



City of
Oakland

MEMORANDUM

TO: Department of Transportation;
Planning & Building Department; Transportation
& Engineering Consultants

SUBJECT: Supplemental design guidance:
Accommodating pedestrians, bicyclists, and
bus facilities in construction zones

FROM: Wlad Wlassowsky,
Acting Assistant Director

DATE: January 6, 2017

Every reasonable effort should be made to avoid and minimize construction impacts on pedestrian, bicycle, and bus facilities in Oakland.

This memorandum provides engineering and design guidance on temporary traffic control measures used to accommodate pedestrians, bicyclists, and bus facilities through construction zones in Oakland. The guidance supplements the guidance in Chapter 6 of the California Manual on Traffic Control Devices (MUTCD), which specifies that bicyclists and pedestrians must be safely accommodated through construction zones. This supplemental guidance specifies when and where pedestrian, bicycle, and bus facilities may be relocated, detoured, modified, and closed in Oakland. This guidance applies to all sidewalks and all roads on which bicyclists are legally allowed to travel, including designated bikeways. The guidance applies to any entity ("construction sponsor") performing construction work in the public right-of-way, including utility companies, private land use development, and the City of Oakland.

Any construction sponsor submitting for an excavation/obstruction permit to the City of Oakland that will result in the blockage of a sidewalk, bicycle lane, vehicle travel lane, bus stop, or other public bicycle or pedestrian path must submit a Temporary Traffic Control Plan (TCP) to DOT for review and approval. The guidance in this document is intended to direct the development of construction sponsor's TCP.

Table 1: Reasonable Accommodation for Pedestrians

Treatment ¹	Construction Project Location ²		
	Downtown & within 0.25 miles of a BART Station	Neighborhood commercial areas and major transit corridors	All other areas
Sidewalk diversion	Acceptable ³	Acceptable	Acceptable
Sidewalk detour	x	x	Acceptable
Max duration of temporary sidewalk detour	4 hours Flagger required throughout duration of closure.	24 hours Flagger required throughout duration of closure.	One week Flagger required during peak traffic hours only.

¹ "Sidewalk diversion" and "sidewalk detour" are defined on following page.

² See Pedestrian Access Priorities in Construction Zones (attachment). Downtown: Central Business District, Jack London District, and Broadway-Valdez Specific Plan Area.

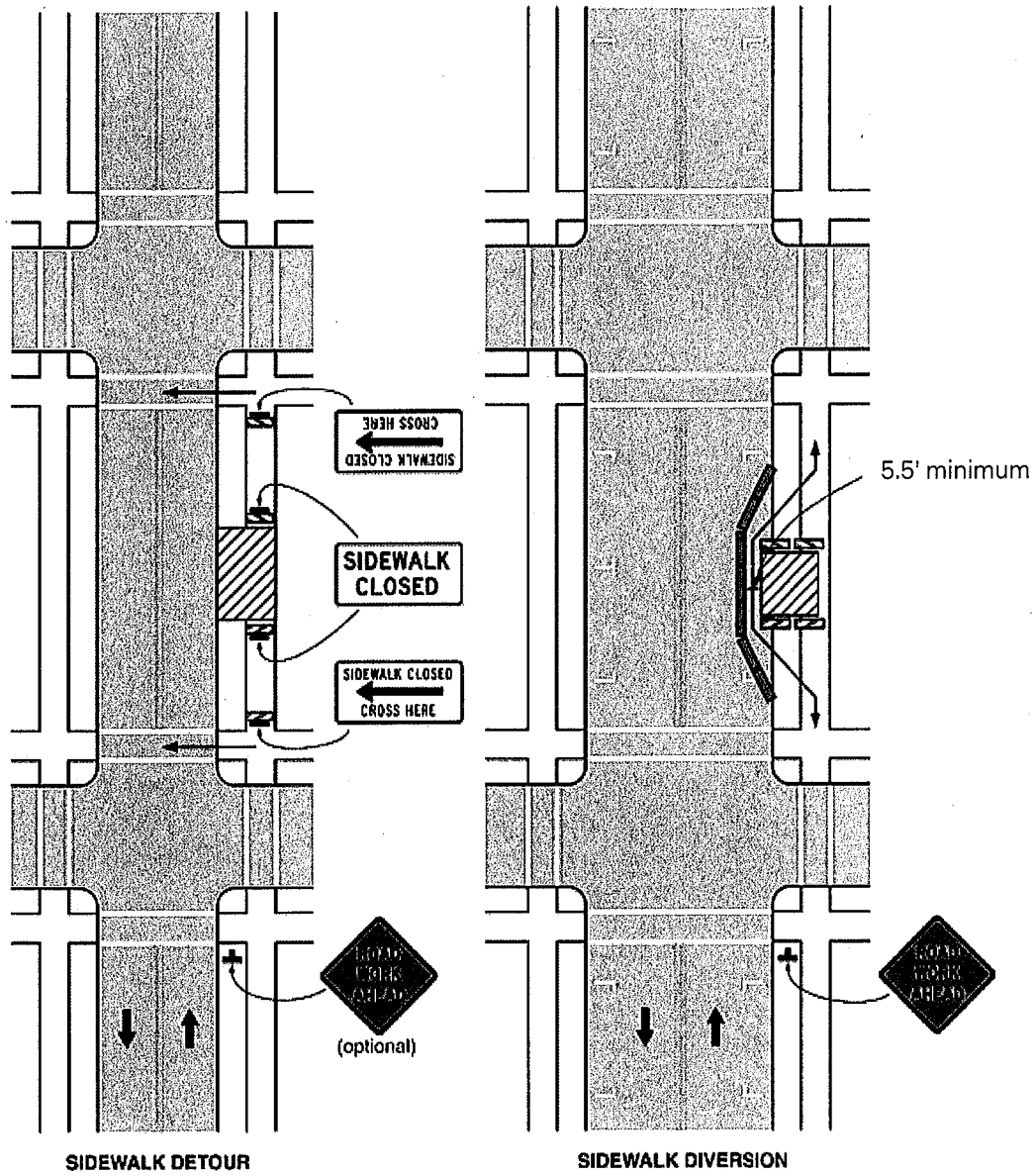
³ For all: Acceptable only if TCP is deemed sufficient and approved.

