

TRANSPORTATION IMPACT ANALYSIS GUIDELINES

APPENDIX J

EMERGENCY ACCESS

UPDATED OCTOBER 2019



San Francisco
Planning



SAN FRANCISCO PLANNING DEPARTMENT

MEMO

Appendix J Emergency Access Memorandum

Date: February 14, 2019
Case No: 2015-012094GEN
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RE: **Transportation Impact Analysis Guidelines Update, Emergency Access**

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INTRODUCTION

This memorandum updates the prior guidance provided in the Transportation Impact Analysis Guidelines for the emergency access¹ topic. 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., public 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 the emergency access 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 emergency access. Emergency access refers to the following emergency service operators: Fire Department, Police Department, and ambulance services.

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. The San Francisco Department of Building Inspection, the San Francisco Fire Department, the San Francisco Public Utilities Commission, and Public Works reviews projects for compliance with city and state regulations such as building standards, fire protection, water connections for fire hydrants, and hydrology requirements for adequate water pressure. As part of building permit review the San Francisco Fire Department assesses the ability of fleet vehicles to access the public right of way on new or altered streets and from their facilities, or whether emergency service operators have adequate access to a building's entrances and exits from the curb line.

In addition, the San Francisco Fire Department, and other city agencies as part of the Transportation Advisory Staff Committee, reviews project changes in the public right-of-way.

Attachment A of this memorandum includes examples of figures that illustrate how to graphically represent emergency access conditions.

SIGNIFICANCE CRITERION

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 emergency access, Appendix G states: "would the project result in inadequate emergency access?" The department uses the following significance criterion to evaluate that question: A project would have a significant impact if it: would result in inadequate emergency access.²

² Emergency service operator facilities include police departments, fire departments, hospitals, or other public safety buildings for emergency vehicle fleets.

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 typical geographical area and period required for analysis. Additional 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 emergency access-related figures).

Existing Conditions

The following identifies the typical methodology 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). The methodology shall include counts of emergency vehicles entering and exiting the emergency service operator facility, if the project site is an emergency service operator facility or is near one. [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 features listed in the project description and a description of the weather conditions. In addition, the site visit must record any existing potential, or observed instances of vehicles queuing or blocking emergency vehicles or existing, conditions that may conflict with emergency vehicles movements such as the presence of transit overhead wires, narrow roads or alleys, or tight turning movements.

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 and signals) [text, figure]
- Number of travel lanes by type (e.g., mixed flow, parking, bicycle, transit-only, etc.) [text, figure]

In addition, obtain the following additional characteristics of streets within the study area to the extent applicable:

- Width of travel lanes, parking lanes, and bike lanes [text, figure]
- Number of travel lanes by type at intersections (if different from midblock) [text, figure]
- Cross sections showing location and dimensions of travel lanes, parking lanes, bicycle facilities, and sidewalks on the street(s) adjacent to the project frontage [figure]

Emergency Service Operator Facilities and Turning Movements

Obtain the following additional information with the study area:

- Emergency service operator facilities [text, figure]
- Turning movements for emergency vehicles [figure]

Existing plus Project Conditions

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

Travel Demand Analysis

Estimate the number of people 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 the project's entrance and exit locations and emergency service operator facilities within the project study area. [text, figure]

Inadequate Emergency Access

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

- The ability of facilities on or near the project site to accommodate emergency service operators [text]
- Any changes to the public right-of-way that would result in changes to turning movements or alter the ability of emergency service operators to access streets and buildings in the project study area [text, figure]
- The ability of emergency service operator facilities near the project site to conduct operations that could interact with project trips [text]

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 baseline for existing conditions 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 emergency access impacts for emergency service operators. 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 result in inadequate emergency access for emergency service operators. Too many factors mentioned in the methodology affect inadequate emergency access conditions. 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.

