2  0

Volume Module:

Growth Adj: 1.00 1.00 1.00 1.00

Initial Bse: 0  813  78  661  267

User Adj: 1.00 1.00 1.00 1.00

PHF Adj: 0.95 0.95 0.95 0.95

PHF Volume: 0  856  82  696  281

Reduced Vol: 0  856  82  696  281

Final Vol.: 0  856  82  696  281

Saturation Flow Module:

Sat/Lane: 1900 1900 1900 1900

Adjustment: 0.95 1.00 0.85 0.95

Lanes: 1.00 1.00 1.00 1.00

Final Sat.: 1855 1900 1615 1805

Capacity Analysis Module:

Vol/Sat: 0.02 0.14 0.02 0.09 0.12 0.12 0.39 0.39 0.39 0.54 0.54 0.35

HCM2kAvgQ: 1  9  1  6  8  8  11  11  42  42  10

Note: Queue reported is the number of cars per lane.
APPENDIX E – LOS ANALYSIS
ALTERNATIVE 1: FOURTH ST CLOSED
ALTERNATIVE 1: FOURTH ST. CLOSED AS A PUBLIC RDWY
PHASE 1 (2015) – UNMITIGATED CONDITIONS
### Impact Analysis Report

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<td>0.000</td>
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<td>+6.382 D/V</td>
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<tr>
<td># 8 Garage Access -North Owens</td>
<td>A</td>
<td>0.0</td>
<td>0.000</td>
<td>B</td>
<td>10.9</td>
<td>0.000</td>
<td>+10.920 D/V</td>
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<tr>
<td># 9 Garage Access -Center Owens</td>
<td>A</td>
<td>0.0</td>
<td>0.000</td>
<td>A</td>
<td>0.0</td>
<td>0.000</td>
<td>+0.000 D/V</td>
</tr>
<tr>
<td># 10 Garage Access -South Owens</td>
<td>A</td>
<td>9.0</td>
<td>0.000</td>
<td>B</td>
<td>14.1</td>
<td>0.000</td>
<td>+5.053 D/V</td>
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<tr>
<td># 11 16th St / Mississippi St/7th S</td>
<td>C</td>
<td>24.4</td>
<td>0.725</td>
<td>D</td>
<td>35.5</td>
<td>0.773</td>
<td>+11.096 D/V</td>
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<tr>
<td># 12 7th and Mission Bay Drive</td>
<td>C</td>
<td>31.1</td>
<td>0.653</td>
<td>C</td>
<td>31.2</td>
<td>0.668</td>
<td>+0.151 D/V</td>
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</tbody>
</table>

Scenario Report

- **Scenario:** 2015 Cumulative
- **Volume:** 2025 Cumulative
- **Geometry:** Existing
- **Impact Fee:** Default Impact Fee
- **Trip Generation:** Project
- **Paths:** Default Paths
- **Routes:** Default Routes
- **Configuration:** Existing
Cycle (sec): 30 Critical Vol./Cap.(X): 0.805 Loss Time (sec): 8.0 (Y+R=4.0 sec) Average Delay (sec/veh): 15.2
Optimal Cycle: 24 Level of Service:

Street Name: Minnesota St/ 4th St
Approach: North Bound      South Bound       East Bound       West Bound
Control:        Protected        Protected        Protected        Protected

Initial Bse:   51    0    99     0    0     0     0  370    43    18  302     0
Added Vol:      0    0     0    50    0    97     2    0     0     0    0     4
PasserByVol:    0    0     0     0    0     0     0    0     0     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:     0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95

Critical Vol./Cap.(X): 1.256 Loss Time (sec): 14.0 (Y+R=4.0 sec) Average Delay (sec/veh): 35.0
Optimal Cycle: 24 Level of Service:

Street Name: Minnesota St/ 4th St
Approach: North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R   ------------|---------------||---------------||---------------||---------------|

Initial Bse:   46 1432    35    30 1723   214   187  241   202    53  157    40
Added Vol:      0    0     0    50    0    97     2    0     0     0    0     4
PasserByVol:    0    0     0     0    0     0     0    0     0     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:     0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95

Note: Queue reported is the number of cars per lane.

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### 2000 HCM Operations Method (Future Volume Alternative)

**Intersection #3 I-280 Off-Ramp / Mariposa St**

**Street Name:** I-280 Off-Ramp, Mariposa St

**Approach:** North Bound, South Bound, East Bound, West Bound

<table>
<thead>
<tr>
<th>Movement</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
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<tbody>
<tr>
<td>Control</td>
<td>Split Phase</td>
<td>Split Phase</td>
<td>Permitted</td>
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<tr>
<td>Rights</td>
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<td>Include</td>
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<tr>
<td>Min. Green</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Lanes</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

**Volume Module:**

- **Base Vol:** 516 351 245 198 0 565 98 24 0 0 481 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
- **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 Vol:** 516 351 245 198 0 616 99 24 0 0 576 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:** 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
- **PHF Volume:** 543 389 260 208 0 648 104 25 0 0 608 37
- **Reduced Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **Reduced Vol:** 543 389 260 208 0 648 104 25 0 0 608 37
- **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
- **Final Vol:** 543 389 260 208 0 648 104 25 0 0 608 37
- **Volume:** 516 351 245 198 0 565 98 24 0 0 481 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
- **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 Vol:** 516 351 245 198 0 616 99 24 0 0 576 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:** 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
- **PHF Volume:** 543 389 260 208 0 648 104 25 0 0 608 37
- **Reduced Vol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **Reduced Vol:** 543 389 260 208 0 648 104 25 0 0 608 37
- **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
- **Final Vol:** 543 389 260 208 0 648 104 25 0 0 608 37

**Note:** Queue reported is the number of cars per lane.

Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
<table>
<thead>
<tr>
<th>Street Name:</th>
<th>Northbound</th>
<th>Southbound</th>
<th>Eastbound</th>
<th>Westbound</th>
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<tbody>
<tr>
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<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
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<tr>
<td>Control:</td>
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<td>Protected</td>
<td>Protected</td>
<td>Protected</td>
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<tr>
<td>Min. Green:</td>
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<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Lanes:</td>
<td>1 1 1 1</td>
<td>0 0 0 0</td>
<td>1 1 1 1</td>
<td>0 0 0 0</td>
</tr>
<tr>
<td>Volume Module:</td>
<td></td>
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<tr>
<td>Base Vol:</td>
<td>337 1319  21 34 1483 73 42 286 415 47 441 79</td>
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<td></td>
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<tr>
<td>Growth Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
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<tr>
<td>Initial Bsv:</td>
<td>337 1319 21 34 1483 73 42 286 415 47 441 79</td>
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<tr>
<td>Added Vol:</td>
<td>8 0 0 0</td>
<td>6 0 0 0</td>
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<td>PHF Adj:</td>
<td>0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95</td>
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<td>PHF Volume:</td>
<td>337 1319 21 34 1483 73 42 286 415 47 441 79</td>
<td></td>
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<td></td>
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<tr>
<td>Reduced Vol:</td>
<td>0 0 0 0</td>
<td>0 0 0 0</td>
<td>0 0 0 0</td>
<td></td>
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<tr>
<td>PCE Adj:</td>
<td>1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00</td>
<td></td>
<td></td>
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<td>2015 Cumulative Mon Jun 30, 2008 17:00:51 Page 7-1</td>
<td></td>
<td></td>
<td></td>
</tr>
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</table>
## Level Of Service Computation Report

**Average Delay (sec/veh):** 0.6

**Worst Case Level Of Service:** B [10.9]

### Approach

<table>
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<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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<tbody>
<tr>
<td>Control</td>
<td>Uncontrolled</td>
<td>Uncontrolled</td>
<td>Stop Sign</td>
<td>Stop Sign</td>
</tr>
<tr>
<td>Rights</td>
<td>Include</td>
<td>Include</td>
<td>Include</td>
<td>Include</td>
</tr>
<tr>
<td>Lanes</td>
<td>0 0 1 1</td>
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### Base Vol

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<tr>
<th>Lane</th>
<th>0 430</th>
<th>0 667</th>
<th>0 0 667</th>
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### Added Vol

<table>
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<tr>
<th>Lane</th>
<th>0 163</th>
<th>70</th>
<th>0 0 70</th>
<th>0 0 0 70</th>
</tr>
</thead>
</table>

### Year 2015 Fourth St. Closed Unmitigated Conditions

### Intersection #7 16th St / Owens St

**Critical Gp:** xxxx xxx xxx xx xxx xx xxx xx xxx xx xxx xx xxx

**Cycle (sec):** 110

**Critical Delay (sec/veh):** 0.899

**Optimal Cycle:** 115

**Level Of Service:** D

### Approach

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Control</td>
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<tr>
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<td>Include</td>
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<tr>
<td>Lanes</td>
<td>1 0 1 1</td>
<td>1 0 1 1</td>
<td>1 0 1 1</td>
<td>1 0 1 1</td>
</tr>
</tbody>
</table>

### Volume Module

**Base Vol:** 17 198 215 38 602 468 112 448 12 53 1071 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:** 17 198 215 38 602 468 112 448 12 53 1071 50

**Added Vol:** 129 78 26 0 4 0 14 7 1 13 0

**PasserByVol:** 0 0 0 0 0 0 0 0 0 0 0 0

**Initial Fld:** 146 276 241 38 606 468 112 462 19 54 1084 50

**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:** 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95

**PHF Volume:** 154 291 254 40 638 493 118 486 20 57 1141 53

**User Vol:** 154 291 254 40 638 493 118 486 20 57 1141 53

**Reduct Vol:** 0 0 0 0 0 0 0 0 0 0 0 0

**Reduced Vol:** 154 291 254 40 638 493 118 486 20 57 1141 53

**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

**Final Vol:** 154 291 254 40 638 493 118 486 20 57 1141 53

### Volume/Cap

**Vol/Sat:** 0.09 0.16 0.16 0.02 0.32 0.32 0.07 0.14 0.14 0.03 0.32 0.32

**Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

### Volume/Cap

**Vol/Sat:** 0.09 0.16 0.16 0.02 0.32 0.32 0.07 0.14 0.14 0.03 0.32 0.32

**Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900

### Critical Gp

**Critical Gp:** xxxx xxxx xxxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxxx

**Cycle (sec):** 110

**Max Delay (Y+R):** 5.0 sec

**Critical Loss Time (sec):** 12

**Average Delay (sec/veh):** 42.1

**Optimal Cycle:** 115

**Level Of Service:** D

### Level Of Service Computation Report

**Note:** Queue reported is the number of cars per lane.

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Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
## Level Of Service Computation Report

### 2000 HCM Unsignalized Method (Future Volume Alternative)

<table>
<thead>
<tr>
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<th>South Bound</th>
<th>East Bound</th>
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<tr>
<td>Control:</td>
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<td>Uncontrolled</td>
<td>Stop Sign</td>
<td>Stop Sign</td>
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<tr>
<td>Lanes:</td>
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<tr>
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<td>PHF Adj:</td>
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<td>Critical Gap Module:</td>
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</table>

### Level Of Service Module:

| Approach Del1: | xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx |
| LOS by Move: |
| Movement: | LT - LTR - RT LT - LTR - RT LT - LTR - RT |
| LT - LTR - RT LT - LTR - RT LT - LTR - RT |
| Shared Cap.: | xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx |
| SharedQueue: | xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx |
| Shrd ConDel: | xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx |
| Shrd LOS: | ** ** ** ** ** ** ** ** ** ** ** ** ** ** |
| ApproachDel1: | xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx |

Note: Queue reported is the number of cars per lane.
Level of Service Computation Report

2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 7th St / Mississippi St/7th St

Street Name: Mississippi St/ 7th St                   16th St
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  2  0  1    2  0  1  0  0    0  0  0  0  0    1  0  0  0  2

Vol/Sat:     0.00 0.23  0.04  0.09 0.16  0.00  0.00 0.00  0.00  0.00 0.00  0.04 0.00 0.02

Volume Module:
Base Vol:     733  652  529  276    0  0  0  0  0  0  0  0  0  0  0  0  0  0  0  0

Adjustment:  0.93 0.83  0.83  0.78 0.78  0.78  0.78 0.78  0.83 0.83 0.83  0.83 0.83 0.83 0.83 0.83 0.83 0.83

Final Sat.:  1769 1862  1583  1769 1161   606   284 1322   268   166 2817  1583

Saturation Flow Module:
Sat/Lane:  1900 1900  1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment:  0.93 0.83  0.83  0.83 0.83  0.83  0.83 0.83  0.83 0.83 0.83  0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83 0.83

Lanes:     0.00 2.00  2.00 1.00 1.00  0.00  0.00 0.00  0.00 0.00 0.00  0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00

Final Sat.:  0 3538  1583  3432 1862     0     0    0     0  1769    0  2786

Note: Queue reported is the number of cars per lane.