Pedestrian Accommodation

The two major types of temporary traffic control for pedestrians are adjacent **sidewalk diversions** and **sidewalk detours** (see Figure 1). To determine which temporary facility is appropriate, refer to Table 1. All temporary pedestrian facilities and alternate paths must be ADA-compliant, and all pedestrian-related signage shall be as permanent as the other TTC signage. Any diversions, detours, or full closures must be approved as part of a Traffic Control Plan.

- **Sidewalk Diversion** - A temporary, protected pedestrian route shall be provided adjacent to the sidewalk in a parking lane (if present), travel lane, or bicycle lane. It shall be protected from moving traffic by an approved barricade device that is detectable by people with visual disabilities. If the pedestrian diversion takes up a bike lane, bike accommodation must be maintained (see **Bicyclist Accommodation** below). All sidewalk diversion routes must keep and maintain minimum 5.5' clear width for pedestrian access.
 - The preferred treatment for long-term pedestrian diversions in construction zones in downtown Oakland and other areas with significant pedestrian activity is a **covered pedestrian walkway**. Covered walkways shall conform with Oakland Design and Construction Services Department standard detail M-5 (see attachment), the [CalTrans Temporary Pedestrian Facilities Handbook](#), ADA accessibility standards, OSHA structural specifications (to OSHA standards, 1910-28 "Safety requirements for scaffolding"). Design of the walkway should ensure limited obstruction between the top of railing and walkway cover to allow passive surveillance into and from the walkway, and should have a maximum exit access travel distance of 100 feet. Construction sponsors are responsible for maintaining adequate lighting within the covered walkway at all times and for removal of graffiti and cleaning of debris.
 - Construction sponsors may alternatively propose uncovered diversions using longitudinal channelizing devices, such as concrete k-rails. Channelizing devices used to separate a pedestrian diversion from moving traffic must fully protect pedestrians from motor vehicle impacts. Bases of temporary cyclone fences shall not extend over any adjacent traffic, bicycle lane, or pedestrian path of travel. Note: "water walls" are not permitted treatments for utility and private construction projects, and may only be used for short-term City of Oakland projects lasting fewer than 4 days.
- Pedestrian diversions shall always be clearly identified, wheelchair usable, shielded from motor vehicle traffic, and free of pedestrian hazards such as holes, debris, gravel, mud, etc.
- **Sidewalk detours are not acceptable in downtown Oakland, nor in areas where significant pedestrian activity occurs, such as near BART stations and in neighborhood commercial areas.** Only in areas where there is little existing pedestrian volume should a sidewalk detour be proposed. All detours should ensure accessible conditions. Sponsor may be required to make appropriate repairs to the detour route. Signage shall be provided at closest intersections to alert pedestrians of the sidewalk closure and direct them to the detour. Advance notification to pedestrians of any sidewalk detours or diversions shall be provided at the nearest crosswalk that meets minimum safety requirements on either side of the detour or diversion.
 - In areas where long-term sidewalk detours are not acceptable, **sidewalk detours** may be approved for limited duration when full closure of a sidewalk is required for intermittent and unavoidable construction activity. Refer to Table 1 for the maximum acceptable duration and conditions per project location.

