

TRAFFIC CONTROL PLAN TEMPLATES OCTOBER 2010 Revised February 2014

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General Notes

- 1. All work shall comply with the latest edition of the County of Sacramento Standard Construction Specifications, County of Sacramento Improvement Standards, applicable Caltrans Standards, the California Manual of Uniform Traffic Control Devices (CaMUTCD) and other applicable provisions.
- 2. A minimum of one person shall be assigned to provide full time continuous monitoring and maintenance of traffic control devices.
- 3. All cones shall be 28 inches min. in height. Cones used during night time hours shall be equipped with retro reflective bands (or sleeves). Maximum cone spacing shall be as indicated but shall not be greater than 50 ft.
- 4. The W13-1P(25) shall be used when the lane adjacent to work is less than 11 feet and when work is not protected by a fixed barrier. Any other use of W13-1P or C17 series signs may only be considered when an engineering analysis concludes that a reduction of traffic speeds /1\ may help to improve traffic safety. C17 series signs may be used only when workers are actively engaged in construction activities. Speed reductions if justified, shall be lowered in 10 mph increments using C17 / W13-1P signage until the justified speed is obtained.
 - 5. G20-2 "END ROAD WORK" sign shall be placed at the end of areas controlled by temporary traffic controls.
 - 6. County inspector may direct the utility/contractor to discontinue operations at any time if the inspector determines that the work creates an undue safety risk or severe traffic congestion.
 - 7. Traffic control devices shall be installed such that the sign or device farthest from the work area shall be placed first and shall be placed progressively towards the work area.
 - 8. Existing signs that may conflict with temporary traffic control devices shall be covered.
 - 9. Flaggers shall wear approved safety vest, be equipped with stop / slow paddles and shall be in sight of each other or in direct communications at all times.
 - 10. Minimum traffic lane widths shall be as follows:
 - 10-feet where no fixed lateral obstructions exists
 - 11-feet where fixed lateral obstruction (k-rail) exists on one side of lane
 - 12-feet where fixed lateral obstruction exists on both sides of lane
 - 11. Construction signage shall be promptly removed or covered whenever the message is not applicable or not in use.
 - 12. Driveway access shall be maintained at all times unless other arrangements have been made through the affected property owner.
 - 13. Buffer and taper areas shall remain clear of vehicles and equipment (except for appropriate TCP devices) at all times.
 - 14. Work involving modifications to normal traffic signal operations shall be coordinated with the Sac County Traffic Operations center.
 - 15. On roadways where parking is allowed, temporary "No Parking" signage may be placed where roadway widths are inadequate.
 - 16. Contractor shall coordinate with county inspector to verify, identify and address conflicts with other planned or ongoing projects in the area.
 - 17. If construction obstructs existing bus stop, the contractor shall coordinate work with Regional Transit (RT), 48 hours in advance of work and make provisions acceptable with RT to provide an alternative temporary location.
 - 18. Contractor shall contact schools affected by construction to determine if school is in session. If school is in session, no traffic affecting construction activities shall take place 30 minutes before and 30 minutes after the arrival (AM) or departure (PM) bells. Contractor shall also notify any fire station which may be affected by construction activities.

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Instructions For Using Templates

locations:

Street	Lim
Arden Way	Sac.
Auburn Blvd.	Wat
Fair Oaks Blvd.	Sac
Florin Rd.	Sac
Folsom Blvd.	Sac
Fulton Ave.	All
Greenback Lane	All
Hazel Ave.	All
Howe Ave.	Fols
Madison Ave.	Citr
Sunrise Blvd.	All
Watt Ave.	Ante

Plans at these locations shall be site specific and require specific review and approvals.

- Moratorium Maps.
- obstruct or modify pedestrian, bicycle or vehicular traffic patterns.
- depict actual field conditions shall be submitted for review.
- and available for review by the County inspector.
- to penalties as indicated in Section 12.08 of the County code.

