Memorandum

To: Judson True
Director of Housing Delivery, Office of Mayor London N. Breed

From: Jeffrey Tumlin
Director of Transportation

Date: April 26, 2023

Subject: Housing Delivery Performance Assessment and Improvement Plan, SFMTA

Please see the attached Housing Delivery Performance Assessment and Improvement Plan for the San Francisco Municipal Transportation Agency, in response to Executive Directive 23-01, Housing for All. The plan outlines the SFMTA's role in housing production, performance assessment, evaluation of housing coordinator, capacity assessment, and process improvements to speed the SFMTA's delivery of housing production in San Francisco.

Please respond with any comments or questions to Kristin Michael, Manager of Development and Transportation Integration, at Kristin.Michael@sfmta.com or 415.646.2069.

Housing Delivery Performance Assessment and Improvement Plan
San Francisco Municipal Transportation Agency
April 28, 2023

This Housing Delivery Performance Assessment and Improvement Plan is in response to the Mayor's Executive Directive (ED) 23-01. The Plan describes SFMTA's role in housing production, assesses our performance thus far, and details specific steps to improve our performance.

The SFMTA engages with land use development projects as they relate to the on-site and surrounding transportation network. The SFMTA's level of involvement increases with the extent to which projects propose changes to streets, sidewalks, and transit. SFMTA's focus in this work is to ensure alignment with agency and city safety, mobility, equity, and climate change goals. The SFMTA engages technical experts throughout the agency representing transit and traffic engineering, bicycle and pedestrian planners and engineers, transit service planners, accessibility, and curb and parking management authorities in undertaking development-review and permitting. The SFMTA also supports the housing production process through construction support including traffic control, overhead lines, special traffic permits, bus re-routes, and bus shelter relocations.

The SFMTA has identified a variety of improvements that will not only support the Mayoral Directive's desire for shorter timelines, but also improve the agency's processes related to development project review, processing, and permitting. These recommendations fall into several categories including process improvements to use SFMTA reviewers' time more efficiently and effectively and steps the SFMTA can take to proactively provide guidance, information, or standards to development project teams.

The agency has made strides in process improvement for housing delivery since the 2017 directive, but several opportunities for improved internal and interagency coordination would streamline the SFMTA's work. Recommendations for both internal improvements and inter-agency improvements are included in this document.

A) SFMTA'S Role in Housing Delivery

The SFMTA plays an active role for developments both during the design review phase (pre-and-post entitlement) and the permitting and construction phase of project, which includes the following:

Pre-Entitlement Design Review:

- Review and input on site design, tentative maps, and street vacations.
- Review and comments on Preliminary Project Assessment (PPAs).
- Review and input on scoping of transportation analyses and transportation impacts and mitigations.

- Review and input on large-scale projects transportation plans, infrastructure plans, design standards and guidelines and streetscape plans.

Post-Entitlement Design Review:

- Review and comment on Basis of Design plans.
- Review and comment on 30%, 60%, 95%, 100% submittals of street improvement plans.
- Review of tentative subdivision maps and identification of Conditions of Approval, as appropriate.
- Review of planning phase and subphase applications, construction management plans, revisions to streetscape and infrastructure plans.

Permitting and Construction Support for Infill Housing:

- Issuance of traffic routing permits.
- Interpreting Street Design Advisory Team (SDAT) recommendations to ensure developers applied improvements properly to their site permit applications.
- Lead on legislation of street changes including color curbs, sidewalk changes, major and minor encroachment permits, and traffic control devices related to project.
- Supporting construction activities with Special Traffic Permits, parking control officers, and overhead lines crews.
- Installing roadway striping, color curbs, signs, and other street changes.
- Site inspections and close out of projects after construction.

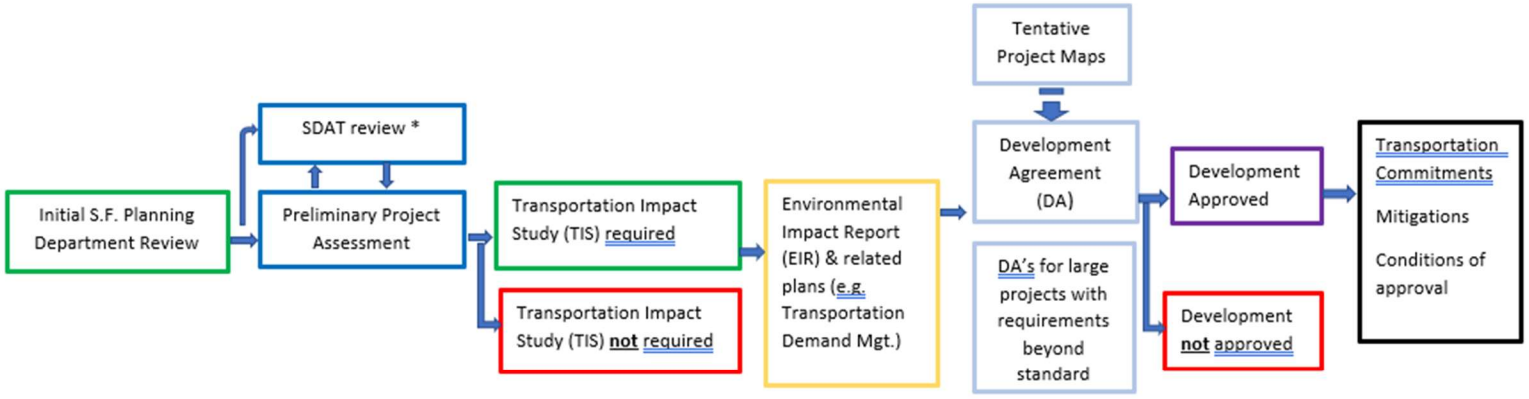
Process and the SFMTA's Organization Structure

The SFMTA's design review team is comprised of different divisions within the agency. The Streets Division reviewers include members from Planning (facilitating review), Traffic Engineering (for signage, striping, and traffic signals), Livable Streets (for bicycle and pedestrian planning), and Color Curb and Curb Management. Transit Division reviewers include Transit Engineering and Service Planning. Accessibility reviewers are under the Taxi & Mobility Services Division.

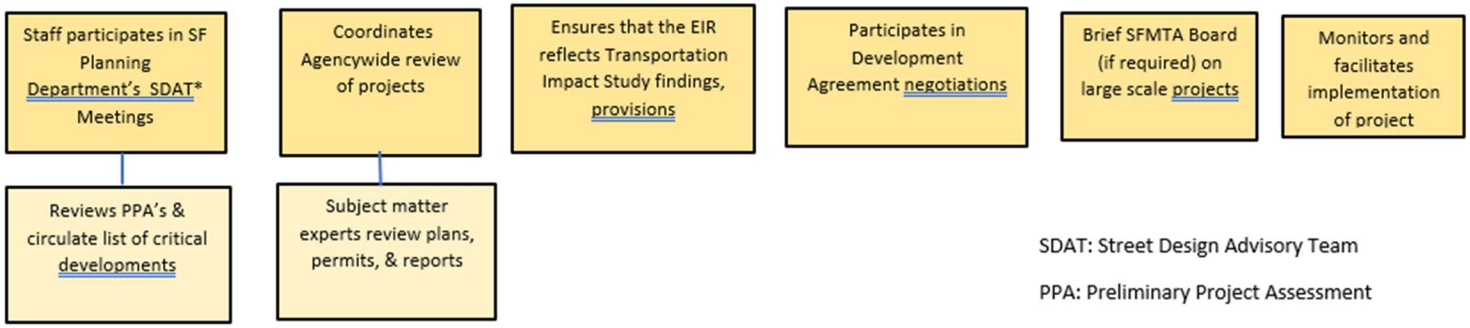
The following flow charts and organization charts detail the various teams and divisions that provide design review, permitting, and construct support for projects.

SFMTA

SFMTA Development Review Process



Development and Transportation Integration (DTI) Team Project Review Workflow

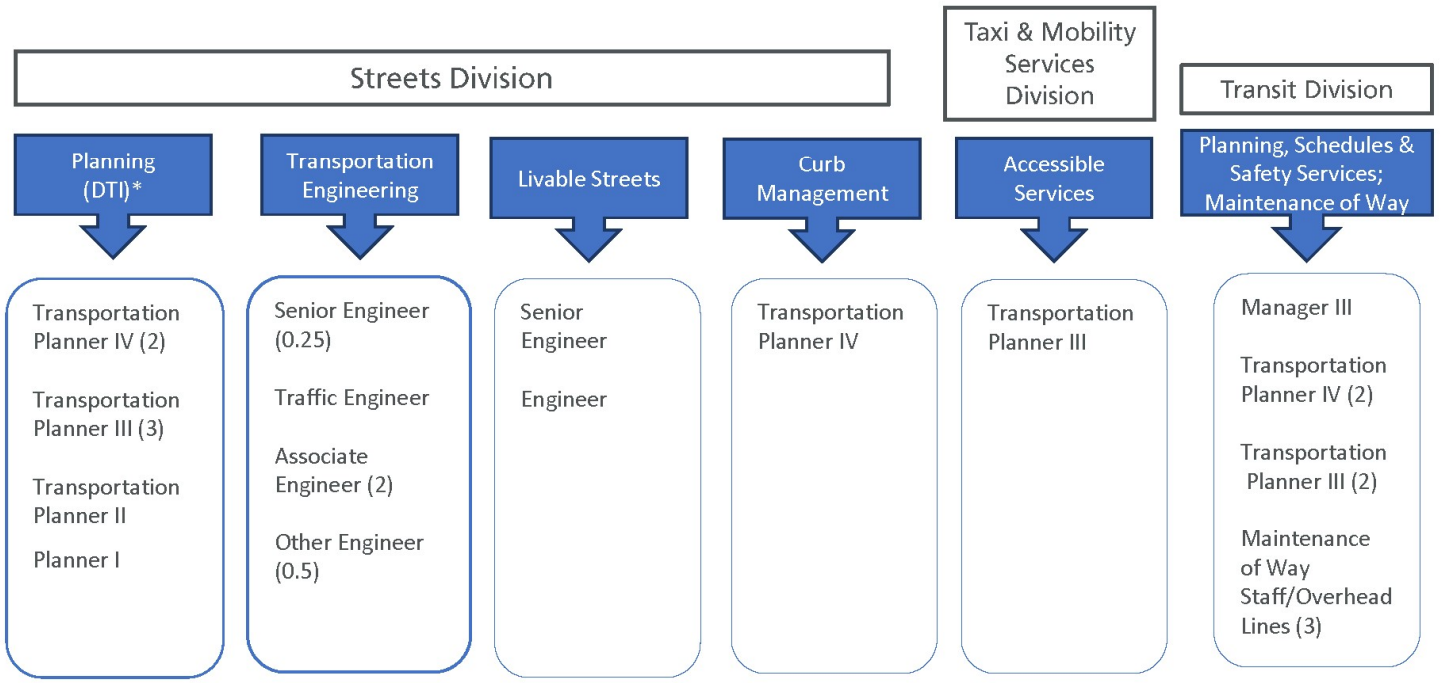


SDAT: Street Design Advisory Team

PPA: Preliminary Project Assessment

SFMTA

SFMTA Development Review Team



*Development and Transportation Integration

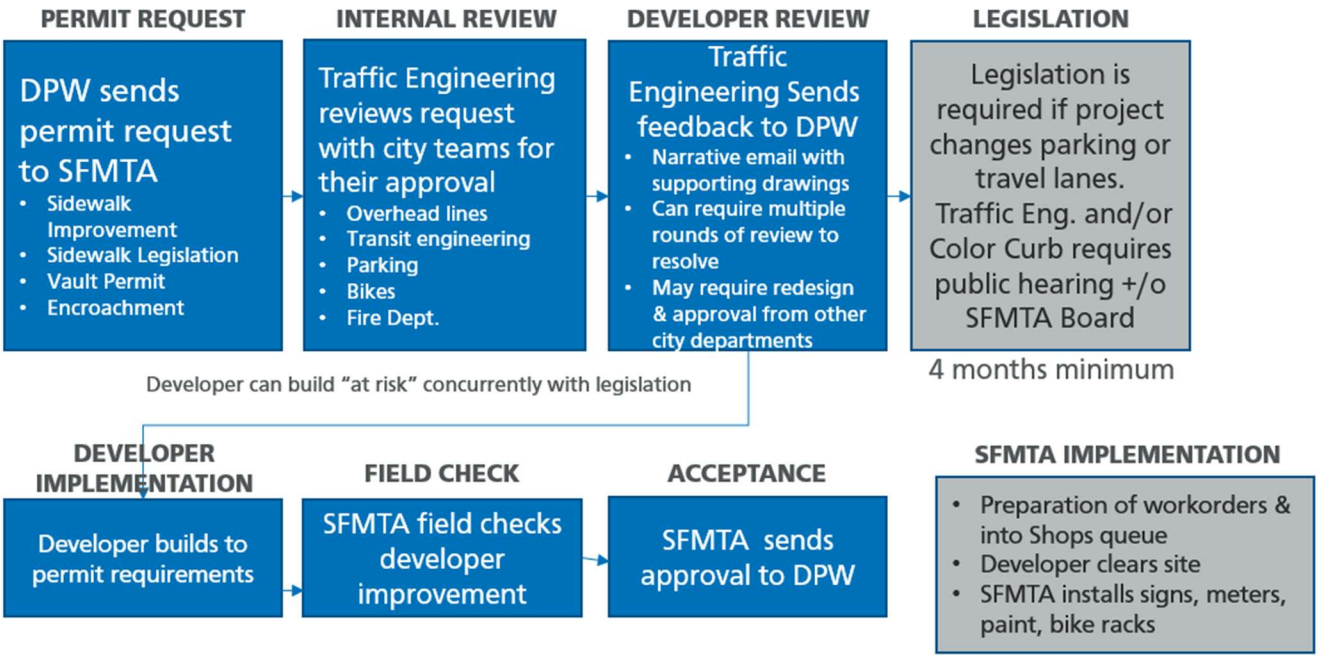
( ) Number of staff assigned

As Needed:

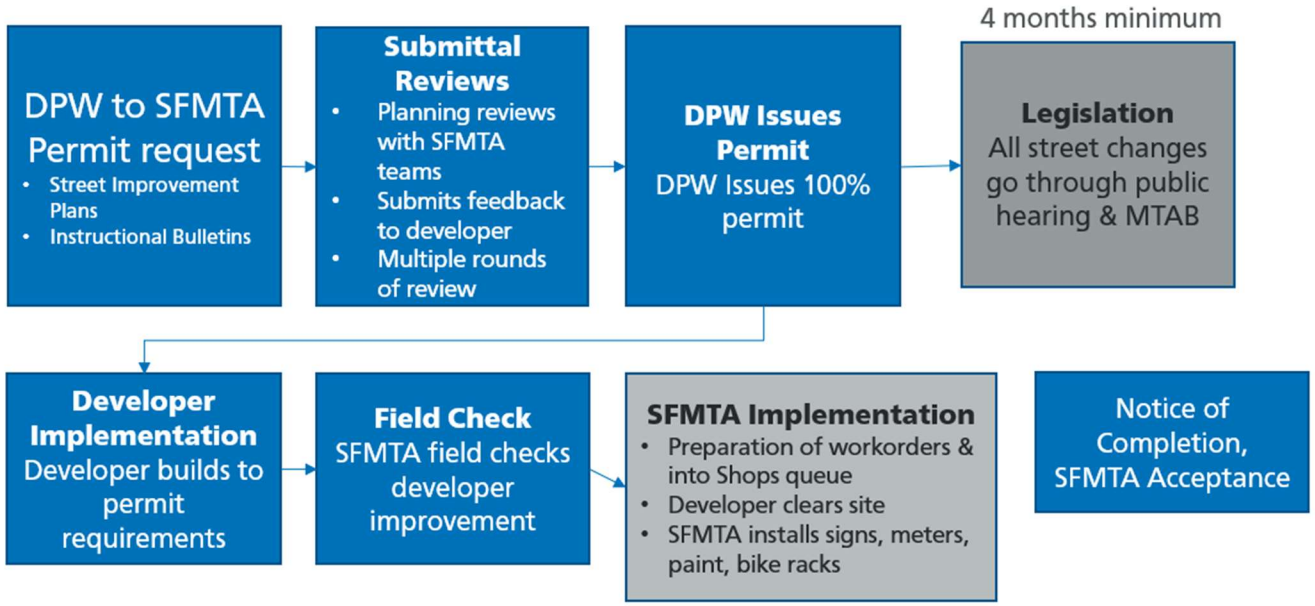
- SFMTA Director of Transportation
- SFMTA Planning Director
- S.F. City Attorney

SFMTA

SFMTA Infill Permit Process



SFMTA Development Agreement Permit Process



Departmental Policies and Practices that Prioritize Housing Review

Currently, SFMTA staff prioritize projects by striving to meet the standard 30-day review deadline for Development Agreement (DA) submittals. For infill projects, SFMTA design review and permitting staff prioritize 100% affordable housing first, followed by other infill housing projects and finally any other types of development projects. Construction support staff, such as SFMTA Maintenance of Way, Transit, and Parking Control must balance housing support activities with their main mission, which is providing transit service to San Francisco.

B) Performance Assessment

Large-Scale Development Review

The SFMTA's Housing Coordinator analyzed and reviewed timelines starting from 2020 when she took over the role. The SFMTA's typical goal is 30 days for reviewing submittals. The average review time for 2022 improved to 36 days, trending down from 40 days in 2020 – or a 10 percent improvement when compared to 2020 reviewal times. The following table details the change in average days overdue for design review for submittals between 2020 to 2022.

DA Review Tracker	2020	2021	2022
Number of submittals	48	41	29
Design Review: Average days overdue	10	8	6

Infill Permitting and Review

The SFMTA participates in major and minor encroachment permits, sidewalk permits and legislation, and vault permits. Consistent tracking of permitting timelines is not in place currently but is a growth area identified in the improvements section of this Plan. The best current estimate is that it takes 1 year to 1.5 years from receiving these permits to completing the review. Because construction typically takes longer than 1-1.5 years, it is unknown the extent to which SFMTA's infill review times are delaying housing. Additional challenges as it relates to infill projects at the SFMTA include:

- A backlog of 77 projects
- Permits become a "mini-project" where the traffic engineer re-validates the Street Design Advisory Team letter with all SFMTA disciplines and other City departments, and reviews the site in context of any ongoing work nearby.
    - This coordination is done via email, which may not be the best tool to resolve complex, interdisciplinary design challenges. This plan recommends instead piloting a twice-monthly regular infill design review meeting to work through permit requests collaboratively. The meeting efficacy will be evaluated after six months to determine if the process is working and should continue.

- The Overhead Lines team has a 40% vacancy rate and can be a key bottleneck in two separate processes.
    - For housing construction support, it can take a developer six or more months to get on the schedule for overhead lines removal and de-energization.
    - For infill permit review, modifications to poles can be complicated and difficult for overhead lines to review in a timely manner.
    - Suggested improvements include Mayoral support to simplify hiring processes, establishing a minimum guaranteed contract for overhead lines support, as well as posting and sharing information with developers on how to do work safely without needing overhead lines support.

C) Housing Coordinator

The SFMTA Planning Director is the official housing coordinator, but delegates aspects of the role based on the capacity of staff. If housing coordination issues require escalation, the SFMTA Planning Director resolves them within the Senior Management Team. The Manager of Development & Transportation Integration, working under the SFMTA Planning Director, acts as housing coordinator, responsible for leading interagency coordination meetings to prioritize development review and ensure progress and accountability. Since taking over the role, design review timelines for development agreement projects have improved by four days. For infill projects, the acting housing coordinator resolves scope and schedule issues that can delay housing production, such as ensuring Parking Control Officers are available to close streets during crane removals and resolving overhead lines issues. The housing coordinator has a standing monthly meeting with the Director of Transportation, where he is briefed on any housing issues. The housing coordinator also ensures SFMTA reviewers charge their time to the appropriate development and recoups costs by submitting quarterly billing invoices to the Office of Economic and Workforce Development (OEWD) for reimbursement of SFMTA staff review time by development partners.

One specific area for improvement is around infill housing reviews, which were not previously under the purview of the Housing Coordinator. This plan recommends updating the existing tracker for infill submittals to better track review timelines, as well as establishing a standing meeting to triage the infill request to the appropriate SFMTA teams for review, approval, and implementation.

D) Process Improvements

Since the 2018 plan, the SFMTA has made strides and completed several improvement measures from the plan, which included:

- Creating an SFMTA Design Standards Document (Attachment A).
- Providing the Planning Department regular updates of fleet and service information for Planning-led environmental and transportation analyses.
- Updating SFMTA Special Traffic Permits website to provide developers a more accurate understanding of processing times for special permits requests.
- Implementing new transportation impact study guidelines to ensure effective review by SFMTA reviewers.
- Providing comments on Planning Department Preliminary Project Assessments and participating at SDAT.
- Adding two additional full-time employees to traffic engineering team.
- Staff have begun to use Bluebeam software which was recently deployed to all City departments conducting development reviews. This software enables all reviewers to provide comments on project drawings, thus providing a platform for sharing responses, and expediting reviews.

Table 1 and 2 below detail the internal and interagency recommendations for process improvement for housing delivery.

E) Capacity Assessment and Plan

Overall, the SFMTA's capacity is at the minimum level in order to be responsive to housing related requests. The key gap is in the traffic engineering team, with three engineers responsible for all design review for both development agreement and infill projects during pre-and-post entitlement. The SFMTA plans to reassign a 5207 associate civil engineer to the traffic engineering team when the Central Subway project is complete. The new engineer is anticipated to start in this new role in 6-12 months, depending on approval from the CFO. Because the infill backlog is approximately a year and a half long, SFMTA may request Mayoral support in the form of funding a short-term engineering services consultant. The scope of work will include support in clearing the backlog and updating the existing tracking process for housing projects, prior to when an increase of applications will likely occur.

Next Steps and Actions to Reduce SFMTA Backlog by 50% by February 1, 2024

The SFMTA understands the urgency of reducing the housing development review by 50 percent by February 2024. The agency is considering the following steps to reduce the SFMTA backlog:

- Add one full time employee - 5207 Associate Engineer to Traffic Engineering Team, transferring from Central Subway, dependent on funding and CFO approval.

- Assign SFMTA Planning staff to populate the infill tracker and begin assessing baseline processing times.
- Establish a regular twice-monthly infill and DA review meeting where all SFMTA disciplines attend, to speed and consolidate the review process.
- Add SFMTA standard checklist and best practices for overhead lines to SFMTA website so developers know what requirements must be met when they submit for permits.
- Dependent on funding availability and CFO approval, consider pursuing a services contract for overhead lines support with a guaranteed minimum.
- Explore establishing a mechanism for infill projects to identify when those projects are six months from construction completion to ensure that reviews do not delay project completions.