Figure 1: Sidewalk Detour and Sidewalk Diversion⁴



Source: MUTCD (Figure 6H-28)

⁴ Water walls (conceptually illustrated here) are not permitted except for short-term City of Oakland projects lasting fewer than 4 days.

Bicyclist Accommodation

As with pedestrian facilities, bike lane closures should be avoided. Existing bike lanes must remain clear (minimum 5') unless the bike lane closure is specifically approved as part of a Temporary Traffic Control Plan (TCP) and a reasonable accommodation for an alternate bicycle path of travel is implemented, defined and prioritized below:

1. Closing a parking lane and keeping the adjacent bicycle lane open;
2. Shifting the bicycle lane to a location on the same roadway to bypass the work zone or obstruction, and if necessary, shifting and narrowing the adjacent motor vehicle traffic lanes; provided the adjacent motor vehicle travel lanes shall be maintained at no less than ten feet (10 ft.) wide;
3. Closing the adjacent motor vehicle travel lane to provide space for a bicycle lane, provided that a minimum of one (1) motor vehicle travel lane shall remain in the same direction of travel;
4. Merging the bicycle lane and the adjacent motor vehicle travel lane into a shared travel lane adjacent to the work zone or other obstruction, installing sharrow lane markings in the shared travel lane and installing signage directing bicyclists to merge into the shared travel lane; provided the shared travel lane shall be maintained at no less than fourteen feet (14 ft.) wide; and
5. As a last resort, detouring bicyclists onto an adjacent roadway, in which case the detour route shall be adequately signed and replicate, as closely as practicable, the level of safety found on the bicycle route being blocked.

Any TCP that identifies bike lane closures, detours, or other bike facility changes is subject to approval and shall address the following guidance:

1. Active bike lanes must remain clear (5' minimum). Signage, channelizing devices, barriers, and other equipment shall not be placed in active bike lanes or in locations that would block bicyclists' path of travel.
2. Bike lanes shall not be closed for construction activities unless the closure is documented and approved in a TCP.
3. TCPs shall indicate the length and duration of all bike lane closures.
4. Where bike lanes must be closed, advance notification and tapers shall be provided with sufficient length to allow bicyclists to merge into the adjoining travel lane in advance of the bike lane closure.
5. TCPs that include bike lane closures shall post construction zone speed limits of 25mph or less.
6. All bicycle-related signage shall be as permanent as the other TTC signage in the construction zone.
7. If the TCP includes roadway striping, temporary bike lanes and/or sharrows shall be installed.
8. The City's Bicycle Facilities Program Manager, or his/her designee, shall review TCPs that include bikeway detours or bike lane closures of longer than one week.

Refer to *Multi-lane Roadway with Travel Lane Closure, Temporary Bike Lane, and Parking Lane Closure* and *Single-lane Roadway with Bike Lane Closure and Parking Lane Closure* (attachments).

Bus Stop Relocation or Closure

Temporary relocation of a bus stop for construction activity requires written approval from AC Transit, submitted at the time of a TCP submission. Temporary bus stops must also be approved by the DOT. Any parking obstruction, sidewalk obstruction, travel lane obstruction, or other accommodation required for the temporary bus stop shall be proposed through an obstruction permit application at the sponsors' expense.