Inadequate Emergency Access

The following examples are some of the circumstances that may result in inadequate emergency access. This is not an exhaustive list of circumstances, under which, inadequate emergency access impacts would occur:

- A project would conflict with adopted city code regarding street widths and turning movements by modifying curb lines (e.g., sidewalk widening, bulb-outs, open spaces, mid-block crossings) that would substantially affect emergency service operator access (e.g., un-mountable curbs)
- A project would create new publicly-accessibility rights-of-way that restrict all emergency service operator access
- A project would install or relocate live overhead lines making off-site buildings that could require use of aerial ladder operations during emergencies inaccessible to emergency service operators

- A project would permanently add a physical barrier³ to a street restricting all vehicles, including emergency service operators, which would impede access to the surrounding area
- A project would close a street to all vehicles, including emergency service operators, which would impede access to the surrounding area
- A project would locate a garage entrance/exit on the same street as an emergency service operator facility and would add a substantial number of vehicle trips that could not be accommodated⁴ by the garage entrance/exit resulting in queuing on the street near the emergency service operator's facility thereby blocking access to the facility

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 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 criterion 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 an inadequate emergency access impact that were provided for existing plus project conditions apply here, except for cumulative conditions.

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 emergency access 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 emergency access. The department will list emergency access-related mitigation and improvement measures from future area plan EIRs in Attachment B after the Planning Commission or Board of Supervisors certifies those EIRs.

³ Permeant physical barriers refer to unmovable features that would not allow for emergency service operator vehicle access during an emergency (e.g., walls, inoperable bollards). Permanent physical barriers do not refer to physical features that an emergency service operator vehicle could mount or navigate around during an emergency (e.g., curbs such as raised bicycle facility or bulb out, a parking lane, cones, safe hit posts, operable bollards).

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

Area Plans

For area plans, the assessment will typically use the significance criterion identified herein. The following subsections describe the type of additional or different information that may be necessary to address emergency access 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., location and dimensions of proposed bike lanes, removal of on-street parking, sidewalk widenings or other proposed street network changes).

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 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. In addition, the analysis should identify the location of any emergency service operator facilities within the study area.

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 inadequate emergency access impacts should be similar to that described under the Existing plus Project and Cumulative Impact Analysis subsections. 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).

While individual projects may result in more localized emergency access impacts, an area plan could generate a substantial volume of vehicle traffic which could lead to emergency access impacts at the area plan level. The analysis of emergency access impacts in area plans should analyze the vehicle trips that could be generated across the plan area in combination with infrastructure changes (e.g., street redesigns) proposed as part of the area plan. This would typically be a qualitative analysis. Given the potential time gap between land use development and completion of infrastructure changes, the analysis should also discuss the potential short-term effects of that potential time gap. 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 and water lines, rail service, roadway modifications, bicycle lanes 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.⁵ However, some infrastructure projects may induce trips, such as the addition of through lanes on existing or new highways or streets.⁶ 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 Impact Analysis subsection. Examples of circumstances that would result in significant impacts are described under the Existing plus Project and Cumulative Impact Analysis subsections.

⁵ Governor's Office of Planning and Research, *Revised Proposal on Updates to the CEQA Guidelines on Evaluating Transportation Impacts in CEQA*, January 20, 2016.

⁶ 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.

ATTACHMENT A

Existing and Proposed Project Figures

Introduction

Attachment A represents typical figures necessary to illustrate conditions relevant to the analysis of emergency access 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 herein are from previous transportation studies and are illustrative only and may not include all the basic elements.

FIGURE 1

Site Plan with Emergency Operator Facilities

Figure 1 is an example of a site plan that includes emergency operator facilities adjacent to the project site. Site plans of this type shall clearly depict where the proposed project's parking access and emergency operator facilities are located. This example shows Fire Department Station #8.