1. Standard Traffic Control Templates are for use on projects requiring short duration (one day or less) traffic control measures and shall not be used on roadways with 3 or more lanes in any direction or at the following

> nits c. City Limits to Eastern Ave. tt Ave. to Winding Way /1City Limit to Sunrise Blvd. City Limit to Stockton Blvd. City Limit to Bradshaw Rd.

som Blvd. to Alta Arden Express Way rus Heights City Limits to Hazel Ave.

telope Rd. to Kiefer Blvd

2. Work covered under these Standard Traffic Control Templates shall be limited to week days between the hours of 8:00 am to 3:30 pm. Work outside of these working hours requires specific approval. In accordance with Section 7-8.06 of County of Sacramento Standard Construction Specifications, work shall be suspended and no activities that interfere with public traffic shall be conducted on designated streets during holiday season (defined as the four-day Thanksgiving weekend and December 8 through January 1) - See Holiday

3. Use of Standard Traffic Control Templates does not relieve the user of other requirements, including 24 hour notification prior to beginning work. For emergency work, notification shall be provided within 1 hour of dispatch as defined in Section 7-8.03 of the County Standard Construction Specifications. Authorized utilities will not be required to provide notification if the work does not involve excavation and does not

4. Users of these Standard Traffic Control Templates shall review field conditions prior to beginning work. Users shall determine specific aspects of the roadway at the work location; determine the most appropriate template to be used for the proposed work; complete data table and revise the template with notes and sketches as appropriate to delineate actual field conditions. Locations where templates do not reasonably

5. Revised Standard Traffic Control Template shall be on site at all times in which traffic controls are in place

6. Failure to comply with these requirements shall be considered an encroachment violation and may be subject







							Minim per Le								
Posted Speed	Formula	Buffer Space		10' Offs			11' Offs			12' Offse	et		mum Spacing	Sign Spacing	LIDG (Ft)
			L	½ L	1/3 L	L	½ L	1/3 L	L	½ L	1/3 L		Taper	Ĺ	
			Merge	Shift	Shoulder	Merge	Shift	Shoulder	Merge	Shift	Shoulder	Long.	& LIDG		
25		155'	104'	52'	35'	115'	57'	38'	125'	63'	42'	25'	13'	100' To 200'	94'
30	$L = WS^2$	200'	150'	75'	50'	165'	83'	55'	180'	90'	60'	30'	15'	120' To 250'	113'
35	$L = \frac{VVS}{60}$	250'	204'	102'	68'	225'	112'	75'	245'	123'	82'	35'	18'	140' To 280'	131'
40	00	305'	267'	133'	89'	293'	147'	98'	320'	160'	107'	40'	20'	160' To 320'	150'
45		360'	450'	225'	150'	495'	248'	165'	540'	270'	180'	45'	23'	360' To 540'	169'
50		425'	500'	250'	167'	550'	275'	183'	600'	300'	200'	50'	25'	400' To 600'	197'
55		495'	550'	275'	183'	605'	303'	202'	660'	330'	220'	50'	28'	440' To 660'	210'
60	L = WS	570'	600'	300'	200'	660'	330'	220'	720'	360'	240'	50'	30'	480' To 720'	225'
65		645'	650'	325'	217'	715'	358'	238'	780'	390'	260'	50'	33'	520' To 700'	244'
70		730'	700'	350'	233'	770'	385'	257'	840'	420'	280'	50'	35'	560' To 820'	263'

1

Both are based on:

1.) 85th % or if not available, then use

2.) Posted Speed Limit (PSL)

L = Taper Length

S = Speed

W = Width (Offset from path of travel) LIDG = Lateral Intrusion Deterrence Gap (Ref: Ontario Traffic Manual -Book 7)

* Cones shown on templates are illustration purposes only. Exact number of cones required shall be based on cone spacing, taper lengths, actual field conditions, etc...