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ALTERNATIVE 1: FOURTH ST. CLOSED AS A PUBLIC RDWY
PHASE 2 (2025) – UNMITIGATED CONDITIONS
### Scenario Report

**Scenario:** 2025 Cumulative  
**Command:** 2025 Cumulative  
**Volume:** 2025 Cumulative  
**Geometry:** Existing  
**Impact Fee:** Default Impact Fee  
**Trip Generation:** Project  
**Trip Distribution:** Project  
**Paths:** Default Paths  
**Routes:** Default Routes  
**Configuration:** Existing

### Impact Analysis Report

<table>
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<tr>
<th>Intersection</th>
<th>Base Del/ Veh</th>
<th>Base C</th>
<th>Future Del/ Veh</th>
<th>Future C</th>
<th>Change in Del/ Veh</th>
<th>Change in C</th>
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<tbody>
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<td># 1 Mariposa St / 3rd St</td>
<td>D 50.4 1.046</td>
<td>E 63.9 1.112</td>
<td>+13.497</td>
<td>D/V</td>
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<td></td>
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<tr>
<td># 2 Mariposa St / Minnesota St/4th</td>
<td>B 10.6 0.332</td>
<td>B 14.2 0.406</td>
<td>+ 3.627</td>
<td>D/V</td>
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<tr>
<td># 3 Mariposa St / I-280 NB Off-Ramp</td>
<td>C 33.2 0.629</td>
<td>D 43.3 0.862</td>
<td>+10.111</td>
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<td># 4 Mariposa St / I-280 SB On-Ramp</td>
<td>B 16.2 0.659</td>
<td>B 17.8 0.747</td>
<td>+ 1.685</td>
<td>D/V</td>
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<td># 5 16th St / 3rd St</td>
<td>E 64.0 1.125</td>
<td>E 75.4 1.172</td>
<td>+11.484</td>
<td>D/V</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 6 16th St / 4th St</td>
<td>D 37.3 0.959</td>
<td>D 46.9 0.982</td>
<td>+ 9.526</td>
<td>D/V</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 7 16th St / Owens St</td>
<td>D 48.8 0.946</td>
<td>F 81.8 1.113</td>
<td>+32.977</td>
<td>D/V</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 8 Garage Access -North Owens</td>
<td>A 0.0 0.000</td>
<td>B 13.2 0.000</td>
<td>+13.227</td>
<td>D/V</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 9 Garage Access -Center Owens</td>
<td>A 0.0 0.000</td>
<td>F 55.0 0.000</td>
<td>+54.988</td>
<td>D/V</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 10 Garage Access -South Owens</td>
<td>A 0.0 0.000</td>
<td>E 43.9 0.000</td>
<td>+43.856</td>
<td>D/V</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 11 16th St / Mississippi St/7th S</td>
<td>C 23.5 0.785</td>
<td>D 47.1 0.855</td>
<td>+23.591</td>
<td>D/V</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 12 7th and Mission Bay Drive</td>
<td>C 34.9 0.768</td>
<td>D 35.8 0.794</td>
<td>+ 0.839</td>
<td>D/V</td>
<td></td>
<td></td>
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</table>

Traffix 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
UCSF MEDICAL CENTER AT MISSION BAY - TRANSPORTATION STUDY
YEAR 2025 Fourth St. Closed
Unmitigated Conditions

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Optimal Cycle:       27
Level Of Service:                  B
Approach:      North Bound      South Bound       East Bound       West Bound
Movement:     L  -  T  -  R    L  -  T  -  R    L  -  T  -  R    L  -  T  -  R   ------------|---------------||---------------||---------------||---------------|
Control:        Protected        Protected        Protected        Protected
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  1  0  0  1    1  0  1  1  0    1  0  1  1  0
Volume Module:
Base Vol:      64    0   124     0    0     0     0  463    54    22  376     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:   64    0   124     0    0     0     0  463    54    22  376     0
Added Vol:      0    0     0    47    0    77     3   42     0     0    7     7
PasserByVol:    0    0     0     0    0     0     0    0     0     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:     0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95  0.95 0.95  0.95
PHF Volume:    67    0   131    49    0    81     3  532    57    23  403     7
Reduced Vol:   67    0   131    49    0    81     3  532    57    23  403     7
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
Final Vol.:    67    0   131    49    0    81     3  532    57    23  403     7
Sat/Lane:    1900 1900  1900  1900 1900  1900  1900 1900  1900  1900 1900  1900
Adjustment:  0.88 1.00  0.88  0.93 1.00  0.93  0.93 0.92  0.92  0.93 0.93  0.93
Lanes:       1.00 1.95  0.05  1.00 1.79  0.21  1.00 1.04  0.96  1.00 1.59  0.41
Final Sat.:  1769 3384    83  1769 3031   360 1769 1701  1582 1769 2730  698

Saturation Flow Module:
Vol/Sat:  0.83 0.48  0.48 0.02 0.69 0.69 0.12 0.18 0.18 0.04 0.07 0.07
Critt Movez: ****  ****  ****  ****  ****  ****  ****  ****  ****  ****  ****  ****
Green/Cycle: 0.63 0.63  0.03 0.62 0.62 0.12 0.16 0.16 0.03 0.07 0.07
Volume/Cap: 1.11 0.77  0.77 0.77 1.11 1.11 0.95 1.11 1.11 0.95 0.95
Delay/Veh: 206.5 14.8  14.8 119.3 74.7 74.7 88.2 112 111.6 194.1 87.9
User DelAjd: 1.00 1.10  1.00 1.10 1.00 1.00 1.00 1.00 1.00 1.00 1.00
User DelAdj: 0.89 1.10  1.00 1.10 1.00 1.00 1.00 1.00 1.00 1.00 1.00
LOS by Move: F  B  B  F  B  R  F  F  F  F  F  F
HCM2kAvgQ:  4 19 19  2 53 53 10 16 16 5 6 6

Note: Queue reported is the number of cars per lane.

Traffix 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
### Level of Service Computation Report

**Optimal Cycle**: 106  
**Level Of Service**: D

**Street Name**: 4th St

**Approach**:
- North Bound: Include  
- South Bound: Include  
- East Bound: Include  
- West Bound: Include

**Rights**: Include  
**Min. Green**: 0  
**Lanes**: 1  
**Base Vol**: 0  
**Growth Adj**: 1.00

**User Adj**: 1.00  
**PHF Adj**: 0.95

**PHF Volume**:
- 25  
- 61  
- 411  
- 12

**Initial Fut**: 360  
**Added Vol**: 7  
**PasserByVol**: 0

**Reduct Vol**: 0  
**Reduced Vol**: 353  
**PasserByVol**: 0

**User DelAdj**: 1.00  
**Intersection #5 16th St / 3rd St**

**AdjDel/Veh**: 49.2  
**LOS by Move**: E

**Note**: Queue reported is the number of cars per lane.

---

**Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA**
### Level of Service Computation Report

**2000 HCM Operations Method (Future Volume Alternative)**

**Intersection #8 Garage Access - North Owens**

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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</thead>
<tbody>
<tr>
<td>Control</td>
<td>Uncontrolled</td>
<td>Uncontrolled</td>
<td>Stop Sign</td>
<td>Stop Sign</td>
</tr>
<tr>
<td>Rights</td>
<td>Include</td>
<td>Include</td>
<td>Include</td>
<td>Include</td>
</tr>
<tr>
<td>Lanes</td>
<td>0 0 1 1 0</td>
<td>0 0 2 0 0</td>
<td>0 0 0 0 0</td>
<td>0 1 0 0 1</td>
</tr>
</tbody>
</table>

**Volume Module:**

- **Added Vol:** 0 292 13 0 45 0 0 0 0 0 125
- **PasserByVol:** 0 0 0 0 0 0 0 0 0 0 0
- **Initial Fut:** 0 827 13 0 879 0 0 0 0 0 125
- **PHF Adj:** 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
- **PHF Volume:** 0 871 14 0 925 0 0 0 0 0 132
- **Reduced Vol:** 0 0 0 0 0 0 0 0 0 0 0
- **Final Vol.:** 0 871 14 0 925 0 0 0 0 0 132

**Critical Gap Module:**

- **Critical Gap:** xxxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
- **Follow Up Time:** xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

**Level of Service Module:**

- **2Way95thQ:** xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
- **Control Del:** xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
- **Shared Queue:** xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
- **Shared ConDel:** xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
- **Shared LOS:** * * * * * * * * * * * *
- **Approach Del:** xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

**Capacity Module:**

- **Cnflct Vol:** xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx
- **Reduct Vol:** 0 0 0 0 0 0 0 0 0 0 0
- **Final Vol.:** 0 871 14 0 925 0 0 0 0 0 132

**Level of Service Module:**

- **Vol/Sat:** 0.15 0.21 0.21 0.02 0.40 0.40 0.07 0.15 0.15 0.04 0.37 0.37
- **Green/Cycle:** 0.13 0.41 0.41 0.09 0.36 0.36 0.06 0.30 0.30 0.09 0.33 0.33
- **Volume/Cap:** 1.11 0.52 0.52 0.22 1.11 1.11 1.11 0.48 0.48 0.45 1.11 1.11
- **Delay/Cycle:** 139.5 25.0 25.0 47.5 97.7 97.7 170.3 31.6 31.6 48.9 98.0 98.0
- **LOS by Move:** F C C D P F P F C C

**Note:** Queue reported is the number of cars per lane.
**Level Of Service Computation Report**

**Intersection #10 Garage Access - South Owens**

### Approach: North Bound
- **Movement:** L - T - R
- **Rights:** Include
- **User Adj.:** 1.00
- **PHF Adj.:** 0.95
- **Volume/Cap:** 41.3
- **LOS by Move:** B
- **Control Del:** 43.9
- **ApproachDel:** 55.0

### Approach: South Bound
- **Movement:** L - T - R
- **Rights:** Include
- **User Adj.:** 1.00
- **PHF Adj.:** 0.95
- **Volume/Cap:** 41.3
- **LOS by Move:** B
- **Control Del:** 43.9
- **ApproachDel:** 55.0

Note: Queue reported is the number of cars per lane.

---

**Level Of Service Computation Report**

**Intersection #9 Garage Access - Center Owens**

### Approach: North Bound
- **Movement:** L - T - R
- **Rights:** Include
- **User Adj.:** 1.00
- **PHF Adj.:** 0.95
- **Volume/Cap:** 41.3
- **LOS by Move:** B
- **Control Del:** 43.9
- **ApproachDel:** 55.0

### Approach: South Bound
- **Movement:** L - T - R
- **Rights:** Include
- **User Adj.:** 1.00
- **PHF Adj.:** 0.95
- **Volume/Cap:** 41.3
- **LOS by Move:** B
- **Control Del:** 43.9
- **ApproachDel:** 55.0

Note: Queue reported is the number of cars per lane.
UCSF MEDICAL CENTER AT MISSION BAY - TRANSPORTATION STUDY

2000 HCM Operations Method (Future Volume Alternative)

Intersection #11 7th St / Mississippi St/7th St

Critical Volume: 110
Critical Volume/Cap.(X): 0.855

Level Of Service Computation Report

Optimal Cycle: 69
Level Of Service: D

Movement: L - T - R

Control: Protected
Rights: Include

Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Initial Bse: 0 768 78 661 260 0 0 0
Added Vol: 0 80 0 0 11 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0
Initial Fut: 0 848 78 661 271 0 0 0
User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 0 893 82 696 285 0 0 0
Reduced Vol: 0 893 82 696 285 0 0 0
PCE Adj: 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
Final Vol.: 32 258 26 167 133 81 112 467

Lanes: 1 0 1 0 1 0 0 0 0 0 0 0

Saturation Flow Module:
Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900
Adjustment: 0.93 0.83 0.93 0.92 0.92 0.45 0.45 0.45
Final Sat.: 1769 1682 1583 1682 1682 1682 1682 1682

Capacity Analysis Module:
Vol/Sat: 0.02 0.14 0.02 0.09 0.12 0.12 0.39 0.39 0.53 0.53 0.38

Critical Moves: ****

User Del/Veh: 35.1 44.2 35.1 42.2 47.3 47.3 23.2 23.2 23.2 72.5 72.5 10.3
AdjDel/Veh: 35.1 44.2 35.1 42.2 47.3 47.3 23.2 23.2 23.2 72.5 72.5 10.3

Note: Queue reported is the number of cars per lane.

Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
ALTERNATIVE 1: FOURTH ST. CLOSED AS A PUBLIC RDWY
PHASE 2 (2025) – MITIGATED CONDITIONS
Scenario: 2025 Cumulative
Command: 2025 Cumulative
Volume: 2025 Cumulative
Geometry: Existing
Impact Fee: Default Impact Fee
Trip Generation: Project
Trip Distribution: Project
Paths: Default Paths
Routes: Default Routes
Configuration: Existing

Impact Analysis Report

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Base Del/ V/</th>
<th>Future Del/ V/</th>
<th>Change in Veh</th>
</tr>
</thead>
<tbody>
<tr>
<td># 1 Mariposa St / 3rd St</td>
<td>C 32.3 0.929</td>
<td>D 38.8 0.994</td>
<td>+ 6.578 D/V</td>
</tr>
<tr>
<td># 2 Mariposa St / Minnesota St/4th</td>
<td>B 10.6 0.332</td>
<td>B 13.7 0.393</td>
<td>+ 3.140 D/V</td>
</tr>
<tr>
<td># 3 Mariposa St / I-280 NB Off-Ramp</td>
<td>C 33.2 0.629</td>
<td>D 45.2 0.866</td>
<td>+11.981 D/V</td>
</tr>
<tr>
<td># 4 Mariposa St / I-280 SB On-Ramp</td>
<td>B 16.2 0.659</td>
<td>B 17.8 0.747</td>
<td>+ 1.685 D/V</td>
</tr>
<tr>
<td># 5 16th St / 3rd St</td>
<td>D 43.9 1.018</td>
<td>D 50.6 1.063</td>
<td>+ 6.621 D/V</td>
</tr>
<tr>
<td># 6 16th St / 4th St</td>
<td>D 37.3 0.959</td>
<td>D 46.9 0.982</td>
<td>+ 9.526 D/V</td>
</tr>
<tr>
<td># 7 16th St / Owens St</td>
<td>D 36.6 0.868</td>
<td>D 43.9 0.955</td>
<td>+ 7.343 D/V</td>
</tr>
<tr>
<td># 8 Garage Access -North Owens</td>
<td>A 0.0 0.000</td>
<td>B 13.2 0.000</td>
<td>+13.227 D/V</td>
</tr>
<tr>
<td># 9 Garage Access -Center Owens</td>
<td>A 0.9 0.292</td>
<td>B 10.5 0.452</td>
<td>+ 9.594 D/V</td>
</tr>
<tr>
<td># 10 Garage Access -South Owens</td>
<td>A 0.0 0.000</td>
<td>C 16.5 0.000</td>
<td>+16.536 D/V</td>
</tr>
<tr>
<td># 11 16th St / Mississippi St/7th St</td>
<td>C 23.5 0.785</td>
<td>D 47.1 0.855</td>
<td>+23.591 D/V</td>
</tr>
<tr>
<td># 12 7th and Mission Bay Drive</td>
<td>C 34.9 0.768</td>
<td>D 35.8 0.794</td>
<td>+ 0.839 D/V</td>
</tr>
</tbody>
</table>
## Level of Service Computation Report

**Intersection #2 Mariposa St / Minnesota St**

### Street Name:
- **Minnesota St/ 3rd St**
- **Mariposa St**

**Approach:**
- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

**Movement:**
- **L - T - R**
- **L - T - R**
- **L - T - R**
- **L - T - R**

**Sat/Lane:**
- **1900**
- **1900**
- **1900**
- **1900**

**Adjustment:**
- **0.93**
- **0.91**
- **0.93**
- **0.93**

**Final Sat.:**
- **1769**
- **3384**
- **83**
- **1763**

### Volume Module:

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lanes</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Volume</td>
<td>39153</td>
<td>38339</td>
<td>38961</td>
<td>38961</td>
</tr>
</tbody>
</table>

**Critical Vol./Cap.:**
- **0.39**

**Critical Vol./Cycle:**
- **50**

**Cycle (sec):**
- **60**

**Average Delay (sec/veh):**
- **38.8**

**Optimal Cycle:**
- **160**

**Level Of Service:**
- **D**

### Street Name:
- **Minnesota St/ 4th St**
- **Mariposa St**

**Approach:**
- **North Bound**
- **South Bound**
- **East Bound**
- **West Bound**

**Movement:**
- **L - T - R**
- **L - T - R**
- **L - T - R**
- **L - T - R**

**Sat/Lane:**
- **1900**
- **1900**
- **1900**
- **1900**

**Adjustment:**
- **0.93**
- **0.91**
- **0.91**
- **0.93**

**Final Sat.:**
- **1769**
- **1701**
- **1582**
- **1769**

### Volume Module:

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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</thead>
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<tr>
<td>Lanes</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>1</td>
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<tr>
<td>Volume</td>
<td>39153</td>
<td>38339</td>
<td>38961</td>
<td>38961</td>
</tr>
</tbody>
</table>

**Critical Vol./Cap.:**
- **0.39**

**Critical Vol./Cycle:**
- **60**

**Cycle (sec):**
- **8**

**Average Delay (sec/veh):**
- **15.7**

**Optimal Cycle:**
- **26**

**Level Of Service:**
- **B**

Note: Queue reported is the number of cars per lane.
**2025 Cumulative**  
**Tue Feb 26, 2008 15:21:34**  
**Page 5-1**

---

**UCSF MEDICAL CENTER AT MISSION BAY - TRANSPORTATION STUDY**  
**YEAR 2025 Fourth St. Closed**  
**Mitigated Conditions**

<table>
<thead>
<tr>
<th>Intersection #4 Mariposa St / I-280 SB On-Ramp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle (sec): <strong>90</strong></td>
</tr>
<tr>
<td>Loss Time (sec): <strong>9</strong> (Y+R=3.0 sec)</td>
</tr>
<tr>
<td>Optimal Cycle: <strong>99</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Street Name:</th>
<th>I-280 SB On-Ramp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Approach:</td>
<td>North Bound</td>
</tr>
<tr>
<td>Min. Green:</td>
<td>0</td>
</tr>
<tr>
<td>Lanes:</td>
<td>2</td>
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<table>
<thead>
<tr>
<th>Volume Module:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Base Vol: 529 438 273 248 0 706 121 6 0 945 43</td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td>Initial Bse: 529 438 273 248 0 706 121 6 0 945 43</td>
</tr>
<tr>
<td>Added Vol: 0 33 3 42 0 217 2 0 60 7</td>
</tr>
<tr>
<td>PasserByVol: 0 0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>Initial Fut: 0 529 438 273 248 0 706 121 6 0 945 43</td>
</tr>
<tr>
<td>Added Fut: 0 33 3 42 0 217 2 0 60 7</td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td>PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95</td>
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<tr>
<td>PHF Volume: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95</td>
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<tr>
<td>Reduced Vol: 0 529 438 273 248 0 706 121 6 0 945 43</td>
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<td>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</td>
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<tr>
<td>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</td>
</tr>
<tr>
<td>Final Vol.: 529 438 273 248 0 706 121 6 0 945 43</td>
</tr>
</tbody>
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**2025 Cumulative**  
**Tue Feb 26, 2008 15:21:34**  
**Page 6-1**

---

**UCSF MEDICAL CENTER AT MISSION BAY - TRANSPORTATION STUDY**  
**YEAR 2025 Fourth St. Closed**  
**Mitigated Conditions**

<table>
<thead>
<tr>
<th>Intersection #4 Mariposa St / I-280 NB Off-Ramp</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cycle (sec): <strong>90</strong></td>
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<tr>
<td>Loss Time (sec): <strong>9</strong> (Y+R=3.0 sec)</td>
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<tr>
<td>Optimal Cycle: <strong>99</strong></td>
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<table>
<thead>
<tr>
<th>Street Name:</th>
<th>I-280 NB Off-Ramp</th>
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<tbody>
<tr>
<td>Approach:</td>
<td>North Bound</td>
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<tr>
<td>Min. Green:</td>
<td>36</td>
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<tr>
<td>Lanes:</td>
<td>2</td>
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<table>
<thead>
<tr>
<th>Volume Module:</th>
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</thead>
<tbody>
<tr>
<td>Base Vol: 529 438 273 248 0 706 121 6 0 945 43</td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td>Initial Bse: 529 438 273 248 0 706 121 6 0 945 43</td>
</tr>
<tr>
<td>Added Vol: 0 33 3 42 0 217 2 0 60 7</td>
</tr>
<tr>
<td>PasserByVol: 0 0 0 0 0 0 0 0 0 0</td>
</tr>
<tr>
<td>Initial Fut: 0 529 438 273 248 0 706 121 6 0 945 43</td>
</tr>
<tr>
<td>Added Fut: 0 33 3 42 0 217 2 0 60 7</td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td>PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95</td>
</tr>
<tr>
<td>PHF Volume: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95</td>
</tr>
<tr>
<td>Reduced Vol: 0 529 438 273 248 0 706 121 6 0 945 43</td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td>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</td>
</tr>
<tr>
<td>Final Vol.: 529 438 273 248 0 706 121 6 0 945 43</td>
</tr>
</tbody>
</table>

---

**Note:** Queue reported is the number of cars per lane.

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### Intersection #6 16th St / 4th St

**Level Of Service Computation Report**

<table>
<thead>
<tr>
<th>Cycle (sec):</th>
<th>60</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Vol./Cap.(X):</td>
<td>0.982</td>
</tr>
<tr>
<td>Loss Time (sec): 12 (Y+R=4.0 sec)</td>
<td></td>
</tr>
<tr>
<td>Average Delay (sec/veh):</td>
<td>46.9</td>
</tr>
</tbody>
</table>

**Street Name:** 4th St 16th St

<table>
<thead>
<tr>
<th>Movement</th>
<th>L  -  T  -  R</th>
<th>L  -  T  -  R</th>
<th>L  -  T  -  R</th>
<th>L  -  T  -  R</th>
</tr>
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<tbody>
<tr>
<td>Control</td>
<td>Protected</td>
<td>Protected</td>
<td>Protected</td>
<td>Protected</td>
</tr>
</tbody>
</table>

**Volume Module:**

| Initial Bse: | 0 0 0 0 0 390 0 421 337 0 390 |
| Added Vol: | 24 19 58 0 5 0 0 47 12 41 |

| PasserByVol: | 0 0 0 0 0 0 0 0 0 0 |
| Initial Fut: | 24 19 58 390 5 443 355 486 |

| Added Vol: | 24 19 58 0 5 0 0 47 12 41 |
| PasserByVol: | 0 0 0 0 0 0 0 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

**Reduced Vol:** 353 1432 23 38 1690 73 12 332 467 57 529 88

**Final Vol.:** 379 1507 24 40 1779 87 66 349 547 60 557 93

**Saturation Flow Module:**

| Adjustment | 0.90 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 |
| Lanes | 2.00 1.97 0.93 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 2.00 |

**Capacity Analysis Module:**

| Vol/Sat: | 0.11 0.43 0.43 0.20 0.53 0.53 0.17 0.39 0.23 0.23 0.23 0.23 |
| Capacity: | 0.10 0.57 0.57 0.30 0.50 0.50 0.26 0.26 0.37 0.37 0.26 0.26 |

**Level Of Service:** D
## Level of Service Computation Report

### Intersection: Northbound - Owens St

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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</thead>
<tbody>
<tr>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>Rights</th>
<th>Include</th>
<th>Ovl</th>
<th>Include</th>
<th>Include</th>
</tr>
</thead>
</table>

| Min. Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

### Volume Module:

- **Base Vol:** 21 247 32 753 118 457 55 178 15 66 1266 25
- **Growth Adj:** 24 32 47 0 15 0 0 12 24 5 24 0
- **Reduct Vol:** 265 407 331 34 808 582 124 494 41 75 1358 26

| Min. Green | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
|-----------|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|----|

### Capacity Module:

- **Conflict Vol:** xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
- **Potent Cap.:** xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
- **Move Cap.:** xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx

### Level of Service Module:

- **2Way95thQ:** xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
- **Control Del:** xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx 13.2

### Traffic Flow Module:

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Adjustment:** 0.93 0.91 0.86 0.86 0.76 0.93 0.97 0.93 0.98 0.98
- **Final Sat.:** 3538 1918 1556 131 3149 1446 1769 3397 282 1769 3642 71

### Capacity Analysis Module:

- **Vol/Sat:** 0.07 0.21 0.21 0.26 0.26 0.40 0.07 0.15 0.15 0.04 0.37 0.37
- **GreenCycL:** 0.88 0.43 0.43 0.35 0.35 0.42 0.07 0.35 0.35 0.11 0.39 0.39
- **Volume/Cap:** 0.95 0.50 0.50 0.74 0.74 0.96 0.95 0.41 0.41 0.38 0.95 0.95
- **Delay/Veh:** 90.9 23.4 23.4 34.3 34.3 57.5 114.4 27.0 27.0 46.6 46.6 46.0
- **User Del/Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

### Level of Service Report:

- **LOS by Move:** F C C C C R F C C
- **HCM2Avq:** 8 9 9 14 14 24 7 7 7 1 28 28

### Note:

- Queue reported is the number of cars per lane.
<table>
<thead>
<tr>
<th>Intersection #9</th>
<th>Level Of Service Computation Report</th>
</tr>
</thead>
<tbody>
<tr>
<td>Garage Access - Center Owens</td>
<td></td>
</tr>
</tbody>
</table>

**Intersection #10 Garage Access - South Owens**

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**
- L - T - R
- L - T - R
- L - T - R
- L - T - R

**Control:**
- Uncontrolled
- Stop Sign
- Stop Sign

**PasserByVol:**
- 0

**PHF Adj:**
- 0.95

**Volume Module:**
- Base Vol: 0
- Added Vol: 0
- Reduced Vol: 0
- Final Vol: 0

**Saturation Flow Module:**
- Sat/Lane: 1900
- Lanes: 0.00

**Capacity Analysis Module:**
- Vol/Sat: 0.24
- Crit Moves: ****

**Traffix 7.8.0115**
(c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
2000 HCM Operations Method (Future Volume Alternative)

Level Of Service Computation Report

Intersection #12 7th and Mission Bay Drive

Cycle (sec): 110
Critical Vol./Cap. (X): 0.794
Loss Time (sec): 9 (Y+R=5.0 sec)
Average Delay (sec/veh): 47.1

Optimal Cycle: 87
Level Of Service: D

Level Of Service Computation Report

Intersection #11 16th St / Mississippi St/7th St

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R  L - T - R  L - T - R  L - T - R

Street Name: Mississippi St/ 7th St 16th St

Note: Queue reported is the number of cars per lane.

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UCSF MEDICAL CENTER AT MISSION BAY - TRANSPORTATION STUDY
YEAR 2025 Fourth St. Closed
Mitigated Conditions

Level Of Service Computation Report

Intersection #12 7th and Mission Bay Drive

Cycle (sec): 110
Critical Vol./Cap. (X): 0.794
Loss Time (sec): 9 (Y+R=5.0 sec)
Average Delay (sec/veh): 47.1

Optimal Cycle: 87
Level Of Service: D

Level Of Service Computation Report

Intersection #11 16th St / Mississippi St/7th St

Approach: North Bound South Bound East Bound West Bound
Movement: L - T - R  L - T - R  L - T - R  L - T - R

Street Name: Mississippi St/ 7th St 16th St

Note: Queue reported is the number of cars per lane.