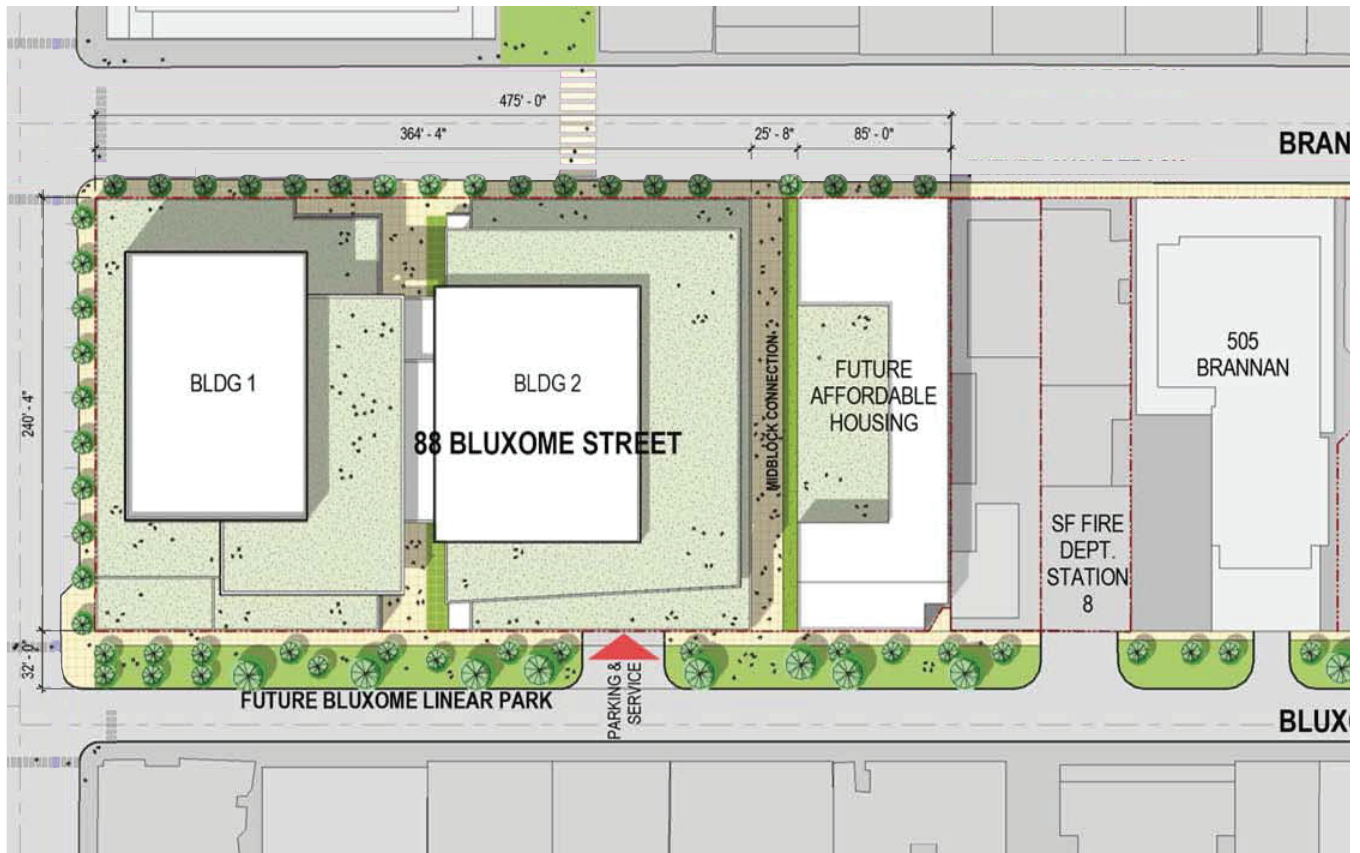


FIGURE 2

Keep Clear Zones

Figure 2 is an example of a plan that shows a keep clear zone. When developing a figure similar to the one shown, include the linear dimensions of the keep clear zones. Site plans of this type shall clearly depict the locations of existing emergency operator facilities. This example shows the public safety building.

