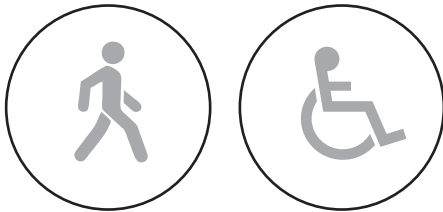


TRANSPORTATION IMPACT ANALYSIS GUIDELINES

APPENDIX G

WALKING/ACCESSIBILITY

UPDATED OCTOBER 2019



San Francisco
Planning



SAN FRANCISCO PLANNING DEPARTMENT

MEMO

Appendix G Walking/Accessibility Memorandum

1650 Mission St.
Suite 400
San Francisco,
CA 94103-2479

Reception:
415.558.6378

Fax:
415.558.6409

Planning
Information:
415.558.6377

Date: February 14, 2019
To: Record No. 2015-012094GEN
Prepared by: Jenny Delumo, Christopher Espiritu, and Lana Wong
Reviewed by: Wade Wietgreffe
RE: **Transportation Impact Analysis Guidelines Update, Walking/Accessibility**

INTRODUCTION

This memorandum updates the prior guidance provided in the Transportation Impact Analysis Guidelines for the walking/accessibility¹ topic (known as pedestrians in the prior guidelines). The department prepared this memorandum in consultation with stakeholders (e.g., city and county agencies, consultants). The department will issue memoranda that provide updates to other topics (e.g., transit, loading) within the guidelines. When the department issues a memorandum about a topic, it will supersede existing guidance regarding that topic.

This memorandum provides specific guidance on the methodology and impact analysis required for walking/accessibility transportation topic. Overall guidance on conducting transportation analysis for environmental review, including developing the project description, how to address the significance criteria, methodology, and impact analysis, is in the Transportation Impact Analysis Guidelines.

The guidance provided herein assumes a land use development project located outside of an area plan that requires a transportation study. Guidance on other types of projects, such as projects located in an area plan or infrastructure projects, is discussed below under the "Other" subsection. The department may use this guidance for multiple projects, but the department has discretion on how to apply the guidance on a project-by-project basis.

The organization of the memorandum is as follows:

- 1) Project Description
- 2) Significance Criteria
- 3) Existing and Existing plus Project
 - a) Methodology
 - b) Existing Baseline
 - c) Impact Analysis
- 4) Cumulative
 - a) Methodology
 - b) Impact Analysis
- 5) Other (covers different types of projects)

¹ This memorandum addresses impacts to people walking, including people with disabilities that may or may not require personal assistive mobility devices. In addition, people walking may refer to people participating in recreational or social activities in the public right-of-way.

Attachments to this memorandum are under separate cover and are attached to the end of this memorandum. The department may update the attachments to the memoranda more frequently than the body of the memoranda.

PROJECT DESCRIPTION

Refer to the Transportation Impact Analysis Guidelines Appendix A, Tables 1-3, for a list of the typical physical, additional physical, and programmatic features for existing and existing plus project conditions, as applicable. The geographic extent of these features must, at a minimum, include the project's frontage and may include the entirety of the project's block. Appendix A, Table 4 of the guidelines provides a non-exhaustive list of approvals from agencies other than the planning department that a project sponsor may need to obtain for the project description features described in the guidelines. Attachment A of this memorandum includes examples of figures that illustrate how to graphically represent walking conditions.

SIGNIFICANCE CRITERIA

San Francisco Administrative Code chapter 31 directs the department to identify environmental effects of a project using as its base the environmental checklist form set forth in Appendix G of the California Environmental Quality Act (CEQA) Guidelines. As it relates to people walking, Appendix G states: "would the project conflict with a program plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?" The department uses the following significance criteria to evaluate that question: A project would have a significant impact if it:

- 1) Creates potentially hazardous conditions² for people walking; or
- 2) Interferes with accessibility of people walking to and from the project site, and adjoining areas.

EXISTING AND EXISTING PLUS PROJECT

Methodology

This section describes the typical methodology required to address the significance criteria. The methodology section identifies the collection, generation, and approach to analyze data. The department will determine whether to adjust the methodology as necessary to inform the analysis.

The guidelines provide direction on the geographical area and period required for analysis. Further guidance on the typical methodology for evaluating existing and existing plus project conditions for this topic, including data collection, is provided below. This section also indicates in bracketed text [] whether the presentation of typical methodological elements in other sections of a transportation study (e.g., baseline, impact analysis) could occur in text, a figure, and/or a table (see Appendix A of the guidelines for examples of typical tables and Attachment A of this memorandum for examples of walking-related figures).

² For the purposes of this memorandum, "hazard" refers to a project generated vehicle potentially colliding with people walking that could cause serious or fatal physical injury, accounting for the aspects described below. Human error or non-compliance with laws, weather conditions, time-of-day, and other factors can affect whether a collision could occur. However, for purposes of CEQA, hazards refer to engineering aspects of a project (e.g., speed, turning movements, complex designs, substantial distance between street crossings, sight lines) that may cause a greater risk of collisions that result in serious or fatal physical injury than a typical project. This significance criterion focuses on hazards that could reasonably stem from the project itself, beyond collisions that may result from aforementioned non-engineering aspects or the transportation system as a whole.