Traffix 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA

UCSF MEDICAL CENTER AT MISSION BAY - TRANSPORTATION STUDY
YEAR 2025 Fourth St. Closed
Mitigated Conditions
ALTERNATIVE 2: FOURTH ST. OPEN AS A PRIVATE ROADWAY
PHASE 1 (2015) – UNMITIGATED/MITIGATED CONDITIONS
## Scenario Report

**Scenario:** 2015 Cumulative  
**Command:** 2025 Cumulative  
**Volume:** 2025 Cumulative  
**Geometry:** Existing  
**Impact Fee:** Default Impact Fee  
**Trip Generation:** Project  
**Trip Distribution:** Project  
**Paths:** Default Paths  
**Routes:** Default Routes  
**Configuration:** Existing

## Impact Analysis Report

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Base Del/ V/</th>
<th>Future Del/ V/</th>
<th>Change in Del/ V/</th>
<th>Level of Service</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>LOS Veh C</td>
<td>LOS Veh C</td>
<td></td>
<td></td>
</tr>
<tr>
<td># 1 Mariposa St / 3rd St</td>
<td>33.1 0.940</td>
<td>38.4 0.994</td>
<td>+ 5.374 D/V</td>
<td></td>
</tr>
<tr>
<td># 2 Mariposa St / Minnesota St/4th</td>
<td>17.2 0.335</td>
<td>18.3 0.372</td>
<td>+ 1.120 D/V</td>
<td></td>
</tr>
<tr>
<td># 3 Mariposa St / I-280 NB Off-Ramp</td>
<td>31.1 0.589</td>
<td>24.9 0.611</td>
<td>-6.210 D/V</td>
<td></td>
</tr>
<tr>
<td># 4 Mariposa St / I-280 SB On-Ramp</td>
<td>16.0 0.619</td>
<td>16.5 0.665</td>
<td>+ 0.534 D/V</td>
<td></td>
</tr>
<tr>
<td># 5 16th St / 3rd St</td>
<td>32.5 0.920</td>
<td>35.5 0.948</td>
<td>+ 3.027 D/V</td>
<td></td>
</tr>
<tr>
<td># 6 16th St / 4th St</td>
<td>25.1 0.844</td>
<td>27.3 0.859</td>
<td>+ 2.215 D/V</td>
<td></td>
</tr>
<tr>
<td># 7 16th St / Owens St</td>
<td>35.8 0.808</td>
<td>42.3 0.899</td>
<td>+ 6.518 D/V</td>
<td></td>
</tr>
<tr>
<td># 8 Garage Access -North Owens</td>
<td>0.0 0.000</td>
<td>10.6 0.000</td>
<td>+10.600 D/V</td>
<td></td>
</tr>
<tr>
<td># 9 Garage Access -Center Owens</td>
<td>0.0 0.000</td>
<td>0.0 0.000</td>
<td>+ 0.000 D/V</td>
<td></td>
</tr>
<tr>
<td># 10 Garage Access -South Owens</td>
<td>9.0 0.000</td>
<td>13.2 0.000</td>
<td>+ 4.170 D/V</td>
<td></td>
</tr>
<tr>
<td># 11 16th St / Mississippi St/7th S</td>
<td>24.4 0.725</td>
<td>35.5 0.773</td>
<td>+11.096 D/V</td>
<td></td>
</tr>
<tr>
<td># 12 7th and Mission Bay Drive</td>
<td>31.1 0.653</td>
<td>31.2 0.668</td>
<td>+ 0.151 D/V</td>
<td></td>
</tr>
</tbody>
</table>
**Level Of Service Computation Report**

### 2000 HCM Operations Method (Future Volume Alternative)

**Intersection #2 Mariposa St / 3rd St**

- **Street Name:** Mariposa St
- **Approach:** North Bound
- **Movement:** L - T - R
- **Volume Module:** Base Vol: 55 1411 35 30 1587 223 187 241 258 53 157 40
- **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 Base:** 51 0 99 156 0 123 66 370 43 18 302 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
- **Optimal Cycle:** 159
- **Level Of Service:** C
- **LOS by Move:** B  A  B  A  B  A  B  A  B  A
- **HCM2kAvgQ:** 4 18 7 2 3 6 7 2 3 1
- **Note:** Queue reported is the number of cars per lane.

**Volume Module:**

- **Base Vol:** 55 1411 35 30 1587 223 187 241 258 53 157 40
- **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
- **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
- **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
- **Delay/Veh:** 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 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

**Saturation Flow Module**

- **Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- **Lanes:** 1.00 1.95 0.05 1.00 1.76 0.24 1.00 1.00 1.00 1.59 0.41
- **Final Sat.:** 1769 3384 83 1769 2974 410 1769 1620 1620 1769 2735 697

**Capacity Analysis Module**

- **Vol/Sat:** 0.04 0.44 0.44 0.02 0.57 0.57 0.11 0.16 0.20 0.03 0.06 0.06
- **Green/Cycle:** 0.04 0.59 0.59 0.02 0.58 0.58 0.15 0.20 0.20 0.03 0.08 0.08
- **Volume/Cap:** 0.99 0.75 0.75 0.99 0.09 0.78 0.99 0.99 0.74 0.74
- **Delay/Veh:** 155.5 16.3 16.3 120.4 37.9 37.9 53.0 41.9 71.7 161.9 56.1 56.1
- **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
- **LOS by Move:** F B B B D D E F E E

**Note:** Queue reported is the number of cars per lane.

Traffic Flow:

- **Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA**
Unmitigated Conditions

2000 HCM Operations Method (Future Volume Alternative)

Cycle (sec): 90  Critical Vol./Cap. (X): 0.61
Loss Time (sec): 9 (Y+R=3.0 sec)  Average Delay (sec/veh): 24.9

Optimal Cycle: 90  Level of Service: C

Street Name: I-280 NB Off-Ramp  Mariposa St

Control: Split Phase  Split Phase  Permitted  Permitted
Rights: Include  Include  Include  Include
Min. Green: 36  36  33  33  33  21  21  0  0  21

Lanes: 1 1 1 0 0 0 0 2 0 1 1 0 0 0 2

Volume Module:
Base Vol: 516 351 245 198 0 539 34 88 0 0 507 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: 516 351 245 198 0 539 34 88 0 0 507 35
Added Vol: 0 19 2 0 0 51 1 0 0 0 97 0
PasserVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 516 370 247 198 0 590 35 88 0 0 604 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: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 543 389 260 208 0 621 37 93 0 0 636 37
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 543 389 260 208 0 621 37 93 0 0 636 37
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
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
Final Vol: 543 389 260 208 0 621 37 93 0 0 636 37

Volume Module:
Base Vol: 516 351 245 198 0 539 34 88 0 0 507 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: 516 351 245 198 0 539 34 88 0 0 507 35
Added Vol: 0 19 2 0 0 51 1 0 0 0 97 0
PasserVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 516 370 247 198 0 590 35 88 0 0 604 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: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
PHF Volume: 543 389 260 208 0 621 37 93 0 0 636 37
Reduced Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 543 389 260 208 0 621 37 93 0 0 636 37
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
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
Final Vol: 543 389 260 208 0 621 37 93 0 0 636 37

Note: Queue reported is the number of cars per lane.

Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
### Street Name: 3rd St

**Approach:**
- **North Bound:**
  - Initial Bue: 337 1306
  - Added Vol: 8
  - Initial Put: 345 1306
  - User Adj: 1.00
  - PHF Adj: 0.95
  - PHF Volume: 363 1375
  - Reduced Vol: 363 1375
  - Final Vol: 363 1375

- **South Bound:**

- **East Bound:**

- **West Bound:**

**Cycle:**
- 90 seconds

**Critical Vol./Cap.:**
- 0.859

**Loss Time:**
- 12 seconds

**Average Delay:**
- 27.3 seconds

**Optimal Cycle:**
- 73 seconds

**Level Of Service:**
- C

**Street Name: 16th St**

**Approach:**
- **North Bound:**
  - Initial Bue: 337 1306
  - Added Vol: 8
  - Initial Put: 345 1306
  - User Adj: 1.00
  - PHF Adj: 0.95
  - PHF Volume: 363 1375
  - Reduced Vol: 363 1375
  - Final Vol: 363 1375

- **South Bound:**

- **East Bound:**

- **West Bound:**

**Cycle:**
- 60 seconds

**Critical Vol./Cap.:**
- 0.859

**Loss Time:**
- 12 seconds

**Average Delay:**
- 27.3 seconds

**Optimal Cycle:**
- 73 seconds

**Level Of Service:**
- C

---

**Note:** Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### Intersection #8 Garage Access - North Owens

**Movement:**
- L - T - R
- L - T - R
- L - T - R

**Control:**
- Uncontrolled
- Stop Sign

**Rights:**
- Include

**Lanes:**
- 1

### Volume Module:

- **Base Vol:** 17 182 167 38 602 468 112 448 12 27 1071 50
- **Added Vol:** 129 78 26 0 4 0 0 14 7 1 13 0
- **Initial Fut:** 146 260 193 38 606 468 112 448 12 27 1071 50
- **PasserByVol:** 0 0 0 0 0 0 0 0 0 0 0 0
- **Initial Fut:** 529 15 0 654 0 0 0 0 0 0 0
- **User Adj:** 0 0 0 0 0 0 0 0 0 0 0 0
- **PHF:** 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

### Capacity Module:

- **Conflict Vol:** xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
- **FollowUpTim:** xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
- **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
- **User Del Adj:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

### Volume/Cap:

- **Volume/Cap:** 0.10 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15 0.15

### Note:
- Queue reported is the number of cars per lane.

Traffic: 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
### Level Of Service Computation Report
#### Year 2015

**Intersection #9** Garage Access -Center Owens

<table>
<thead>
<tr>
<th>Movement:</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
<th>L - T - R</th>
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</thead>
<tbody>
<tr>
<td>Control:</td>
<td>Uncontrolled</td>
<td>Uncontrolled</td>
<td>Stop Sign</td>
<td>Stop Sign</td>
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<tr>
<td>Rights:</td>
<td>Include</td>
<td>Include</td>
<td>Include</td>
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**Volume Module:**

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<th>0</th>
<th>0</th>
<th>641</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>0</th>
<th>Growth Adj:</th>
<th>1.00</th>
<th>1.00</th>
<th>1.00</th>
<th>1.00</th>
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</thead>
<tbody>
<tr>
<td>Initial Bse:</td>
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<td>0</td>
<td>0</td>
<td>641</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>Initial Fut:</td>
<td>0</td>
<td>597</td>
<td>0</td>
<td>0</td>
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<tr>
<td>Added Vol:</td>
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<td>177</td>
<td>0</td>
<td>0</td>
<td>13</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
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<td>0.95</td>
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<td>Initial Fut:</td>
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<td>Approach Del:</td>
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<td>PWF Adj:</td>
<td>0.95</td>
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<td>0.95</td>
</tr>
</tbody>
</table>
| Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA

#### Note:

Queue reported is the number of cars per lane.
## Level Of Service Computation Report

### Cycle (sec): 110  
Critical Vol./Cap. (X): 0.668

### Approach:  
- **North Bound**  
- **South Bound**  
- **East Bound**  
- **West Bound**

### Movement:  
- L - T - R  
- L - T - R  
- L - T - R  
- L - T - R

### Control:  
- Protected

### Rights:  
- Include

### Volume Module:

<table>
<thead>
<tr>
<th></th>
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<td>733 529 276</td>
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<td>733 273 273</td>
<td>709 405 405</td>
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<td>515 411 411</td>
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### Saturation Flow Module:

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<tr>
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<th>Initial Bse:</th>
<th>User Adj:</th>
<th>PRF Volume:</th>
<th>Reduct Vol:</th>
<th>PCE Adj:</th>
<th>Final Sat:</th>
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</thead>
<tbody>
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<td>1900</td>
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<td>180 178 178</td>
<td>515 411 411</td>
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### Capacity Analysis Module:

<table>
<thead>
<tr>
<th>Vol/Sat:</th>
<th>Green/Cycle:</th>
<th>Delay/Veh:</th>
<th>AdjDel/Veh:</th>
<th>LOS by Move:</th>
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</thead>
<tbody>
<tr>
<td>0.08 0.16</td>
<td>0.24 0.24</td>
<td>32.7 41.8</td>
<td>0.10 1</td>
<td>C D C D D D C C D C D D B</td>
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</table>

### Note:  
Queue reported is the number of cars per lane.
ALTERNATIVE 2: FOURTH ST. OPEN AS A PRIVATE ROADWAY
PHASE 2 (2025) – MITIGATED CONDITIONS
## Impact Analysis Report