Table 1. SFMTA Process Improvements

Issue	Recommendation	What it would take: timeline or other
Design review for infill housing projects is time-consuming and involves multiple disciplines; the current backlog is about 1.5 years behind Due to the long timelines for projects getting approved and finalizing construction, the SFMTA has challenges tracking and proactively responding to infill permitting review.	Pilot a standing design review for infill and DA projects, meeting twice per month, to ensure SFMTA reviewers have the time blocked on their calendar to synthesize and streamline comments. This will ensure all parties are aware of the infill permit requests, know when they have an action item assigned to them, and are accountable to provide feedback in a two-week period before the next meeting by July 2023.	Pilot a regular bi-monthly infill review meeting with respective SFMTA disciplines by July 2023.
	Transfer one 5207 Engineer from Central Subway to Traffic Engineering to support DA and infill projects.	Transfer one 5207 Engineer from Central Subway to Traffic Engineering to support DA and infill projects within 6-12 months.
	SFMTA Planning team to populate and update tracking system for infill requests by July 2023.	3 months to update the internal tracking system.
SFMTA has defined processes and procedures to bring street changes for legislation and MTA Board approval. Developers may be unaware of the requirements and timelines associated with these processes.	Define SFMTA legislation processes and timelines by September 2023. Analyze and identify any process improvements to shorten timelines.	6 months to better understand items that need SFMTA Board action and legislation.
Developer submissions sometimes lack critical information needed to provide an effective review.	Develop an SFMTA checklist or 'cheat sheet' to share with SFPW to ensure permit requests meet SFMTA criteria. Post this checklist on the website and include FAQs about overhead lines best practices and methods to avoid the long wait times necessary for overhead lines removal by September 2023.	6 months to draft and develop checklist for SFPW. Post onto the SFMTA website thereafter.

Issue	Recommendation	What it would take: timeline or other
The current SFMTA overhead line team has 40% vacancies, with limited capacity to review housing projects.	Dependent on funding availability and CFO approval, consider pursuing a supplemental services contract for overhead lines support with a guaranteed minimum.	Work with overhead line team, union, and contracting group to determine feasibility by February 2024.
	Transit staff including overhead Lines and Special Events to join proposed infill review meeting at a regular time, to improve visibility and timeliness of design review.	Transit to identify staff to attend twice-monthly infill permit review meeting pilot by July 2023.

Table 2. Cooperation Proposals

Suggestion/Request	From whom	Explanation/How this would help
In order to improve processing of infill housing projects, we propose to cooperate with Planning Department in order to better understand completion timelines for infill projects.	Managed by SF Planning or another department. SFMTA is meeting with Planning Department in May to discuss.	One of SFMTA's challenges with infill projects is understanding when to process them. There can be a wide time gap of 1-4 years between when the developer initially submits the infill permit request and when the sidewalk improvements will be built. During this time, the surrounding street conditions can change. SF Planning may have the best insight into the details of active development timelines. It would be helpful if they could organize the list of infill projects by expected completion date and notify the SFMTA when the project is 6 months from construction completion. This is the appropriate notification point to enable SFMTA to validate SDAT letter requirements and legislate changes.
Improve the escalation process when staff are unable to come to a consensus on designs.	Departments responsible in review process (SFMTA, SFPW, SFPUC, SF Planning etc.).	Develop a mechanism to improve staff-level resolution of interdepartmental design issues. If disagreements are unable to be resolved at the staff level, escalate to department heads at their regular check-in meetings.
Developer and housing coordinator annual meet and greet.	City department housing coordinators and developers.	Establish an annual event where developers can meet the citywide housing coordinators, ask questions about the process, and put a face to the name as a resource or point of contact if projects are stuck by December 2023.

SFMTA Design Standards

For Land Use Development Projects

Updated March 18, 2019

This document outlines general the SFMTA design standards for land use development projects and reflects standards applicable to most land use development projects in San Francisco. The intention of this document is to provide information to land use project sponsors that will inform site design to optimize project interactions with the transportation system. If you have any questions, please contact Carli Paine at Carli.Paine@sfmta.com.

References for street design standards:

- SF Better Streets Plan (work with Planning and the SFMTA to determine what category of street, if creating a new street) https://www.sfbetterstreets.org/
- San Francisco Subdivision Regulations 2015: https://sfpublicworks.org/sites/default/files/4740-2015%20Subdivision%20Regulations_final.pdf
- NACTO Urban Street Design Guide: https://nacto.org/publication/urban-street-design-guide/
- NACTO Urban Bikeway Design Guide: https://nacto.org/publication/urban-bikeway-design-guide/
- NACTO Transit Street Design Guide: https://nacto.org/publication/transit-street-design-guide/
- California Manual on Uniform Traffic Control Devices Traffic control devices (signs, pavement markings, traffic signals) http://www.dot.ca.gov/trafficops/camutcd/
- CALTRANS – A Guide to Bikeway Classification: http://www.dot.ca.gov/d4/bikeplan/docs/caltrans-d4-bike-plan_bikeway-classification-brochure_072517.pdf

Land Use

- Within a site, concentrate highest densities closest to transit, especially workplace density—work trips are more sensitive to distance from transit.

Off-street Car Parking

- Minimize amount of parking and manage it well—the availability of parking strongly influences the choice to drive.
- Locate parking where access and queues minimize impacts on transit, bicycle and pedestrian traffic.
- Generally, design separated bicycle lanes on streets with parking garage access. Discuss with SFMTA for context-specific guidance.
- Consult the SFMTA for review and input on garage access and circulation plans.
- Consider an alternative in which some of potential parking is developed for other uses (and include this square footage and use in submittals for environmental review).
- Avoid driveways within 50 feet of an intersection.
- Avoid on-street angled or perpendicular parking on streets with transit service.

Design Vehicle

The default for street design is an SU30 design vehicle, accommodating a WB-40 design vehicle.

- On any street with a Muni route, the design vehicle should be a BUS-40, BUS-45, or A-BUS vehicle. Project sponsor should confirm with Muni Service Planning which of these bus design vehicles is most appropriate.
    - The SFMTA currently uses AASHTO standard turning templates for 40' and 60' buses. This will be updated with Muni specific turn templates in the future.
- Design for WB-40 if the roadway is a State highway.
- San Francisco Fire Department (SFFD) ladder and engine trucks are typically accommodation vehicles, unless input from SFFD and the SFMTA deems otherwise.

Travel Lane Widths

- General: Streets should have 10 foot travel lanes.
- Streets with high volumes of truck traffic should have 11 foot travel lanes.
- Lane widths should be discussed with the SFMTA staff for any street with Muni service.
- For additional guidance, see Attachment A, Lane widths for Streets with Muni vehicles and bicycle facilities.

Bicycling

- General: All streets in San Francisco should provide protected bicycle facilities, unless the street is low speed (<25 mph) and low volume (<1000 vehicles per day), in which case shared (unprotected) bicycle lanes are acceptable. Any deviation must be justified and coordinated with the SFMTA.
- Regardless of vehicular speed or volume, feeder streets into garages and streets with bus routes should have separated bicycle facilities. Coordinate with the SFMTA for design and approval of these types of streets.
- For streets with a parking or loading lane adjacent to a bikeway, provide a 9 foot parking/loading lane with a 6 foot bikeway.
- Avoid angled parking on bicycle routes, but if required, use back-in angle parking.

Walking

- Review the SFMTA Crosswalk Guidelines (Attachment B) for determination of where crosswalks should be marked.
- Provide curb ramps at all marked or unmarked crosswalks. The extension of a sidewalk at every non-alley intersection (two streets meeting at approximately right angles) is a crosswalk per California Vehicle Code. An alley is defined as a street with a curb-to-curb width of 25 feet or less.
- Sidewalk width shall be the greater of the Better Streets Plan or legislated sidewalk width.
    - All sidewalk throughway widths must be a minimum of 8 feet.
    - For all new streets, San Francisco's Planning Department should determine the street type.
- Review the Better Streets Plan and SFMTA Sidewalk Bulb Width Guide (Attachment C) for guidelines regarding placement and design of bulb-outs. Short corner bulbs should generally be 6 feet wide with parallel parking and have at least a 5 foot tangent before radius returns to the curb.

Curb and Curb-side Uses

- Maximize on-street passenger and commercial loading, depending on use. Discuss with SFMTA for context-specific guidance.
- Design accessible parking lanes with a width of 8 feet.
- Plan for a 10 to 20 foot red zone for visibility between on-street parking and pedestrian crossings.
- All STOP approaches should prohibit curb uses for at least 10 feet back from the crosswalk.
- All signalized approaches should prohibit curb uses at least 20 feet back from the crosswalk.
- All uncontrolled approaches should prohibit curb uses at least 20 feet back from the crosswalk or more, depending on stopping sight distances as specified in the Caltrans Highway Design Manual.
- Paint parking stall markings only on metered streets and where vehicles have to park at an angle other than 90 degrees to the curb.
- Locate carshare off-street if possible to maximize on-street curbs for active loading uses.
- The SFMTA retains authority to designate/change curb uses for public streets.
- Consult with SFMTA for color curb designations after the land use and entrance locations are known.
- Blue zones are parking spaces for people with a valid disabled parking permit.
    - Agreement on location for blue zones occurs once land use and entrance locations are known.
    - Blue zones should have curb ramp access adjacent, either provided at intersection or installed specifically for blue zone.
    - Blue zones should be installed only on streets with less than 8.3% street slope with no obstructions; cross slope of the sidewalk must be no greater than 2%. For site-specific guidance, consult with Department of Public Works.
    - Adjacent furnishing zone must be clear of obstructions.
    - Preferred placement of the blue zones is on the far side of intersection so that the intersection curb ramp is behind the zone.
    - Plan for a minimum of 4% of metered spaces to be blue zones.
    - See Attachment D, Guidelines for Accessible Building Blocks for Bicycle Facilities, for additional guidance.

Loading Bays

- All loading docks must be designed to accommodate the largest truck likely to serve the project without the truck encroaching into the public right-of-way, including sidewalks.
- Demonstrate safe access to loading docks by largest truck likely to serve project.

Meters, Poles, and Posts

- Contact the SFMTA for any project that may impact overhead lines, including those that change the curb line for a sidewalk that houses poles supporting the lines.
- The following two options ensure the ability to install and maintain parking meters, traffic sign poles, and other sidewalk fixtures such as bicycle racks:
    1. Maintain a concrete strip within 3 feet from face of curb, or
    2. Provide concrete pad underneath pavers within 3 feet from face of curb.

Shared Streets

- Note that the California Vehicle Code does not recognize shared streets – pedestrians do not have the right of way on them and the city cannot install signage that indicates this. Drivers always have the right of way anywhere outside the crosswalk.
- Design shared streets so that cars and bicycles would be operating at pedestrian speeds.
- Include measures to indicate to visually-impaired individuals that they are in a shared environment, at minimum include detectable warnings at gateways to the shared street.

Bus Stops

- Bus stops should generally be located at the far side of signalized or uncontrolled intersections and at the nearside of stop-controlled intersections. Midblock stops may be appropriate to serve major destinations.
- Vehicle length and frequency determine bus zone length. The table below lists recommended lengths.

	Type of Vehicle and Appropriate Zone Length			
Bus Zones	40ft Bus (for ≥4 min combined frequency)	2x40ft Bus* (for <4 min combined frequency)	60ft Bus (for ≥4 min combined frequency)	2x60ft Bus* (for <4 min combined frequency)
Midblock	140′	185′	160′	225′
Near-side	100′	145′	120′	185′
Far-side	80′	125′	100′	165′
Far-side (after right turn)	140′	185′	160′	225′

** Requirement to accommodate more than one bus may be waived due to factors such as low use of stop or short dwell times.*

- Typically, a bus zone should be located near-side (before the intersection) of a stop-sign controlled approach, or far-side (after the intersection) of a traffic-signal controlled intersection.
- Planting strips and non-transit related street furniture should be minimized at transit zones. Tree wells may be possible but require coordination with SFMTA.
- If a bus zone is a designated layover/recovery zone, additional length may be required.

Bus Layovers/Recovery Zones

- Should be designed to accommodate at least two buses for low-frequency routes (>15 min frequency); confirm with Muni Service Planning for routes with greater frequency.
- Must be located within close proximity to a restroom accessible to operators.
- For additional information, see Attachment E, Operator Convenience Station Guidelines.

Bus Bulbs

Bus bulbs are recommended on certain routes and for certain stops.

Bus Bulbs	Type of Vehicle and Appropriate Zone Length (Ft.)			
	40ft Bus (for ≥4 min combined frequency)	2x40ft Bus (for <4 min combined frequency)	60ft Bus (for ≥4 min combined frequency)	2x60ft Bus (for <4 min combined frequency)
Midblock	35	80	55	115
Near-side	35	80	55	115
Far-side	45	90	65	130
Farside (after right turn)	Case-by-case basis			

Boarding Islands

See Attachment F, memo for design guidance related to boarding islands

Streets with Transit

- For additional guidance, see Attachment A, Lane widths for Streets with Muni vehicles and bicycle facilities.
- Transit stop spacing: Generally, stops should be spaced approximately 800-1360 feet apart, where street grades are 10% or less
- On streets with grades over 10%, stops may be as close as 500 feet apart
- Rapid and Specialized service stops are determined on a case-by-case basis

Transit Shelters

- Transit shelters, managed by Clear Channel, are installed at selected high usage boarding locations, generally at stops with >125 boardings per day. The shelter site must meet Public Works' criteria for sidewalk width and proximity to other street furniture (see Attachment G, DPW Order 177160)
- Shelter installation must allow at least a 3' wide passage to allow wheelchair access past the shelter
- Power requirements at shelter: 3-amps at 120 volts

Attachments

A. Lane widths for Streets with Muni vehicles and bicycle facilities
B. SFMTA Crosswalk Guidelines
C. SFMTA Sidewalk Bulb Width Guide
D. Guidelines for Accessible Building Blocks for Bicycle Facilities
E. Operator Convenience Station Guidelines
F. Transit Boarding Island Width Design Guidance
G. DPW Order No. 177,160 (Placement of Transit Shelters and Advertising Kiosks)

SFMTA
Municipal Transportation Agency

MEMORANDUM

Date: June 19, 2013

To: Sustainable Streets Staff

Through: Julie Kirschbaum, Operations Planning Manager JK
Davide Puglisi, Acting Deputy Director – Transit Service DP
Melvyn Henry, Chief Safety Officer MH

From: Ricardo Olea, City Traffic Engineer RO
Bridget Smith, Deputy Director – Livable Streets BS

Subject: Lane widths for streets with Muni vehicles and bicycle facilities

This memorandum summarizes the desired lane widths on streets where Muni operates, with or without bicycle facilities. It is also a record of agreements made between the staff of Sustainable Streets Division staff in the Transportation Engineering and Livable Streets subdivisions and Operations Planning staff in the Transit Division, with input from Muni Safety and Muni Training regarding these desired lane widths. These guidelines describe the desired lane width; in most cases, wider lanes would also be suitable or even preferable. These do not reflect design preferences for Bus Rapid Transit.

Background

In late 2008 and early 2009, Livable Streets staff had a series of meetings with Transportation Engineering and Muni Operations to discuss the design of street segments where projects in the 2009 Bicycle Plan overlapped with existing and/or proposed Muni routes. The objective of these meetings was to determine the designs, specifically lane widths, which would meet the needs of both bicycles and Muni vehicles. These lane widths have been applied on subsequent projects.

MUNI 1912~2012

Parking Widths Defined

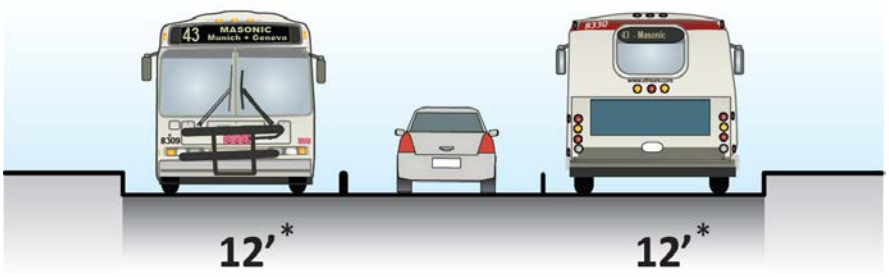
For the purposes of this memo, when considering a street cross-section in the absence of a bicycle lane, parking lanes are considered to be 8' wide. Although parallel parking stall markings are typically painted at 7 feet, the additional one-foot serves as a buffer between moving traffic and parked cars. However, when considering a street cross-section which has a bicycle lane adjacent to the parking lane, the parking lane is preferred to be 9 feet in width. While the Caltrans Highway Design Manual allows a minimum of an 8-foot parking lane adjacent to a bicycle lane, the SFMTA prefers a 9-foot parking lane width because it reduces the likelihood of a "dooring" collision. Dooring collisions occur when the door of a parked vehicle is opened into the bicycle lane in violation of the California Vehicle Code §22517, causing the bicycle to either collide with the door or swerve to avoid it. Where there is overriding consideration, the parking lane adjacent to a bicycle lane could be reduced to 8 feet.

Bicycle Lane Widths Defined

As required by the CA MUTCD and the Highway Design Manual, the minimum bicycle lane width next to parking shall be 5 feet. In the absence of parking, a curbside bicycle lane shall be a minimum of 4 feet in width if there is no gutter present. If a gutter is present, the bicycle lane shall be located at least 3 feet from the edge of the gutter. Generally, the SFMTA prefers 6-foot bicycle lanes both adjacent to parking as well as adjacent to the curb. This wider width provides more maneuvering room for bicycles.

Travel Lane Widths for Muni Operations Defined

The desired lane widths for Muni operations were defined through discussions between Sustainable Streets and Transit Division staffs to accommodate the movement of Muni buses on City streets. A typical Muni bus is 8 feet 6 inches wide, not including mirrors. While the exact configuration of mirrors varies, they typically extend an additional 10 inches on each side, making the total width of the bus 10 feet 2 inches. Given this information, it is desired that Muni operate in 12-foot lanes to provide room to avoid conflicts. When Muni is operating adjacent to parking or another travel lane in the same direction, the lane could be reduced to 11 feet if there are overriding considerations, as the mirrors are high enough to safely extend over most vehicles. These lane widths provide adequate space for cars to pass buses while stopped to load/unload passengers at bus stops. See Figure 1.



*May be reduced if there is overriding consideration; see text for details

Figure 1. Desirable lane widths for Muni operations

Travel Lane Widths for Muni Operations Adjacent to Bicycle Lanes Defined

For streets with Muni operating adjacent to a bicycle lane, either with or without a parking lane, the desired lane width is 11 feet. If there is an overriding consideration, 10-foot lanes may be used if there is an adjacent travel lane in the same direction. If a buffered bicycle lane is present, the travel lane width may be reduced to 10 feet. The bicycle lane, and buffer if present, provide the necessary separation between the Muni vehicle and parked vehicles or the curb to provide room to avoid potential conflicts. See Figure 2.

* May be reduced if there is overriding consideration; see text for details

Figure 2. Desirable lane widths for Muni operations with bicycle lanes.

Summary

A summary of the preferred lane widths can be found in Table 1. Streets which need to accommodate both Muni vehicles and bicycle lanes present a challenge in balancing the space allocated to each mode. There is considerable overlap between the streets on which Muni operates, and those in the City's bicycle route network. Streets in San Francisco are typically narrow, making this challenge even greater.

This document provides guidance on desired lane widths and is intended to serve as a reference. It should not be interpreted as an absolute or inflexible standard when designing streets. As always, engineering judgment should be exercised when designing streets to safely and efficiently accommodate the needs of multiple modes of transportation.

Table 1. Desired Lane Widths for Muni Operations

Adjacent Use to Right Side of Vehicle	**Desired Lane Width**	
	Adjacent to Traffic Lane Operating in Opposing Direction	Adjacent to Traffic Lane Operating in Same Direction
Curb with no parking	12'	12' (11'*)
8' parking lane	12' (11*)	11'
Bike lane	11' (10'*)	11' (10'*)

* May be reduced to lower value if there is overriding consideration; see text for details

Desired Lane Widths for Bicycles

Adjacent Use to Right Side of Bike Lane	**Desired Lane Width**
Curb	6' (4'*) (must have at least 3' between lane line and edge of gutter)
9' (8'*) Parking Lane	6'(5'*)

* May be reduced to lower value if there is overriding consideration; see text for details

MEMORANDUM

TO: Sustainable Streets Staff

FROM: Jerry Robbins
Interim Director of Sustainable Streets

DATE: May 29, 2014

SUBJECT: SFMTA Crosswalk Guidelines

This memorandum is an update to the SFMTA Crosswalk Guidelines approved in January 2012. The update includes a revision of the section entitled Decorative Crosswalk Paving on page 17 of this document.

The changes include:

- Clarification of the types of decorative treatments that are acceptable, based on FHWA guidance;
- Clarification of the use of continental crosswalk markings with decorative pavement per the SFMTA's marked crosswalk policies; and,
- Clarification of the SFMTA's responsibility for crosswalk maintenance where decorative crosswalks are installed.

The original memorandum distributed in January 2012 provides guidelines for design and installation of crosswalks within San Francisco. These guidelines document desired practice, subject to engineering judgment on a case-by-case basis. They are not meant to supplant the California Manual on Uniform Traffic Control Devices (CA MUTCD), which should also be consulted by practitioners involved in the installation of crosswalks. These guidelines were prepared by the Livable Streets and Transportation Engineering subdivisions of the SFMTA Sustainable Streets division and are based in part on the research referenced at the end of this memo.

The guidelines are divided into three general areas:

1. Overview (page 2)
2. Where to Mark Crosswalks and use Additional Treatments (page 4)
3. How to Mark Crosswalks (page 15)

1. OVERVIEW

Crosswalks exist at all non-alley[1] intersections that meet at approximately right angles, whether marked or unmarked, except where pedestrian crossing is specifically prohibited. Marked crosswalks serve to alert road users to expect crossing pedestrians and to direct pedestrians to desirable crossing locations.

At mid-block locations, crosswalks only exist where marked. At these non-intersection locations, it is the crosswalk markings that legally establish the crosswalk.

The following guidelines cover where and how to mark crosswalks, including the following topics:

- Marking crosswalks at controlled intersection locations
- Marking crosswalks at uncontrolled intersection locations
- Marking crosswalks at mid-block locations
- Marking crosswalks within school areas
- Crosswalk closures
- Crosswalk marking patterns
- Additional crosswalk safety treatments

These guidelines are consistent with Section 3B.17 of the 2009 MUTCD, which at this time is pending official adoption by California. These guidelines are not meant to be rigid standards, but rather to provide additional guidance subject to engineering judgment on a case-by-case basis.