Existing Conditions

The following identifies the typical methodology for assessing existing conditions.

Counts

The methodology may include prior counts collected from other studies or sources combined with (e.g., an average of three different dates with counts at the same intersection, global positioning system user data) or in isolation from the counts collected for the project. The use of prior counts must be justified, in consultation with the department. Typically, the use of prior counts may occur if these counts have not changed substantially under existing conditions (e.g., due to lack of new development, circulation changes, or travel patterns). [text, table]

Visual Analysis with Recorded Observations

Data collection for the project should include a site visit for a visual analysis, with recorded observations of the absence, discontinuity, or presence of the features listed in the project description, other relevant features (e.g., ADA accessible curb ramps), and a description of the weather conditions. In addition, the site visit must record any existing potential or observed hazards at locations in the study area where people walk, especially along routes of travel for people walking between the project site and nearby transit stations/stops (e.g., crosswalks, sidewalks), major destinations (e.g., schools, event centers, recreational facilities, tourist activities, shopping districts, high-density residential or office areas, transit stations, and airports), or land uses with particularly vulnerable people (e.g., children, seniors, people with disabilities). [text, figure]

Street Design Characteristics

Obtain the following general characteristics of streets within the study area:

- Location and type of traffic control devices (e.g., stop signs, signals, crosswalk, countdown signals, audible warning devices) [text, figure]
- Number of travel lanes by type (e.g., mixed flow, parking, bicycle, transit-only, etc.) [text, figure]
- Posted speed limit and recorded speed observations or inferences about observed speeds [text]
- Presence of High-Injury Corridor [text, figure]
- Better Streets Plan designation and Key Walking Street designation, if applicable [text, figure]

Obtain the following additional characteristics of streets within the study area to the extent applicable:

- Signal timing and phasing of traffic control devices [text]
- Width of travel lanes [text, figure]
- Number of travel lanes by type at intersections (if different from midblock) [text, figure]
- Size of blocks [text, figure]
- Data regarding the location and causes of collisions (e.g., particular turning movements) [text, figure]
- Nearby transit stations/stops amenities (e.g., shelters) and service information (e.g., frequency) [text, figure, table]

Existing plus Project Conditions

The following identifies the typical methodology for assessing existing plus project conditions.

Travel Demand Analysis

Estimate the number of people walking and driving from the project. [text, table] In addition, the methodology will distribute and assign the project's vehicle trips to roadways, intersections, loading zones, and driveways to the extent applicable. Describe walking trips to and from the project site, particularly between the project's entrance and exit locations and nearby transit stations/stops and major destinations. [text, figure]

Potentially Hazardous Conditions

Use the travel demand analysis and project elements to determine if the project would cause potentially hazardous conditions. The methodology should assess to the extent applicable:

- The number, movement type, sightlines, and speed of project vehicle trips in and out of project facilities based upon the design of such facilities (e.g., curb-cut dimensions, roadway speeds) in relation to the number of people walking at those locations [text, figure]
- The location of the project in relation to sidewalks
- The ability of facilities (e.g., crosswalks, sidewalks) to accommodate the number of people walking³ [text, figure]
- The number, type (e.g., left turn, right turn), sightlines, and speed of project vehicle turning movements at intersections, including any changes to the public right-of-way that facilitate vehicular movement (e.g., channelized turns), in relation to the number of people walking at those movement locations [text, figure]

Accessibility

Use the travel demand analysis and project elements to determine if the project would interfere with accessibility of people walking to and from the site and adjoining areas. The methodology should assess to the extent applicable:

- The number of people walking between the project's entrance and exit locations and adjacent passenger loading zones, nearby transit stations/stops, and major destinations and the presence of ADA accessible sidewalks and facilities (e.g., curb ramps) along these routes, taking into account the presence of physical obstructions on sidewalks [text, figure]
- The number of project vehicle trips, including freight and delivery service vehicle trips, travelling in and out of project facilities and the ability for such facilities to accommodate those vehicle trips in relation to the number of people walking at those locations and nearby streets [text, figure]
- The distance between entrances/exits to crosswalks, transit stations/stops, and major destinations [text, figure]

³ The Better Streets Plan includes streetscape guidelines, including minimum and recommended sidewalk widths for different street types, to provide sufficient through-width for people traveling along sidewalks and meet Americans with Disabilities Act accessibility requirements. In most circumstances, projects that meet the minimum sidewalk width identified for their applicable street type would provide adequate sidewalk capacity for people who walk. In rare instances, the department may require a project to meet a minimum sidewalk width for a street type different than the one identified under the Better Streets Plan to avoid a hazard, if the applicable street type does not match the intensity of a proposed development (e.g., a special use district of increased intensity in an industrial street type location).