**Level Of Service**

<table>
<thead>
<tr>
<th>Intersection</th>
<th>Base Del/ V/</th>
<th>Base LOS Veh</th>
<th>Future Del/ V/</th>
<th>Future LOS Veh</th>
<th>Change</th>
</tr>
</thead>
<tbody>
<tr>
<td># 1 Mariposa St / 3rd St</td>
<td>C 34.9 0.958</td>
<td>49.1 1.057</td>
<td>+14.230</td>
<td></td>
<td>D/V</td>
</tr>
<tr>
<td># 2 Mariposa St / Minnesota St/4th</td>
<td>B 17.7 0.423</td>
<td>18.5 0.470</td>
<td>+0.773</td>
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<td>D/V</td>
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<tr>
<td># 3 Mariposa St / I-280 NB Off-Ramp</td>
<td>C 32.7 0.637</td>
<td>41.8 0.860</td>
<td>+9.090</td>
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<td># 4 Mariposa St / I-280 SB On-Ramp</td>
<td>B 16.2 0.659</td>
<td>17.8 0.747</td>
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<td>D/V</td>
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<tr>
<td># 5 16th St / 3rd St</td>
<td>E 55.8 0.902</td>
<td>45.6 1.029</td>
<td>-10.169</td>
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<tr>
<td># 6 16th St / 4th St</td>
<td>D 37.3 0.960</td>
<td>43.1 0.983</td>
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<tr>
<td># 7 16th St / Owens St</td>
<td>D 36.7 0.868</td>
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<td># 8 Garage Access -North Owens</td>
<td>A 0.0 0.000</td>
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<td>10.5 0.447</td>
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<td>15.1 0.000</td>
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<tr>
<td># 11 16th St / Mississippi St/7th S</td>
<td>C 23.5 0.785</td>
<td>47.1 0.855</td>
<td>+23.591</td>
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<td>D/V</td>
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<tr>
<td># 12 7th and Mission Bay Drive</td>
<td>C 34.9 0.768</td>
<td>35.8 0.794</td>
<td>+0.839</td>
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<td>D/V</td>
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</tbody>
</table>

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## Level Of Service Computation Report

### Intersection #2 Mariposa St / Minnesota St / 4th St

**Cycle (sec):** 60  
**Critical Vol./Cap.(X):** 0.470  
**Loss Time (sec):** 8 (Y+R=4.0 sec)  
**Average Delay (sec/veh):** 18.5  
**Optimal Cycle:** 29  
**Level Of Service:** B

### Street Name: Minnesota St / 4th St

<table>
<thead>
<tr>
<th>Movement</th>
<th>North Bound</th>
<th>South Bound</th>
<th>East Bound</th>
<th>West Bound</th>
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</thead>
<tbody>
<tr>
<td>Lanes</td>
<td>0 0 1</td>
<td>0 0 1</td>
<td>0 1 1</td>
<td>0 0 1</td>
</tr>
</tbody>
</table>

#### Volume Module

| Base Vol: | 64 0 124 132 0 33 80 463 54 22 376 24 |
| Added Vol: | 13 7 0 0 93 0 0 89 0 0 0 0 |
| User Adj: | 1.00 1.00 1.00 1.00 |
| PHF Adj: | 0.95 0.95 0.95 0.95 |
| PHF Volume: | 72 1606 40 35 1963 249 206 301 419 66 181 46 |
| Reduct Vol: | 0 0 0 0 |

#### Capacity Analysis Module

| Vol/Sat: | 0.08 0.47 0.47 0.02 0.55 0.17 0.12 0.09 0.26 0.04 0.07 |
| Green/Cycle: | 0.04 0.54 0.54 0.02 0.53 0.18 0.25 0.25 0.04 0.10 0.06 |
| Volume/Cap: | 1.06 0.88 0.88 0.88 0.86 0.86 0.86 |
| User DelAdj: | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| Del/Adj: | 169.1 24.2 24.2 153.1 59.1 13.2 44.3 37.2 84.4 173.6 48.6 |
| LOS by Move: | F C C F R B D D F P D |

Note: Queue reported is the number of cars per lane.

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**Traffic 7.8.015** (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
**2000 HCM Operations Method (Future Volume Alternative)**

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### Street Name: I-280 NB 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:** Split Phase, Split Phase, Permitted, Permitted
- **Rights:** Include, Include, Include, Include
- **Min. Green:** 36, 36, 36, 33, 33, 33, 21, 21
- **Lanes:** 1.0, 1.0
- **Initial Sat.:** 1987, 1219, 1279, 0
- **User Adj.:** 1.00, 1.00, 1.00, 1.00
- **Reduced Vol.:** 557, 496, 291, 305
- **PCE Adj.:** 1.00, 1.00, 1.00, 1.00
- **MLF Adj.:** 1.00, 1.00, 1.00, 1.00
- **Final Vol.:** 557, 496, 291, 305
- **Saturation Flow Module:**
  - **Sat/Lane:** 1900, 1900, 1900, 1900, 1900, 1900, 1900
  - **Adjustment:** 0.94, 0.89, 0.89, 0.93, 0.73, 0.63, 0.63
  - **Final Sat.:** 1787, 2129, 1279, 0
  - **Capacity Analysis Module:**
    - **Vol/Sat:** 0.31, 0.23, 0.23
    - **Green/Cycle:** 0.36, 0.36, 0.36
    - **Volume/Cap:** 0.86, 0.86, 0.86
    - **Del/veh:** 40.1, 27.3, 27.3
    - **LOS by Move:** D, C, C
    - **HCM Avg Q:** 19, 11, 11

---

**Note:** Queue reported is the number of cars per lane.

Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
### Level Of Service Computation Report

**Intersection #6**  
16th St / 4th St  

**Cycle (sec):** 60  
**Critical Vol./Cap. (X):** 0.983  
**Loss Time (sec):** 12 (Y+R=4.0 sec)  
**Average Delay (sec/veh):** 43.1

**Optimal Cycle:** 107  
**Level Of Service:** D

<table>
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<tr>
<th>Approach</th>
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<th>East Bound</th>
<th>West Bound</th>
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<td>L - T - R</td>
<td>L - T - R</td>
<td>L - T - R</td>
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</table>

**Base Vol:** 0 96 0 258 165 338 277 415 0 0 940 21  
**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  
**Added Vol:** 24 19 0 0 5 0 47 12 11 5 0  
**PasserByVol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**Initial Fut:** 24 115 58 258 170 338 277 462 13 12 995 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:** 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95  
**PHF Volume:** 25 121 61 272 179 356 292 486 12 12 995 22  
**Reduced Vol:** 0 0 0 0 0 0 0 0 0 0 0 0  
**Unique Vol:** 25 121 61 272 179 356 292 486 12 12 995 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  
**Final Vol:** 25 121 61 272 179 356 292 486 12 12 995 22  

**Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
**Saturation Flow Module:**  
**Adjustment:** 0.90 0.93 0.93 0.92 0.95 0.55 0.73 0.74 0.75 0.74  
**Lanes:** 2.00 2.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**Queue:** 0 0 0 0 0 0 0 0 0 0 0 0  
**Sat/Lane:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
**Reg Adj:** 0.90 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93 0.93  
**Final Vol:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
**Final Cap:** 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900  
**Capacity Analysis Module:**  
**Vol/Sat:** 0.11 0.43 0.43 0.2 0.3 0.53 0.54 0.2 0.2 0.2 0.2 0.29 0.25 0.25 0.25  
**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:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**User Del:** 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00  
**Final Sat:** 1769 1769 1769 1769 1769 1769 1769 1769 1769 1769 1769 1769  
**HCM AvgQ:** 5 5 5 5 5 5 5 5 5 5 5 5  

**Note:** Queue reported is the number of cars per lane.

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**Traffic Flow:** 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA

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**Traffic Flow:** 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
### Intersection 7 #16th St / Owens St

**Level of Service Computation Report**

**Intersection #8 Garage Access - North Owens**

**Average Delay (sec/veh):** 0.9

**Worst Case Level Of Service:** B [12.6]

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Volume Module:**
- **Base Vol:**
  - North: 0, 455
  - South: 0, 801
  - East: 0, 1, 0
  - West: 0, 0, 0
  - **Total:** 0, 455, 801

**Added Vol:**
- North: 0, 292
- South: 13
- East: 45
- West: 0

**Passerby Vol:**
- North: 0
- South: 0
- East: 0
- West: 0

**User Adj:**
- 1.00, 1.00, 1.00, 1.00

**Final Vol.:**
- North: 0, 747
- South: 13
- East: 846
- West: 0

**Critical Gap Module:**
- **Critical Gap:** 6.9

**Capacity Module:**
- **Conflict Vol:** xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
- **Potential Cap:** xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx
- **Move Cap:** xxxx xxxx xxxx xxxx xxxx xxxx xxxx xxxx

**Volume/Cap:**
- North: 0.22
- South: 0.22
- East: 0.22
- West: 0.22

**Note:** Queue reported is the number of cars per lane.

**Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA**
### Traffic Flow

#### Intersection #10 Garage Access - South Owens

**Level Of Service Computation Report**

**Intersection #10 Garage Access - South Owens**

**Approach:**
- North Bound
- South Bound
- East Bound
- West Bound

**Movement:**
- L - T - R
- L - T - R
- L - T - R
- L - T - R

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<tr>
<th>Rights</th>
<th>Include</th>
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<td>0 0 1 1</td>
<td>1 0 2 0</td>
<td>0 0 0 0</td>
<td>1 0 0 1</td>
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</table>

**Volume Module:**

| Added Vol | 0 169 | 20 22 | 22 0 0 0 227 0 136 |
| PasserByVol | 0 0 0 | 0 0 0 0 227 0 136 |
| Initial Fut | 0 522 | 20 22 | 832 0 0 0 227 0 136 |
| User Adj | 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 |
| PHF Adj | 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 |
| PHF Volume | 0 727 21 23 866 0 0 0 239 0 143 |
| Reduct Vol | 0 0 0 0 0 0 0 0 0 0 0 |
| Reduced Vol | 0 727 21 23 866 0 0 0 239 0 143 |
| PCE Adj | 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 |
| Final Vol | 0 727 21 23 866 0 0 0 239 0 143 |

**Volume/Cap:**

| Vol/Sat | 0.00 0.21 0.06 0.00 0.00 0.00 0.00 0.00 0.14 0.00 0.09 |
| AdjDel/Veh | 0.0 0.14 0.14 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| LOS by Move | A A A A A A A A A A |

**Capacity Analysis Module:**

| Vol/Sat/Lane | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |
| Capacity | 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 0.00 |
| Movements | LT - LTR - RT | LT - LTR - RT | LT - LTR - RT |

Note: Queue reported is the number of cars per lane.

---

Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
UCSF MEDICAL CENTER AT MISSION BAY - TRANSPORTATION STUDY
YEAR 2025 Fourth St. Open as a Private Roadway
Mitigated Conditions

2000 HCM Operations Method (Future Volume Alternative)

<table>
<thead>
<tr>
<th>Cycle (sec)</th>
<th>Critical Vol./Cap. (X)</th>
<th>0.795</th>
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<tbody>
<tr>
<td>Loss Time (sec)</td>
<td>9 (Y+R=5.0 sec) Average Delay (sec/veh)</td>
<td>47.1</td>
</tr>
<tr>
<td>Optimal Cycle</td>
<td>87</td>
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<tr>
<td>Level of Service</td>
<td>D</td>
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</tr>
</tbody>
</table>

**Street Name:** Mississippi St/ 7th St
**Approach:** North Bound
**Movement:** L - T - R
**Lanes:** 0 0 0 0 0
**Volume Module:**
- Base Vol: 30 245 25 148 126 77 106 419 87 69 1274
- Growth Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- User Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- PHF Adj: 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95 0.95
- PHF Volume: 32 258 26 167 133 81 112 467 92 73 1525
- Reduced Vol: 32 258 26 167 133 81 112 467 92 73 1525
- PCE Adj: 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
- MLF Volume: 32 258 26 167 133 81 112 467 92 73 1525
- Final Vol.: 32 258 26 167 133 81 112 467 92 73 1525

**Saturation Flow Module:**
- Sat/Lane: 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900 1900
- Adjustment: 0.93 0.98 0.83 0.93 0.92 0.92 0.45 0.45 0.45 0.80 0.80 0.83
- Lanes: 1 0 1 0 1 0 1 0 0 0 0 0
- Final Sat.: 1769 1682 1583 1769 1682 1583 1769 1682 1583

**Capacity Analysis Module:**
- Vol/Sat: 0.02 0.14 0.02 0.09 0.12 0.12 0.39 0.39 0.39 0.53 0.53 0.38
- Green/Cycle: 0.21 0.21 0.18 0.18 0.18 0.53 0.53 0.53 0.49 0.49 0.49
- Volume/Cap: 0.09 0.66 0.08 0.52 0.67 0.67 0.74 0.74 0.74 1.07 1.07 0.57
- Delay/Veh: 35.1 44.2 35.1 42.2 47.3 47.3 23.2 23.2 23.2 72.5 72.5 10.3
- User Del/Veh: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
- Adj/Del/Veh: 35.1 44.2 35.1 42.2 47.3 47.3 23.2 23.2 23.2 72.5 72.5 10.3
- LOS by Move: D D D D D D C C C R R B
- HCM2kAvgQ: 1 1 1 1 0 0 0 0 0 0 0 0

Note: Queue reported is the number of cars per lane.

Traffic 7.8.0115 (c) 2006 Dowling Assoc. Licensed to WILBUR SMITH, SF, CA
Memorandum

To: Ms. Diane Wong, Senior Planner – UCSF Campus Planning

From: José I. Farrán, P.E.