REVISIONS REV. DESCRIPTION BY DATE		M & O TYPICAL TRAFFIC CONTROL PLANS	JOB NO	SCALE HOR: N/A
1 -Delete Low/High Spd / Add LIDG / GDK 2/1- Revise Sign Spacing	REZA MOGHISSI, CHIEF	DEVICE SPACING TABLE SIGN SPACING, TAPER LENGTH AND CONE SPACING TABLE	TEMPLATE NAME DRAWNB DESIGNED CHECKED SHEET DATE	$ \begin{array}{c} \text{VER: N/A}\\ \hline \text{SHEET}\\ \hline \begin{array}{c} \end{array} $
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	BE PREPARED TO STOP W3-4 optional	C9A(CA) optional	WORK AHEAD W20-1
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LENGTH	OF		*BUFFER LENGTH
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C12(CA) (Optional)	25 мрн W13-1P	ROAD WORK AHEAD W20-	1	
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R C12(CA)	OR W1-3.			
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RIGHT LANE CLOSED AHEAD	ROAD	Ĩ		
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📾 CONE 🔣 ARROW PANEL 🛏 CHANGEABLE MESSAGE	-See TC-05 for sign description. All warning signs shall have a black legend and border on an orange background unless otherwise noted on the drawing.					
CONE ARROW PANEL CHANGEABLE MESSAGE SIGN H BARRICADE WORK AREA FLAGGER SIGN SIGN	 -See TC-06 for sign spacing, spacing of cones, taper and buffer lengths. Sign spacing may be increased and cone spacing may be decreased. -Signs may not be substituted. -Signs and Devices must be visible at 1000'. -See Sheet TC-45 for pedestrian mitigation. -Share The Road signage required when outermost lane plus paved shoulder is less than 14'. 	Posted Speed Limit	*TAPER LENGTH	*SPACING OF CONES	*SIGN SPACING	*BUFFER LENGTH
	-The W13-1P(25) shall be used when the lane adjacent to work is less than 11 feet and when the work is not protected by a fixed barrier.	* REFERENCE TABLES	ON TC-06			
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PEDESTRIAN MITIGATION : (Subsection)

Pedestrians (Temporary Alternate Circulation Path)

<u>General</u>

When crosswalk or other pedestrian facilities are temporary closed or relocated, alternate circulation paths are alterations to an existing developed pedestrian environment and are required to achieve the maximum accessibility feasible under existing conditions.

Components

Temporary Alternate Circulation Path (hereafter referred to as "path" or "pathway") shall consist of one or more of the following components: walkways, ramps, curb ramps (excluding flared sides) and landings, blended transitions, crosswalks, and pedestrian overpasses and underpasses. Elevators, platform lifts, stairways and escalators shall not be part of a path. All components of a path shall comply with the applicable portions of this document.

Continuous Width

The minimum continuous and unobstructed clear width of a path shall be 1.2 m (4.0 ft) preferably 1.5 m (5.0 ft), exclusive of the width of the pedestrian barricades and channelizing devices. Where a path turns or changes direction, it shall accommodate the continuous passage of a wheelchair or scooter. As with street or highway design for vehicles, additional maneuvering width or length may be needed along curved or angled routings, particularly where the grade exceeds 5%. Individual segments of paths shall have a minimum straight length of 1.2 m (4.0 ft).

California Code of Regulations (CCR) Title 24 Part 2 Chapter 11B section 1133B.8.6 and Americans with Disabilities Act Accessibility Guidelines (ADAAG) 4.4 Provisions for protruding objects apply across the entire width of the path.

Width at Passing Spaces

Paths that are less than 1.5 m (5.0 ft) in clear width shall provide passing spaces at intervals of 61 m (200 ft) maximum. Paths at passing spaces shall be 1.5 m (5.0 ft) wide for a distance of 1.5 m (5.0 ft).

Walkway Grade and Cross Slope

The pathway surface shall be level and shall not have a slope greater than 12 to 1 nor a cross slope greater than 2%. At locations where it is impractical to obtain the required 12 to 1 slope or 2% cross slope, exceptions may be granted on an individual bases depending on the specific site conditions.

Where the walkway of a pedestrian access route is contained within a street or highway border, its grade shall not exceed the general grade established for the adjacent street or highway.

<u>Surface</u>

The surface of the path shall be firm, stable, and slip resistant. The pathway shall be constructed of concrete, asphalt, non slip plywood or non slip steel plate. Non slip plywood used for a walkway surface shall be ³/₄ inch (18 mm) minimum and shall be thoroughly supported so as to produce a firm stable surface. Compacted soil or aggregate base material is not considered an acceptable surface.

Surface discontinuities shall not exceed ½ inch maximum. Changes in level up to ¼ inch (6 mm) may be vertical and without edge treatment. Vertical discontinuities between ¼ inch and ½ inch (6 mm and 13 mm) maximum shall be beveled at 1:2 minimum. The bevel shall be applied across the entire level change. Changes in level greater than ½ inch (13 mm) shall be accomplished by means of a ramp that complies with CCR Title 24 Part 2 Chapter 11B section 1127B.5 and ADAAG 4.7. Surfaces with individual units laid out of plane and those that are heavily textured, rough, or chamfered, will greatly increase rolling resistance and will subject pedestrians who use wheelchairs, scooters, and rolling walkers to the stressful (and often painful) effects of vibration. It is highly desirable to minimize surface discontinuities; when discontinuities on the path are unavoidable, they should be widely separated.