Existing Baseline

Refer to the guidelines for direction on including existing baseline in transportation studies.

Impact Analysis

This section ties the project description, methodology, and existing baseline together to address the significance criteria for existing plus project conditions. This section addresses the typical approach for the impact analysis and provides more details related to hazards and accessibility impacts for people walking. The impact analysis section should present a format (text, figure, or table) consistent with earlier sections of this memorandum for easy comparison.

The impact analysis must address whether the project would create potentially hazardous conditions for people walking and whether the project interferes with accessibility of people walking to the site and adjoining areas. Too many factors mentioned in the methodology affect the potential for hazardous conditions and for interference with accessibility. Instead, the department will determine significance on a project-by-project basis.

Refer to the guidelines for direction on what to consider when conducting the existing plus project impact analysis and how to present the findings. The subsections below provide specific examples of the types of circumstances that could result in a potentially hazardous condition impact or accessibility impact under existing plus project conditions.

Potentially Hazardous Conditions

The following examples are some of the circumstances that may result in potentially hazardous conditions, paying particular attention as to whether particularly vulnerable people exist or would exist in the study area. This is not an exhaustive list of circumstances, under which, potentially hazardous impacts would occur:

- A project would add a substantial number of moving vehicle trips (e.g., curb-cut width, turning movement) across a sidewalk used by a substantial number of people walking (e.g., based on counts or projections or a Key Walking Street)
- A project would construct or be located on a lot with physical obstructions (e.g., trees, utilities, and on-street parking directly adjacent to the curb-cut or transit stop) or slopes that would obstruct sightlines between a substantial number of people walking and people driving or biking at high speeds
- A project would be located in an area without any facilities for a substantial number of people walking to and from the project site and adjacent passenger loading zones, nearby transit stations/stops, and major destinations
- A project would generate a substantial number of people walking to and from the project site across an uncontrolled mid-block crosswalk (or intersection) with a substantial number of vehicles
- A project would add a substantial number of people walking along routes with inadequate throughway zone widths or crosswalks thereby creating overcrowding on sidewalks or crosswalks and the potential hazard of people walking into a mixed-flow travel lane
- A project would reduce sidewalk widths or add elements to the sidewalk such that the throughway zone is inadequate thereby creating overcrowding on sidewalks and the potential hazard of people walking into a mixed-flow travel lane
- A project would add a substantial number of vehicle trips (i.e., exacerbate) to a turning movement (e.g., left vehicular turn without a protected phase) that is an existing hazard (e.g., High Injury Corridor) for a substantial number of people walking

- A project would facilitate a substantial number of moving vehicle trips by removing facilities designed to protect a substantial number of people walking (e.g., increased intersection crossing distance, channelized turns)
- A project would be unable to accommodate⁴ vehicle trips, including freight and delivery service vehicle trips, into its off-street facilities thereby blocking access to sidewalks or nearby crosswalks for a substantial number of people walking resulting in people walking into a mixed-flow travel lane or regularly used parking lane
- A project would add a substantial number of people walking along routes where there are multiple vehicular turn lanes or at an uncontrolled intersection where people walking would have inadequate time to cross the street prior to a vehicle approaching the crossing area

Accessibility

The following examples are some of the circumstances that may result in interference with accessibility. This is not an exhaustive list of circumstances, under which, potential accessibility impacts would occur:

- A project would be located in an area without adequate ADA facilities (e.g., curb ramps) for a substantial number of people walking to and from the project site and adjacent passenger loading zones, nearby transit stations/stops, and major destinations
- A project would be unable to accommodate⁵ vehicle trips, including freight loading and delivery service vehicle trips, into its off-street facilities thereby blocking access to sidewalks or nearby crosswalks for a substantial number of people walking
- A project places a structure (e.g., large building, right-of-way encroachments) that closes off or renders existing facilities for people walking challenging to use or non-ADA accessible, without providing replacement facilities, and substantially increases distances for people walking to safely cross streets or access neighborhoods, nearby transit stations/stops, and major destinations
- A project would generate a substantial number of people walking to and from a project site in the middle of the block to a major destination across the street at an uncontrolled mid-block location or intersection

CUMULATIVE

Methodology

The guidelines detail the typical methodology for cumulative analysis, including the geographical area, period, cumulative projects, and adjustments (refer to Appendix B) under cumulative conditions. The cumulative section in transportation impact studies must present (text, figure, or table) the applicable elements included in the methodology.

Impact analysis

This section ties the methodology and description of cumulative conditions together to address the significance criteria for cumulative conditions. Refer to the guidelines for direction on what to consider when conducting the cumulative impact analysis and how to present the findings. The same examples of the types of circumstances that could result in a potential hazardous condition impact or accessibility impact that were provided for existing plus project conditions apply here, except for cumulative conditions.

⁴ Accommodate refers to design of the facility (e.g., whether vehicles can be accommodated without queuing based upon throat length, gate location, etc.) and not the capacity (e.g., whether the number of spaces would accommodate the demand) of the facility as many variables affect the demand to and from a facility.