Date: February 8, 2012

Re: Assessment of Traffic Improvement Measures Triggers for the UCSF Medical Center at Mission Bay (Fourth Street Public Plaza Project)

INTRODUCTION

INTRODUCTION AND BACKGROUND

Adavant Consulting has been assisting UCSF Campus Planning with the evaluation of future traffic conditions of the proposed Medical Center project in Mission Bay, a phased development of hospital, medical office and related uses, adjacent to the south side of the existing UCSF Mission Bay Campus. The Medical Center project would be constructed in two major phases, with the first phase (LRDP Phase) being completed by 2015, and the second (Future Phase) assumed to be completed by 2025 or later.

The first phase would construct the Children’s, Women’s and Cancer Hospitals with a total of 289 beds, an Outpatient Building, a Cancer Outpatient Building, and a central utilities plant on the east side of future Fourth Street totaling approximately 993,500 gsf in size; structured and surface parking would be built on the parcels to the west of future Fourth Street. The second phase of the project would provide an additional 793,500 gsf of Medical Center development, including an additional 261 beds, hospital support facilities and parking accommodations. Upon completion of both phases, the Medical Center at Mission Bay project would provide a 550-bed hospital, an outpatient facility, cancer outpatient facility, and associated support space and parking (1,300 to 2,000 spaces), totaling approximately 1,787,000 gsf, excluding parking.

UCSF is currently proposing to construct and maintain a public plaza on the Fourth Street right-of-way between 16th and Mariposa Streets which would result in the closure of Fourth Street to non-emergency vehicular through-traffic at this location. Pedestrian access and the planned bicycle route through Fourth Street would be maintained; UCSF plans to construct the Fourth Street Public Plaza project in combination with the first phase of the Medical Center Project.

The UCSF Medical Center at Mission Bay Final EIR (MCMB EIR) certified by the UC Regents on September 17, 2008 found that the closure of Fourth Street to vehicular through-traffic would create significant traffic impacts at various nearby locations at the time of the opening of the second phase of the Medical Center. The MCMB EIR also identified various mitigation measures that would reduce all of such impacts to a level of non-significance. These measures, which are described in more
detail in the next section of this document, include roadway widenings, a new traffic signal, addition of exclusive left and right turn-only lanes, and lane restriping. These measures are not needed to mitigate traffic impacts as part of the first phase of the Medical Center Project, even with implementation of the Fourth Street Public Plaza project, however, UCSF had proposed to obtain City approval to implement these measures as part of the approvals for the Fourth Street Public Plaza project so that their implementation can be assured at the time needed.

The implementation of these mitigation measures (now called Traffic Improvement Measures) will require various City approvals, including SFMTA, and Planning. The City has requested UCSF to develop a traffic monitoring plan that would be used to determine when to implement these measures to avoid significant effects on the transportation system, as well as identify whether any measures of equivalent effectiveness would be preferable to implement at such time as the need for the measure arises. To this end, this document describes the previous analyses done by UCSF on the traffic effects of the Medical Center and Fourth Street Plaza projects, the identified traffic improvement measures and required City approvals, and the proposed traffic monitoring plan.

**UCSF MEDICAL CENTER AT MISSION BAY FINAL EIR**

As part of previous planning work in support of the MCMB EIR, Adavant Consulting completed in 2008 the *UCSF Medical Center at Mission Bay Transportation Study*. As previously discussed, the MCMB EIR found that the operation of the Medical Center at Mission Bay with Fourth Street open to all vehicles would increase traffic at intersections on the adjacent roadway network, creating significant impacts in the second phase of the project at the southbound approach of the 16th St / Owens St. intersection, and at Owens St. at the Center Garage Access; on the other hand, no significant traffic impacts were identified in the first project phase.

Additional traffic impacts were identified under the *Fourth Street Closed to Vehicular Traffic Alternative* for the second phase of the MCMB project, and new mitigation measures were developed to reduce traffic impacts to less than significant levels at the following intersections: Mariposa St./Third St., 16th St./Owens St. (northbound approach), and 16th St./Third St. The eight traffic improvement measures proposed in the MCMB EIR for the *Fourth Street Closed to Vehicular Traffic Alternative*, including the southbound approach of the 16th St./Owens St. intersection, are shown in Figures 1a and 1b and are defined as follows, subject to final review and approval by City agencies with jurisdiction over them:

- **Mariposa Street and Third Street**
  1. **Southbound Approach**: Provision of an exclusive right turn lane and conversion of the shared through-right turn lane to a through lane, resulting in a lane configuration of one exclusive left turn lane, two through lanes and one exclusive right turn lane at this approach. This would involve widening the street right-of-way an additional 11 feet to the west compared to the Mission Bay Plan, for a length of approximately 150 feet, by dedicating UCSF land. City agencies would need to agree to the proposed reconfiguration of the southbound approach on Third St. to add the exclusive right turn lane and accept the dedication of the approximately 150-foot long by 11-foot wide strip of land to be used for the widened right-of-way on the west side of Third St. between 16th St and Mariposa St. SFMTA would need to convert the existing shared through-right turn lane to a through lane.
Restriping within existing right-of-way (1)

Fourth Street Plaza

Street widening, new turn lanes, traffic signal and median (see Figure 1B)

New right-turn only lane

FIGURE 1A: IMPROVEMENT MEASURES FOR PROPOSED FOURTH STREET PLAZA

(1) Improvement measure required as part of the UCSF Medical Center Project independent of Fourth Street Plaza Project.
FIGURE 1B: IMPROVEMENT MEASURES FOR PROPOSED FOURTH STREET PLAZA ALONG OWENS STREET

(1) Improvement measure required as part of the UCSF Medical Center Project independent of Fourth Street Plaza Project.

(2) Not required as a mitigation or improvement measure.
• 16th Street and Owens Street Intersection

2. Southbound Approach: Conversion of the exclusive left turn lane to a shared through-left turn lane and conversion of the shared through-right turn lane to an exclusive right turn lane, resulting in a lane configuration of one shared through-left turn lane, one through lane and one exclusive right turn lane at this approach. This measure can be accomplished by re-striping the travel lanes within the existing right-of-way and no roadway widening would be required. City agencies would need to agree to the proposed reconfiguration of the southbound approach on Owens St.; the proposed restriping would be done by the Mission Bay Development Group (MBDG) as part of the opening of Owens St. between 16th St and Mariposa St.

3. Northbound Approach: Provision of space for an additional exclusive left turn, if needed, resulting in a lane configuration of two exclusive left-turn lanes, one through lane, and one shared through right turn lane at this approach. The second left-turn lane would have approximately half the length (125 ft.) as the original left-turn lane (220 ft.).

This measure would involve an increase to the width of Owens Street and an encroachment onto UCSF property by approximately 16 to 19 feet to the east, to accommodate the additional turn lane and median, from 16th Street to the Center Garage Access Road.

This revised design of this approach may be implemented either by widening Owens Street after construction of the roadway as originally designed, or by construction of northbound Owens Street in its ultimate configuration upon initial construction. City agencies would need to agree to the proposed reconfiguration of the northbound approach on Owens St. to add the second exclusive left turn lane and accept the dedication of the approximately 220-foot long by 16- to 19-foot wide strip of land to be used for the widened right-of-way on the east side of Owens St. between 16th St and the Center Garage Access Road; the proposed configuration would be built by MBDG as part of the opening of Owens St. between 16th St and Mariposa St.

• 16th Street and Third Street Intersection

4. Eastbound Approach: Conversion of the exclusive left turn lane to a shared through-left turn lane and conversion of the shared through-right turn lane to an exclusive right turn lane, resulting in a lane configuration of one shared through-left turn lane, one through lane and one exclusive right turn lane at this approach.

5. Westbound Approach: Conversion of the exclusive left turn lane to a shared through-left turn lane, resulting in a lane configuration of one shared through-left turn lane and one shared through-right turn lane at this approach.

These two measures at the intersection of 16th Street and Third Street can be accomplished by restriping the travel lanes within the existing right-of-way and no roadway widening would be required. City agencies would need to agree to the proposed reconfiguration of the eastbound and westbound approaches on 16th St. to add the exclusive right turn lane; SFMTA would need to convert the existing striping to the proposed configuration.
Owens Street and Center Garage Access Road Intersection

6. **Northbound and Southbound Approaches:** Provision of an exclusive left-turn lane resulting in a lane configuration of one exclusive left-turn lane, one through lane and one shared through right turn lane at the northbound and southbound approaches. This measure would require widening the street right-of-way an additional 16 feet to the east between the North and South Road Connectors. City agencies would need to agree to the proposed configuration of the northbound and southbound approaches on Owens St. to add the exclusive left-turn lanes and accept the dedication of the approximately 200-foot long by 16-foot wide strip of land to be used for the widened right-of-way on the east side of Owens St. to the north and south of the Center Garage Access Road intersection; the proposed configuration would be built by MBDG as part of the opening of Owens St. between 16th St and Mariposa St.

7. **Signalization:** Monitor traffic conditions on Owens Street at the Center Garage Access and work with the City and County of San Francisco to install a traffic signal when warranted to maintain an acceptable level of service (currently defined as LOS D or better). UCSF would coordinate with the City and County of San Francisco in the periodic update of the Mission Bay traffic triggers survey and would monitor on-site parking access and circulation on Owens Street in order to determine the need and timing for a traffic signal at this intersection.

Owens Street and South Connector Road Intersection

8. **Southbound Approach:** Provision of new southbound left turn traffic lane on Owens Street at the South Connector Road. This would increase the width of Owens Street by approximately 16 feet to the east to accommodate the additional turn lane and median, from the Center Garage Access to the south side of the South Road Connector. City agencies would need to agree to the proposed configuration of the northbound and southbound approaches on Owens St. to add the exclusive southbound left-turn lane and accept the dedication of the approximately 100-foot long by 16-foot wide strip of land to be used for the widened right-of-way on the east side of Owens St. to the north of the South Road Connector intersection; the proposed configuration would be built by MBDG as part of the opening of Owens St. between 16th St and Mariposa St.

The University had originally proposed to implement all but one (#7-Signalization at Owens St / Center Garage Access Rd) of the traffic improvement measures as part of the first MCMB phase and Fourth Street Public Plaza projects, although they are not needed until the second phase of the MCMB is implemented. The City has indicated its preference that the four improvement measures that would be triggered by the second phase of the MCMB in combination with the Fourth Street Public Plaza project (#1-Mariposa St. / Third St., #3-Northbound approach at 16th St. / Owens St., #4-Eastbound approach at 16th St. / Third St., and #5-Westbound approach at 16th St. / Third St.) be implemented instead at the time when they are actually needed/triggered by cumulative traffic conditions. As a result, only improvement measures #2, #6 and #8 plus the widening of Owens Street that would be necessary to incorporate measure #3 at a later time would be built as part of the Phase 1 MCMB plus Fourth Street Public Plaza projects.
PURPOSE OF THIS DOCUMENT

The purpose of this document is to describe the expected future traffic conditions at the intersections described above, as well as present a draft plan for monitoring traffic conditions at those locations where the implementation of improvement measures is being postponed on the basis of cumulative traffic conditions (#1-Mariposa St. / Third St., #3-Northbound approach at 16th St. / Owens St., #4-Eastbound approach at 16th St. / Third St., and #5-Westbound approach at 16th St. / Third St.), as well as to confirm the feasibility and effectiveness of the traffic improvement measures or otherwise to consider equivalent recommendations.

EXISTING AND FUTURE TRAFFIC CONDITIONS

TRAFFIC VOLUMES AT STUDY INTERSECTIONS

Figures 2 and 3 summarize the existing and future total traffic volumes entering the five study intersections for existing and future conditions during the PM peak hour, using traffic data from the Fourth Street Closed to Vehicular Traffic Alternative of the UCSF MCMB Final EIR. Both figures distinguish between the background and project generated traffic growth at each location. Since Owens Street is a future roadway to be built as part of the Mission Bay Plan, no existing traffic is shown at the intersections of Owens Street with the Center and South garage access roads.

As expected, the project contribution would be higher, both proportionally and in absolute value, on Owens Street than on Third Street, given that Owens Street would become the primary vehicular access to the parking facilities once the Medical Center opens. Figures 2 and 3 also indicate that the traffic contribution during the second phase of the Medical Center project would be slightly lower (about 10 percent) than during the first phase. Overall, traffic volumes at the two intersections on Third Street would be expected to double by 2025.
Figure 2
Total Number of Vehicles during the PM Peak Hour on Third Street by Intersection Location and Horizon Year

Figure 3
Total Number of Vehicles during the PM Peak Hour on Owens Street by Intersection Location and Horizon Year
ROADWAY TRAFFIC VOLUMES

Figures 4 through 7 show the expected PM peak hour traffic volumes by year at the approaches subject to traffic improvement measures for the intersections of Mariposa Street and Third Street, 16th Street and Third Street, and 16th Street and Owens Street, the three intersections where traffic monitoring will be needed to determine the timing of implementing the proposed improvements. The figures depict three levels of traffic growth for each approach: the increase due to cumulative growth in the area (yellow), the opening of the first phase of the UCSF Medical Center (blue), and the opening of its second phase (red).

Similar to the data presented in the previous figures, the contribution of Medical Center vehicles to the overall PM peak hour traffic would be highest at the northbound Owens Street approach to 16th Street, a major arrival and departure path for Medical Center trips. The Medical Center contribution to the other approaches would be lower, as a result of fewer Medical Center vehicles and higher background traffic levels.
Figure 5
Eastbound 16th Street Approach at Third Street
Number of PM Peak Hour Vehicles by Year

Figure 6
Northbound Owens Street Approach at 16th Street
Number of PM Peak Hour Vehicles by Year
A queuing analysis has been conducted for the northbound to westbound left-turn movement at the intersection of 16th Street and Owens Street. This location was selected for a queuing analysis since it is the only approach to be mitigated where questions have been raised about the convenience of implementing the traffic improvement measure (addition of a second northbound left-turn only lane) at the time of opening of Phase 1, as opposed to waiting until it is indicated by the Traffic Monitoring Plan described later in this technical memorandum.