Keep Clear Zone Dimensions

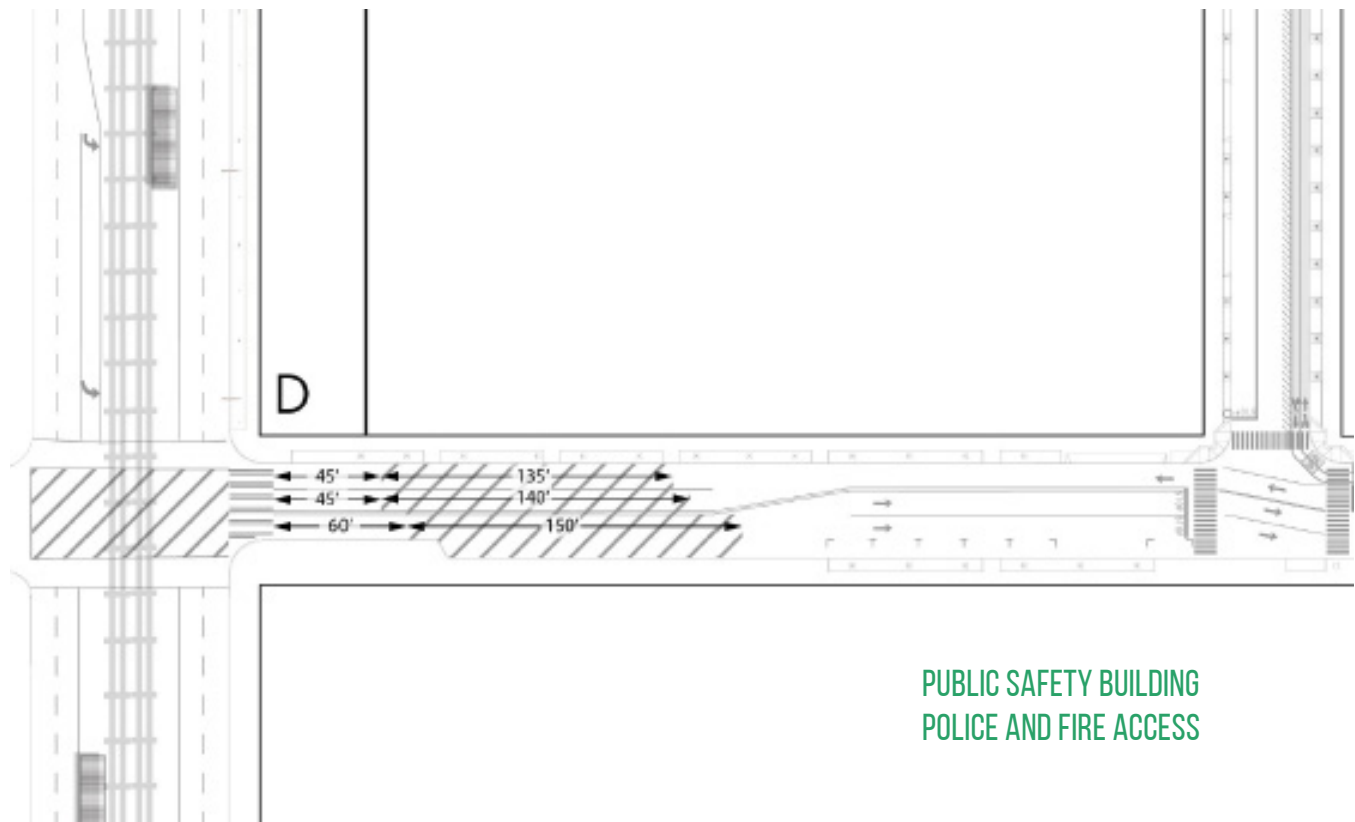


FIGURE 3

Fire Truck Turn Templates

Figure 3 is an example of a plan that includes fire truck turning templates and the driveway location of the emergency operator facilities.