Lane Closures

On multi-lane roadways, traffic lanes may be converted to a bike lane or pedestrian diversion, as specified in an approved TCP. Below is a set of guidance related to lane closures:

- As a general rule, no more than one lane fewer than the total lanes per direction may be closed. For example, a four-lane roadway with two lanes in each direction shall provide a minimum of one lane in each direction.
- Different guidance applies to lane closures on multi-lane one-way streets in downtown Oakland. So long as a minimum of one travel lane remains open, the closure of two or more travel lanes may be approved upon request.
- The minimum width of a temporarily narrowed traffic lane is 10', clear of any obstructions, including traffic cones or delineators.
- Existing left turn lanes shall be maintained. Left turn lanes should not be used for temporary through travel lanes.
- Completely closing any direction of traffic is generally not allowed. This includes any plan which allows one lane to be used for two directions of traffic ("Two-Way Flag Control"). An approved TCP is required to use "Two-Way Flag Control."
- When any movement is reduced to a single lane that includes left and through movements at an intersection, the TCP may need to prohibit the left turn movement to facilitate efficient traffic flow. The TCP should include a recommended detour of the left turn.
- Any TCP proposing to reduce travel lanes on Broadway to one lane per direction between Embarcadero West and Grand Ave may be required to identify additional transit-supportive treatments, such as queue jumps, to ensure transit delay is reduced.

Developing a Temporary Traffic Control Plan

Reflecting the above guidance, Temporary Traffic Control Plans shall be prepared by a certified traffic engineer. Proposed design and placement of the temporary traffic control signs, devices and roadway markings shall be in compliance with the most recent edition of the MUTCD.

Subject to the conditions in Tables 1-3, periodic full closures of streets and sidewalk may be approved. Note: the safe and reasonable flow of pedestrian and bicycle traffic is to be maintained in preference to construction activities and the flow of construction vehicles. If periodic full closures are necessary and anticipated, the construction sponsor shall indicate the following within the TCP, subject to approval:

- 1) The proposed location of flaggers or spotters to be posted at each end of the closed pedestrian or cycle route for the entire duration of time the intermittent closure is in place; and
- 2) The times of day when intermittent closure may occur; and
- 3) Acknowledgement that advance notice to the Department of Transportation, Oakland Police Department, and emergency services is required for each full closure, subject to fine and/or revocation of obstruction permit.

Display of Permitted Temporary Traffic Control Plan

After an obstruction permit and TCP is approved and before commencing any activities that result in the blockage of a pedestrian or bicycle facility, construction sponsors must display a copy of the obstruction permit at a prominent, publicly accessible location near the construction site entrance. Additionally, the following information must be simultaneously displayed:

- 1) The range of dates during which the obstruction permit is valid;
- 2) The name and contact information of the party requesting the obstruction permit;
- 3) A clear description of the approved temporary traffic control plan
- 4) An Oakland Department of Transportation phone number and email address to direct questions, comments, and concerns regarding the blockage.

Planning Appropriately for Temporary Traffic Control Plan Review

Every reasonable effort should be made to avoid and minimize construction impacts on pedestrian, bicycle, and bus facilities in Oakland. As such, construction sponsors for land use development projects may elect to propose and receive feedback on preliminary plans for temporary traffic control within a land use development planning application. At minimum, construction sponsors should submit TCP proposals 60 days before desired construction start date.