As indicated in the first section of this document, one of the Medical Center project traffic improvement measures proposed for this intersection is the addition of a second northbound left-turn only lane at Owens Street. The additional lane was identified in the MCMB EIR as a mitigation measure needed at the time the second phase of the Medical Center would open; on the other hand, at the time it was not evaluated if the second northbound left turn lane needed to be implemented at the intersection before the second phase was completed, to improve traffic conditions resulting from background traffic growth. This analysis is presented below.

Table 1 summarizes the queuing analysis conducted for the northbound left turn at the intersection of 16th Street and Owens Street. The queues have been estimated using the 2000 Highway Capacity Manual (HCM) methodology (Chapter 16, Signalized Intersections). The traffic and delay data have been obtained from the MCMB EIR; the detailed queuing calculations are shown in Appendix A of this document.
Table 1
Back of Queue Estimation – PM Peak Hour
Northbound Left Turn at 16th Street and Owens Street

<table>
<thead>
<tr>
<th>Approach</th>
<th>Scenario</th>
<th>Year 2015 + Phase 1</th>
<th>Year 2025 + Phase 1</th>
<th>Year 2025 + Phase 1 + Phase 2</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Unmitigated</td>
<td>Mitigated</td>
<td></td>
</tr>
<tr>
<td>Number of Turning Lanes</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Approximate Total Length (feet)</td>
<td>220</td>
<td>220</td>
<td>220</td>
<td>345</td>
</tr>
<tr>
<td>Left-turning Vehicles [a]</td>
<td>146</td>
<td>152</td>
<td>252</td>
<td>252</td>
</tr>
<tr>
<td>Average Queue (vehicles)</td>
<td>8</td>
<td>8</td>
<td>16</td>
<td>8</td>
</tr>
<tr>
<td>Reservoir Capacity (vehicles) [b]</td>
<td>3</td>
<td>3</td>
<td>-5</td>
<td>1</td>
</tr>
</tbody>
</table>

Notes:
[a] UCSF Medical Center at Mission Bay Final EIR (2008).
[b] Based on 20 feet per vehicle in queue. A positive value indicates remaining vehicle capacity in the turn lane; a negative value indicates the number of turning vehicles queued outside the turn lane.

Source: Adavant Consulting – September 2011.

As shown in the table, the average queue would not exceed the left-turn lane capacity until the second phase of the Medical Center opens in 2025; the implementation of a second left-turn lane would improve this condition. Due to geometric constraints, the second left-turn lane would be about half the length (125 feet), compared to the original left-turn lane (220 feet), for a total queuing storage length of 345 feet.

Table 1 indicates that the proposed length of the single northbound left-turn lane would be sufficient to accommodate the average queue for the cumulative 2025 plus the first phase of the Medical Center scenario, with approximate space for three additional vehicles. On the other hand, the average queue represents a queue length that is not exceeded in half of the instances, which also means that it is exceeded in the other half. A more conservative value is provided by the 85th percentile, which represents a queue length that is only exceeded during 15 percent of the instances.

Figure 8 depicts the relationship between the average and the 85th percentile queues for the northbound left-turn movement at the intersection of 16th Street and Owens Street. The curves have been developed using the 2000 HCM methodology with traffic and delay data taken from the MCMB EIR; the detailed queuing calculations are shown in Appendix A of this document.
As expected and shown in Figure 8, the 85th percentile queue length calculation provides a higher, more conservative value than the average queue length. In addition, the difference between the average and the 85th percentile values increases with higher left-turning traffic volumes, due to the related increase in vehicle delay.

Figure 9 depicts the same information based on the year at which the expected left-turning volumes would occur. The difference between the 85th percentile and average back of queue calculations in 2025 prior to the opening of Phase 2 of the Medical Center is four vehicles, one vehicle higher than the number of reservoir spaces shown in Table 1 (three spaces). Thus, the back of queue calculated with the 85th percentile methodology would be expected to exceed the length of the single-turn lane in year 2020 before the opening of the second phase of the UCSF Medical Center.
It should be noted that the traffic analysis conducted for the UCSF Medical Center is based on the PM peak hour travel demand and traffic estimates, which is the same methodology used to evaluate other projects in the Mission Bay area, including the Mission Bay Area Plan Subsequent EIR. Recent counts have shown that the number of vehicles exiting the I-280 freeway at Mariposa, and then turning left to reach the 16th St/Mississippi St/Seventh St intersection, is about 60 percent higher during the AM peak hour than the PM peak hour (about 170 additional vehicles per hour). It is possible that a portion of these vehicles might choose to continue straight from the I-280 ramp onto Owens Street, once the segment between 16th Street and Mariposa Street opens as part of Phase 1 of the Medical Center, which could potentially increase the number of left-turning vehicles on the northbound approach of Owens Street at 16th Street during the AM peak hour.

On the other hand, the number of exiting vehicles expected in the first phase of the Medical Center project during the AM peak hour represents 20 percent of those that would exit during the PM peak hour. Therefore, the reduction in Medical Center project trips at the northbound left-turn only lane during the AM peak hour (about 100 vehicles, which represents approximately 60 percent of the left turning traffic at Mariposa) would be expected to compensate any potential vehicle increase due to traffic rerouting after the opening of Owens Street, obviating the need to provide additional left-turning capacity during the AM peak hour.

**REVIEW OF TRAVEL DEMAND ASSUMPTIONS**

The traffic analysis presented in this document is based on the data, methodology and results presented in the MCMB EIR, the most recent document that includes a complete transportation analysis for the area near the Medical Center. Recent traffic counts conducted in the vicinity of the
Medical Center project as part of a separate study and summarized in Table 2, were conducted to assess if the existing baseline traffic volumes assumed in the MCMB EIR are still valid.

### Table 2

**Comparison of Existing Baseline Traffic Volumes**

<table>
<thead>
<tr>
<th>Location</th>
<th>2006 [a]</th>
<th>2011 [b]</th>
<th>Difference</th>
<th>Avg. Annual Growth Rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>16th Street</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- between Seventh and Owens</td>
<td>910</td>
<td>1,114</td>
<td>204</td>
<td>4%</td>
</tr>
<tr>
<td>- between Owens and Fourth</td>
<td>906</td>
<td>1,012</td>
<td>106</td>
<td>2%</td>
</tr>
<tr>
<td>- between Fourth and Third</td>
<td>893</td>
<td>902</td>
<td>9</td>
<td>±0%</td>
</tr>
<tr>
<td>Third Street</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- between Mariposa and 16th</td>
<td>1,927</td>
<td>1,507</td>
<td>-420</td>
<td>-5%</td>
</tr>
<tr>
<td>Mariposa Street</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>- between Minnesota and Third</td>
<td>794</td>
<td>724</td>
<td>-70</td>
<td>-2%</td>
</tr>
</tbody>
</table>

**Notes:**
[a] Traffic data from the UCSF Medical Center at Mission Bay Final EIR (2008).
[b] Traffic counts collected in Fall 2011.
Source: Adavant Consulting – November 2011.

As shown in Table 2, traffic on 16th St west of Fourth Street has grown over the past five years as a result of the UCSF Campus expansion and new construction on Owens Street. On the other hand, traffic volumes on Third and Mariposa Streets have decreased somewhat, probably as a result of the on-going recession.

Similarly, Table 3 provides a comparison of future population and employment conditions in San Francisco based on the projections used in the MCMB EIR, which were based on the Eastern Neighborhoods Area Plan, and the most recent projections being developed by the Planning Department. As shown in the table, prior forecasts underestimated the 2025 population by almost eight percent, compared to the most recent data available, and overestimated the 2025 employment by almost 17 percent.

### Table 3

**San Francisco County Population and Employment Estimates for Year 2025**

<table>
<thead>
<tr>
<th></th>
<th>EN Scenario C [a]</th>
<th>SCS 2011 [b]</th>
<th>Difference</th>
<th>Rate of Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>840,367</td>
<td>904,077</td>
<td>63,710</td>
<td>7.6%</td>
</tr>
<tr>
<td>Employment</td>
<td>768,526</td>
<td>639,264</td>
<td>-129,262</td>
<td>-16.8%</td>
</tr>
</tbody>
</table>

**Notes:**
[b] Sustainable Communities Strategies (SCS) Land Use Scenario, based on ABAG Projections 2011.
Source: SF County Transportation Authority.
It should be noted that the countywide estimates in population and employment presented in Table 3 would mostly influence traffic volumes at those facilities near Mission Bay that serve regional and citywide through trips, such as I-280 or Third Street, and to a certain extent Mariposa Street. Other facilities such as Owens, Fourth and 16th Street would be mostly affected by planned development internal to Mission Bay or located in its immediate vicinity. To this end, Table 4 provides a comparison between the rates of development within Mission Bay that were expected in 2008 at the time the MCMB EIR was prepared, and more recent estimates prepared in November 2011 (shown in Appendix B).

### Table 4

<table>
<thead>
<tr>
<th>Trigger No.</th>
<th>Number of Cumulative PM Peak Hour Vehicles</th>
<th>Date of Development Assumptions [a]</th>
<th>Delay</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>2,600 in MB North plus South</td>
<td>July 2006</td>
<td>July 2006</td>
</tr>
<tr>
<td>2</td>
<td>2,200 in MB South only</td>
<td>December 2008</td>
<td>May 2009</td>
</tr>
<tr>
<td>3</td>
<td>5,500 in MB North plus South</td>
<td>July 2010</td>
<td>June 2012</td>
</tr>
<tr>
<td>4</td>
<td>8,200 in MB North plus South</td>
<td>June 2012</td>
<td>December 2014</td>
</tr>
<tr>
<td>5</td>
<td>10,400 in MB North plus South</td>
<td>January 2016</td>
<td>December 2016</td>
</tr>
<tr>
<td>6</td>
<td>12,200 in MB North plus South</td>
<td>July 2022</td>
<td>July 2024</td>
</tr>
<tr>
<td>7</td>
<td>Full development of the project</td>
<td>2025</td>
<td>2035/40</td>
</tr>
</tbody>
</table>

Note: [a] Estimated occupancy dates provided by the MB Development Group, SFRA and UCSF.

Source: Adavant Consulting – November 2011.

As it can be seen from Table 4, the amount of development expected to occur by 2022 in February 2008, at the time of the preparation of the MCMB EIR, is now expected to occur about two years later, by 2024. Similarly, the full occupancy of the project, previously estimated to occur by 2025 is now expected to take place in 2035 or 2040.

In conclusion, based on the data presented in Tables 2 through 4, it is likely that the traffic conditions presented in the MCMB EIR for the year 2025, and described in this report, would most likely be attained in 2035 near the intersection of 16th Street/ Owens Street, and even later at 16th Street/ Third Street, and Mariposa St./ Third St.

### Traffic Monitoring Plan

As part of the on-going planning process for the Medical Center project, UCSF has indicated its intention to coordinate with the City of San Francisco in the periodic survey and monitoring of traffic conditions in the vicinity of the project site in order to better establish when to implement the planned intersection improvements. The analyses of future traffic conditions, including LOS and queuing, are based on the best travel demand information available at the time, but as with any other planning forecast, the estimated results have an inherent level of uncertainty. Furthermore, as previously discussed in this document, future traffic conditions at those study intersections located along Third Street are more dependent on the expected growth of background traffic, which is dependent on outside the area planning and economic forces and for which less information is generally available, than on traffic related to the Medical Center project, for which better estimates have been developed.
As such, UCSF is committed to developing a traffic monitoring plan to better schedule the implementation of the traffic improvement measures and to confirm their feasibility and effectiveness or to consider equivalent recommendations. The UCSF traffic monitoring plan would consist of the following elements:

- Prior to the opening of the first phase of the Medical Center project, UCSF will start monitoring of traffic conditions, at the following three intersections:
  - Mariposa St. / Third St.
  - 16th St. / Third St.
  - 16th St. / Owens St.

- Turning movement traffic volumes will be collected on a typical day during the PM peak period (4 to 6 PM) at the three intersections; in addition, queue lengths will be measured for the southbound right-turn movement at Mariposa St. / Third St. and the eastbound right turn movement at 16th / Third St. The traffic data will be collected on one day during midweek (Tuesday, Wednesday, or Thursday) when San Francisco schools and UCSF are both in session. Special conditions such as weekday holidays, ballpark events, nearby street closures, or high vehicular construction activity periods will be avoided.

- Intersection level of service (LOS) analysis will be conducted at these three study intersections to establish a baseline condition prior to the Medical Center opening.

- Approximately one year after the opening of the first phase of the Medical Center, UCSF will collect one-day turning movement counts at the original three locations plus the intersection of Owens Street and the Parking lot/ Center garage entrance during the same month as the original traffic data was collected. Since the segment of Owens Street between 16th Street and Mariposa Street would now be opened, the queue length data collection effort will be expanded to include the northbound left-turn movement at 16th St. / Owens St. Intersection LOS and queuing analysis will be conducted for all four locations using this data. A peak hour traffic signal warrant analysis will be conducted for the intersection of Owens Street and the Parking lot/ Center garage entrance using California’s Manual of Uniform Traffic Control Devices (MUTCD) methodology. Prior to data collection and analysis, the Planning Department’s Environmental Review Officers shall be notified of the beginning of the monitoring process.