⁵ *Ibid.*

OTHER

The guidance provided in this memorandum assumes a land use development project located outside of an area plan that requires a transportation study. This section describes the type of additional or different information that may be necessary to address walking/accessibility impacts for the following circumstances: land use development project located within an area plan, an area plan, or infrastructure project (which may be located in a different county than San Francisco).

Land Use Development Project Located within an Area Plan

For projects that are consistent with an area plan for which an environmental impact report (EIR) was certified, pursuant to CEQA guidelines section 15183, the assessment must limit its analysis to such conditions specified in that section. The guidelines provide direction on how to analyze a land use development project in an area plan and a list of area plan EIRs that have been certified as of February 2019.

Attachment B of this memorandum identifies mitigation and improvement measures from area plan EIRs related to people walking. The department will list walking-related mitigation and improvement measures from future area plan EIRs in Attachment B after the Planning Commission or Board of Supervisors certifies those EIRs.

Area Plans

For area plans, the assessment will typically use the significance criteria identified herein. The following sub-sections describe the type of additional or different information that may be necessary to address walking/accessibility impacts for project description, methodology, and impact analysis. For area plans that also include infrastructure changes (e.g., street redesigns), please see the Infrastructure Project subsection for additional or different information that may be necessary.

Project Description

Typically, the department conducts an analysis to estimate the amount of future development that could occur in the plan area as a result of its implementation. The department typically does not have all the project description details described herein. However, the project description may include policies that may relate to the methodology and impact analysis (e.g., curb-cut restrictions).

Methodology

The assessment will typically use the same methodology identified herein, except the methodology will use a larger geographical study area and require less site-specific information (e.g., driveway locations at each site) except to document circumstances where vehicles may not be allowed (e.g., curb-cut restrictions). While an individual project may not require some elements listed in the Existing and Existing plus Project Methodology subsection, area plans typically will include all of these elements. The department should select sidewalks, streets, and intersections most impacted by the area plan to represent the impacts that may occur at other locations.

Impact Analysis

For analysis of area plans, assess the projected amount of growth and infrastructure changes associated with the rezoning within the area plan boundaries. The analysis of potentially hazardous conditions and accessibility impacts should be similar to that described under the Existing plus Project and Cumulative Impact Analysis subsections. If the area plan includes infrastructure changes (e.g., street redesigns), given the potential time gap between land use development and completion of infrastructure changes, the analysis should discuss the potential short-term effects of that potential time gap in a lesser level of detail than that provided for overall effects. However, the analysis should assume individual land use development projects within the area plan would be subject to requirements related to property specific infrastructure changes (e.g., Better Streets Plan).

Examples of circumstances that would result in significant impacts are described under the Existing plus Project Impact Analysis subsection.

Infrastructure Project

For infrastructure projects (e.g., new roads, bridge repair, sewer line, rail service, roadway modifications, etc.), the assessment of the project description, significance criteria, and impact analysis should be similar to private development projects. The analysis typically does not require trip generation analysis as infrastructure projects usually do not generate trips.⁶ However, some infrastructure projects may induce trips, such as the addition of through lanes on existing or new highways or streets.⁷ In addition, infrastructure projects may generate short-term trips due to construction workers and vehicles accessing the project site.

Project Description

The project description must describe the typical physical, additional physical, and programmatic features for existing and project conditions, as applicable. The project description must provide the geographic boundaries of the project and street cross sections.

Methodology

The assessment will typically use the same methodology identified herein, except the methodology will pay particular attention to proposed closures and rerouting.

Impact Analysis

The analysis of potentially hazardous conditions and accessibility impacts should be similar to that described under the Existing plus Project and Cumulative Impact Analysis subsections.

⁶ Governor's Office of Planning and Research, *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, January 20, 2016.

⁷ Generally, minor transportation projects would not result in additional trips. Examples include, but are not limited to, rehabilitation, maintenance, and repair of transportation infrastructure; installation, removal or reconfiguration of non-through traffic lanes and traffic control devices; removal of through lanes; installation of traffic calming measures and wayfinding; removal of on- or off-street parking. Governor's Office of Planning and Research, *Technical Advisory on Evaluating Transportation Impacts in CEQA*, November 2017.