Fire Truck Operations

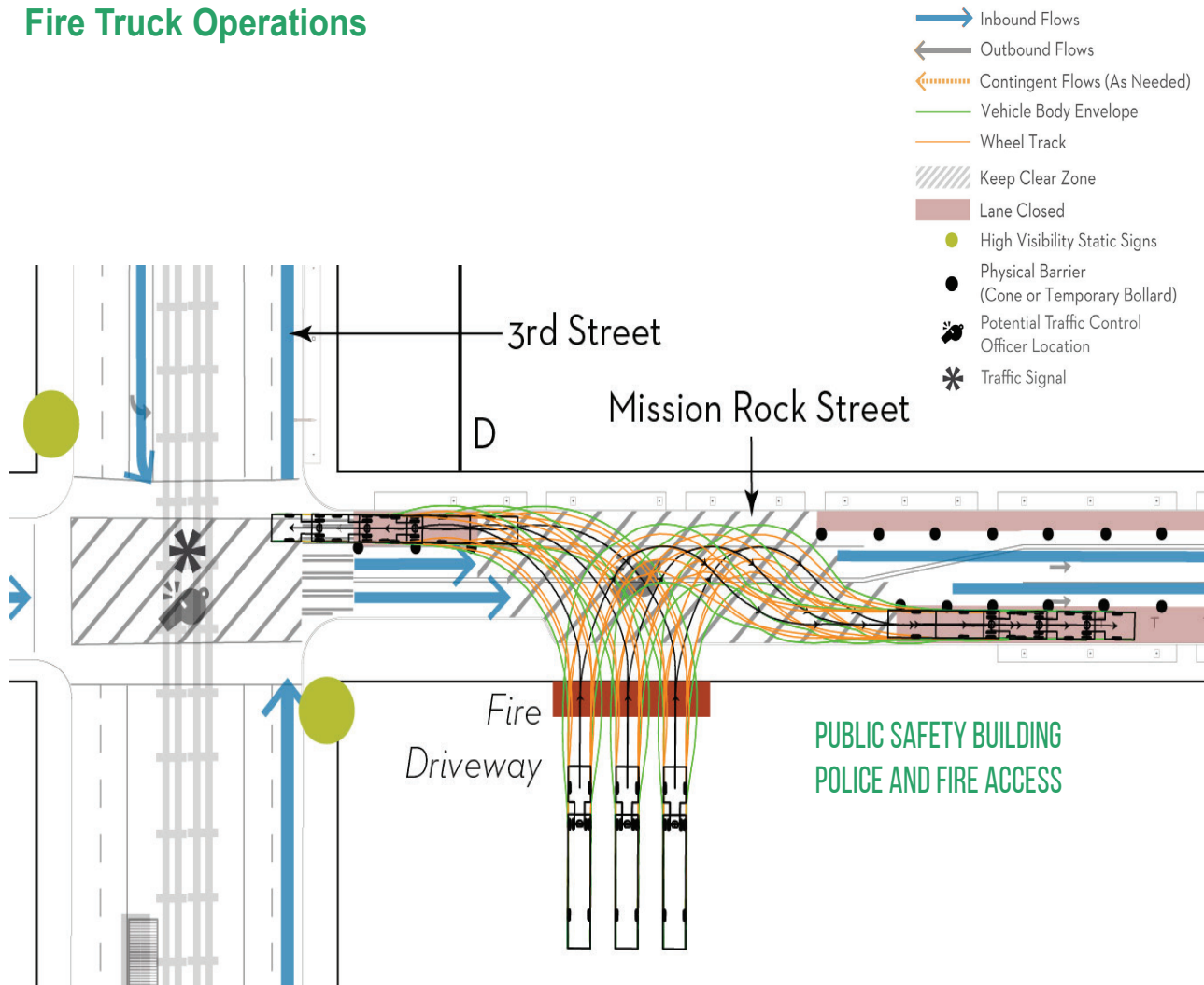
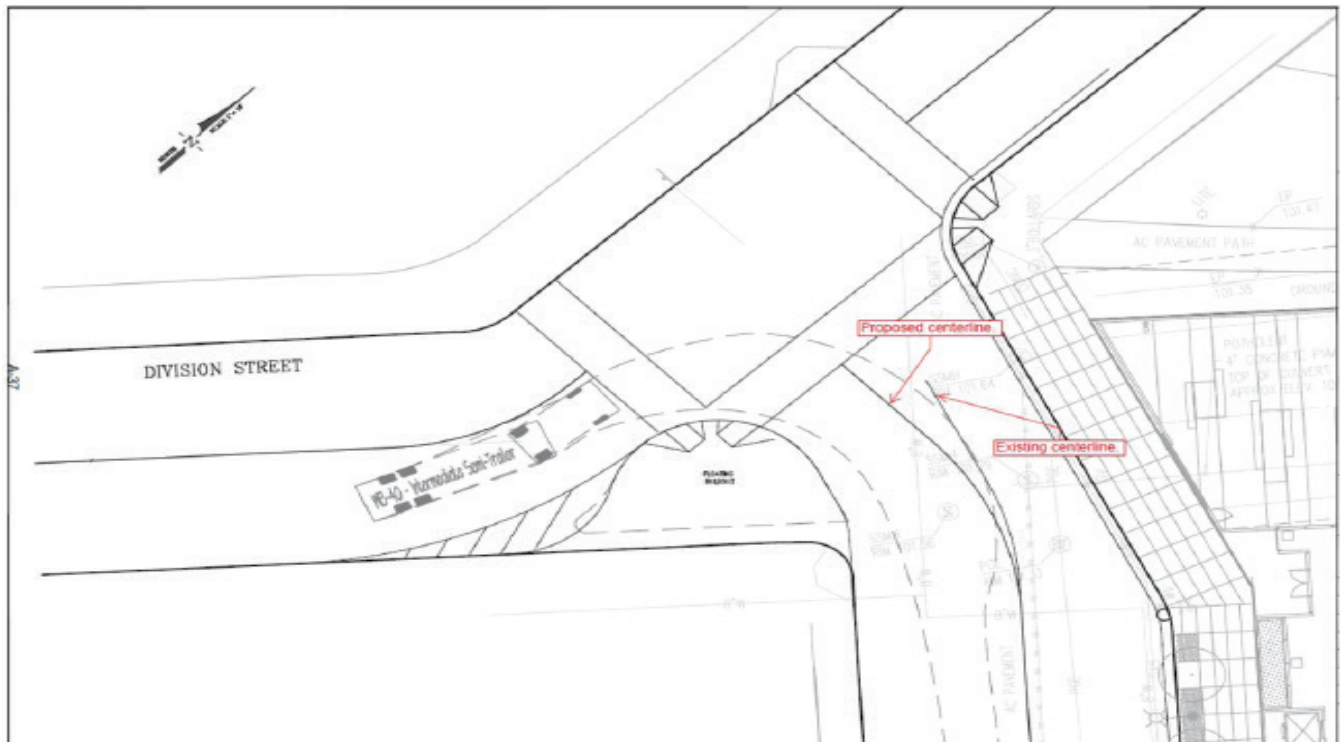