- The same traffic data collection effort and analyses will then be conducted every two years until the opening of the second phase of the Medical Center project (project build-out).

- Once both phases of the Medical Center become operational, the same traffic data collection effort and analyses will be conducted every other year through year 2040 or five years after build-out, whichever occurs first. If all the traffic improvement measures identified in this document are implemented prior to 2040 or five years after build-out, monitoring would no longer be required.
• The results of each traffic monitoring and operations analysis will be documented in a written report, prepared within three months of the conclusion of the data collection effort under the direction of UCSF. The written reports will include an evaluation of the current traffic conditions and an assessment of future traffic conditions for the next one- or two-year period (depending on the monitoring schedule) based on the expected project and background traffic growth. If the analysis indicates that any of the study intersections are close to operating at unacceptable conditions as defined at that time (currently LOS E or F), the report shall explore and present alternative measures to the ones listed in this report, that could improve the conditions to acceptable levels as defined at that time (currently LOS D or above). UCSF will share the written traffic monitoring and operations analysis reports with the SF Planning Department.

• When the results of the monitoring analyses indicate that any of the study intersections are close to operating at unacceptable conditions, the City, in its reasonable discretion, will determine whether to implement, with funding from UCSF, the measures specified in this document or implement other measures, such as changes to signal timing cycles (including LRT pre-emption), different modifications to the lane geometries, etc., that would result in acceptable intersection levels of service, as defined by the San Francisco Planning Department’s Transportation Guidelines that are applicable at that time (currently the acceptable LOS is D or above). UCSF will coordinate with SF Planning Department, and SFMTA how to best implement such adjustments.
APPENDIX A
Queuing Analysis
### Average Back of Queue Calculations

**HCM 2000; Chapter 16, Appendix G, p. 16-152**

<table>
<thead>
<tr>
<th>Year 2015 plus MC Phase 1</th>
<th>Year 2025 plus MC Phase 1</th>
<th>Year 2025 plus MC Phases 1 &amp; 2 Unmitigated</th>
<th>Year 2025 plus MC Phases 1 &amp; 2 Mitigated</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>NB Owens St.</strong></td>
<td><strong>NB Owens St.</strong></td>
<td><strong>NB Owens St.</strong></td>
<td><strong>NB Owens St.</strong></td>
</tr>
<tr>
<td>Left-turn</td>
<td>Thru/Right-turn</td>
<td>Left-turn</td>
<td>Thru/Right-turn</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------------------------</td>
<td>-------------------------------------------</td>
<td>-------------------------------------------</td>
</tr>
<tr>
<td><strong>Number of lanes</strong></td>
<td>1</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td><strong>Total length of lane(s) provided</strong></td>
<td>220 580</td>
<td>220 580</td>
<td>345 580</td>
</tr>
<tr>
<td><strong>Traffic Volume</strong></td>
<td>146 517</td>
<td>152 622</td>
<td>252 701</td>
</tr>
<tr>
<td><strong>Peak hour factor</strong></td>
<td>0.95 0.95</td>
<td>0.95 0.95</td>
<td>0.95 0.95</td>
</tr>
<tr>
<td><strong>Total flow rate</strong></td>
<td>154 544</td>
<td>160 655</td>
<td>265 738</td>
</tr>
<tr>
<td><strong>V_L Flow rate per lane</strong></td>
<td>154 272</td>
<td>160 327</td>
<td>265 369</td>
</tr>
<tr>
<td><strong>Total saturation flow</strong></td>
<td>1,769 3,463</td>
<td>1,769 3,474</td>
<td>3,538 3,474</td>
</tr>
<tr>
<td><strong>S_L Saturation flow per lane</strong></td>
<td>1,769 1,732</td>
<td>1,769 1,737</td>
<td>1,769 1,737</td>
</tr>
<tr>
<td><strong>Volume/saturation flow</strong></td>
<td>0.09 0.16</td>
<td>0.09 0.19</td>
<td>0.15 0.21</td>
</tr>
<tr>
<td><strong>C Cycle length</strong></td>
<td>110 110</td>
<td>110 110</td>
<td>110 110</td>
</tr>
<tr>
<td><strong>g Effective green time</strong></td>
<td>11.0 39.6</td>
<td>11.0 39.6</td>
<td>11.0 39.6</td>
</tr>
<tr>
<td><strong>g/C Green/cycle length ratio</strong></td>
<td>0.10 0.36</td>
<td>0.10 0.36</td>
<td>0.13 0.41</td>
</tr>
<tr>
<td><strong>C_L Lane capacity</strong></td>
<td>171 618</td>
<td>171 618</td>
<td>239 710</td>
</tr>
<tr>
<td><strong>X_L Volume/capacity ratio</strong></td>
<td>0.90 0.44</td>
<td>0.94 0.53</td>
<td>1.11 0.52</td>
</tr>
<tr>
<td>Minimum of 1 and X_L</td>
<td>0.90 0.44</td>
<td>0.94 0.53</td>
<td>1.00 0.52</td>
</tr>
<tr>
<td><strong>R_p Platoon ratio</strong></td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
</tr>
<tr>
<td><strong>PF_2 Progression factor</strong></td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
<td>1.00 1.00</td>
</tr>
<tr>
<td><strong>Q_1 1st term queue per lane</strong></td>
<td>5 7</td>
<td>5 8</td>
<td>5 9</td>
</tr>
<tr>
<td><strong>T Length of analysis period</strong></td>
<td>1.0</td>
<td>1.0</td>
<td>1.0</td>
</tr>
<tr>
<td><strong>Q_6 Initial queue at start of analysis period</strong></td>
<td>0 0</td>
<td>0 0</td>
<td>0 0</td>
</tr>
<tr>
<td><strong>X_L / C_L T</strong></td>
<td>-0.10 -0.56</td>
<td>-0.06 -0.47</td>
<td>0.00 -0.48</td>
</tr>
<tr>
<td><strong>X_L / C_L T + Q_6 / (C_L T)</strong></td>
<td>0.0053 0.0007</td>
<td>0.0055 0.0009</td>
<td>0.0042 0.0007</td>
</tr>
<tr>
<td><strong>Q_2 2nd term queue per lane</strong></td>
<td>3 1</td>
<td>3 1</td>
<td>3 1</td>
</tr>
<tr>
<td><strong>Average queue per lane</strong></td>
<td>8 8</td>
<td>8 9</td>
<td>16 10</td>
</tr>
<tr>
<td><strong>TRAFFIX model results</strong></td>
<td>8 7</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>Average queue length per lane</strong></td>
<td>160 160</td>
<td>160 160</td>
<td>320 200</td>
</tr>
<tr>
<td><strong>Total average queue length</strong></td>
<td>160 320</td>
<td>160 360</td>
<td>320 400</td>
</tr>
<tr>
<td><strong>Average queue length surplus/shortfall</strong></td>
<td>60 260</td>
<td>60 220</td>
<td>-100 180</td>
</tr>
<tr>
<td><strong>p_1 1st parameter for 90% back of queue</strong></td>
<td>1.3 1.3</td>
<td>1.3 1.3</td>
<td>1.3 1.3</td>
</tr>
<tr>
<td><strong>p_2 2nd parameter for 90% back of queue</strong></td>
<td>0.3 0.3</td>
<td>0.3 0.3</td>
<td>0.3 0.3</td>
</tr>
<tr>
<td><strong>p_3 3rd parameter for 90% back of queue</strong></td>
<td>30 30</td>
<td>30 30</td>
<td>30 30</td>
</tr>
<tr>
<td><strong>f_{90} 85 percentile back-of-queue factor</strong></td>
<td>1.53 1.53</td>
<td>1.53 1.52</td>
<td>1.48 1.51</td>
</tr>
<tr>
<td><strong>85 percentile queue per lane</strong></td>
<td>11 11</td>
<td>12 14</td>
<td>22 14</td>
</tr>
<tr>
<td><strong>85 percentile queue length per lane</strong></td>
<td>220 220</td>
<td>240 280</td>
<td>440 280</td>
</tr>
<tr>
<td><strong>Total 85 percentile queue length</strong></td>
<td>220 440</td>
<td>240 560</td>
<td>440 560</td>
</tr>
<tr>
<td><strong>Average queue length surplus/shortfall</strong></td>
<td>0 140</td>
<td>-20 20</td>
<td>-220 20</td>
</tr>
</tbody>
</table>

**Note:** All values are in vehicles per hour or feet (20 ft per vehicle) unless specified otherwise.
Owens St NB Left-turn at 16th St
Estimated Queue Length - PM Peak Hour

- **85th Percentile Queue**
  - Formula: \( y = 0.5441e^{3.2886x} \)
  - \( R^2 = 0.9996 \)
- **Single Turn Lane Capacity**
- **Average Queue**
  - Formula: \( y = 0.338e^{3.349x} \)
  - \( R^2 = 0.999 \)

**Number of Vehicles in Queue** vs **Volume to Capacity Ratio**
Owens St NB Left-turn at 16th St
Estimated Queue Length - PM Peak Hour

Number of Vehicles in Queue vs Northbound Left-turn Volume

- **Single Turn Lane Capacity**: 11.6
- **85th Percentile Queue**: y = 0.0859x - 1.1681, R² = 0.9888
- **Average Queue**: y = 0.0578x - 0.9179, R² = 0.9839
Owens St NB Left-turn at 16th St
Estimated Queue Length - PM Peak Hour

Number of Vehicles in Queue

Year


85th Percentile Queue
Single Turn Lane Capacity
Average Queue
MC Phase 2 Opens

MC Phase 1 Opens
APPENDIX B
Estimated Development Schedule for the Mission Bay Area (November 2011)
<table>
<thead>
<tr>
<th>Block Number</th>
<th>Parcel Number</th>
<th>Area</th>
<th>Owner/Developer</th>
<th>Total Vehicle Trips per Block</th>
<th>Cumulative Mission Bay South Only</th>
<th>Cumulative Mission Bay South</th>
<th>Estimated Date of Occupancy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Block 28</td>
<td>All East</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>88 88</td>
<td>0 0</td>
<td>0 0</td>
<td>June-02</td>
</tr>
<tr>
<td>Block 24</td>
<td>Parcel A/B</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>235 790</td>
<td>235 503</td>
<td>December-02</td>
<td></td>
</tr>
<tr>
<td>Block 30</td>
<td>Parcel A</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>10 800</td>
<td>10 503</td>
<td>June-03</td>
<td></td>
</tr>
<tr>
<td>Block 19</td>
<td>Parcel B</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>26 825</td>
<td>26 503</td>
<td>June-03</td>
<td></td>
</tr>
<tr>
<td>Block 32</td>
<td>Parcel C</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>93 919</td>
<td>93 503</td>
<td>September-03</td>
<td></td>
</tr>
<tr>
<td>Block 33</td>
<td>Parcel 3</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>75 993</td>
<td>75 503</td>
<td>September-04</td>
<td></td>
</tr>
<tr>
<td>Block 15</td>
<td>Parcel 1</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>113 1,109</td>
<td>113 503</td>
<td>September-04</td>
<td></td>
</tr>
<tr>
<td>Block 14</td>
<td>Parcel 2</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>622 1,728</td>
<td>622 503</td>
<td>November-04</td>
<td></td>
</tr>
<tr>
<td>Block 31</td>
<td>Parcel 1</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>460 2,489</td>
<td>460 503</td>
<td>July-06</td>
<td></td>
</tr>
<tr>
<td>Block 13</td>
<td>Parcel 1</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>274 2,743</td>
<td>274 503</td>
<td>November-06</td>
<td></td>
</tr>
<tr>
<td>Block 41</td>
<td>Parcel 1</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>83 2,826</td>
<td>83 503</td>
<td>December-06</td>
<td></td>
</tr>
<tr>
<td>Block 30</td>
<td>Parcel 1</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>172 2,489</td>
<td>172 503</td>
<td>July-06</td>
<td></td>
</tr>
<tr>
<td>Block 35</td>
<td>Parcel 1</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>83 2,826</td>
<td>83 503</td>
<td>December-06</td>
<td></td>
</tr>
<tr>
<td>Block 34</td>
<td>Parcel 2</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>460 2,489</td>
<td>460 503</td>
<td>July-06</td>
<td></td>
</tr>
<tr>
<td>Block 33</td>
<td>Parcel 1</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>109 2,937</td>
<td>109 503</td>
<td>September-04</td>
<td></td>
</tr>
<tr>
<td>Block 32</td>
<td>Parcel 1</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>109 2,937</td>
<td>109 503</td>
<td>September-04</td>
<td></td>
</tr>
<tr>
<td>Block 31</td>
<td>Parcel 1</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>109 2,937</td>
<td>109 503</td>
<td>September-04</td>
<td></td>
</tr>
<tr>
<td>Block 30</td>
<td>Parcel 1</td>
<td>UCSF</td>
<td>UCSF/Mission Housing</td>
<td>109 2,937</td>
<td>109 503</td>
<td>September-04</td>
<td></td>
</tr>
</tbody>
</table>

TABLE 3. MISSION BAY PROJECT: PM PEAK HOUR VEHICLE TRIPS BY LAND USE TYPE SORTED BY DATE (as of November 2011)