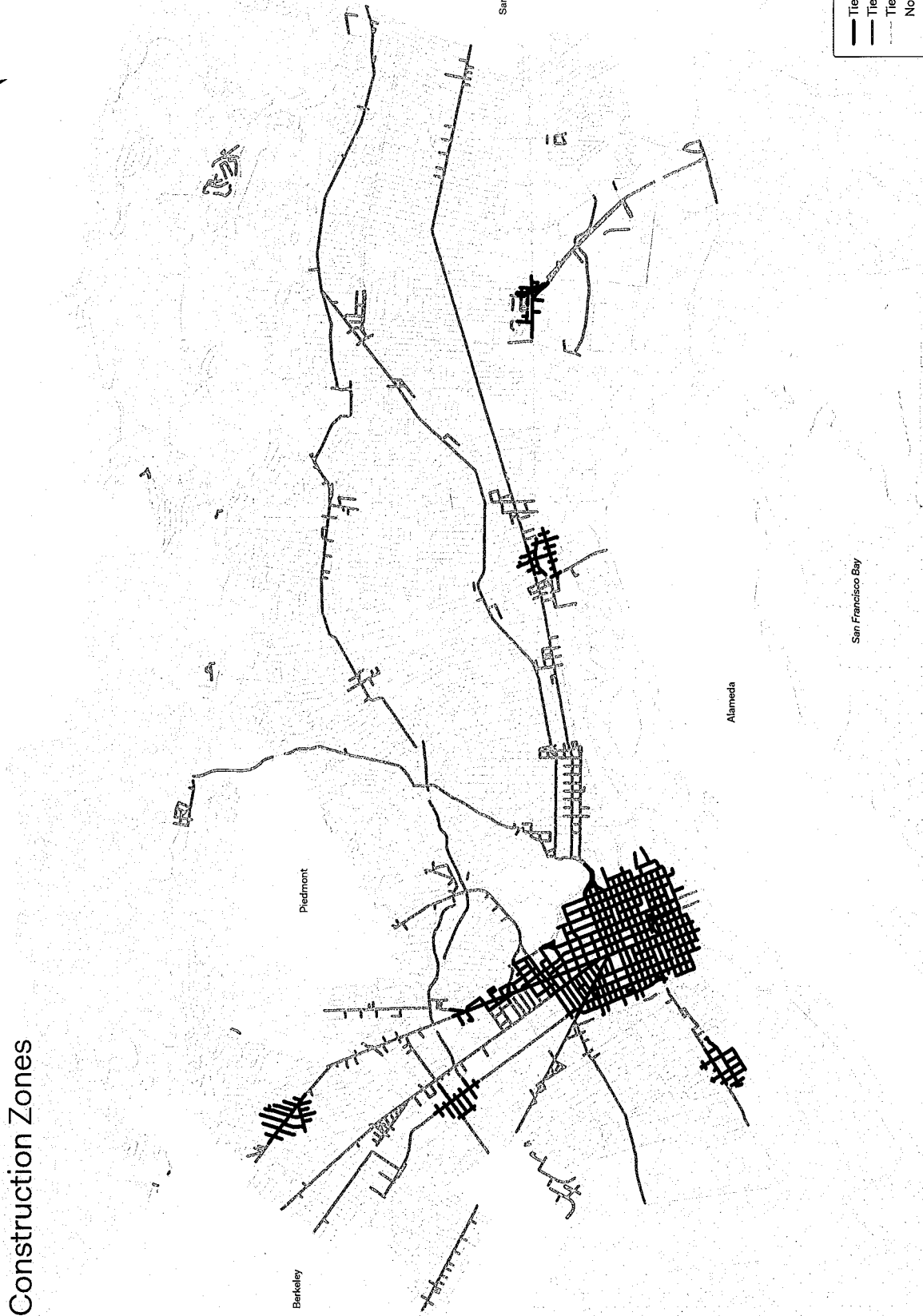
Balancing Obstruction Permit Fees

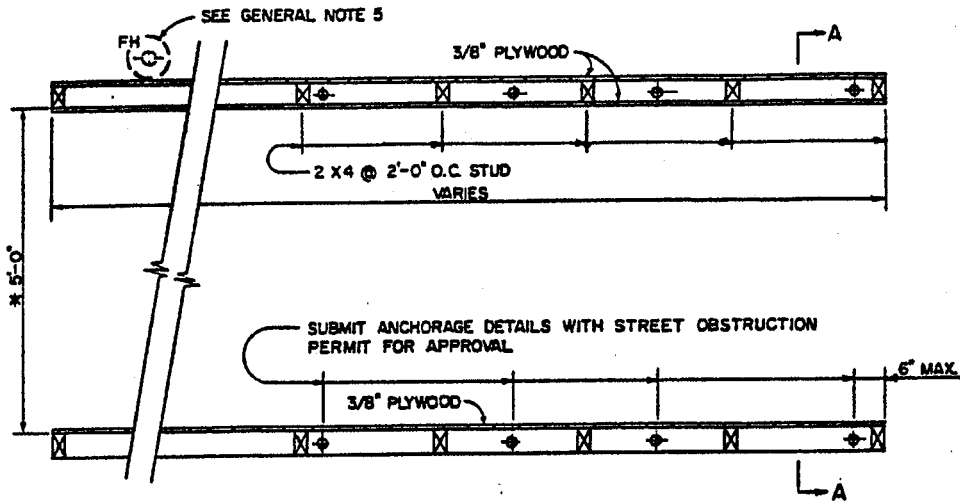
Construction sponsors that provide a diverted path of travel for bicyclists and/or pedestrians by converting a travel lane and/or parking lane may request a waiver of related obstruction fees, subject to agreement from the Department of Transportation and approval by the City Administrator.