FIGURE 4

Fire Truck Turn Templates

Figure 4 is an example of a plan that includes fire truck turning templates for a project that made changes to the street network. A WB-40 truck was used to approximate a fire truck for this template. However, consultants are encouraged to use emergency service vehicle operator custom templates when available.



Area Plan Mitigation and Improvement Measures

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

Rincon Hill Plan

No applicable mitigation or improvement measures were identified.

Market and Octavia Neighborhood Plan

No applicable mitigation or improvement measures were identified.

Eastern Neighborhoods Rezoning and Area Plan

No applicable mitigation or improvement measures were identified.

Visitation Valley Redevelopment Plan

No applicable mitigation or improvement measures were identified.

Balboa Park Station Area Plan

No applicable mitigation or improvement measures were identified.

Treasure Island and Yerba Buena Island Redevelopment Plan

No applicable mitigation or improvement measures were identified.

Glen Park Community Plan

No applicable mitigation or improvement measures were identified.

Transit Center District Plan

No applicable mitigation or improvement measures were identified.

Western SoMa Community Plan

No applicable mitigation or improvement measures were identified.

Central SoMa Plan

Improvement Measure M-TR-8: Emergency Vehicle Access Consultation

For street network projects that reduce the number of available vehicle travel lanes for a total distance of more than one block where transit-only lanes are not provided: Street network projects shall be designed to comply with adopted city codes regarding street widths, curb widths, and turning movements. To the degree feasible while still accomplishing safety-related project objectives, SFMTA shall design street network projects to include features that create potential opportunities for cars to clear travel lanes for emergency vehicles. Examples of such features include: curbside loading zones, customized signal timing, or other approaches developed through ongoing consultation between SFMTA and the San Francisco Fire Department.

ATTACHMENT C

Mitigation and Improvement Measure Examples

The following lists the typical types of measures that can avoid or lessen emergency access impacts:

- » Provide a roadway design that accommodates emergency service operator vehicles (e.g., provide adequate street widths and turning movements)
- » Remove permanent physical barriers that obstruct emergency service operator vehicles access
- » Use temporary or moveable features instead of permanent physical features to allow access for emergency service operator vehicles (e.g., moveable bollards and moveable street furniture)
- » Use mountable features (e.g., mountable curbs, floating islands, rumble strips, and paint) for visual and physical lane delineation
- » Relocate or underground live wires to allow for emergency service operator vehicle access to buildings
- » Relocate entrances/exits to off-street garage/loading docks away from emergency service operator facilities
- » Employ queue abatement measures or pursue design modifications to off-street vehicular entrances/exits to accommodate queuing vehicles from emergency service operator facilities