Potentially Hazardous Conditions

Examples of circumstances that would result in significant impacts are described under the Existing plus Project Impact Analysis subsection. The following examples are some of the additional circumstances relevant to infrastructure projects, which may result in potentially hazardous conditions, paying particular attention as to whether particularly vulnerable people exist or would exist in the study area. This is not an exhaustive list of circumstances under which, potentially hazardous impacts would occur:

- A project would include a geometric design feature (e.g., roadway or ramp widening, wide mixed-flow travel lanes, large curb radii) such that a substantial number of moving vehicle trips would occur along routes used by a substantial number of people walking

Accessibility

Examples of circumstances that would result in significant impacts are described under Existing plus Project Impact Analysis subsection. The following examples are some of the additional circumstances relevant to infrastructure projects, which may result in interference with accessibility. This is not an exhaustive list of circumstances, under which, potentially hazardous impacts would occur:

- A project would establish a new physical structure (e.g., at-grade rail service or roadway) which would result in inadequate access for substantial number of people walking to and from nearby transit stations/stops and major destinations (e.g., diverting people to walk more than a few hundred feet to cross a street, or having people wait extensively at crossings)
- A project would widen the travel lanes within a street (e.g., installation of multiple vehicular dedicated turn lanes or turn pockets), which would substantially increase the distance for a substantial number of people walking to cross a street and access nearby transit stations/stops and major destinations

ATTACHMENT A

Existing and Proposed Project Figure and Table Examples

Introduction

Attachment A represents typical figures necessary to illustrate walking conditions included in a transportation study. All figures should include basic elements (e.g., north arrow, title, legend, references, acronyms, etc.). Symbology should reflect that documents may be printed in black and white. All figures and tables should include all the information the reader would need to understand the information presented. The figures presented below were from previous transportation studies and are illustrative only and may not include all the basic elements.

FIGURE 1

Site Plan/Ground Floor Plan

Figure 1 is an example of a site plan that includes a detailed description of existing and proposed on-street loading. When developing a map similar to the one shown, include the linear dimensions of the existing and proposed loading zones, match the color of the zones to those used in the SFMTA Color Curb Program, and make existing and proposed changes explicit.

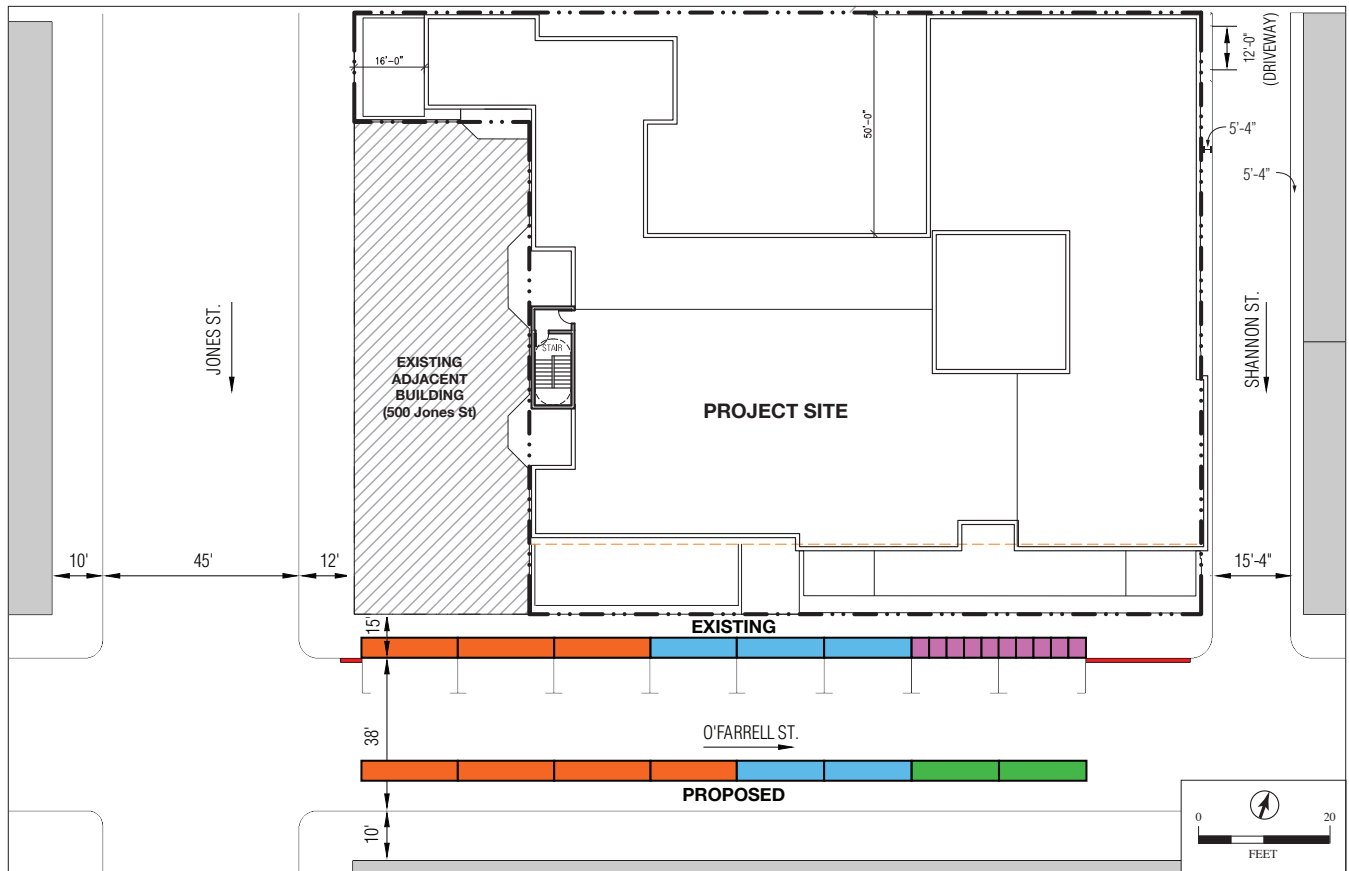


FIGURE 2

Walking/Accessibility Circulation

Figure 2 shows a walking and accessibility circulation map, including circulation from surrounding streets and internal circulation. The dotted lines represent primary street access for people walking and the straight lines represent secondary access.