Attachments

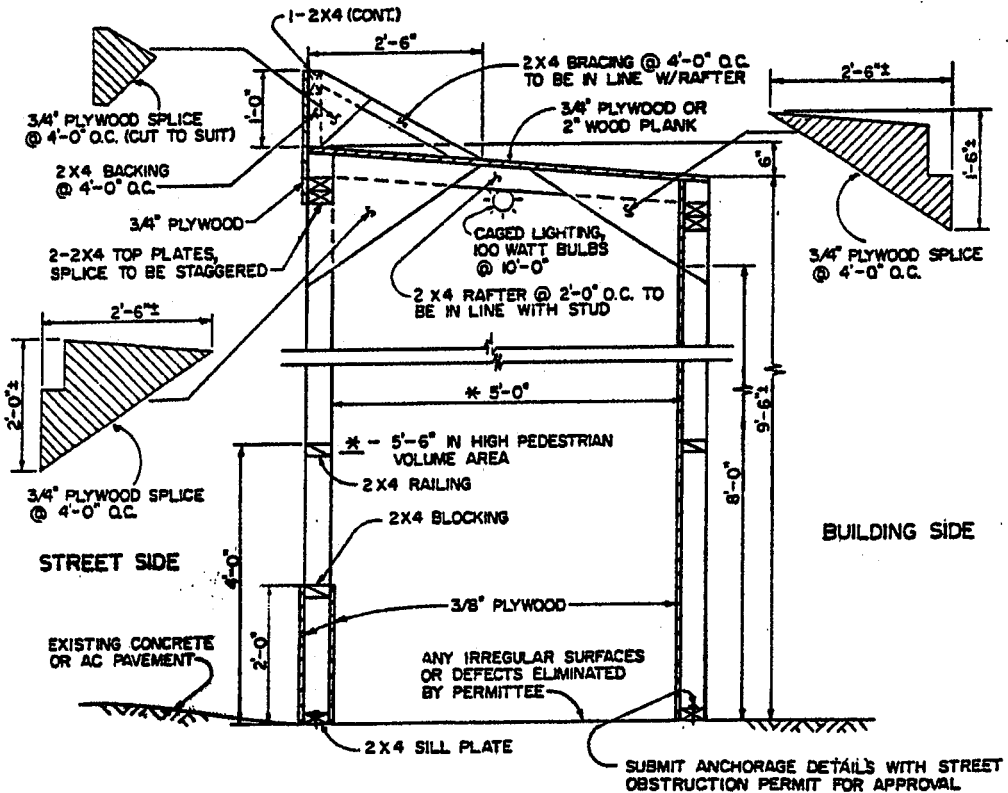
- *Map: Pedestrian Access Priorities in Construction Zones*
- *Detail M-5: Guidelines for Temporary Pedestrian Walkway Canopy*
- *Detail TTC-1: Multi-lane Roadway with Travel Lane Closure, Temporary Bike Lane, and Parking Lane Closure*
- *Detail TTC-2: Single-lane Roadway with Bike Lane Closure and Parking Lane Closure*

Pedestrian Access Priorities In Construction Zones





FLOOR PLAN
NTS



SECTION A-A
NTS

NOTE: THIS PLAN IS NOT A LEGAL ENGINEERING DOCUMENT BUT AN ELECTRONIC DUPLICATE. THE SIGNED CITY OF OAKLAND STANDARD DETAILS FOR PUBLIC WORKS CONSTRUCTION IS AVAILABLE FOR PURCHASE FROM THE CONTRACT ADMINISTRATION DEPARTMENT.