The following legal definitions and right-of-way control excerpts are from the California Vehicle Code (CVC).

CVC Section 275. Crosswalk is either:

(a) That portion of a roadway included within the prolongation or connection of the boundary lines of sidewalks at intersection where the intersecting roadways meet at approximately right angles, except the prolongation of such lines from an alley across a street.

(b) Any portion of a roadway distinctly indicated for pedestrian crossing by lines or other markings on the surface. Notwithstanding the foregoing provisions of this section, there shall not be a crosswalk where local authorities have placed signs indicating no crossing.

CVC Section 21950. Right-of-Way at Crosswalks:

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[1]Per the California Vehicle Code Section 110, alleys are generally minor streets that are 25 feet or narrower in width.

(a) The driver of a vehicle shall yield the right-of-way to a pedestrian crossing the roadway within any marked crosswalk or within any unmarked crosswalk at an intersection, except as otherwise provided in this chapter.

(b) The provisions of this section shall not relieve a pedestrian from the duty of using due care for his or her safety. No pedestrian shall suddenly leave a curb or other place of safety and walk or run into the path of a vehicle which is so close as to constitute an immediate hazard. No pedestrian shall unnecessarily stop or delay traffic while in a marked or unmarked crosswalk.

2. WHERE TO MARK CROSSWALKS AND USE ADDITIONAL TREATMENTS

The CA MUTCD provides the following guidance on where to mark crosswalks (Section 3B.17):

> *"In general, crosswalks should not be marked at intersections unless they are intended to channelize pedestrians. Emphasis is placed on the use of marked crosswalks as a channelization device.*
>
> *The following factors may be considered in determining whether a marked crosswalk should be used:*
>
> - *Vehicular approach speeds from both directions.*
> - *Vehicular volume and density.*
> - *Vehicular turning movements.*
> - *Pedestrian volumes.*
> - *Roadway width.*
> - *Day and night visibility by both pedestrians and motorists.*
> - *Channelization is desirable to clarify pedestrian routes for sighted or sight impaired pedestrians.*
> - *Discouragement of pedestrian use of undesirable routes.*
> - *Consistency with markings at adjacent intersections or within the same intersection."*

The decision making processes for marking crosswalks is different depending on whether the location is controlled or uncontrolled. Much of the following guidance on where to mark crosswalks is dedicated to uncontrolled locations.

MARKING CROSSWALKS AT CONTROLLED INTERSECTION LOCATIONS

In San Francisco, unless pedestrian crossing is prohibited, marked crosswalks should be provided at all intersection approaches controlled by traffic signals. Intersection approaches controlled by STOP signs can be recommended for marked crosswalks if any of the following conditions apply:

- The crosswalk is located in a school area;
  OR,
- Elderly or disabled pedestrian volumes of 20 or more are expected during the peak hour of pedestrian demand;
  OR,
- Pedestrian volumes of 60 or more are expected during the peak hour of pedestrian demand and vehicular daily volumes of 6,000 or more are expected to cross over the crosswalk[2];

[2] Many of the guidelines reviewed from other municipalities recommend marking crosswalks either at all approaches controlled by STOP signs or when pedestrian volumes of 20 or more are expected during the peak hour of pedestrian demand. However, San Francisco has many STOP sign controlled intersections with relatively low traffic volumes that would make these thresholds impractical.

OR,

- Safety or efficiency reasons dictate directing pedestrians to a particular leg of the intersection;
  OR,
- STOP sign approaches are on a Minor Arterial or Major Arterial.

MARKING CROSSWALKS AT UNCONTROLLED INTERSECTION LOCATIONS

At uncontrolled intersection approaches, crosswalks should only be marked if the following conditions apply:

- There is sufficient demand (see Demand section below);
  AND,
- The location is more than 300 feet from a controlled crossing location[3];
  AND,
- Adequate stopping sight distance exists between approaching motorists and pedestrians starting to cross the street at the crosswalk;
  AND,
- The location has street lighting adjacent to the crosswalk;
  AND,
- Safety considerations arising from roadway configuration, vehicle volumes or vehicle speeds do not preclude marking a crosswalk (see Roadway Configuration, Motor Vehicle Volume and Speed section below).

Demand

At uncontrolled intersection approaches, crosswalks should be considered for marking only if there is sufficient demand according to the following criteria:

- The crosswalk is located in a school area;
  OR,
- Pedestrian volumes of 15 or more per hour are expected during multiple hours throughout the day;
  OR,
- Pedestrian volumes of 20 or more are expected during the peak hour of pedestrian demand;
  AND,
- Pedestrians have fewer than five gaps in traffic per five-minute period.[4]

MARKING CROSSWALKS AT MID-BLOCK LOCATIONS

Mid-block crosswalks only exist if marked and must be established by a SFMTA Board of Directors' resolution. Because pedestrian crossings may not be expected by motorists at mid-block locations, additional measures such as signage and parking restrictions are recommended. Bulbouts are another desirable feature to improve

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[3] This guideline is used by several other municipalities including Sacramento, Stockton, Boulder, Virginia DOT and more.

[4] This guideline is used by several other municipalities including Palo Alto, Boulder, Sacramento, Stockton, San Leandro, Virginia DOT and more.

visibility for both pedestrians and motorists but typically require special funding sources due to their relatively high cost. Curb ramps are required. On higher volume and speed streets a traffic signal may be required.

Mid-block crosswalks should only be established if the following conditions apply:

- There is sufficient demand (see Demand section below);
  AND,
- The location is more than 300 feet from a controlled crossing location[5];
  AND,
- Adequate stopping sight distance exists between approaching motorists and pedestrians starting to cross the street at the proposed crosswalk;
  AND,
- The location has adequate street lighting to illuminate the proposed crosswalk;
  AND,
- Safety considerations arising from roadway configuration, vehicle volumes or vehicle speeds do not preclude establishing a crosswalk (see Roadway Configuration, Motor Vehicle Volume and Speed section below).

Demand

Mid-block crosswalks should be considered only if there is a sufficient demand according to the following criteria:

- Pedestrian volumes of 40 or more are expected during the peak hour of pedestrian demand;
  OR,
- Significant pedestrian trip generators (such as a school, park, or commercial building) are on both sides of the street between controlled intersections.[6]

ROADWAY CONFIGURATION, MOTOR VEHICLE VOLUME AND SPEED

The table provided in the Appendix is from the Federal Highway Administration study *Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations* and can be used as a reference when deciding whether to mark a crosswalk at an uncontrolled location. For different roadway configurations, the table identifies ranges of vehicle speeds and volumes where crosswalks can be marked without additional treatments (C), where additional treatments should be considered along with crosswalk markings (P), and where crosswalks should not be marked without additional treatments (N).

Below is a flowchart offering further assistance with the decision of whether or not to mark a crosswalk at an uncontrolled location, and what, if any, additional treatments should be considered. The flowchart and accompanying tables do not apply to crosswalks within school areas (see School Area Crosswalks section on page 14).

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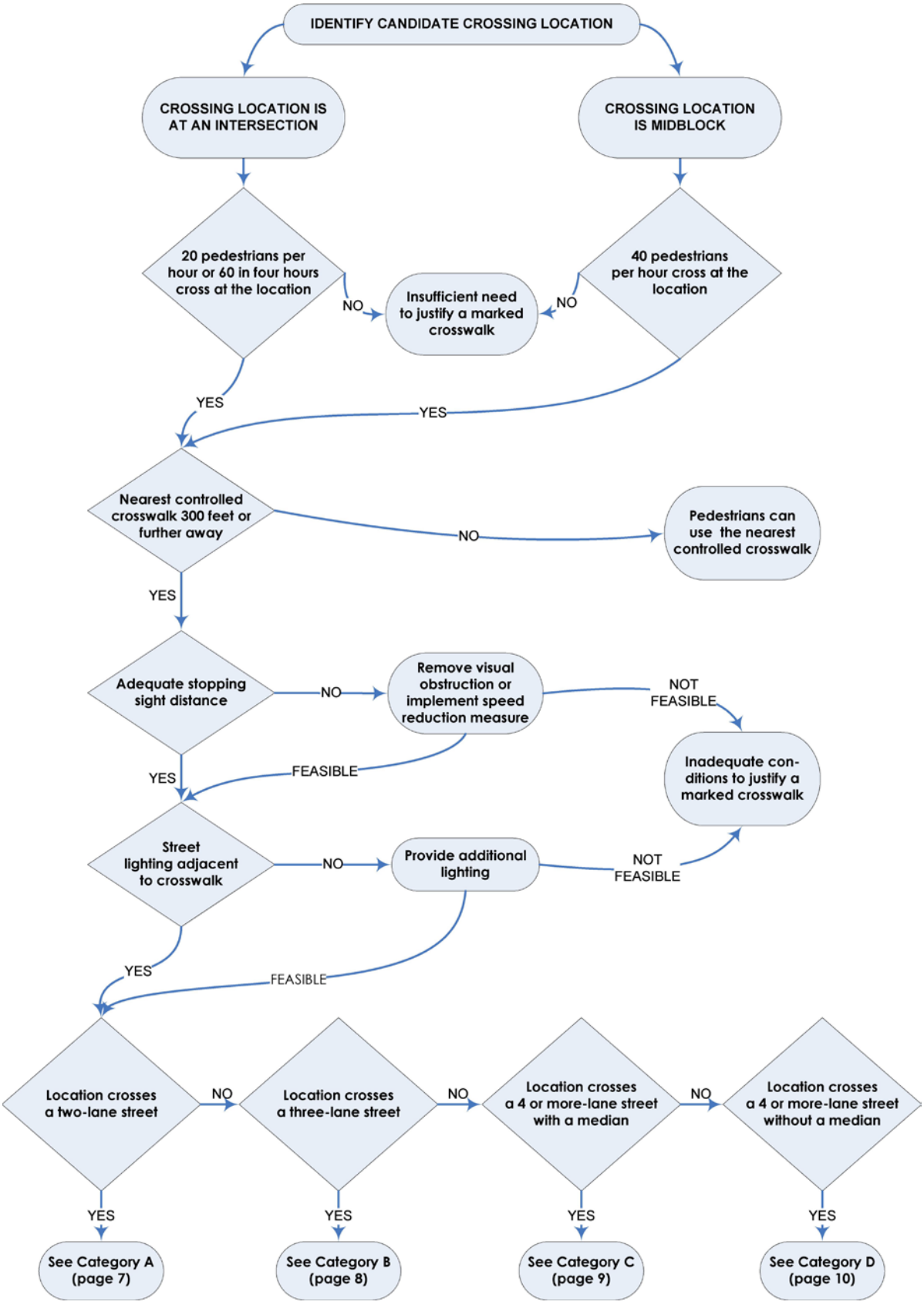
[5] This guideline is used by several other municipalities including Sacramento, Stockton, Boulder, Virginia DOT and more.

[6] These demand guidelines are used by several other municipalities including San Leandro, Palo Alto Boulder, Sacramento, Stockton, Virginia DOT and more.

Where safety concerns persist even with special treatments (extreme cases of category "N" above), traffic signal warrants established in the most current CA MUTCD should be followed to determine whether the crossing warrants a traffic signal. Pedestrian crossing distance alone is not a sufficient reason to consider new traffic signals. If a traffic signal is determined to be unwarranted or infeasible, other pedestrian treatments such as medians and bulbouts should be considered.

CROSSWALK MARKING FLOWCHART FOR UNCONTROLLED LOCATIONS



CATEGORY A: TWO LANE STREETS
(Meeting requirements of flowchart on page 6)

TRAFFIC VOLUME (ADT)	POSTED SPEED		
	30 MPH or less	35 MPH	40 MPH or more
Up to 12,000 vehicles per day	Consider Level 1 device (see page 11)	Consider Level 1 device (see page 11)	Marked X-walk plus additional Level 1 device and consider Level 2 device (see page 11)
12,000 vehicles or more per day	Consider Level 1 device (see page 11)	Marked X-walk and additional Level 1 device (see page 11).	Marked X-walk plus additional Level 1 and/or Level 2 devices. Evaluate the location for a traffic signal (Level 3 device) using CA MUTCD warrants (see page 11)

CATEGORY B: THREE LANE STREETS
(Meeting requirements of flowchart on page 6)

<table>
<tr><th>TRAFFIC VOLUME (ADT)</th><th colspan="3">POSTED SPEED</th></tr>
<tr><th></th><th>30 MPH or less</th><th>35 MPH</th><th>40 MPH or more</th></tr>
<tr><td>9,000 vehicles or fewer per day</td><td>Consider Level 1 device (see page 11)</td><td>Consider Level 1 device (see page 11)</td><td rowspan="2">Marked X-walk plus additional Level 1 device and consider Level 2 device (see page 11)</td></tr>
<tr><td>9,000-12,000 vehicles per day</td><td>Consider Level 1 device (see page 11)</td><td rowspan="2">Marked X-walk plus additional Level 1 device and consider Level 2 device (see page 11)</td></tr>
<tr><td>12,000-15,000 vehicles per day</td><td rowspan="2">Marked X-walk plus additional Level 1 device and consider Level 2 device (see page 11)</td><td rowspan="2">Marked X-walk plus additional Level 1 and/or Level 2 devices. Evaluate the location for a traffic signal (Level 3 device) using CA MUTCD warrants (see page 11)</td></tr>
<tr><td>15,000 vehicles or more per day</td><td>Marked X-walk plus additional Level 1 and consider Level 2 devices. Evaluate the location for a traffic signal (Level 3 device) using CA MUTCD warrants (see page 11)</td></tr>
</table>

CATEGORY C: FOUR OR MORE LANES WITH A RAISED MEDIAN
(Meeting requirements of flowchart on page 6)

<table>
<tr><th rowspan="2">TRAFFIC VOLUME
(ADT)</th><th colspan="3">POSTED SPEED</th></tr>
<tr><th>30 MPH or less</th><th>35 MPH</th><th>40 MPH or more</th></tr>
<tr><td>9,000 vehicles or fewer per day</td><td rowspan="2">Consider Level 1 device (see page 11)</td><td>Consider Level 1 device (see page 11)</td><td rowspan="4">Marked X-walk plus additional Level 1 and/or Level 2 devices. Evaluate the location for a traffic signal (Level 3 device) using CA MUTCD warrants (see page 11)</td></tr>
<tr><td>9,000-12,000 vehicles per day</td><td rowspan="2">Marked X-walk plus additional Level 1 device and consider Level 2 device (see page 11)</td></tr>
<tr><td>12,000-15,000 vehicles per day</td><td>Marked X-walk plus additional Level 1 device and consider Level 2 device (see page 11)</td></tr>
<tr><td>15,000 vehicles or more per day</td><td>Marked X-walk plus additional Level 1 and consider Level 2 devices. Evaluate the location for a traffic signal (Level 3 device) using CA MUTCD warrants (see page 11)</td><td>Marked X-walk plus additional Level 1 and consider Level 2 devices. Evaluate the location for a traffic signal (Level 3 device) using CA MUTCD warrants (see page11)</td></tr>
</table>

CATEGORY D: FOUR OR MORE LANES WITHOUT A RAISED MEDIAN
(Meeting requirements of flowchart on page 6)

TRAFFIC VOLUME (ADT)	POSTED SPEED		
	30 MPH or less	35 MPH	40 MPH or more
9,000 vehicles or fewer per day	Consider Level 1 device (see page 11)	Marked X-walk and additional Level 1 device (see page 11).	Marked X-walk plus additional Level 1 and/or Level 2 devices. Evaluate the location for a traffic signal (Level 3 device) using CA MUTCD warrants (see page 11)
9,000-12,000 vehicles per day	Marked X-walk and additional Level 1 device (see page 11).	Marked X-walk and additional Level 1 device (see page 11).	
12,000 vehicles or more per day	Evaluate the location for a pedestrian signal. If the location does not meet the warrant, install marked X-walk plus additional Level 1 and 2 devices (see page 11)	Evaluate the location for a pedestrian signal. If the location does not meet the warrant, install marked X-walk plus additional Level 1 and 2 devices (see page 11)	Evaluate the location for a pedestrian signal. If the location does not meet the warrant, install marked X-walk plus additional Level 1 and 2 devices (see page 11)

ADDITIONAL TREATMENTS FOR CROSSWALKS AT UNCONTROLLED LOCATIONS

A partial list of additional treatments to be considered for crosswalks at uncontrolled locations is provided below. Specific circumstances will call for flexibility in application, and a combination of treatments may be appropriate.

Level One (lower cost traffic control devices)

- **Signage**, including the "Yield Here to Pedestrians", "Yield to Pedestrians in Crosswalk" metal and pop-up signs, and "Pedestrian Warning", as discussed in the CA MUTCD;
- **Advance Stop and Yield Lines** (see discussion on page 14);
- **Raised pedestrian refuge islands**;
- **PED XING pavement markings** installed on the approaches to the crosswalk;
- **Parking prohibitions** or red zones at the crosswalk; and,
- **Speed limit signs or changes** in conformance with an engineering study and CVC regulations**.**

Level Two (higher cost traffic control devices and street changes)

- **Flashing beacons** used alone or in conjunction with overhead signs as approved for general use by the CA MUTCD;
- **In-roadway warning lights** as approved for general use by the CA MUTCD;
- **Curb extensions or bulbouts**;
- **Road diets** or other traffic lane changes to reduce number of approach lanes or allow the installation of pedestrian refuge islands or medians;
- **Traffic calming** or other appropriate engineering measures to reduce roadway speeds;
- **Pedestrian Hybrid Beacons (HAWK)** as approved for general use by the CA MUTCD; and,
- **Rectangular Rapid Flash Beacon** following guidelines set forth in the FHWA's interim approval for optional use.

Level Three (traffic signalization)

- **Traffic signals** should be used where other treatments are infeasible or ineffective and current CA MUTCD traffic signal warrants are met.

REMOVING CROSSWALK MARKINGS

These guidelines should not be used to justify removal of existing crosswalk markings. In most circumstances additional measures should be considered prior to removal of crosswalk markings. In exceptional cases crosswalk markings can be recommended for deletion while leaving a crosswalk open, such as when an engineering evaluation indicates that other measures have not been effective and there are significant safety advantages to not marking the crosswalk. Removing a marked crosswalk requires a public hearing under the Pedestrian Safety Act of 2000 (AB 2522). Consult CVC Section 21950.5 for more details about the 30-day minimum public notification requirements.

CROSSWALK CLOSURES

Closures of existing crosswalks should be avoided, and existing closed crosswalks should be evaluated for opening, which may necessitate additional safety measures such as traffic signal timing or signage changes.

In exceptional cases, closing a crosswalk or keeping a crosswalk closed may be justified even if a crosswalk meets the guidelines outlined elsewhere in these guidelines. Where crosswalk closures are required, only one leg of an intersection should be closed. Closing a crosswalk with signs and barriers may be justified by such factors as heavy turn volumes, poor sight distance, or very low pedestrian demand. The extent of inconvenience for pedestrians must be considered in these decisions. Closing a crosswalk requires a public hearing and a SFMTA Board of Directors' resolution.

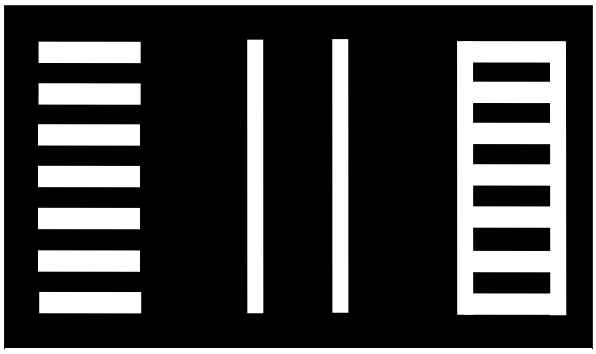
3. HOW TO MARK CROSSWALKS

All marked crosswalks other than designated school area crosswalks shall be white. All crosswalks should be marked using thermoplastic treated with retroreflective glass beads upon installation. The width of a crosswalk should generally conform to sidewalk width, but can be wider in locations with high pedestrian demand or narrow sidewalks. The minimum recommended crosswalk width is 10 feet.

CROSSWALK MARKING PATTERNS

Various crosswalk marking patterns exist in San Francisco, including continental, transverse, and ladder, as shown in Figure I below. Until recently, San Francisco only used continental markings at mid-block and school area crosswalks. It is now the goal of the Sustainable Streets Division to gradually have all crosswalk markings be converted to the continental marking pattern. Existing transverse markings should be prioritized for conversion to continental markings as resources allow; recognizing resource limitations, this policy will be implemented slowly over time. When transverse markings are converted to continental markings, the side stripes may remain, since removal is costly, but the side stripes should not be maintained.

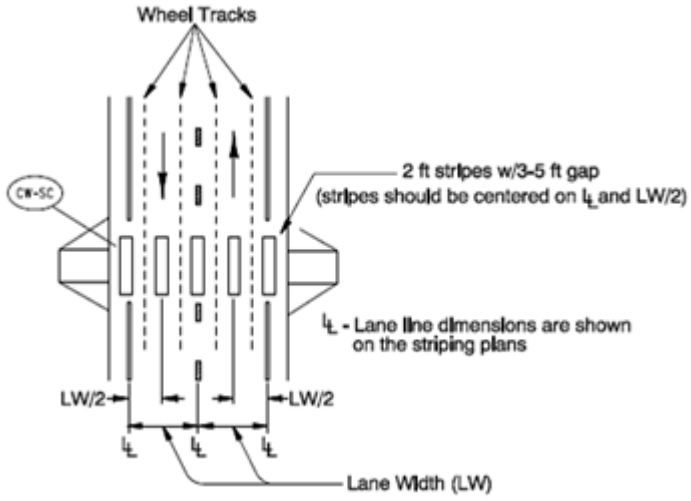
FIGURE I: Crosswalk Marking Patterns



Continental **Transverse** **Ladder**

Continental stripes should be two feet wide and should be painted parallel to the curb. The minimum spacing between continental stripes is two feet, although this spacing may be consistent or staggered. Staggered continental stripes may be used to avoid wheel paths as shown in Figure II on page 14. Because of their potential to reduce long-term maintenance, staggered continental stripes are the preferred continental marking pattern and should be used at new installations and after roadway repaving. For staggered continental details, see Striping Drawing STR 7821.