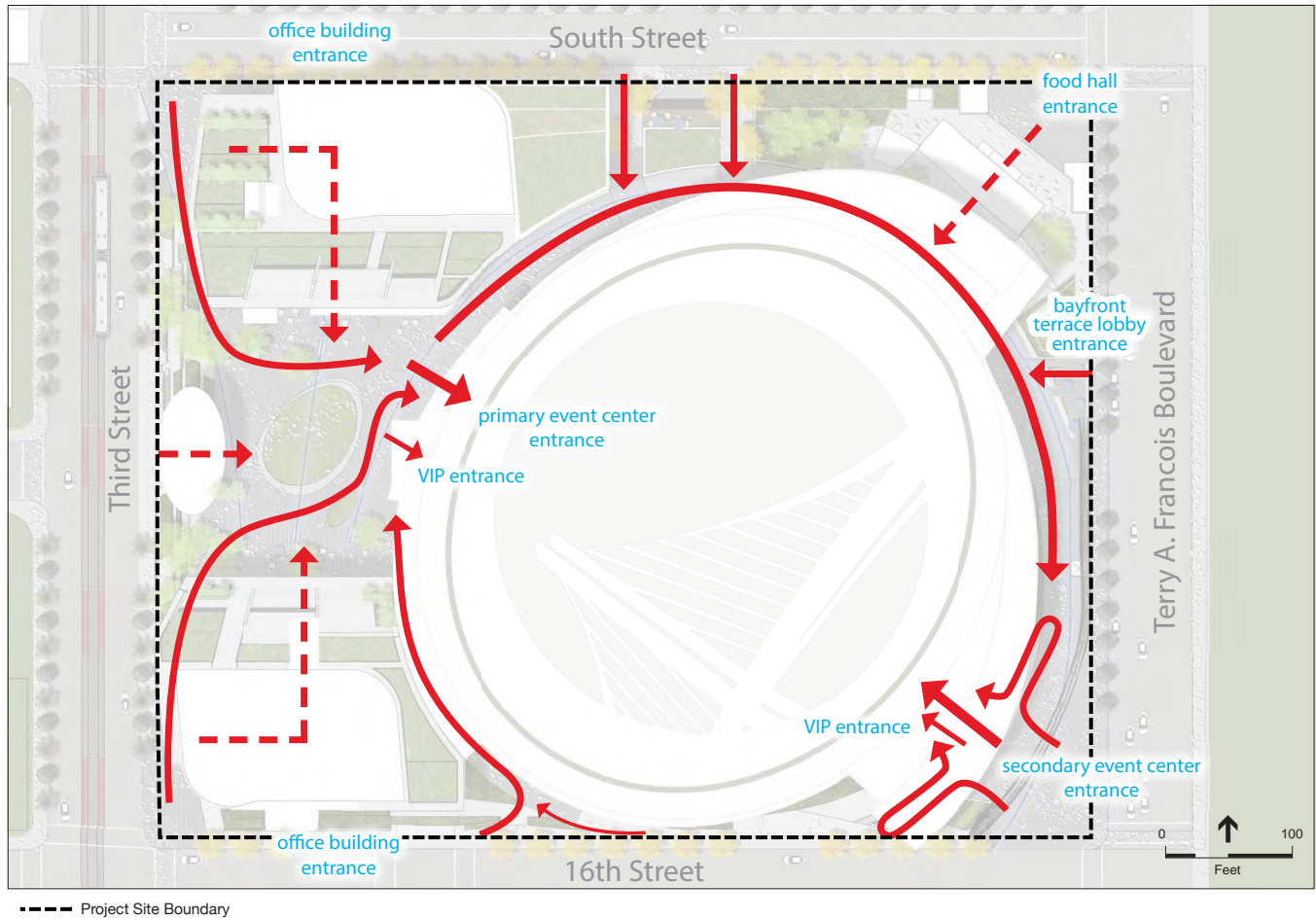


TABLE 1

Peak Hour Counts for People Walking at Study Intersections

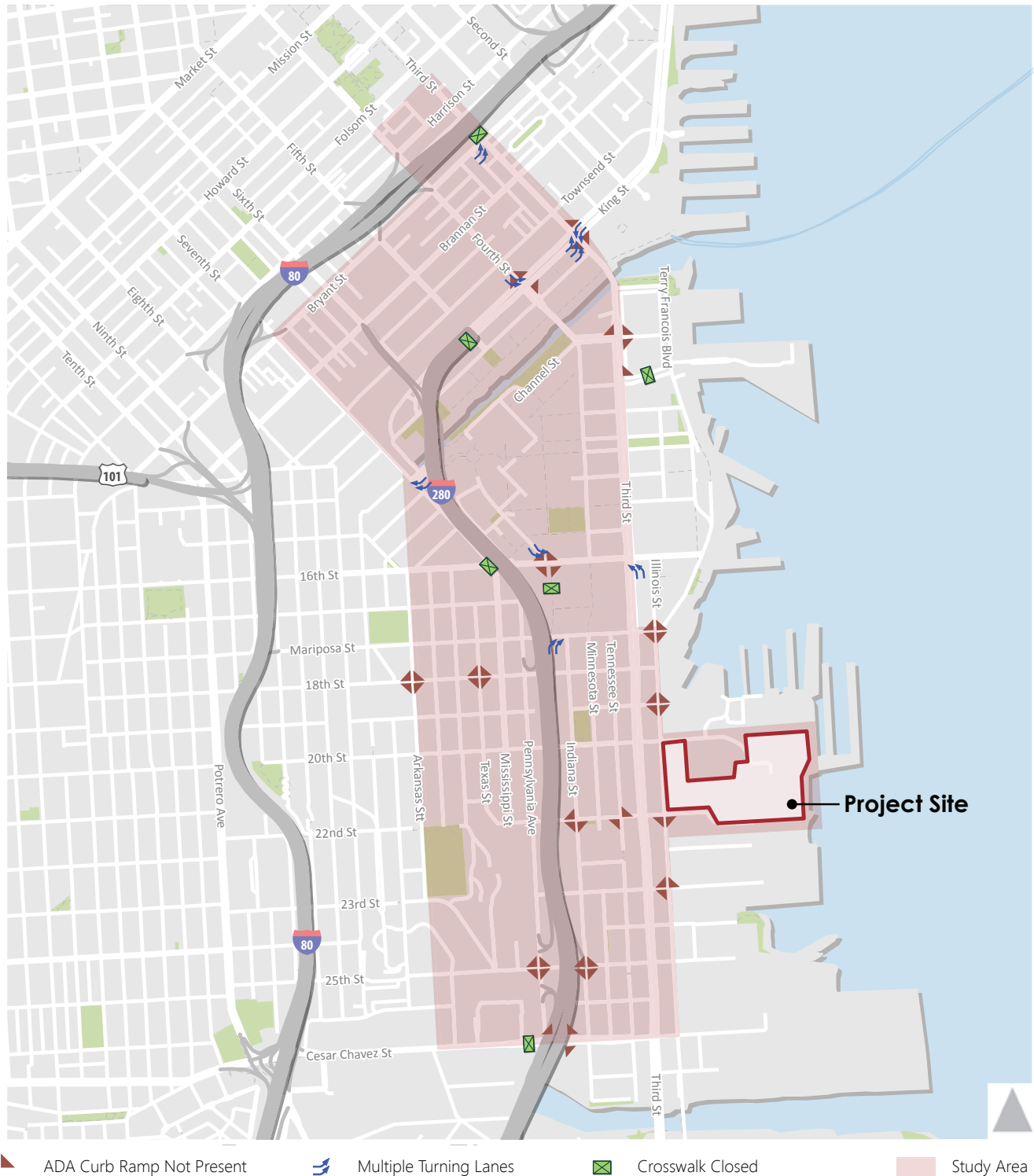
Table 1 below shows the typical format to present counts of people walking at all identified project intersections/ street segments. 'X' represents the volume of people walking that were observed during counts.

Intersection	Intersection Leg Counts at Peak Period (INSERT TIME)				TOTAL
	North	South	East	West	
Intersection 1	X	X	X	X	X
Intersection 2	X	X	X	X	X
Intersection 3	X	X	X	X	X
Intersection 4	X	X	X	X	X

FIGURE 3

Walking Network

Figure 3 is an example of mapping the existing network as it relates to people walking within a project study area, with a focus on missing features for the network. Inclusion of this figure would be appropriate in the Existing Baseline section.



Area Plan Mitigation and Improvement Measures

MITIGATION MEASURES FOR LAND USE DEVELOPMENT PROJECTS LOCATED WITHIN AN AREA PLAN

Rincon Hill Plan

No applicable mitigation and improvement measures were identified.

Market and Octavia Neighborhood Plan

No applicable mitigation and improvement measures were identified.

Eastern Neighborhoods Rezoning and Area Plan

Improvement Measure E-1: Pedestrian Circulation

E.1.a. As an improvement measure to improve pedestrian conditions in the Eastern Neighborhoods, community-supported planning efforts as part of MTA's Livable Streets program should be conducted to identify specific improvements to enhance pedestrian travel and safety in each neighborhood.