CITY OF OAKLAND DESIGN AND CONSTRUCTION SERVICES DEPARTMENT



GUIDELINES FOR TEMPORARY PEDESTRIAN WALKWAY CANOPY

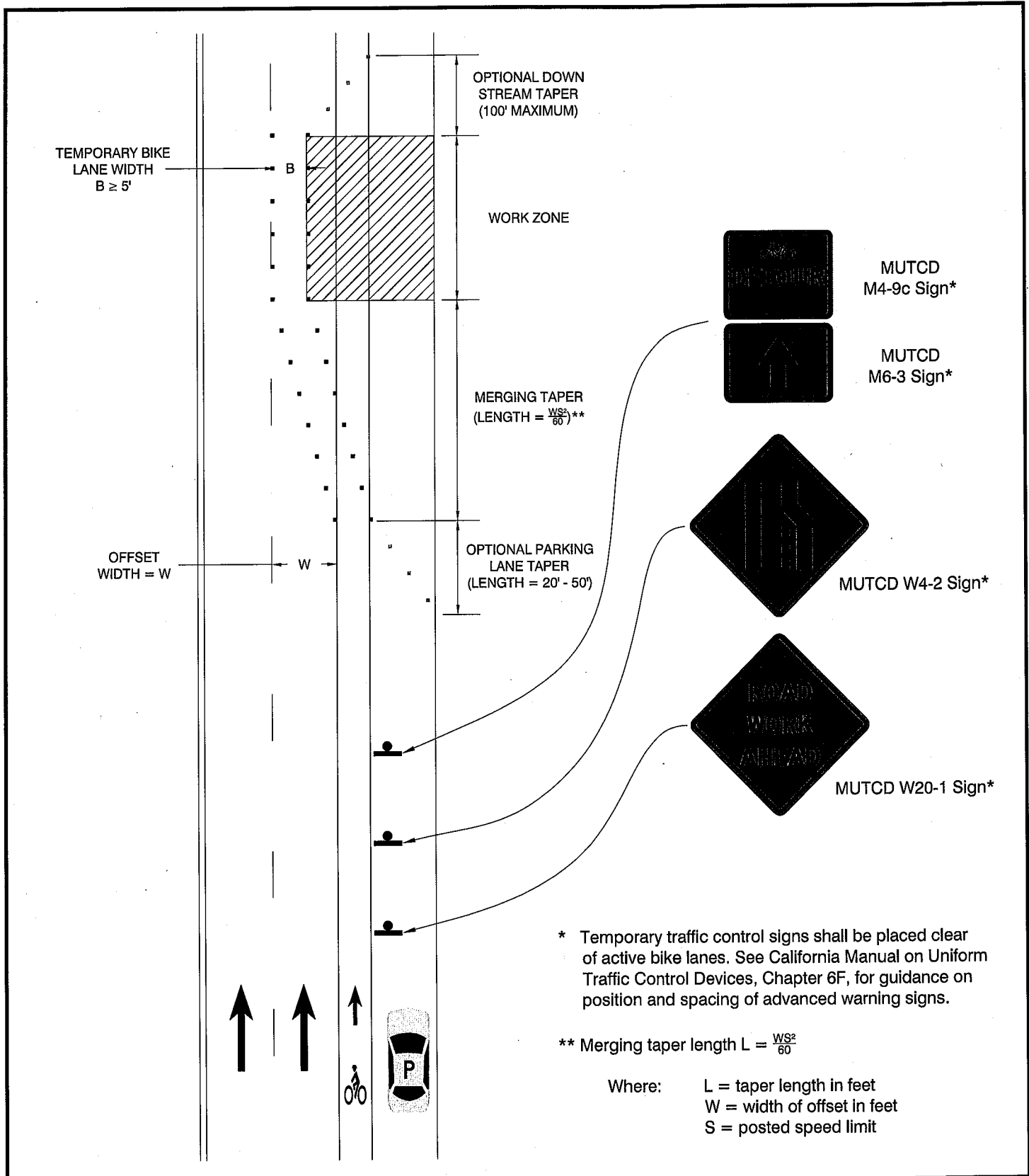
ENGINEERING DESIGN MANAGER

DATE: JANUARY 2002

REV. DATE: _____

DWG.

M-5



* Temporary traffic control signs shall be placed clear of active bike lanes. See California Manual on Uniform Traffic Control Devices, Chapter 6F, for guidance on position and spacing of advanced warning signs.