FIGURE II: Staggered Continental Crosswalk Layout



SCHOOL AREA CROSSWALKS

Crosswalks marked in locations directly adjoining Kindergarten through 12th grade schools in California are considered school area crosswalks and must be marked in yellow. When one crosswalk is marked in yellow, all crosswalks at the same intersection must be marked in yellow. CVC Section 21368 regulates which crosswalk locations not directly adjoining schools can be considered school area crosswalks to be marked in yellow. Yellow school area crosswalks at uncontrolled approaches must be accompanied by SLOW SCHOOL XING pavement markings in each approaching lane and appropriate signage. Refer to Chapter 7 of the CA MUTCD and CVC Section 21368 for additional guidance.

ADVANCE STOP AND YIELD LINES

Advance stop and yield lines can be a tool for improving pedestrian safety on streets with multiple threat scenarios.[7] Advance yield lines are not typically used for single lane approaches unless justified by unique conditions. Guidelines for advance stop and yield lines can be found under Section 3B.16 of the CA MUTCD, which allows for their use from 4 to 50 feet in advance of crosswalks, depending upon location-specific variables.

Advance stop lines are solid white lines typically 2 feet wide, extending across all approach lanes to indicate where vehicles must stop in compliance with a crosswalk, stop sign or traffic signal (per the requirements of CVC Section 377). White lane lines between an advance stop line and a crosswalk should be removed or not repainted. Advance stop lines may be placed in advance of a stop- or traffic signal-controlled marked crosswalk location to mitigate poor crosswalk visibility, poor driver compliance, and non-standard geometrics.

[7] A multiple threat scenario exists when one vehicle stops for a pedestrian in a marked crosswalk, but a vehicle in the neighboring lane continues to proceed through. The pedestrian often will not be able to see the approaching vehicle in time to avoid being hit, and likewise the motorist can't see the pedestrian.

Advance yield lines consist of a single row of white triangles, extending across all approach lanes to indicate where vehicles must yield in advance of an uncontrolled marked crosswalk location. Advance yield lines used at uncontrolled multi-lane crosswalks shall be used in conjunction with the R1-5 series or "Yield Here to Pedestrians" sign and located 20 to 50 feet in advance of the crosswalk adjacent to the advance yield line (preferably 25 feet). Where R1-5 series signs are added, any existing R1-6 signs should be removed and no new R1-6 signs added. White lane lines between the advance yield lines and the crosswalk should be removed or not repainted. Parking should be prohibited in the area between the advance yield line and the crosswalk. See the CA MUTCD Sections 2B.08 – 2B.11 and 3B.16 for a discussion of yield lines and associated signage.

DECORATIVE CROSSWALK PAVING

Decorative paving treatments, including colored and/or textured concrete, asphalt or pavers, Street Print, Duratherm, or other similar treatments should not be considered a safety or traffic control measure. Decorative crosswalk treatments are not a substitute for, and should not detract from, transverse or continental crosswalk markings. Furthermore, decorative treatments between transverse crosswalk markings are not a substitute for continental markings, which should be used for any new or upgraded marked crosswalks.

For both continental and transverse crosswalks, the decorative markings must contrast with the visibility of the crosswalk markings and must be devoid of retroreflective properties. The FHWA Memorandum "MUTCD - Official Ruling 3(09)-24(I) – Application of Colored Pavement" dated August 15, 2013 provides the following clarification on acceptable decorative treatment at marked crosswalks:

> *"Examples of acceptable treatments include brick lattice patterns, paving bricks, paving stones, setts, cobbles, or other resources designed to simulate such paving. Acceptable colors for these materials would be red, rust, brown, burgundy, clay, tan or similar earth tone equivalents. All elements of pattern and color for these treatments are to be uniform, consistent, repetitive, and expected so as not to be a source of distraction. No element of the aesthetic interior treatment is to be random or unsystematic. No element of the aesthetic interior treatment can implement pictographs, symbols, multiple color arrangements, etc., or can otherwise attempt to communicate with any roadway user."*

When used, decorative crosswalk paving treatments should consist of durable, skid-resistant materials that do not cause discomfort to those who use wheelchairs and other assistive mobility devices. When decorative crosswalk treatments supplement continental crosswalks, the underlying pavement material should be asphalt or another similar material that thermoplastic crosswalk markings adhere well to. All decorative crosswalk markings will be reviewed on a case-by-case basis. See also Chapter 3G of the California MUTCD for further guidance on the use of colored paving materials at crosswalks. The SFMTA will maintain crosswalk markings and other traffic control devices but assumes no responsibility for maintaining decorative crosswalks.

REFERENCES

State of California, Department of Transportation, Division of Traffic Operations; 2010; *California Manual on Uniform Traffic Control Devices*. CADOT. http://www.dot.ca.gov/hq/traffops/signtech/mutcdsupp/ca_mutcd2010.htm

US Department of Transportation, Federal Highway Administration. 2009*. 2009 Manual on Uniform Control Devices*, FHWA http://mutcd.fhwa.dot.gov/kno_2009.htm

Ron Van Houton, 2000. *Advance Yield Markings Reduce Vehicle/Pedestrian Conflicts at Multilane Crosswalks with an Uncontrolled Approach*. Mount Saint Vincent University, Center for Education and Research in Safety, Halifax. http://www.cers-safety.com/images/advanceyieldmarkings.pdf

Charles Zegeer, J. Richard Stewart et al. 2005; *Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Locations*; FHWA. http://www.fhwa.dot.gov/publications/research/safety/04100/index.cfm

Pedestrian Facilities Users Guide — *Providing Safety and Mobility (Appendix C, Recommended Guidelines for Crosswalk Installation)*, FHWA 2002 http://katana.hsrc.unc.edu/cms/downloads/PedFacility_UserGuide2002.pdf

City of Boulder Transportation Division, 2006. *Pedestrian Crossing Treatment Installation Guidelines.* Prepared by Fox Higgins Transportation Group. http://www.bouldercolorado.gov/files/Transportation/Projects/Pedestrian%20Crossing%20Treatment/pctig_jan2006_final.pdf

City of Sacramento, Public Works Department, Traffic Engineering Division. 2003. *Pedestrian Safety Guidelines.* Prepared by Fehr and Peers. http://www.cityofsacramento.org/transportation/dot_media/engineer_media/pdf/PedSafety.pdf

City of San Leandro, 2004. *Bicycle and Pedestrian Master Plan.* Prepared by Fehr and Peers. http://www.sanleandro.org/civica/filebank/blobdload.asp?BlobID=3635

City of Stockton, Public Works Department, Engineering Division. 2003. *Pedestrian Safety and Crosswalk Guidelines.* Prepared by Fehr and Peers. http://www.stocktongov.com/publicworks/publications/pedguidelines.pdf

Virginia Department of Transportation, Traffic Engineering Division, 2005. *Guidelines for the Installation of Marked Crosswalks.* http://www.virginiadot.org/business/resources/Marked_20Crosswalks_20Final_20Guidelines_2012-14-05.pdf

City of Palo Alto, 2000. *Warrants for Marked Crosswalk at Uncontrolled Intersections* and *Mid-block Crosswalk Guidelines.* http://www.cityofpaloalto.org/depts/pln/transportation/traffic_operations/default.asp

San Francisco Municipal Transportation Agency, 2008. *SFMTA High Visibility Crosswalk TETAP Study*. Prepared by Fehr & Peers. http://www.westernite.org/annualmeetings/sanfran10/Papers/Session%207_Papers/ITE%20Paper_7C-Feldman_Manzi.pdf

TCRP Report 112/NCHRP Report 562, 2006. *Improving Pedestrian Safety at Unsignalized Crossings.*

APPENDIX

Recommendations for installing marked crosswalks and other needed pedestrian improvements at uncontrolled locations*

Source: ***Safety Effects of Marked vs. Unmarked Crosswalks at Uncontrolled Crossing Locations*****, FHWA, 2005.**

Roadway Type (Number of Travel Lanes and Median Type)	Vehicle ADT < 9,000			Vehicle ADT > 9000 - 12,000			Vehicle ADT < 12,000 - 15,000			Vehicle ADT > 15,000		
	Speed Limit**											
	<30 mph	35 mph	40 mph	<30 mph	35 mph	40 mph	<30 mph	35 mph	40 mph	<30 mph	35 mph	40 mph
2-Lanes	C	C	P	C	C	P	C	C	N	C	P	N
3-Lanes	C	C	P	C	P	P	P	P	N	P	N	N
Multi-Lane (4 or More Lanes) With Raised Median***	C	C	P	C	P	N	P	P	N	N	N	N
Multi-Lane (4 or More Lanes) Without Raised Median	C	P	N	P	P	N	N	N	N	N	N	N

C: *Candidate sites for marked crosswalks*. Marked crosswalks must be installed carefully and selectively. Before installing new marked crosswalks, an engineering study is needed to show whether the location is suitable for a marked crosswalk. For an engineering study, a site review may be sufficient at some locations, while a more in-depth study of pedestrian volumes, vehicle speeds, sight distance, vehicle mix, etc. may be needed at other sites. It is recommended that a minimum of 20 pedestrian crossings per peak hour (or 15 or more elderly and/or child pedestrians) exist at a location before placing a high priority on the installation of a marked crosswalk alone.

P: *Possible increase in pedestrian crash* risk may occur if crosswalks are added without other pedestrian facility enhancements. These locations should be closely monitored and enhanced with other pedestrian crossing improvements, if necessary, before adding a marked crosswalk.

N: *Marked crosswalks alone are not recommended*, since pedestrian crash risk may be increased with marked crosswalks. Consider using other treatments, such as traffic signals with pedestrian signals to improve crossing safety for pedestrians.

***** These guidelines include intersection and midblock locations with no traffic signals or stop sign on the approach to the crossing. **They do not apply to school crossings.** A two-way center turn lane is not considered a median. Crosswalks should not be installed at locations which could present an increased safety risk to pedestrians, such as where there is poor sight distance, complex or confusing designs, substantial volumes of heavy trucks, or other dangers, without first providing adequate design features and/or traffic control devices. Adding crosswalks alone will not make crossings safer, nor necessarily result in more vehicles stopping for pedestrians. Whether marked crosswalks are installed, it is important to consider other pedestrian facility enhancements, as needed, to improve the safety of the crossing (e.g., raised median, traffic signal, roadway narrowing, enhanced overhead lighting, traffic calming measures, curb extensions). These are general recommendations; good engineering judgment should be used in individual cases for deciding where to install crosswalks.

****** Where speed limit exceeds 40 mph, marked crosswalks alone should not be used at unsignalized locations.

******* The raised median or crossing island must be at least 4 ft wide and 6 ft long to adequately serve as a refuge area for pedestrians in accordance with MUTCD and AASHTO guidelines. 6 feet is preferable and consistent with the U.S. Access Board's Proposed Right of Way Accessibility Guidelines.

SFMTA
Municipal
Transportation
Agency

MEMORANDUM

TO: Sustainable Streets Division Staff

FROM: Ricardo Olea
City Traffic Engineer

DATE: April 11, 2017

SUBJECT: SFMTA Sidewalk Bulb Width Guide

This memo summarizes SFMTA guidelines for the maximum width of sidewalk extensions when building standard pedestrian or bus bulbs on streets with on-street parking.

Background

At times projects may recommend the narrowing of the roadway at mid-block or intersection locations to improve safety, pedestrian conditions, or transit operations. There are two different ways to approach the question of how wide sidewalk extensions should be designed.

The first approach is to make the sidewalk extension as wide as adjacent travel lanes allow. The arguments for this approach is that:

- Sidewalk pedestrian space is maximized
- Roadway width is narrowed and turning radiuses are sharpened, which can have a traffic calming effect
- Pedestrian crossing distances at crosswalks are minimized
- Pedestrian visibility at crossings is increased

The *San Francisco Better Streets Plan* Chapter 5 argues for having more expansive sidewalk bulbs:

> "Bulb-out width should be maximized based on space for adjacent vehicle and bicycle travel lanes. The bulb-out should extend to the full width of the parking lane or leave:
>
> - 10 feet for the nearest auto travel lane;
> - 11 to 12 feet for the nearest travel lane if it is a transit lane;
> - 12 feet for the nearest travel lane if it is a designated freight route or industrial street; and
> - 5 feet or the full width of any adjacent bicycle lanes."

The second approach is to use the parking lane to limit how far the sidewalk is extended, regardless of adjacent street lane widths. While recognizing the advantages of increased sidewalk space, this approach acknowledges the sidewalk extension to be a potential concern if taken too far into the roadway. The arguments for this approach is that:

- Likelihood that the sidewalk extension will be hit by vehicles is minimized
- Sets back standing pedestrians from edge of travel lane
- Provides additional roadway space for bicyclists
- Increases turning radiuses for trucks and emergency vehicles
- Provides additional work space for when there is maintenance, repair and construction on the street

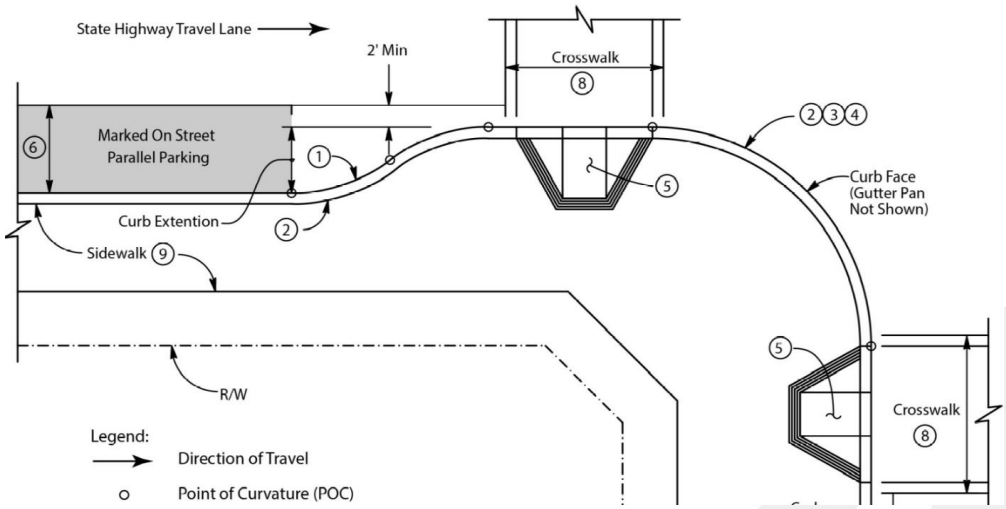
Recent state and national guidelines have been released recommending that sidewalk extensions be set back from the edge of the parking lane. The National Association of Transportation Officials (NACTO) *Urban Street Design Guide* states that "A curb extension should generally be 1–2 feet narrower than the parking lane, except where the parking lane is treated with materials that integrate it into the structure of the sidewalk."

The Caltrans *Highway Design Manual* (*HDM*) Section 303.4 also recommends a setback for sidewalk extensions: "The curb face of the bulbout should be setback a minimum of 2 feet as shown in Figures 303.4A and B." As with the *Better Streets Plan*, both the *Urban Street Design Guide* and the *HDM* are recommended practices and not required standards.

Currently many short sidewalk extensions at corner crosswalks are designed at 6 feet width, a width that SFMTA believes achieves the majority of the safety benefits of sidewalk extensions while minimizing some of the design concerns of narrowing the adjacent travel lane space.

Figure 303.4B

Typical Bulbout without Class II Bikeway (Bike Lane)



Parking Lane

One of the design considerations with sidewalk extensions is that at times they should avoid extending into travel lanes. Unfortunately what constitutes a "parking lane" varies depending on whether one considers a certain buffer area to be included or not in that width. An eight foot parking lane is now the minimum required parking space to be provided next to a bicycle lane or for accessible parking per federal guidelines. Parallel

parking stall “T” markings are painted at 7 feet from the curb in San Francisco, leaving a one foot buffer if 8 feet is used as the parking lane definition. The actual space taken up by standard parked vehicles, however, varies between 6 to 7 feet, with larger trucks and vehicles at times taking up the full 8 foot space. For the purposes of this memo, a parking space will be defined as 7 feet in width.

Recommendations

Standard corner or midblock sidewalk bulbs with parallel parking should be no wider than 6 (six) feet. The width assumes a setback of one foot from a 7 foot wide parking space.

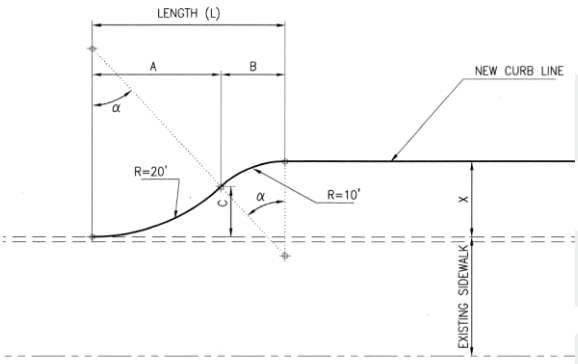
There are situations where a bulb-out wider than 6 feet may be considered. The following guidelines should be used in determining sidewalk bulb width:

- Sidewalk extensions where angled parking is permitted can be widened in excess of 6 feet but using the same setback from edge of parking approach described above. Transitions between parallel and angle parking should be designed to avoid abrupt lateral transitions that could lead vehicles to hit the sidewalk curb.
- Wider roadways (such as a rightmost lane wider than 14 feet to the edge of the parking lane) where vehicles are unlikely to be travelling close to the parking lane due to presence of a wide auto or bicycle lane can have bulbs wider than 6 feet.
- Bus bulbs should be designed so that a stopped bus either blocks a travel lane or allows a full lane for safe passing. A bus bulb that leaves a narrow motor vehicle passing space can increase sideswipe potential at the bus zone.
- Sidewalk extensions to serve rail vehicles should be carefully designed to meet the needs of boarding and alighting passengers.
- Low speed, STOP sign controlled, or low volume applications where traffic calming or additional sidewalk space may be safely achieved with a wider bulb-out while still preserving emergency and large vehicle access.
- If a bulb is part of an interim plan to ultimately widen the sidewalk wider than six feet, consideration should be given to making the bulb match the future sidewalk width, provided the interim roadway alignment remains safe.

Engineering measures such as edge lines can be implemented for situations were a bulb wider than six feet is recommended adjacent to active traffic or bicycle lanes.

Other Design Considerations (*Better Streets Plan* Chapter 5.3)

- Standard bulb-outs should be designed with an inner/outer curb radius of 20’ and 10’ to enable street sweeping machinery to sweep the entire curbline.
- Since bulb-outs are often expensive to construct, they should be sufficiently wide to maximize their benefit. Bulb-outs less than 4 feet in width may not be a cost-effective solution as compared to other potential interventions.



- Bulb-outs should continue at least to the inside edge of the crosswalk, and ideally extend 5 feet beyond the property line before beginning to return to the curb to provide additional width for pedestrians, landscaping, or other streetscape features.

For additional discussion see:
http://www.sfbetterstreets.org/find-project-types/pedestrian-safety-and-traffic-calming/traffic-calming-overview/curb-extensions/

For longer multiple-space sidewalk bulb outs consider whether the addition of curb ramps at the end of the bulb farthest from the crosswalk would be relevant for the provision of on-street blue zones or accessible passenger loading zones.

Approvals

Sidewalk bulbs should be reviewed by the Transportation Advisory Staff Committee (TASC) in a presentation package signed off by a licensed engineer (typically an SFMTA section manager, project engineer, or both). Truck, fire engine and bus turning templates should be applied to proposed bulbs per latest SFMTA guidelines. Muni staff must be consulted on any bulbs affecting revenue or non-revenue trolley (overhead) or train turns.

Guidelines for Accessible Building Blocks for Bicycle Facilities

SFMTA
Municipal Transportation Agency

Mayor's Office on Disability

SAN FRANCISCO PLANNING DEPARTMENT

Table of Contents

Introduction

The City of San Francisco's Municipal Transportation Agency (SFMTA), Mayor's Office on Disability (MOD), Department of Public Works, and Planning Department have jointly developed the following guidelines for the design and construction of separated bicycle facilities in the City of San Francisco. Specifically, these guidelines address accessibility for seniors and people with disabilities along streets with separated bicycle facilities. The guidelines are part of the City's effort to make the public realm accessible to and usable by individuals with disabilities.

Separated bikeways are a key component of the SFMTA's strategy to improve safety and connectivity for people traveling by bicycle. When designed appropriately, separated bikeways provide direct and indirect accessibility benefits to city streets by increasing the predictability and visibility of all users, decreasing conflicts between modes of travel, and lowering traffic speeds, risk of crashes, and injuries[1,2,3].

The guidelines in this document are necessary because neither the California Building Code, nor the 2010 ADA Standards for Accessible Design Guidelines (2010 ADAS) currently contain accessible design criteria for bicycle facilities. Regardless, Title II of the Americans with Disabilities Act (ADA) requires the City and County of San Francisco and the SFMTA to provide programatic access to all facilities and programs, including new bicycle facilities.

To develop these guidelines, the City relied on the overarching principle of equal access and looked to code provisions that most closely apply. The Department of Justice's Technical Assistance Manual provides guidance for instances in which the 2010 ADAS do not contain specific standards for a particular type of facility:

> *...the ADAS standards should be applied to the extent possible. Where appropriate technical standards exist, they should be applied. If there are no applicable scoping requirements (i.e., how many features must be accessible), then a reasonable number, but at least one, must be accessible.*

To the best of our knowledge, these guidelines are the first of their kind. Because of this, it is important that they take the form of a living document that will evolve as lessons are learned through implementation, as new technologies and strategies emerge, and as we receive feedback from internal and external stakeholders.

1. Reynolds, Harris, Teschke, et al., "The impact of transportation infrastructure on bicycling injuries and crashes: A review of the literature". Environmental Health 8:47 (October 2009).
2. NYC Department of Transportation (January 22, 2012) Prospect Park West Bicycle Path and Traffic Calming, Presented at TRB Workshop on the NACTO Urban Bikeway Design Guide, http://www.nyc.gov/html/dot/downloads/pdf/2012_ppw_trb2012.pdf.
3. Alta Planning and Design (2009), Cycle Tracks: Lessons Learned.

Applicable Standards and Definitions

The City relied upon the following documents to provide direction with regard to existing standards and guidelines: The San Francisco Better Streets Plan, California Building Code, the Code of Federal Regulations Titles 49 and 36 (including the 2010 ADAs), the National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide, the Manual on Uniform Traffic Control Devices (MUCTD), the American Association of State Highway Officials (AASHTO), the Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG), the California Vehicle Code, the Caltrans Highway Design Manual, and the Department of Public Works Director's Orders.

For links to applicable standards see Appendix A, for a glossary of terms (**in bold**) used throughout this document, please see Appendix B; and for a list of curent criteria for designated accessible parking spaces, see Appendix C.