E.1.b. As an improvement measure to facilitate completion of the sidewalk network in areas where substantial new development is projected to occur, property owners should be encouraged to develop improvement or assessment districts to fund improvements to the sidewalk network adjacent to parcels where new development is not anticipated to occur.

Visitacion Valley Redevelopment Plan

No applicable mitigation and improvement measures were identified.

Balboa Park Station Area Plan

Improvement Measure: Provide signals with countdown indicators at all major intersections and at crosswalks that connect to the MUNI light rail stops and Balboa Park BART Station.

Treasure Island and Yerba Buena Island Redevelopment Plan

No applicable mitigation and improvement measures were identified.

Glen Park Community Plan

No applicable mitigation and improvement measures were identified.

Transit Center District Plan and Transit Tower

M-TR-4a: Widen Crosswalks. To ensure satisfactory pedestrian level of service at affected crosswalks, the Municipal Transportation Agency, Sustainable Streets Division, could conduct periodic counts of pedestrian conditions (annually, for example) and could widen existing crosswalk widths, generally by 1 to 3 feet, at such times as pedestrian LOS is degraded to unacceptable levels.

M-TR-5: Garage/Loading Dock Attendant. If warranted by project-specific conditions, the project sponsor of a development project in the Plan area shall ensure that building management employs attendant(s) for the project's parking garage and/or loading dock, as applicable. The attendant would be stationed as determined by the project specific analysis, typically at the project's driveway to direct vehicles entering and exiting the building and avoid any safety-related conflicts with people walking on the sidewalk during the a.m. and p.m. peak periods of traffic and pedestrian activity, with extended hours as dictated by traffic and pedestrian conditions and by activity in the project garage and loading dock. (See also Mitigation Measure M-TR-4b, above.) Each project shall also install audible and/or visible warning devices, or comparably effective warning devices as approved by the Planning Department and/or the Sustainable Streets Division of the Municipal Transportation Agency, to alert people walking of the outbound vehicles from the parking garage and/or loading dock, as applicable.

Western SoMa Community Plan

No applicable mitigation and improvement measures were identified.

Central SoMa Plan

M-TR-4a: Upgrade Central SoMa Area Crosswalks.

As appropriate and feasible, the SFMTA shall widen and restripe the crosswalks to the continental design when there is a street network improvement that upgrades sidewalk widths. With either the Howard/Folsom One-Way Option or Howard/Folsom Two-Way Option street network changes, the SFMTA shall, as feasible, widen the following crosswalks:

- At the intersection of Third/Mission, widen the east and west crosswalks.
- At the intersection of Fourth/Mission, widen the east crosswalk, and widen the west crosswalk.
- At the intersection of Fourth/Townsend, widen the west crosswalk.

Mitigation and Improvement Measure Examples

The following lists the typical types of measures that can mitigate or lessen impacts to people walking for each significance criterion:

EXAMPLE 1 Potentially Hazardous Conditions

- » Establish safe site distances (e.g., daylighting, relocation of curb cuts or new structures)
- » Widen existing sidewalks or install sidewalks where none exist
- » Relocate entrances/exits for people walking away from off-street garage/loading docks
- » Restrict turning movements from off-street facilities (e.g., right-in, right-out)
- » Manage freight and service deliveries (e.g., active loading management plan)
- » Employ queue abatement measures or pursue design modifications to off-street vehicular entrances/exits to accommodate queuing vehicles
- » Install visible and/or audible warning devices at off-street vehicular driveways to alert both people walking and driving of activity at the driveway. If feasible, the audio device shall issue alerts by a limited amount above ambient noise levels.
- » Provide on-site signage promoting safety for people walking (e.g., signage at the garage exit reminding motorists to slow down and yield to people walking in the sidewalk)
- » Facilitate safe crossings (e.g., stop-controlled intersections, installation of signal heads with countdown timers, installation of audible warning devices, refuge islands)
- » Provide roadway designs that slow vehicle speeds such as traffic calming measures (e.g., bulb-outs, chicanes, speed humps, tighter turning radii)
- » Signalize vehicle turning movements and restrict vehicle movements on red
- » Signal changes such as reducing signal cycle lengths or leading intervals for people walking
- » Remove turn pockets
- » Provide network improvements such as crosswalks, shorter blocks, mid-block crossings, or mid-block alleys between the project site and intersections, adjacent transit stations/stops, and other major destinations

EXAMPLE 2 Accessibility

- » Construct, upgrade, or redesign curb ramps and sidewalks to be ADA compliant
- » Provide adequate sidewalks (e.g., effective widths, paths of travel)
- » Widen existing sidewalks or install sidewalks where none exist
- » Employ queue abatement measures or pursue design modifications to off-street vehicular entrances/exits to accommodate queuing vehicles
- » Provide network improvements such as crosswalks, shorter blocks, mid-block crossings, or mid-block alleys between the project site and intersections, adjacent transit stations/stops, and major destinations
- » Place physical structure underground or in another location to maintain access for people walking
- » Place wayfinding signs to direct people walking towards entrances/exits