** Merging taper length $L = \frac{WS^2}{60}$

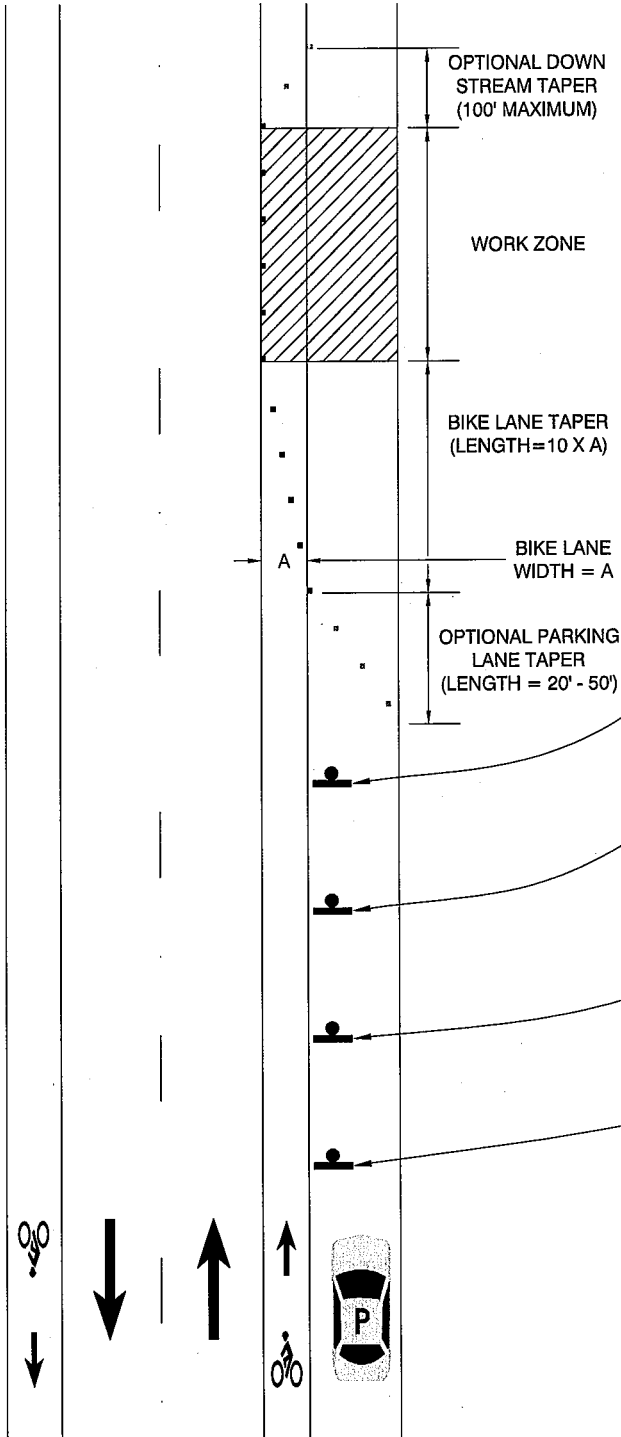
Where: L = taper length in feet
 W = width of offset in feet
 S = posted speed limit



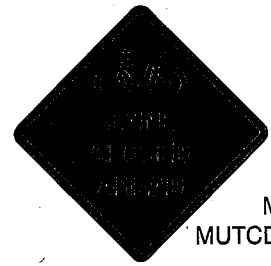
CITY OF OAKLAND
 BUREAU OF ENGINEERING AND CONSTRUCTION
 BICYCLE FACILITIES PROGRAM
 250 FRANK H. OGAWA PLAZA, SUITE 4344 * OAKLAND CA, 94612
 (510) 233-3466 * FAX (510) 238-7415

MULTI-LANE ROADWAY WITH TRAVEL
 LANE CLOSURE, TEMPORARY BIKE LANE,
 AND PARKING LANE CLOSURE

TEMPORARY TRAFFIC CONTROL DETAILS	
SCALE: NOT TO SCALE	DWG. NO. TTC-1
DATE: OCT 2016	



MUTCD R4-11 Sign*
(Black on Orange)



Modified
MUTCD W20-5 Sign*



MUTCD C17(CA) Sign*



MUTCD W20-1 Sign*

* Temporary traffic control signs shall be placed clear of active bike lanes. See California Manual on Uniform Traffic Control Devices, Chapter 6F, for guidance on position and spacing of advanced warning signs.



CITY OF OAKLAND
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SINGLE-LANE ROADWAY WITH
BIKE LANE CLOSURE AND
PARKING LANE CLOSURE

TEMPORARY TRAFFIC
CONTROL DETAILS

SCALE: NOT TO
SCALE

DWG. NO.

DATE: OCT 2016

TTC-2