Guiding Principles

The City of San Francisco is rich in varied topography, unique neighborhoods, a diverse population, and a variety of transportation modes and technologies that traverse City streets. The resulting heterogeneity among City streets sometimes calls for unique and innovative solutions to create a better public realm that is accessible for all. Improving accessibility and bicycling conditions in San Francisco is no exception to the need for a context-sensitive approach. When responding to unique circumstances, and in pioneering new bicycle facilities and street designs that are accessible to people with disabilities, the City of San Francisco will keep to the following guiding principles:

1. Bicycle riders and pedestrians, including those who have mobility, sensory, or cognitive disabilities, can co-exist on the streets of San Francisco when the appropriate safety features are included in project designs to provide predictability and distinguish areas intended for the two modes of travel. Such safety features include, but are not limited to, pedestrian crosswalks, **accessible pedestrian signals**, traffic islands or refuges, curbs, designated **bike lanes**, and effective messaging such as signs and **pavement markings**.

2. The City of San Francisco has a Transit First Policy to encourage multi-modalism, including the use of transit and other transportation choices, such as bicycling and walking, rather than the continued use of the single-occupant vehicle. However, some people with disabilities rely on personal automobiles, paratransit vans and taxis for closer access to their origins and destinations. As the City of San Francisco makes improvements to the safety and convenience of walking and cycling, it is important to always consider access for people with disabilities, which may entail the use of other modes of transportation, such as transit, paratransit, and private automobiles.

3. If vehicle parking, passenger loading zones, and commercial loading zones are provided on a City street alongside a bicycle facility, then unobstructed access to accessible parking spaces (blue zones), and passenger loading zones (white zones) shall be maintained.

4. Bicycle facilities should be designed so that paratransit vans and taxis can safely discharge and pick up passengers with mobility disabilities on to the sidewalk near building entrances, even if the bikeway is temporarily blocked in order to do so.

5. When there is a significant reduction in parking spaces to create a new bicycle facility, then any design process must include an analysis of the surrounding blocks in order to ensure that the project meets the required saturation and distribution of accessible parking spaces (blue zones) in metered parking areas according to the Architectural and Transportation Barriers Compliance Board in the Proposed Accessibility Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG). In addition, any blue zones removed to create a new bicycle facility must be replaced.

General Design Considerations

Sidewalk Zones

The Better Streets Plan divides the sidewalk into five zones: frontage zone, **throughway zone**, **furnishings zone**, edge zone, and extension zone[4].

Image 1: Five Sidewalk Zones

Streetscape Elements

Bus shelters and street furniture elements, including bike racks and bike share stations, shall be located within the furnishings zone where possible, and should not block or reduce the clear path of travel in the pedestrian throughway zone or at bus stops[5].

Bicycle Facilities on One-Way Streets

When bicycle facilities are planned on one-way streets, the City of San Francisco should strongly consider placing the bikeway on the left side of the street in order to reduce conflicts with transit stops, accessible loading zones, and paratransit service boarding and alighting. However, other factors such as safety issues, trip generators, and bike route network connectivity may warrant right- side bicycle lanes[6].

Accessible Parking in Projects with Dedicated Bicycle Facilities

When on-street vehicle parking is removed in order to install a bicycle facility, the design process should include an analysis of metered parking in blocks abutting the project area (see Image 2) to meet the accessible parking ratios recommended by PROWAG Table R214 (see Table 1).

If the project parking analysis finds that accessible parking is warranted in the area in order to meet the guidelines proposed by PROWAG, the SFMTA will make all efforts to accommodate these blue zone parking areas in a **block face** adjacent to that affected by the project (see

4. San Francisco Better Streets Plan, 4.2
5. San Francisco Better Streets Plan, 4.2,5.5
6. For guidance on when a left-side bike lane is appropriate, and design guidance, see NACTO Urban Bikeway Design Guide: http://nacto.org/cities-for-cycling/design-guide/bike-lanes/left-side-bike-lanes/

Table R214 On-Street Parking Spaces

Total Number of Marked or Metered Parking Spaces on the Block Perimeter	Minimum Required Number of Accessible Parking Spaces
1 to 25	1
26 to 50	2
51 to 75	3
76 to 100	4
101 to 150	5
151 to 200	6
201 and over	4 percent of total

Table 1: PROWAG Table R214, showing the minimum required number of accessible parking spaces in metered parking areas.

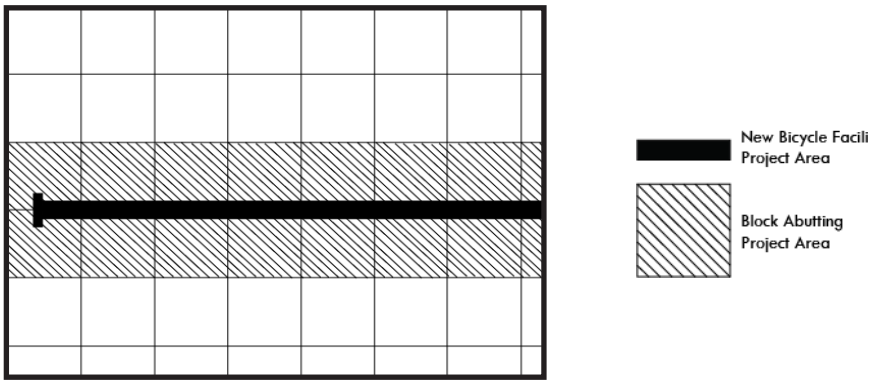


Image 2: In this diagram, each square represents a block.

Image 3 for guidance). If **trip generators important to the accessibility community** that do not provide off-street accessible parking are present on the project block face, then accessible parking spaces on the project block face may be warranted. The preferred location for this blue zone is along an adjacent block face within 300 ft. of the accessible entrance for the trip generator; however, if this is not possible, providing a blue zone along the project block face is acceptable if a parking lane exists. Accessible parking spaces along bicycle facilities may be accommodated according to guidelines set forth in this document.

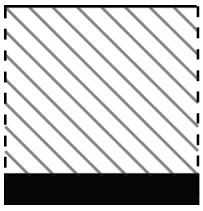


Image 3: The square in this image represents one block. The block face affected by the project is shown here in the thick black stripe; the adjacent block faces are shown with a dotted line

If, due to physical constraints, not enough parking spaces meet blue zone criteria (see Appendix C) at the block level, project sponsors should provide enough accessible parking so that the corridor cumulatively has 4% of metered spaces designated as accessible parking.

When planning new bicycle projects, care should be taken to avoid undoing measures from previous projects. For example, Image 4 shows the intersection of two projects, Project A and Project B. This image illustrates the overlap in block faces abutting the project areas. Thus, if project A establishes accessible parking spaces in response to project impacts, Project B's project management team should take care not to undo these provisions in the implementation of Project B.

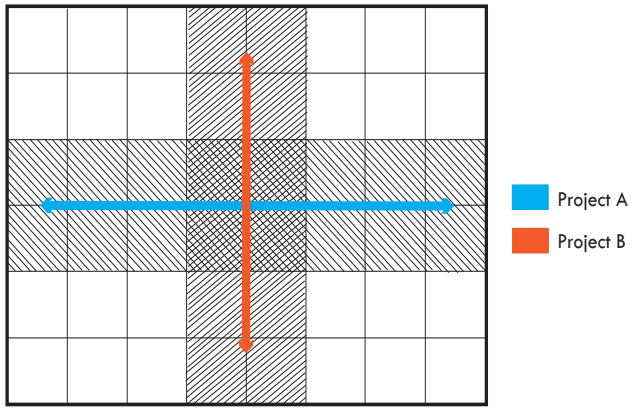


Image 4: Overlap in blocks abutting project areas

Crosswalk and Pavement Markings

When a new bicycle facility is provided or upgraded, the SFMTA will perform paint maintenance on any existing marked crosswalks or existing bicycle facility markings that the new bicycle facility crosses or intersects. This includes providing **continental striping** on any marked crosswalks crossed by the bicycle facility. As a general note, per ADA Standards, any new painted crosswalks, where no crosswalk was painted before, must have curb ramps on both sides of the crosswalk[7].

Guidelines for Buffers, Barriers, and Platforms

Table 2 below summarizes the widths for various buffers discussed in this section. Raised buffer width minimum excludes curb width[8]. However, if the raised buffer is constructed in a way that results in a uniform flat surface, then the entire width of the buffer may be counted toward minimums. Raised buffers will have a maximum cross slope of two percent (2%)[9].

The recommended width for **raised buffers** at the sidewalk level adjacent to parked vehicles is five feet (5'); the minimum width is four feet (4'). Adjacent to items such as poles, electrical boxes etc., the path of travel can be reduced to as narrow as three feet (3') for no more than twenty-four continuous inches (24").

Table of Separated Bikeway Dimensions

Description	Recommended Width (ft.)	Minimum Width (ft.)
Separated Bikeway*	8	5
Painted buffer adjacent to parking**	5	4
Raised buffer adjacent to parking***	5	4
Buffer adjacent to white zone or blue zone	5	5
Buffer adjacent to van accessible blue zone	8	8
Bus platform adjacent to a bikeway	8	8

* Minimum should only be applied at pinch points

** Although four feet (4') is the preferred minimum, in exceptional cases, such as when the buffer area, bikeway, and parking lane add up to less than eighteen feet (18') and parking turnover is low, a painted buffer may be as narrow as three feet (3') with approval by SFMTA Accessible Services.

*** Raised buffer minimum width is exclusive of the width of the curb (typically 6" on each side). Thus, the net width of the minimum buffer is five feet (5').

Table 2: Dimensions for elements of separated bikeways

7. 28 CFR 35.151(i)(1) and 35.151(i)(2)
8. PROWAG R302.3
9. 2002 ADA Guidelines 4.3.7

Accessible parking may still be integrated along the raised buffer. Where accessible parking spaces are provided, the raised buffer shall be a minimum of five feet (5') wide and located on the passenger side (see Image 5). Where van accessible blue zones are provided, the raised buffer shall be a minimum of eight feet (8') wide.

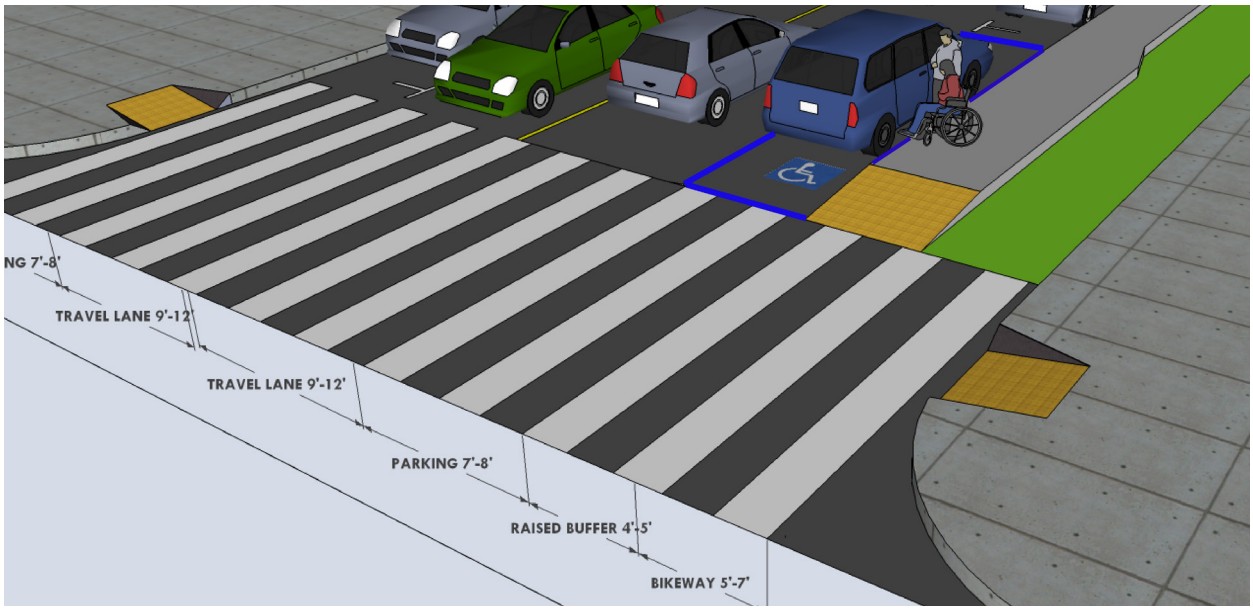


Image 5: shows an accessible blue space along a raised buffer.

Raised buffers at the sidewalk level adjacent to parked vehicles shall have at least one curb ramp or at-grade accessible crossing to provide access from the buffer to a marked crosswalk. When the raised buffer extends the length of the block or to a second marked crosswalk, then additional curb ramps or at-grade accessible crossings are required. Where raised buffers are adjacent to parking or loading zones, they shall not include planting or course paving materials.

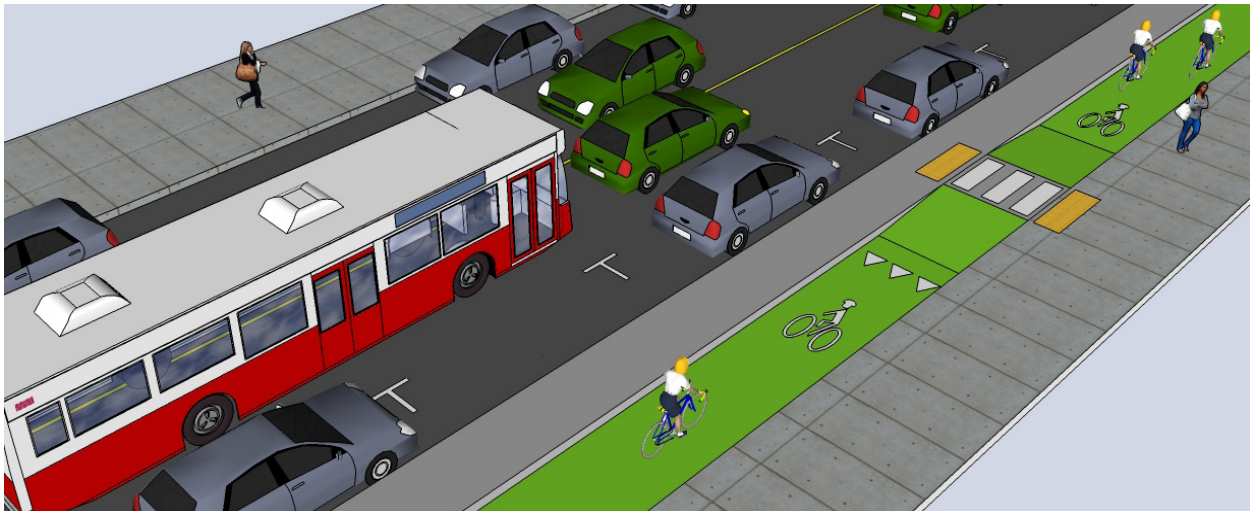


Image 6: Potential pavement markings to alert pedestrians and cyclists to each other's presence.

When parking is allowed adjacent to a raised buffer, curb ramps and crosswalks or at-grade accessible crossings should be provided to access an adjacent sidewalk roughly every 600 feet so that people must travel no more than roughly 300 feet to reach a crosswalk from the raised buffer. Designers should take factors such as grade, parking turnover, buffer width, and location of designated accessible parking when determining where to place mid-block crossings

connecting raised buffers to the sidewalk. Mid-block pedestrian crossings through bikeway will be marked with reminders for people crossing on foot to look in the direction of bicycle traffic and reminders for cyclists to yield to pedestrians (see Image 6).

Raised islands/transit platforms adjacent to bus stops shall be a minimum of eight feet (8') wide to allow the deployment of a bus lift or ramp[10].

Transit shelters on raised bus islands/platforms must maintain a clear path of travel to and from the shelter that is at least four feet (4') wide[11] (see Image 7).

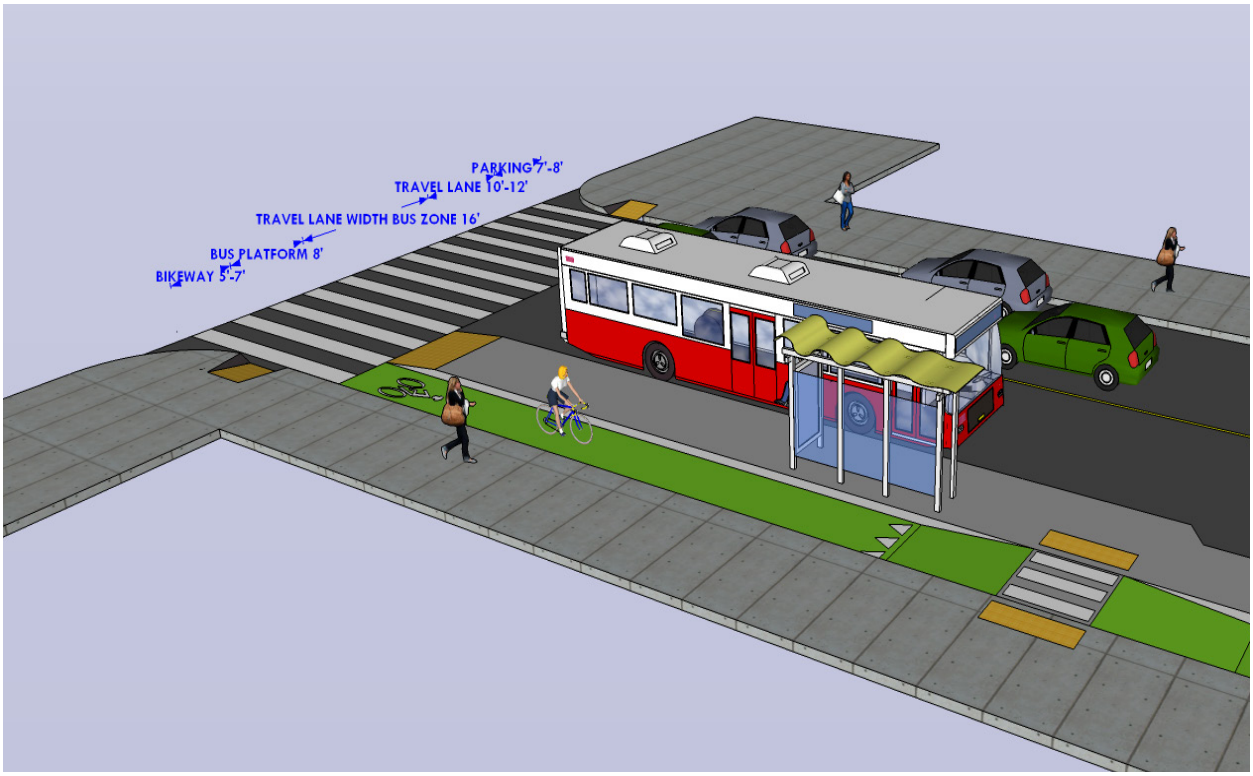


Image 7: shows a raised transit platform with a curb ramp that leads to a crosswalk.

Raised islands/transit platforms must always have at least one curb ramp leading to a crosswalk or an at-grade accessible connection to the sidewalk. When the raised island/transit platform extends to a second crosswalk, then additional curb ramps are required at each crosswalk. In general, multiple accessible routes should be considered for long transit platforms.

Bikeway designers should use the SFMTA's Accessible Pedestrian Signals (APS) Safety and Access Tool to conduct an evaluation to determine the appropriateness of APS whenever they make traffic signal modifications such as adding pedestrian countdown signals, bicycle signals, or separate turn phases.

Parking-Separated Bicycle Lanes with Painted Buffer Zones

When parked vehicles are used as the barrier to protect bicycle lanes, the **painted buffer** zone

10. 2002 ADA Guidelines 10.2.1
11. 2002 ADA Guidelines 10.2.1, Better Streets Plan, 5.5.

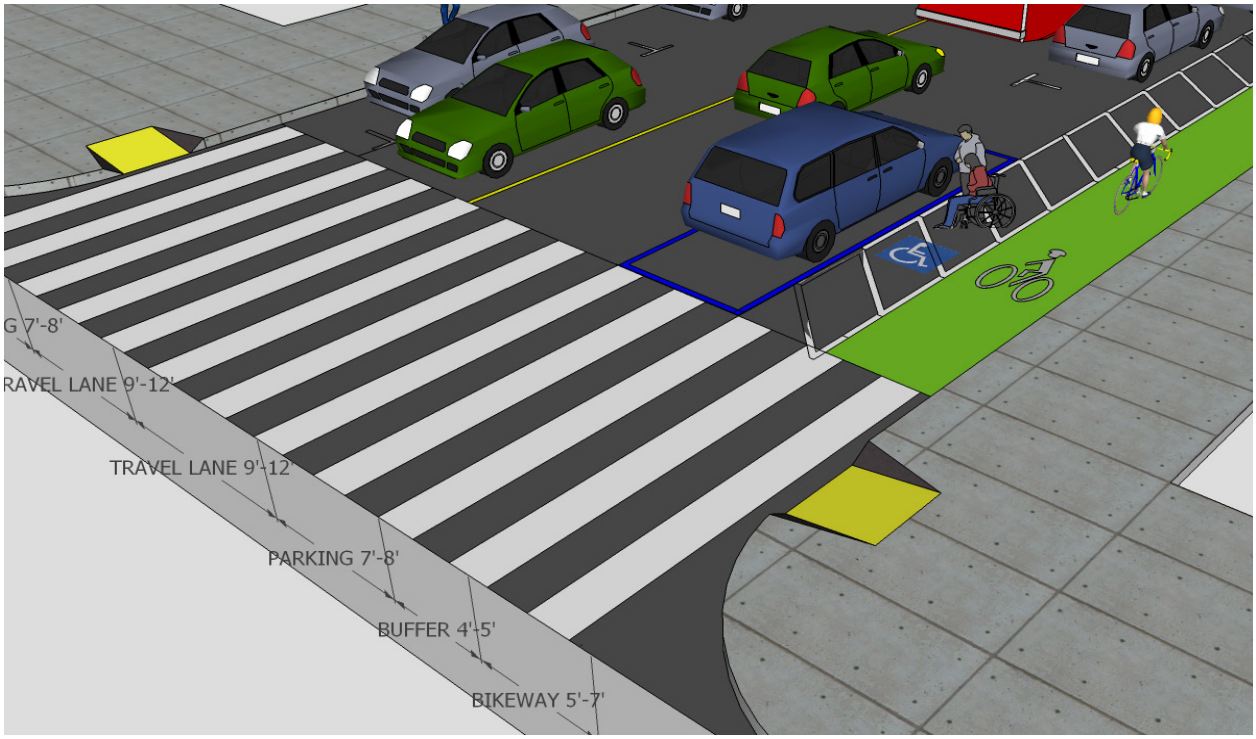


Image 9: Accessible parking along a painted buffer.

shall be clearly marked with cross-hatching[12]. Bikeway designers should consider using signs, pavement messages, and colored pavement treatments to clearly delineate between areas intended for parking, passenger loading, and bicycling. Raised devices such as flexible plastic posts or wheel stops can be used to deter vehicle encroachment into the buffer zone if they do not pose a tripping hazard, obstruct access through the buffer space, or prevent paratransit vehicles from entering the bikeway to pick-up or drop-off customers with mobility disabilities.

When parked vehicles are used as the barrier to separate bicycle lanes from traffic, the painted buffer between the parked vehicles and the bicycle lane is recommended to be four feet (4') wide. Although four feet (4') is the preferred minimum, in exceptional cases, such as when the buffer area, bikeway, and parking lane add up to less than eighteen feet (18') and parking turnover is low, a painted buffer may be as narrow as three feet (3') with approval by SFMTA Accessible Services[13]. Where accessible blue zones are provided along a painted buffer, the loading zone shall be on the passenger side of the vehicle and shall be five feet wide (5') minimum. Where van accessible blue zones are provided along a painted buffer, the loading zone shall be eight feet (8') minimum in width[14].

Raised Cycle Tracks

Raised **cycle tracks** are bicycle facilities that are vertically separated from motor vehicle traffic. San Francisco has not implemented a raised cycle track, but two current projects in the design phase include bikeways set at an intermediate height between the roadway and sidewalk to segregate bicycle traffic from the pedestrian area while aiming to maintain a 4" vertical curb between the bikeway and sidewalk.

12. NACTO Design Guide (http://nacto.org/cities-for-cycling/design-guide/bike-lanes/buffered-bike-lanes/)
13. In compliance with 2010 ADAS Clear Width minimum, 403.5
14. 2002 ADA Guidelines, A4.6.3

Raised cycle tracks may also be at the level of the adjacent sidewalk or raised parking buffer, but the design should include visual and tactile cues to clearly delineate between areas intended for bicycle and pedestrian travel.

When placed adjacent to a travel lane, raised cycle tracks should have a mountable curb to allow bicyclists to enter and leave the bikeway to pass other bicyclists or avoid obstructions. The raised cycle track should also be designed to allow taxi and paratransit vehicles to access the curb at all building entrances.

Appendix A: Applicable Standards

2010 Americans with Disabilities Act (ADA) Standards for Accessible Design
http://www.ada.gov/2010ADAstandards_index.htm

ADA Accessibility Guidelines
http://www.access-board.gov/guidelines-and-standards/buildings-and-sites/about-the-ada-standards/background/adaag

The American Association of State Highway Officials (AASHTO)
http://www.transportation.org

Architectural and Transportation Barriers Compliance Board's Architectural Barriers Act Accessibility Guidelines
https://www.federalregister.gov/agencies/architectural-and-transportation-barriers-compliance-board

California Building Code
http://www.bsc.ca.gov/

California Vehicle Code (2013)
http://www.dmv.ca.gov/pubs/vctop/vc/vc.htm

Caltrans Highway Design Manual (2012)
http://www.dot.ca.gov/hq/oppd/hdm/pdf/english/HDM_Complete_06-21-13.pdf

Code of Federal Regulations, Title 49- Transportation , Parts 27 and 37; and Title 36- Parks, Forests, and Public Property
http://www.ecfr.gov/cgi-bin/ECFR?page=browse

National Association of City Transportation Officials (NACTO) Urban Bikeway Design Guide
http://nacto.org/cities-for-cycling/design-guide/

Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG)
http://www.access-board.gov/guidelines-and-standards/streets-sidewalks/public-rights-of-way/

San Francisco Better Streets Plan
http://www.sf-planning.org/ftp/BetterStreets/index.htm

The Manual on Uniform Traffic Control Devices (MUCTD) (2009)
http://mutcd.fhwa.dot.gov/pdfs/2009r1r2/pdf_index.htm

Appendix B: Definitions

Accessible Pedestrian Signal: Accessible pedestrian signals are devices that communicate information about the WALK and DON'T WALK intervals at signalized intersections in non-visual formats to pedestrians who are blind or who have low vision.

Bikeway: A facility that is provided primarily for bicycle travel

Bike Lane: A Class II Bikeway, which provides a striped lane for one-way bike travel on a street or highway.

Block Face: One side of a street between two consecutive intersections, such as one side of a city block.

Continental Striping: San Francisco's chosen crosswalk striping style for high-visibility crosswalk locations. The design is created with white longitudinal lines at a 90 degree angle to the line of the crosswalk.

Cycle Track: A bike lane separated from pedestrians, travel and parking lanes by a physical barrier such as on-street parking, a curb, or grade-separation.

Furnishings Sidewalk Zone: T Transportation he portion of the sidewalk used for street trees, landscaping, transit stops, street lights, and site furnishings.

Painted Buffer: A striped area designed to separate a bike lane from a vehicle lane. In general, painted buffers are marked with white, wide, retro-reflective cross-hatching.

Pavement Markings: Lines, symbols, and words painted on a roadway help to direct riders and control traffic flow.

Raised Buffer: A grade-separated buffer between a bicycle lane and vehicle lane.

Separated Bikeway: A bicycle lane physically separated from vehicle lanes by a buffer.

Throughway Sidewalk Zone: The portion of the sidewalk for pedestrian travel along the street

Trip Generators Important to the Disability Community: The following is a list of buildings considered trip-generators important to the disability community, which was taken from the Color Curb Program's Blue Zone Administrative Policy:

1) Government buildings serving the public, such as Federal, State or City and County administration buildings, public employment offices, post offices, public libraries, police stations, etc.

2) Hospitals and convalescent homes with more than a 75-bed capacity.

3) Doctors' offices and other medical facilities staffed by a minimum of five practitioners.

4) Community service facilities, such as senior citizen's service centers, etc.

5) Employment office for major enterprises employing more than 200 persons.

6) Public recreational facilities, such as municipal swimming pools, recreation halls, museums, parks, playgrounds, etc.

7) Public theaters, auditoriums, meeting halls, arenas, or stadiums with more than 300

seating capacity.

8) Other places of assembly, such as public and private schools, vocational training facilities, churches, etc.

9) Other buildings (i.e., office buildings) with an aggregate of more than 20,000 square feet of gross floor space.

Appendix C: SFMTA Blue Zone Criteria

1. For typical blue space layout and dimensions, reference Caltrans Standard Plan A90B.

2. Accessible parking spaces shall be so located that persons with disabilities are not compelled to wheel or walk behind parked vehicles other than their own. (Caltrans Standard Plan A90B)

3. All accessible parking zones should be served by nearby curb ramps and should be located as close to intersections as possible. Diagonal parking zones for disabled persons should comply with all requirements of PROWAG R309.3.

4. The grade of the street on which the blue zone is located must be less than 8.333%.

5. The cross-slope of the street is recommended to be less than two percent (2%). However, exceptions for locating blue zones on a street with cross-slope greater than two percent (2%), but less than four percent (4%), may be made on a case-by-case basis.

6. Blue zones should not be located where egress from a parked vehicle is obstructed by a permanent sidewalk fixture, such as a utility or light pole, a controlled parking sign, a tree, etc.

7. Mid-block and near side blue spaces may be supplemented with red-painted curb behind the space to ensure space for a rear lift/ramp.

8. When no suitable sites for blue zones exist on the right side of one-way streets, blue zones spaces may be located on the left side.

9. A last resource location for blue zones is along tow-away parking lanes. This change is pending policy changes on signage to ensure awareness of strict tow-away enforcement for all vehicles.

Appendix D: Process

In February 2013 Livable Streets and SFMTA Accessible Services hosted a workshop to discuss separated bikeways and accessibility concerns. The following stakeholders were invited to the workshop:

- Troy Barnes, MV Transportation (Paratransit provider)
- Beth Berenson, community stakeholder
- Robin Brasso, Pedestrian Safety Advisory Committee
- jakkee bryson, Multimodal Accessibility Advisory Committee
- Howard Chabner, community stakeholder
- Les Clark, Multimodal Accessibility Advisory Committee
- Jean Green, Multimodal Accessibility Advisory Committee
- Vera Haile, Long Term Care Coordinating Council, Aging & Adult Services Advisory Council
- Heidi Hubrich, SFUSD Developmental Disabilities
- Edna James, Aging and Adult Services Commission
- Wendy James, Mayor's Disability Council
- Marie Jobling, Community Living Campaign
- Miro Kielbus, Multimodal Accessibility Advisory Committee
- Anna Krevets, Bay Med Express (Paratransit provider)
- John Liang, California Council for the Blind
- Jessie Lorenz, Independent Living Resource Center of San Francisco
- John Alex Lowell, Pedestrian Safety Advisory Committee
- Jeanne Lynch, Paratransit Coordinating Council
- Bruce Oka, Former SFMTA Board Member
- Neal Patel, San Francisco Bicycle Coalition
- Bob Planthold, Calwalks and Accessible Parking Working Group
- Pi Ra, Senior Disability Action
- Athan Rebelos, Paratransit Taxi
- Jane Redmond, Paratransit Coordinating Council
- Richard Rothman, Pedestrian Safety Advisory Committee
- Cristina Rubke, SFMTA Board of Directors and Bay Area Outreach and Recreation Program
- Stu Smith, Paratransit Coordinating Council
- Vernon Smith, Multimodal Accessibility Advisory Committee
- Marc Soto, SF Paratransit
- Elizabeth Stampe, Walk San Francisco
- Howard Strassner, Pedestrian Safety Advisory Committee
- Chip Supanich, Mayor's Disability Council
- Frank Welte, Lighthouse for the Blind
- Roland Wong, Mayor's Disability Council

The discussion provided the SFMTA with key community priorities and concerns related to accessibility in street designs with protected bikeways. The following is a summary of takeaways by the SFMTA from this community workshop.

Key community priorities:

- Clear distinction of separate spaces for people on bicycles and pedestrians
- Providing marked spaces for people on bicycles to slow down and allow for pedestrians to cross bicycle lanes
- Pedestrian access to bus stops along bikeways

- Paratransit drop-offs at the curb
- On-street accessible Parking/Blue Zones

Subsequent to this workshop, an inter-agency working group was formed to create a set of guidelines that responded to community priorities for accessibility in protected bikeway designs. The working group met several times over the course of six months to come up with the guiding principles and guidelines set forth in this document. The following is a list of agency staff that took part in shaping the guidelines in this document.

-
- Paul Chasan, SF Planning Department
- Kevin Jensen, SF Department of Public Works
- Carla Johnson, San Francisco Mayor's Office on Disability
- Luis Montoya, SFMTA Livable Streets
- Cristina Olea, SF Department of Public Works
- Sandra Padilla, SFMTA Accessible Services
- Seleta Reynolds, SFMTA Livable Streets
- John Thomas, SF Department of Public Works
- Annette Williams, SFMTA Accessible Services
- The following staff provided policy guidance:
- Bryant Woo, SFMTA Traffic Engineering
- Bridget Smith, SFMTA Livable Streets
- Ricardo Olea, SFMTA Traffic Engineering

A draft of this document was presented to the following commissions and advisory bodies on the dates noted:

- SFMTA Multimodal Accessibility Advisory Committee - Thursday, July 17, 2014
- Mayor's Disability Council (MDC) – Friday, July 28, 2014
- SFMTA Bicycle Advisory Committee (BAC) – Monday, July 28, 2014

Operator Convenience Station Guidelines

These guidelines are for reference only and are subject to change based on site conditions. They are to be used when designing and selecting the location of facilities at transit terminals in or around new developments. When constructing a facility exclusively for Muni staff is not feasible, a restroom use agreement can be a secondary option.

New Construction Standalone Unit

Guidance for standalone units within the public ROW or within the footprint of a new development for the exclusive use of Muni staff.

Location Standards

- Maximum of 150 feet from terminal location
- If terminal serves multiple lines, restroom should be located in the most central location to be within equal distance of each terminal location.
- Direct walking path to terminal and at grade and ADA compliant. Example: Avoid locations going up and down stairs/steep grades or through buildings.
- ADA compliant restroom design
- 24/7 Access

Design Specifications

- 100 square feet footprint
- Single Use All Gender Restrooms
- Separate entrances
- Toilet and Urinal in each
- Electric hand dryers
- Shelf
- Coat Hanger
- Internal motion-censored lighting
- External lighting and well-lit walking path
- ADA compliant restroom design
- Card Entry preferred or Key Entry

New Development Use Agreements

Guidance for use agreements and preferences for shared restroom facilities. Note: For payment agreements, provider must be a city vendor.

Location Standards

- Access hours cover all Operating hours of the route served
- Maximum of 150 feet from terminal location
- If terminal serves multiple lines, restroom should be located in the most central location to be within equal distance of each terminal location.
- Direct walking path to terminal and at grade. Example: Avoid locations going up and down stairs/steep grades or through buildings.

Preferred Conditions

- Single Use All Gender Restrooms
- ADA compliant
- Open Access or Code Entry
- Regularly maintained and stocked by developer

Quantity Standards

To determine the number of units needed at a given terminal.

Frequency	Number of Lines	Combined Frequency	Number of Facilities Needed
20-30 mins	1+	Every 20-30 mins	1 unit **more efficient to locate at one end of the line*
10-20 mins	1	Every 10 mins	1 unit
Under 10 mins	2	Every 4 mins	1 unit
	2-3	Every 3 mins	2 units
	4+ (ex: Transbay Terminal)	Every 2 mins	3 units

SFMTA
Municipal
Transportation
Agency

TO: Staff

THROUGH: Luis Montoya
Deputy Director, Livable Streets

Julie Kirschbaum
Chief Transit Officer

Annette Williams
Manager, Accessible Services

Ricardo Olea
City Traffic Engineer, Transportation Engineering

FROM: Britt Tanner
Senior Engineer, Transit Engineering

DATE: 8/1/2017

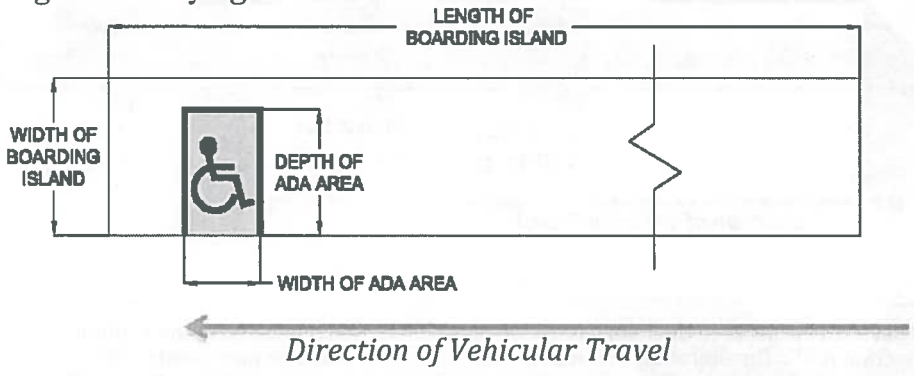
SUBJECT: Transit Boarding Island Width Design Guidance

The purpose for this document is to provide design guidance for determining the width of a proposed transit island. This document is not intended to establish a standard, but rather draws upon our best understanding of the current design constraints that may impact the width of a boarding island, and applies them to design situations in San Francisco. There are number of other features of transit boarding islands (ramps, detectable warning strips, railing design, etc.) that will be discussed in a forthcoming memo that will supersede this memo, as it will include and expand upon this guidance on designing boarding islands.

Note that when describing dimensions of different aspects of a boarding island, "width" can mean different things. This memo uses varying meanings of the word "width" in line with their historical uses in the agency.

- For the entire boarding island, "width" is *perpendicular* to the roadway, and the length is parallel to the roadway (measured in the direction that vehicles travel).
- For shelters and the ADA boarding zone, the depth is perpendicular to the roadway, and "width" is *parallel* to the roadway (measured in the direction that vehicles travel).

Figure 1. Varying Definition of Width



Design Considerations

When working in San Francisco, we are often working where there is limited right-of way available. To determine the appropriate width of a transit boarding island, we should consider:

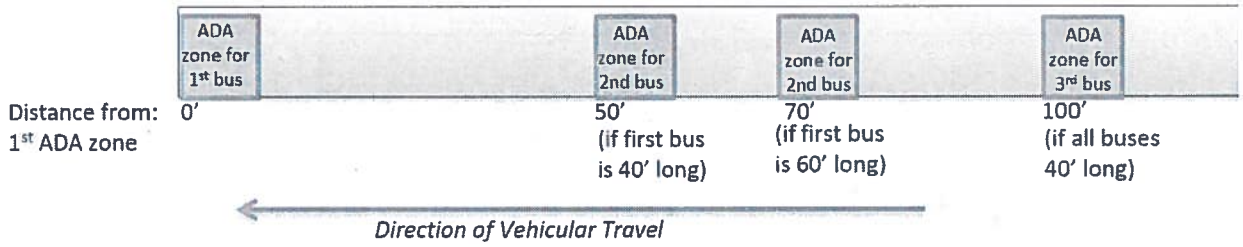
1. **Path of Travel**, also known as the pedestrian access route, should be 4' clear exclusive of curbs, but can be narrowed at pinch points to as narrow as 3' per current ADA guidance.[1] For constrained situations where 4' cannot be provided, confer with the Accessible Services Program to determine if the path of travel can be reduced.

2. **ADA Bus Boarding and Alighting Areas**[2] provide maneuvering space for wheelchair users to use the wheelchair lift or ramp to access the bus. Current ADA standards require a minimum clear length of 8' deep (perpendicular to the curb), which is appropriate for most boarding islands but 9' deep is preferred on wider islands to provide more room for wheelchairs to maneuver. The ADA standard require that the boarding area be 5' wide minimum parallel to curb, but providing 8' (recommended minimum) to 10' (preferred) gives operators some flexibility for placement when stopping the bus, and allows for two wheelchair users to pass each other. Given that boarding islands are new construction, it should typically be possible to design for a 10' wide boarding area unless there are existing utilities or other conflicts that need to be avoided. The cross slope of the transit island should not exceed 2 percent.

   For stops that are designed to serve more than one bus simultaneously, an ADA boarding area should be designed, at a minimum, to be at the front of the first and second bus (see Figure 2). Providing an ADA space at the supplemental loading areas may reduce how often buses need to double-stop. For example, if the bus alights a wheelchair user while at the second position, the operator would not be required to stop again at the front-most position if there are no passengers waiting at the front-most position. When a bus stop will accommodate three buses, also provide an ADA boarding area for the third bus as well where possible.

   When placing the ADA boarding areas, consider the vehicle types and provide flexibility for 40' and 60' vehicles as appropriate, and provide a 10' gap between buses to provide buffer for safety and the potential for a 5' bike rack extending from the front of a following bus. Thus, if a bus stop is designed to serve two 40' buses, the second ADA zone would start 50' from the front of the bus island (40' bus + 10' gap = 50'). If a bus stop is typically served by 30' buses, design for 40' buses in case of bus substitution or route changes.

Figure 2. Example of ADA zone placement for multiple buses.



[1] Per Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way (PROWAG) published in the Federal Register on February 13, 2013, section R302. On alteration projects, pedestrian access route be narrowed to 36" minimum for a length of 24"' maximum. If the island is longer than 200', a 5'x5'; passing area must be provided. The cross slope of pedestrian access routes must not exceed 2 percent.

[2] Per 2010 ADA Standards for Accessible Design, section 810.2.2 Dimensions.

3. **Railings** are desirable at transit stops to protect passengers waiting on the island. They also can prevent a wheelchair user from rolling off the island when alighting a bus, serve as a leaning rail for waiting passengers, and help to channelize passengers to the appropriate places to cross the adjacent lane.

   Railings should be considered for all islands adjacent to traffic lanes. If used, railings are typically 2" to 3" diameter. If used, railings should be designed with a cross-bar between 3-5" from the ground to guide sightless people using a long cane and to serve as a bumper bar for wheelchair users. There does not need to be a railing behind a shelter.

   Discontinuous rail or no railing may be appropriate in some situations, such as at stop with primarily rail service that is only served by buses for OWL service or when there is bus-replacement service, or an island that is adjacent to a cycle track. In this situation, if the island is too narrow to provide adequate setback to a railing and still provide an ADA boarding area, it would be appropriate to have no railing for the ADA boarding area if bus service is infrequent and/or the adjacent lane does not have motorized vehicles.

4. **Shelters** are desirable to provide waiting passengers protection from the elements and/or a place to sit – preferably both. In addition, shelters with power can also provide accessible transit information such as Next MUNI and Push-to-Talk (PTT). Shelters should be placed carefully on a boarding island to maintain a clear path of travel and ADA boarding area, and also consider minimizing access time for boarding passengers from shelter to the bus, visibility of pedestrians, passing vehicles and cyclists, and passengers.

   The use of shelters should also consider the visual obstruction they cause. Depending on their placement, shelters may create blind spots impacting the ability for drivers to foresee potential conflicts with vehicles, bicycles or pedestrians. Shelters on nearside islands, for example, may impact the ability of right-turning vehicles to see a bicycle approaching in a cycle track adjacent to the boarding island. Placing shelters away from the intersection or using a shelter with less visual obstruction, like the cantilever shelter, may be appropriate to provide the customer amenity afforded by shelters without impacting visibility.

   With the current Clear Channel contract[3], there are four different styles of shelters and one free-standing advertising kiosk that may be used on islands, shown in Table 1. The advertising panel included in some shelter types provide the shelter contractor advertising revenue, which is important as the revenue sustains the shelter contract and SFMTA's operating budget.

   The advertising shelter provides all of the desired potential amenities, but with a 64" footing it is best on an island that is 10'8" or 10'9" wide (depending on if it is adjacent to a traffic lane or cycle track) in order to maintain a 4' wide ADA accessible path. Having a wider island is desirable as it provides additional space for passengers to wait, and provides for a 9' deep ADA boarding area. However, its large advertising panel may obstruct visibility, for example of vehicles turning right and pedestrians and cyclists. The advertising shelter is most appropriate for locations where it will not create a visual obstruction, such as on a farside island next to a cycle track where there are no nearby driveways or other potential conflicting movements.

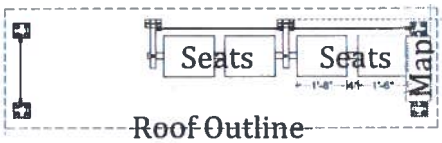
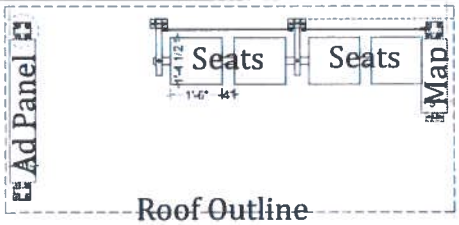
[3] The initial 15 year term of the Clear Channel shelter contract runs through December 2022. The SFMTA then has a five-year option to renew.

There are limited applications where an advertising shelter can be placed on islands narrower than 10' 10" wide, such as if it is a farside island with no driveways and the shelter is placed beyond the ADA area (see detail in Table 5, Type 5). The advertising shelter can only be used at these locations that do not interfere with the accessible path between the ADA loading area at the access/egress from the island. In these locations, the advertising shelter requires that the boarding island be extended, as the shelter area cannot be used for loading.

However, for most applications the standard non-advertising shelter is most appropriate as it provides both seating and a roof with a smaller visual obstruction. With a 39" wide footing, it is best on an island that is 9'2" wide adjacent to a travel lane, or 8'9" wide adjacent to a cycle track with no railing or shelter adjacent to ADA boarding area. For narrower islands or nearside locations, the 7" wide cantilever shelter wide footing could be used to provide a roof and/or the 22"wide alternative shelter could be used to provide seating where there is not adequate clear space to accommodate the standard 39" wide non-advertising shelter.

If it is not possible to use an advertising shelter, explore alternatives that provide advertising such as installing both a non-advertising shelter and a free-standing advertising kiosk (preferred for most applications) or an alternative shelter (for additional seating at high-volume stops), if sight-lines and space allow.

Table 1. Clear Channel Shelter/Advertising Kiosk options

Type	Width	Seating	Roof	Next Muni, Map, PTT	Advertising Panel	Available Lengths	Plan view
Standard non-advertising shelter	39"	X	X	X		8.5' 12.5' 16.5'	
Cantilever roof shelter	7"		X			8.5' 12.5' 16.5'	
Alternative shelter	25"	X		X	X	12.5'	
Advertising shelter	64"	X	X	X	X	8.5' 12.5' 16.5'	
Free-standing advertising kiosk	12"				X	5'	

5. **Setbacks** are required to ensure that vehicle mirrors or bicycle handlebars do not hit any railings, shelters or other furniture. The setback should 10" from face-of-curb minimum[4], preferably 11" when next to a traffic lane. When adjacent to a cycle track, 12" is preferred[5] for bicycle handlebar clearance if railings are used, but the setback can be reduced on a case-by-case basis with consensus from Livable Streets, Accessible Services and the project engineers to allow for the provision of non-ad standard shelters at constrained locations. Some considerations when narrowing the setback include the width of the cycle track and the likelihood of cyclists riding close to the curb line (for example, if side-by-side riding is expected).

Thus, based on the above, the key design considerations are summarized in Table 2.

Table 2. Summary of Key Design Considerations

Path of Travel	• 4' wide; can be narrower at pinch points after conferring with Accessible Services
ADA Bus Boarding and Alighting Area	• Required to be 8' deep (perpendicular to curb), preferred to be 9' • Preferred to be 10' wide (parallel to curb), with recommended minimum 8' wide, and 2010 ADA Standard minimum is 5' wide.
Railing	• Continuous rail along island preferred for most applications • Discontinuous rail may be appropriate for islands that serve primarily rail or that are adjacent to cycle tracks • Railing is not required behind a shelter
Shelters	• For most applications, the standard non-advertising shelter with 39" footing preferred, but other shelter types could be appropriate. • When using a shelter that does not include an ad-panel, also use advertising kiosk (preferred) or an alternative shelter or to provide advertising.
Setback from curb	• If used adjacent to vehicle lane: 11" preferred; 10" minimum • If used adjacent to cycle track: 12" preferred; if constrained, can be reduced after conferring with Livable Streets

[4] Per California vehicle code 35109, devices mounted on a vehicle may extend up to 10". Due to cross slopes and uncompliant vehicles, a setback of 11 to 12" may be appropriate where more space is available.

[5] http://nacto.org/publication/transit-street-design-guide/station-stop-elements/stop-elements/seating/

Recommended island widths

Wider islands are preferred to maximize space and give more flexibility in placing furniture and amenities, such as railings or shelters. This memo provides guidance on the preferred width of the boarding island area where the shelter and ADA boarding area are provided; the remainder of the island could narrow to 6'[6] adjacent to a travel lane, such as to narrow an island include to avoid utilities, to provide additional clearance space for access to driveways, to accommodate truck turns, or to minimize pinch-points for fire truck clearance. If there are design constraints, the design engineers and the Accessible Services Program should confer to see where design accommodations may be appropriate, such as reducing the setback to or reducing the path of travel at pinch points to less than 48". This document does not consider volumes of passenger activity; stops with high levels passenger activity may benefit from additional width.

Recommended island width adjacent to a general traffic lane (see Table 4):

Given the above design considerations, the preferred minimum island width adjacent to a vehicle lane is 9'-2" *(Type 1)* in order to provide a railing along the ADA boarding area, a standard non-advertising 39" deep shelter, and an advertising kiosk.

If 9'-2" is not available, the island could be narrowed to 8'-8" *(Type 2)* and still include a standard non-advertising shelter, advertising panel and railing, as long as there is not a railing along the ADA boarding area. This is not ideal for transit islands with all-day bus service, but could be appropriate for constrained locations with transit islands primarily with rail service or on a case by case basis.

If there is additional street width available, a 10'-9" wide island *(Type 3)* can be used to provide an advertising shelter. Advertising shelters are most appropriate at farside islands with no nearby driveways or other potential conflicts. If placed on a nearside island, the shelter should be placed such that it will not obstruct visibility of the crosswalk or other potential conflicts. Nearside applications are limited due to the potential to obstruct potential conflicts, but could work depending on the geometric configuration, such as one-way streets limiting conflict points.

Recommended width adjacent to a cycle track (see Table 5):

For transit islands adjacent to cycle tracks, the preferred island width is 8'-9" *(Type 4)*, but they could be as narrow as 8' *(Type 5)*. Because the ADA boarding area extends from curb to curb on an 8' wide island, consider lining up the ADA boarding area with a raised crosswalk connecting the island to the sidewalk to effectively extend the level boarding/alighting area such that wheelchair users would have additional space to maneuver.

If there is additional street width available, a 10'-10" wide island *(Type 6)* can be used to provide an advertising shelter, however sight lines should be considered when selecting and placing the shelter as the advertising panel could obstruct a potential conflict. Advertising shelters are most appropriate at farside islands with no nearby driveways or other potential conflicts.

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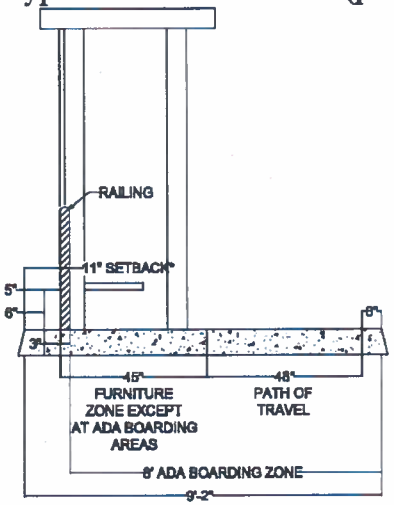
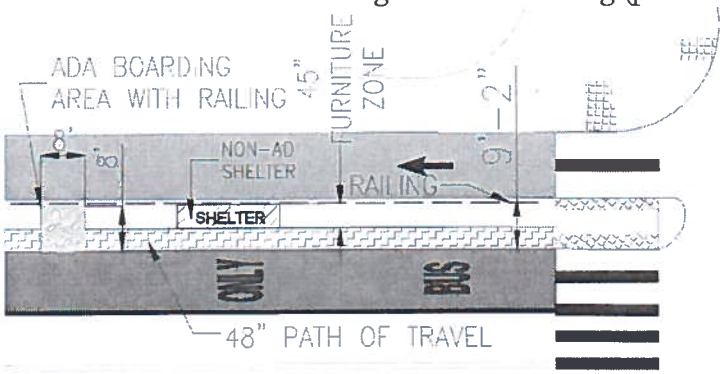
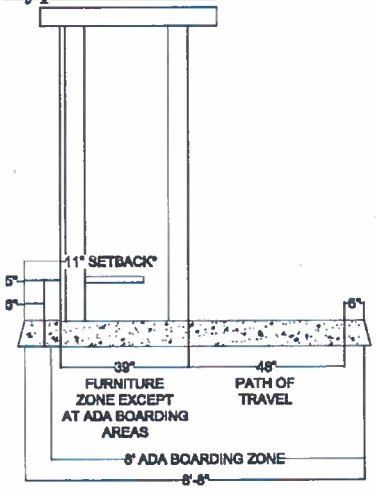
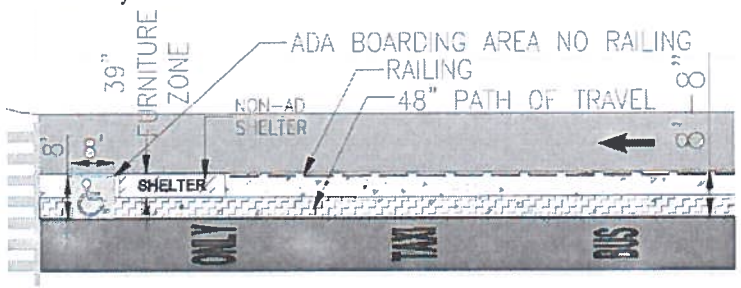
[6] Designing Sidewalks and Trails for Access, Section 8.7 Medians: The median width should be at least 1.83 m (72 in) for pedestrian safety.

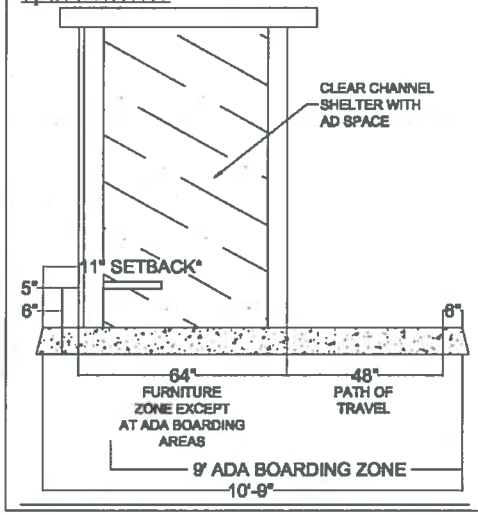
Table 3. Recommended island widths:

Adjacent to a travel lane	• 9'-2" with a railing behind the ADA area adjacent to a non-advertising shelter preferred if all-day bus service • 8'-8" with no railing in the ADA area adjacent to a non-advertising shelter if primarily rail-only • Can be narrower in constrained situations on a case by case basis through reducing setback, ADA path of travel at pinch points, or using a narrower shelter type. • If farside and no adjacent driveways, could be 10'-9" with an advertising shelter placed to avoid obstructing potential conflicts • Remainder of island can be narrowed to 6' beyond section with ADA loading and shelter
Adjacent to a cycle track	• 8'-9" with no railing in the ADA area adjacent to a non-advertising shelter preferred • Can be reduced to 8' in constrained situations through reducing setback, ADA path of travel at pinch points, using a narrower shelter type, or having no furniture in the ADA loading area • If farside and no adjacent driveways, could be 10'-10" with an advertising shelter placed to avoid obstructing potential conflicts Remainder of island can be narrowed to 5' beyond section with ADA loading and shelter

Table 4. Example Island Widths – Adjacent to traffic lane

Type 1: 9'- 2" Wide Island **(preferred)**  * 11" setback can be reduced to 10" if constrained	**Example 9'- 2" wide island with standard non-advertising shelter** • Provides 45" furniture zone with 11" setback (*can be reduced to 10" if constrained), which allows for a standard non-advertising shelter (39" footing). Where sight-lines and space allow, also include free-standing advertising kiosk (preferred) or an alternative shelter. • Provides 8' x 8' ADA boarding area with a railing (preferred 8' x 10' if space permits) 
Type 2: 8'- 8" Wide Island  * 11" setback can be reduced to 10" if constrained	**Example 8'- 8" wide island with standard non-advertising shelter** • Provides 39" furniture zone with 11" setback (*can be reduced to 10" if constrained), which allows for a standard non-ad shelter. Where sight-lines and space allow, also include an alternative shelter or free-standing advertising kiosk. • Provides 8' x 8' clear ADA boarding area at locations with no railing/furniture (preferred 8' x 10' if space permits). Because there is no railing adjacent to the ADA boarding area, this design is most appropriate for locations with primarily rail service, or on a case by case basis. • On islands less than 8'-8", consult Accessible Services Program to determine if the path of travel may be narrowed below 48" to accommodate a standard non-ad shelter. 

Type 3. 10'- 9" Wide Island with commercial ad space shelter



Example 10'-9" wide island with standard advertising shelter

- Provides 9' x 8' clear ADA boarding area (preferred 9' x 10' if space permits).
- Accommodates 64" furniture zone, including the standard advertising shelter, provided that shelter does not block visibility of potential conflict.

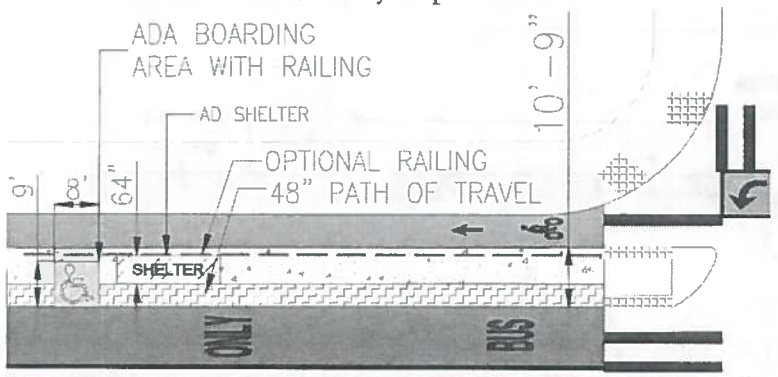
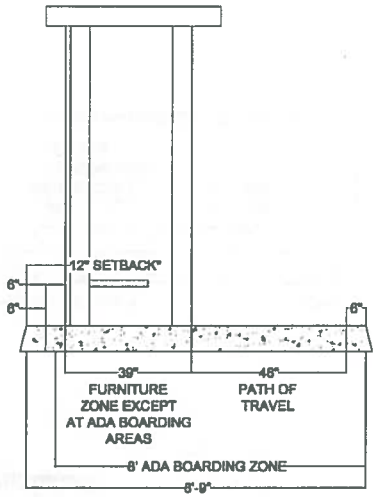


Table 5. Recommended Island Widths Adjacent to Cycle Track

Type 4: 8'- 9" Wide Island (preferred)

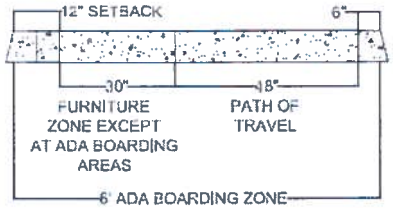


* 12" setback can be reduced if constrained

Example 8'- 9" wide island with standard non-advertising shelter (most situations) or advertising shelter (limited situations)

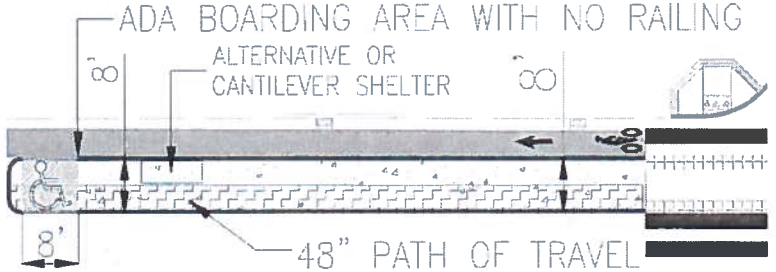
- Accommodates 39" furniture zone with 12" setback (*can be reduced if constrained), which allows for standard non-ad shelter. Where sight-lines and space allow, also include a free-standing advertising kiosk.
- Provides 8' x 8' ADA boarding area at locations with no railing/furniture (preferred 8' x 10' if space permits).
- On islands less than 8'-9", consult Accessible Services Program to determine if the path of travel may be narrowed below 48" and/or with Livable Streets to determine if the setback can be reduced below 12" to accommodate a standard non-ad shelter.
- In some situations (e.g. farside, and with no driveways or other concerns about visual obstructions, etc) where there is no path of travel off the front end of the island, a larger advertising shelter can be used (see layout under Type 5 below).

Type 5. 8' Wide Island with alternative shelter and/or cantilever shelter; can use larger shelter if lengthened

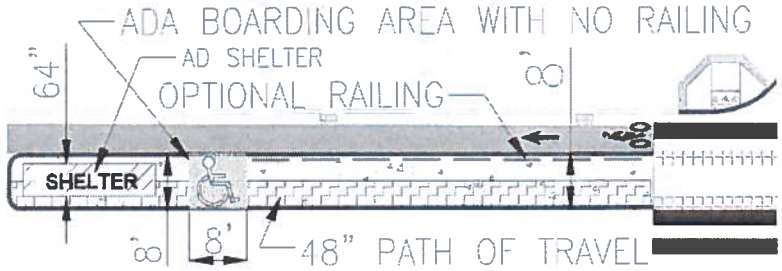


Example 8' wide island with alternative and/or cantilever shelter (most situations) or any shelter (limited situations))

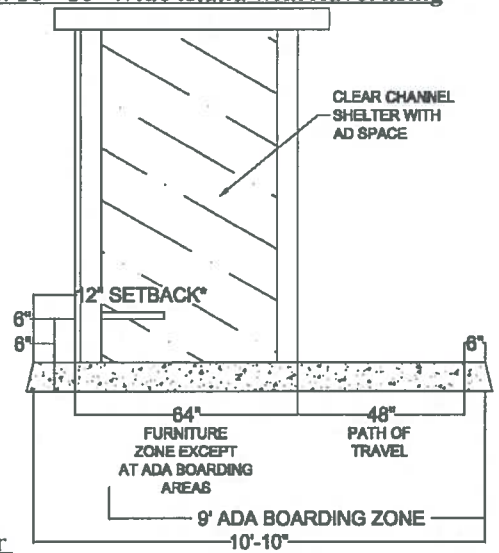
- Accommodates 30" furniture zone with 12" setback, which could include railings or cantilever (seat-less), alternative (roofless with seats) shelter.
- Accommodates 8' ADA boarding area at locations along the island with no railing/furniture
- If the island is farside and there is no path of travel
- Consult with Accessible Services and Livable Streets staff to determine feasibility of narrowing 12" setback or 48" path of travel to accommodate a standard non-ad shelter.



- In some situations (e.g. farside, and with no driveways or other concerns about visual obstructions, etc) where there is no path of travel off the front end of the island, a larger 39" deep non-advertising shelter or 64" deep advertising shelter could be used. In this situation, the island must be designed such that the full bus can fit between the ADA boarding area and the crosswalk, as the area with the shelter cannot be used for loading ADA passengers.



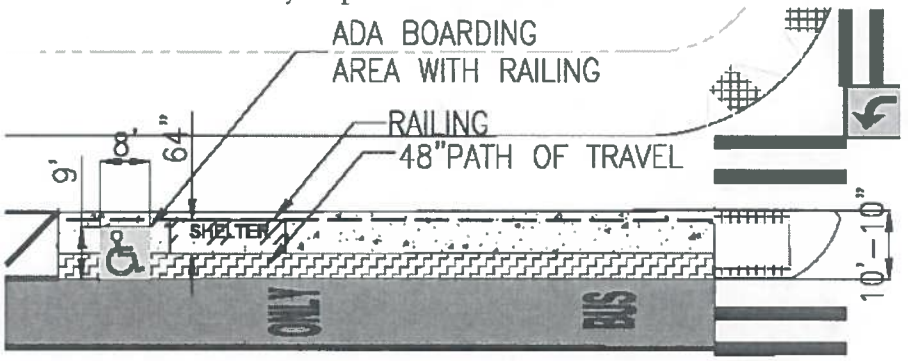
Type 6. 10'- 10" Wide Island with Advertising



Shelter

Example 10' - 10" wide island with standard advertising shelter

- Provides larger 9' x 8' clear ADA boarding area (preferred 9' x 10' if space permits).
- Accommodates 64" furniture zone, including the standard advertising shelter, provided that shelter does not block visibility of potential conflicts.



City and County of San Francisco

Gavin Newsom, Mayor
Fred V. Abadi, Ph.D., Director

Phone: (415) 554-6920
Fax: (415) 554-6944
TDD: (415) 554-6900
http://www.sfdpw.com

Department of Public Works
Office of the Director
City Hall, Room 348
1 Dr. Carlton B. Goodlett Place
San Francisco, CA 94102-4645

CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS

ORDER NO. 177,160

The Director of Public Works will hold a Public Hearing on Wednesday, October 10, 2007 commencing at 9:00 a.m. in Room 400 of City Hall, located at 1 Dr. Carlton B. Goodlett Place, to consider the adoption of permitting and approval procedures related to the placement of transit shelters and advertising kiosks on the sidewalk.

Persons unable to attend the public hearing may submit written comments regarding the subject matter to the Bureau of Street-Use & Mapping, 875 Stevenson Street, Room 460, San Francisco, CA 94103, Attention: Dan McKenna. These comments will be brought to the attention of the hearing officer and made a part of the official public record.

Further information, if desired, on this matter may be obtained prior to the hearing at 875 Stevenson Street, Room 410, or by phoning Mr. McKenna at (415) 554-5520.

RECOMMENDED:

Barbara Moy, Manager
Bureau of St-Use & Mapping

APPROVED:

Fred V. Abadi, Ph.D.
Director of Public Works

Approved: September 26, 2007

Distribution
Return to B.S.M. - D. McKenna, Room 410, 875 Stevenson St., (1-signed)
Outside of B.S.M.
Dept. Files (2)
Sonali Bose
Bill Sanders

APPROVED: September 19, 2007
Fred V. Abadi, Ph.D. DIRECTOR
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CITY AND COUNTY OF SAN FRANCISCO
DEPARTMENT OF PUBLIC WORKS
AMENDED ORDER NO. 177,159

REGULATIONS FOR ISSUING PERMITS TO INSTALL TRANSIT SHELTERS, SIGNAL CONTROL COVERS AND KIOSKS IN THE PUBLIC RIGHTS-OF-WAY

I. PURPOSE

A. The City, through the SFMTA and the Port of San Francisco, has entered into an agreement that authorizes the Contractor to construct Transit Shelters, Signal Control Covers and Kiosks in the Public Rights-of-Way. The construction of these types of structures would normally require an excavation permit from the Department under Article 2.4 of the Public Works Code.

B. The Department wishes to ensure that the installation of such structures in the Public Rights-of-Way will not impede travel, inconvenience property owners, unnecessarily interfere with views or create visual blight. The Department also wishes to assist the SFMTA by ensuring convenience and support for transit passengers and providing aesthetic covers to mask the SFMTA's existing signal control equipment.

C. In order to address these concerns, rather than requiring Contractor to obtain excavation permits, the Department is adopting this Order to establish rules and regulations for Contractor to obtain Permits to install Transit Shelters, Signal Control Covers, and Kiosks.

II. DEFINITIONS

For purposes of this Order, the following terms, phrases, words, abbreviations, and other similar terms, when capitalized, shall have the meanings given herein:

A. "Advertising" means information displayed on SFMTA Transit Shelters, Kiosks, Signal Control Covers that is commercial in nature. "Advertising" shall not include information displayed on SFMTA Transit Shelters, Signal Control Covers, or Kiosks such as City maps or other information of local interest, public service announcements, public art displays, and transit information (routes, schedules, fares, etc.).

B. "Agreement" means the agreement between the City and Contractor to install and maintain Transit Shelters, Kiosks, Signal Control Covers, and other Structures, including Structures with advertising, in the Public Rights-of-Way and other public places.

C. "Applicable Law" means all applicable federal, state, and City laws, ordinances, codes, rules, regulations, orders, standard plans and specifications, as the same may be amended or adopted from time to

time. Where applicable, "Applicable Law" also means the requirements contained in any agreement between the City and Contractor.

D. "Business Day" means any Monday through Friday that is not observed as an official holiday by the City.

E. "City" means the City and County of San Francisco.

F. "Completion Date" means a date set forth in a Permit to complete the construction permitted therein. Unless otherwise stated in the Permit, the Completion Date will be thirty (30) Days after the Start Date.

G. "Contractor" means any entity under contract with the SFMTA to provide, construct and maintain Transit Shelters, Signal Control Covers and Kiosks in the Public Rights-of-Way.

H. "Day" means any calendar day. For the purposes hereof, the time in which an act is to be performed shall be computed by excluding the first Day and including the last. For the purposes hereof, if the time in which an act is to be performed falls on a Saturday, Sunday, or any Day observed as an official holiday by the City, the time for performance shall be extended to the following Business Day.

I. "Department" means the Department of Public Works.

J. "Director" means the Director of the Department or his or her designee.

K. "Kiosk" means a free-standing structure that will be constructed in the Public Rights-of-Way by Contractor pursuant to the Agreement that may or may not display advertising. A Kiosk that displays advertising will be referred to as an "Advertising Kiosk."

L. "Order" means these Regulations for Issuing Permits for Transit Shelters, Signal Control Covers and Kiosks in the Public Rights-of-Way.

M. "Permit" means a permit issued under this Order as it has been approved, amended, or renewed by the Department.

N. "Placement Guidelines" means the guidelines set forth in Section XI.B of this Order.

O. "Public Rights-of-Way" means the area in, on, upon, above, beneath, within, along, across, under, and over the public streets, sidewalks, roads, lanes, courts, ways, alleys, spaces, and boulevards within the geographic area of the City in which the City now or hereafter holds any property interest, which is dedicated to public use.

P. "SFMTA" means the San Francisco Municipal Transportation Agency.

Q. "Signal Control Cover" means a structure to cover signal control equipment owned by SFMTA that may or may not display advertising. A Signal Control Cover that displays advertising will be referred to as an "Advertising Signal Control Cover."

R. "Start Date" means a date set forth in a Permit to commence the construction permitted therein. Unless otherwise stated in the Permit, the Start Date will be one hundred and eighty (180) Days after the approval of a Permit application.

S. "Transit Shelter" means a structure for use by transit passengers of the SFMTA that may or may not display advertising. A Transit Shelter that displays advertising will be referred to as an Advertising Transit Shelter.

III. PERMIT REQUIRED

Contractor shall apply for and obtain a Permit before installing a Transit Shelter, Signal Control Cover or Kiosk in the Public Rights-of-Way.

IV. PERMIT NOT REQUIRED

No Permit shall be required for Contractor to replace existing sign poles or install new sign poles at transit stops.

V. APPLICATION PROCESS

A. An application for a Permit to install a Transit Shelter, Signal Control Cover or Kiosk shall be submitted to the Department.

B. An application for a Permit to install a Transit Shelter, Signal Control Cover or Kiosk shall include:

1. An application in the form to be provided by the Department, which shall contain the following information:

(a) Type of structure (include specification if not on file with the Department);
(b) Identification of proposed location of the structure;
(c) Recommendation by SFMTA as to location;
(d) Name, address, telephone number, facsimile number and electronic-mail address for Contractor's contact person; and
(e) Proposed Start and Completion Dates.

2. A location drawing of the structure in a twenty feet (20') to one inch (1") scale (20:1 scale) showing each of the following:

   (a) Street name;
   (b) Names of cross streets;
   (c) Face of curb;
   (d) Property lines;
   (e) Distance from the face of the curb to face of the structure;
   (f) Distance from face of the curb to the property lines;
   (g) Distance from face of the curb to back of the structure;
   (h) Locations and dimensions of existing above-ground street furniture (utility poles, bus shelters, fire hydrants, garbage receptacles, parking meters, etc) and distance from the proposed location of the structure;
   (i) Locations and dimensions of existing underground utility facilities (vaults, manholes, handholds, meters, etc.); and distance from the proposed location of the structure;
   (j) Distance from nearest cross street to the structure;
   (k) Identification of the structure type and dimensions;
   (l) Color of the structure;
   (m) The proposed electrical service connections and foundation details (stamped and signed by an engineer registered with the State of California); and
   (n) If applicable, the footprint of any existing Transit Shelter or Kiosk that is being replaced.

3. Photo-simulations of the structure in the proposed location showing each of the following:

   (a) Front view of the structure;
   (b) Side view of the structure; and
   (c) View of the structure in relation to the nearest building or other structure.

4. If the application is for a Permit for a Transit Shelter or Kiosk, a statement, if applicable, that a hearing is not required because the proposed Transit Shelter or Kiosk: (a) is replacing an existing Transit Shelter or Kiosk; and (b) the location of the proposed Transit Shelter or Kiosk complies with the requirements of Section VI.D.

5. A statement whether Contractor is seeking a waiver of any of the Placement Guidelines, and if, so, the applicable Placement Guidelines.

6. A proposed notice for mailing and posting if notice is required under Sections VI or XI.C of this Order.

C. The Department will process an application for a Permit to install a Transit Shelter, Signal Control Cover or Kiosk in the manner set forth below and as shown in Exhibit A attached hereto and incorporated herein by this reference:

1. If Contractor is not seeking a waiver of any of the Placement Guidelines, the Department will notify Contractor within three (3) Business Days after receipt of a Permit application whether the application complies with the Placement Guidelines.

2. If the application does not comply with the Placement Guidelines, the Department will return the application to Contractor along with a written statement identifying any deficiencies in the application. Contractor may fix the application and resubmit it at any time or may request an exception to the Placement Guidelines under Section XI.C of this Order.

3. If the Department notifies Contractor that a Permit application meets the Placement Guidelines, the Department will approve the Permit if no public notice is required under Sections VI.D, VI.E or VI.F of this Order. In all other instances, Contractor will notify the public of the application as required in Sections VI.A or VI.B of this Order.

4. If Contractor is seeking a waiver of the Placement Guidelines, the Department will require Contractor to notify the public of the application as required in Section XI.C of this Order.

VI. PUBLIC NOTICE REQUIREMENTS

A. If Contractor is filing an application for a Permit to install a Transit Shelter, Contractor shall post the notice of the application in conspicuous places within a one hundred foot (100') radius of the proposed location of the Transit Shelter and send the notice to:

1. Fronting business and property owners.

2. The Department and the SFMTA.

B. If Contractor is filing an application for a Permit to install a Signal Control Cover or a Kiosk, Contractor shall post the notice of the application in conspicuous places within a one hundred foot (100') radius of the proposed location of the facility and send the notice to:

1. All persons owning or occupying property within a one hundred and fifty foot (150') radius of the proposed location of the Signal Control Cover or Kiosk.

2. Any neighborhood association identified by the Department of City Planning for any neighborhood within a one hundred and fifty foot (150') of radius of the proposed location of the Signal Control Cover or Kiosk.

3. The Department and the SFMTA.

C. The notice shall be in a form to be approved by the Department. At a minimum, the notice shall contain all of the following information:

1. A short statement describing the Transit Shelter, Signal Control Cover or Kiosk that is the subject of the Permit application.

2. A photo-simulation of the Transit Shelter, Signal Control Cover or Kiosk that is the subject of the Permit application in the proposed location.

3. A statement that a protest must be filed within twenty (20) Days of the date of the mailing/posting of the notice.

4. Instructions for filing protests with the Department.

5. The name, address, telephone number and electronic mail address of the Contractor's contact person.

6. The name, address, telephone number and electronic mail address of the Department's contact person.

7. The name, address, telephone number and electronic mail address of the SFMTA's contact person.

D. The public notice and hearing requirements of this Section shall not apply to an application for a Permit to install a Transit Shelter or Kiosk if the proposed Transit Shelter or Kiosk will replace an existing Transit Shelter or Kiosk, provided that:

1. The new Transit Shelter or Kiosk will be placed on the same foundation as the existing structure (or on a new foundation within the same concrete flags as the existing structure); or

2. The new Transit Shelter or Kiosk is being placed in a different location because the location of the existing Transit Shelter or Kiosk does not fully comply with Applicable Law; and

3. The proposed location of the new Transit Shelter of Kiosk complies with the Placement Guidelines.

E. The public notice and hearing requirements of this Section shall not apply to an application for a Permit to install a Transit Shelter provided that:

1. All of the property within a one hundred foot (100') radius of the proposed location of the Transit Shelter is owned by the City; or

2. The Transit Shelter is being installed at the request of a person or persons owning all of the property that is within a one hundred foot (100') radius of the proposed location of the Transit Shelter.

F. The public notice and hearing requirements of this Section shall not apply to an application for a Permit to install a Signal Control Cover provided that:

1. The proposed Signal Control Cover will not increase the footprint of the existing signal control equipment beyond the concrete flags in which the equipment has been installed;

2. The proposed Signal Control Cover is not an Advertising Signal Control Cover; and

3. The proposed location of the Signal Control Cover complies with the Placement Guidelines.

VII. DEPARTMENT HEARING

A. A protest will be timely if made by telephone electronic mail, or postmarked within twenty (20) Days of the date of the mailing or posting of the notice. Within three (3) Business Days of the Department's receipt of a protest, the Department shall notify the Contractor and SFMTA by electronic mail of such protest.

B. If a protest is made, the Director will issue a notice scheduling a hearing for a date that is no later than twenty (20) Days after the date the protest was required to have been made.

C. The hearing will be conducted in accordance with the following procedures:

1. The Director will appoint an impartial hearing officer to conduct the hearing. The hearing officer will be experienced in conducting proceedings of this kind.

2. The hearing officer shall take evidence and testimony from the Department, SFMTA, Contractor, and any persons objecting to or supporting the application. If the hearing concerns an application for a Permit to install a Transit Shelter, the hearing officer shall give great weight to the testimony of the SFMTA concerning how the proposed Transit Shelter affects the convenience and necessities of transit riders.

3. Within ten (10) Days after the hearing, the hearing officer will issue a report to the Director. In the report, the hearing officer will summarize the evidence and testimony and recommend that the Director either approve or deny the application. The hearing officer may also recommend changes to the location or installation of the structure as a condition of approval of the application. The Director may adopt, modify, or reject the hearing officer's recommendation.

4. The Department will send a copy of the hearing officer's report to the SFMTA, the Contractor and any person who participated in the hearing.

D. The hearing officer will base his or her recommendation, and the Director will base his or her determination, upon the following matters only:

1. Whether the proposed structure will unreasonably affect the convenience and necessities of the property owners and occupants in the immediate vicinity of the structure. With respect to Transit Shelters, the hearing officer shall consider whether the convenience and necessities of transit riders outweigh any inconvenience to property owners and occupants in the immediate vicinity of the structure.

2. Whether Contractor could make any reasonable changes to the location or installation of the Transit Shelter, Signal Control Cover or Kiosk within the same frontage of the given address of the proposed location such that it will have less of an impact on the convenience and necessities of the property owners and occupants in the immediate vicinity of the structure.

3. With respect to Transit Shelters or Kiosks, whether Contractor could install the structure in other acceptable locations consistent

with the Placement Guidelines that are preferable to the proposed location because use of such other acceptable locations will have less of an impact on the convenience and necessities of the property owners and occupants in the immediate vicinity of the structure.

E. Within ten (10) Days after receipt of the hearing officer's recommendation, the Director will issue a final report in writing. The Director's final report shall include a determination whether the Director has approved or denied the application, or whether the Director will require Contractor to make reasonable changes to the location or installation of the structure as a condition of approval of the application. The Department will send a copy of the Director's final report to the SFMTA, the Contractor and any person who participated in the hearing.

VIII. ISSUANCE AND DURATION OF PERMIT

A. The Department shall issue a Permit to install a Transit Shelter, Signal Control Cover or Kiosk:

1. Within five (5) Business Days of the filing of the application that complies with the Placement Guidelines contained in Section XI of this Order, if no notice is required under Sections VI.A or VI.B of this Order.

2. Within three (3) Business Days of the end of the twenty (20) Day notice and posting period if no protest has been made.

3. Within three (3) Business Days of the Director's decision to approve the application issued under Section VII.E.

4. Notwithstanding the requirements of Sections VIII.A.1 and VIII.A.2, in no event shall the Department be required to process more than ten (10) applications submitted by Contractor for Permits to construct Transit Shelters, Signal Control Covers, or Kiosks in any five (5) Business Days.

B. Every Permit shall contain a Start Date and Completion Date. The Permit shall be void if Contractor does not begin construction by the Start Date and/or complete construction by the Completion Date. On written request from Contractor, the Director may extend the Start and/or Completion Dates. Such a written request must be made at least five (5) Business Days prior to the expiration of the applicable date and must explain why the work could not be started or completed by the Start and/or Completion Dates set forth in the Permit and specify the proposed new Start and/or Completion Dates. Any extension granted

by the Director may be subject to additional special conditions, including, but not limited to, conditions that ensure the timely start and completion of construction. The Director shall inform the Contractor and SFMTA of his or her decision to grant or deny a request for an extension within five (5) Business Days of the request.

C. If Contractor fails to obtain a Permit extension under Section VIII.B and instead allows a Permit to lapse, Contractor must file an application for a new Permit and follow all of the applicable requirements of this Order.

IX. APPEAL OF PERMIT APPROVAL OR DENIAL

The Department's approval or denial of any Permit under this Order may be appealed to the Board of Permit Appeals pursuant to Section 4.106(b) of the City's Charter.

X. APPLICATION FEE AND REMITTANCE

A. The fee for an application for Permit to install a Transit Shelter or Kiosk in a new location or a Signal Control Cover shall be three hundred and fifty dollars ($350.00).

B. The fee for an application for a Permit to install a new Transit Shelter or Kiosk in the same location as an existing Transit Shelter or Kiosk shall be one hundred dollars ($100.00). However, if public notice is required because the exceptions contained in Sections VI.D, VI.E or VI.F are inapplicable, or if inspections or related work is required for Permit review, then the regular fee of three hundred and fifty dollars ($350.00) will be required.

C. Contractor shall remit the application fee to the Department along with the application.

XI. PLACEMENT GUIDELINES

A. The Department will not issue a Permit for a Transit Shelter, Signal Control Cover or Kiosk if the proposed location of the facility does not conform to all Applicable Law, including all applicable State, Federal and Local accessibility codes and regulations.

B. Except as otherwise stated, the following Placement Guidelines shall apply to any location chosen for a Transit Shelter, Signal Control Cover or Kiosk:

1. A Transit Shelter, Signal Control Cover or Kiosk shall not obstruct pedestrians. A minimum of four feet (4') of pedestrian clearance

(free of all obstacles for a clear path of travel, unobstructed pedestrian walkway) shall be maintained at all times.

2. A Transit Shelter, Signal Control Cover or Kiosk shall not intrude on pedestrian "clear zones" at street corners.

3. A Transit Shelter, Signal Control Cover or Kiosk shall be set back a minimum of five feet (5') from the edge of a crosswalk.

4. A Transit Shelter, Signal Control Cover or Kiosk shall be set back a minimum of eighteen inches (18") from the face of the curb.

5. A Transit Shelter, Signal Control Cover or Kiosk shall be set back a minimum of eight feet (8') from any fire escape and/or fire exit.

6. A Transit Shelter, Signal Control Cover or Kiosk shall be set back a minimum of five feet (5') from any fire hydrant, driveway, curb ramp, or blue zone parking space.

7. A Transit Shelter, Signal Control Cover or Kiosk shall be set back a minimum of forty inches (40") from any other above-ground structure not otherwise specified herein including, but not limited to, street light poles, parking meters, trees, etc.

8. A Signal Control Cover that displays advertising or an Advertising Kiosk shall be set back a minimum of sixty feet (60') from a Transit Shelter.

9. An Advertising Transit Shelter, Advertising Signal Control Cover or Advertising Kiosk shall be set back a minimum of five feet (5') from any certified street artist's designated area per list to be provided by the Department.

10. An Advertising Transit Shelter, Advertising Signal Control Cover or Advertising Kiosk shall be set back a minimum of sixty feet (60') from any public art work under the jurisdiction of the Arts Commission of San Francisco, except for public art on kiosks, per the San Francisco Civic Art Collection published by the Arts Commission of San Francisco, unless otherwise authorized by the Arts Commission, or its designee.

11. A Transit Shelter, Signal Control Cover or Kiosk shall not be placed over any storm drain or utility facility, except that Signal Control Covers may be placed over signal control equipment.

12. A Transit Shelter, Signal Control Cover or Kiosk shall not obstruct the view by the public of any traffic sign, wayfinding sign, traffic signal, or informational structure.

13. Advertising Kiosks shall be placed at least one hundred fifty feet (150') apart on any block face on Market Street.

14. Advertising Kiosks shall be placed at random, rather than in a fixed, predictable pattern.

C. Contractor may request waiver of the Placement Guidelines. Such a request will be considered at a hearing to be conducted by the Department in accordance with Section VII of this Order. The Department may issue the Permit if the Department finds after the hearing that granting an exception to the Placements Guidelines for the particular Transit Shelter, Signal Control Cover or Kiosk is in the public interest. The Department shall require Contractor to issue a public notice under Sections VI.A and VI.B of this Order if a Permit application includes a request for an exception to the Placement Guidelines. The exceptions to the public notice requirement contained in Sections VI.D, VI.E or VI.Fof this Order shall not apply to a hearing required under this Section.

XII. CONSTRUCTION REQUIREMENTS

A. Contractor shall obtain the required permits, if any, from regulating agencies of the State of California.

B. Contractor shall contact the Department of Parking and Traffic for traffic requirements prior to beginning construction.

C. Contractor shall conduct its construction operations in accordance with the requirements of Article 11 of the City's Traffic Code.

D. Contractor shall call Underground Service Alert (telephone number 1-800-277-2600) 48 hours prior to any excavation.

E. Contractor shall be solely responsible for any damage to existing facilities.

F. Contractor shall comply with all applicable City specifications and regulations including those contained in Article 2.4 of the City's Public Works Code and Department Order No. 171, 442.

XIII. DEPOSIT

Contractor shall submit and maintain with the Department a bond, cash deposit, or other security acceptable to the Department securing the faithful performance of the obligations of Contractor and its agent under any Transit Shelter, Signal Control Cover or Kiosk Permit issued under this Order. The deposit shall be in the sum of twenty-five thousand ($25,000) in favor of the "Department of Public Works, City and County of San Francisco." If the Director has deducted any amounts from such a deposit pursuant to this Order, Contractor must restore the full amount of the deposit prior to the Department's issuance of a subsequent Permit.

XIV. OTHER REQUIREMENTS

A. Contractor's use of the Public Rights-of-Way shall be subordinate to any prior lawful occupancy and the continuing right of the City to use and occupy the Public Rights-of-Way, or any part thereof, exclusively or concurrently with any other person or persons, and further subject to the public easement for streets and any and all other deeds, easements, dedications, conditions, covenants, restrictions, encumbrances, franchises and claims of title which may affect the Public Rights-of-Way.

B. Contractor shall not place a Transit Shelter, Signal Control Cover or Kiosk in the Public Rights-of-Way in a manner that is inconsistent with the City's Public Works Code, the rules, regulations, orders, and standard plans and specifications issued by the Department, other Applicable Law; provided that if any of the above provisions is inconsistent with this Order, this Order shall take precedence.

C. When required to ensure the public health, safety or welfare, Contractor shall, at its own cost and expense, temporarily or permanently remove, relocate, adjust, and/or support a Transit Shelter, Signal Control Cover or Kiosk, or any part thereof, to such other locations in the Public Rights-of-Way, in such manner as appropriate and as may be approved by the City in writing and in advance, or otherwise required by the City. The City may not unreasonably withhold its approval of any plan for removal, relocation, adjustment, and/or support of a Transit Shelter, Signal Control Cover or Kiosk ordered pursuant to this Section. Such removal, relocation, adjustment, and/or support shall be completed within the time and manner prescribed by the City; however, where feasible the City may require Contractor to follow the procedures set forth in this Order to obtain a new location for a Transit Shelter, Signal Control Cover or

Kiosk. If Contractor does not remove, relocate, adjust, and/or support a Transit Shelter, Signal Control Cover or Kiosk in the manner and time prescribed by the City, the City shall take all reasonable, necessary, and appropriate action, including removing the Transit Shelter, Signal Control Cover or Kiosk, and may charge Contractor the reasonable costs actually incurred including, but not limited to, administrative costs.

D. Whenever the City requires Contractor to remove, relocate, adjust, and/or support a Transit Shelter, Signal Control Cover or Kiosk to ensure the public health, safety or welfare, Contractor shall, after such work is complete, at its own cost and expense, promptly restore the Public Rights-of-Way in accordance with Applicable Law. If Contractor fails to restore the Public Rights-of-Way in accordance with Applicable Law, the City shall have the option to perform or cause to be performed such restoration in such manner as the City deems expedient and appropriate on behalf of Contractor and charge the actual costs incurred including, but not limited to administrative costs, to Contractor.

E. Upon the receipt of a demand for payment by the City, Contractor shall reimburse the City for any costs incurred by the City to remove a Transit Shelter, Signal Control Cover or Kiosk or to restore the Public Rights-of-Way.

F. The Department will not take any action that is authorized or required under this Section without first notifying and consulting with the SFMTA.

RECOMMENDED:

Barbara Moy, Bureau Manager
Street-Use and Mapping

Dated: September 26, 2007

APPROVED:

Fred V. Abadi, Ph.D. Bureau of
Director of Public Works

Dated: September 26, 2007

Distribution
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Sonali Bose, MTA