The installation of gratings in the surface of the pathway should be avoided. If gratings are located in path surfaces, then they shall have spaces no greater than $\frac{1}{2}$ inch (13 mm) wide in one direction. If gratings have elongated openings, then they shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

<u>Location</u>

Sidewalks at the construction location may be closed with adequate detours. Sidewalks may only be closed to through traffic and shall not prevent local pedestrian access. Detours shall not increase the path of travel by more than 500 feet. Detour routes shall be limited to existing sidewalks, private properties (see above requirements) and crossings at roadway intersections. To the maximum extent feasible, the alternate circulation path shall be provided on the same side of the street as the disrupted route. Where it is feasible to provide a same-side alternate circulation path and pedestrians will be detoured, section 6D.02 of the Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets and Highways 2003 Edition (MUTCD) approved for use in California, Amended September 26, 2006, specifies that the alternate path provide a similar level of accessibility to that of the existing disrupted route. This may include the incorporation of accessible pedestrian signals (APS), curb ramps, or other accessibility features.

Pedestrians may be detoured onto private property only if written permission from the property owner is obtained along with documentation indicating that the County would not be liable in the event of an accident.

Surface discontinuities shall not exceed $\frac{1}{2}$ inch maximum. Changes in level up to $\frac{1}{4}$ inch (6 mm) may be vertical and without edge treatment. Vertical discontinuities between $\frac{1}{4}$ inch and $\frac{1}{2}$ inch (6 mm and 13 mm) maximum shall be beveled at 1:2 minimum. The bevel shall be applied across the entire level change. Changes in level greater than $\frac{1}{2}$ inch (13 mm) shall be accomplished by means of a ramp that complies with CCR Title 24 Part 2 Chapter 11B section 1127B.5 and ADAAG 4.7. Surfaces with individual units laid out of plane and those that are heavily textured, rough, or chamfered, will greatly increase rolling resistance and will subject pedestrians who use heelchairs, scooters, and rolling walkers to the stressful (and often painful) effects of vibration. It is highly desirable to minimize surface discontinuities; when discontinuities on the path are unavoidable, they should be widely separated.

The installation of gratings in the surface of the pathway should be avoided. If gratings are located in path surfaces, then they shall have spaces no greater than $\frac{1}{2}$ inch (13 mm) wide in one direction. If gratings have elongated openings, then they shall be placed so that the long dimension is perpendicular to the dominant direction of travel.

<u>Location</u>

Sidewalks at the construction location may be closed with adequate detours. Sidewalks may only be closed to through traffic and shall not prevent local pedestrian access. Detours shall not increase the path of travel by more than 500 feet. Detour routes shall be limited to existing sidewalks, private properties (see above requirements) and crossings at roadway intersections. To the maximum extent feasible, the alternate circulation path shall be provided on the same side of the street as the disrupted route. Where it is feasible to provide a same-side alternate circulation path and pedestrians will be detoured, section 6D.02 of the Federal Highway Administration Manual on Uniform Traffic Control Devices for Streets and Highways 2003 Edition (MUTCD) approved for use in California, Amended September 26, 2006, specifies that the alternate path provide a similar level of accessibility to that of the existing disrupted route. This may include the incorporation of accessible pedestrian signals (APS), curb ramps, or other accessibility features.

Pedestrians may be detoured onto private property only if written permission from the property owner is obtained along with documentation indicating that the County would not be liable in the event of an accident.

Protection

Where the temporary alternate circulation path is exposed to adjacent construction, excavation drop—offs, traffic, or other hazards, it shall be protected with a pedestrian barricade or channelizing device.

When it is necessary to block travel at the departure curb to close a crosswalk that is disrupted by excavation, construction, or construction activity, care must be taken to preserve curb ramp access to the perpendicular crosswalk. This may require additional pedestrian channelization if only a single diagonal curb ramp serves the corner.

Figures TA-28 and TA-29 of the MUTCD specify notification signage for pedestrian closings and detours. Audible signage triggered by proximity switches should be used whenever possible to provide information to pedestrians such as the blind and visually impaired, who cannot use print signs.

Pedestrians routed into normal bicycle or automobile traffic lanes must be protected from traffic via pedestrian barricade or channelizing device that is continuous, immovable, stable, rigid, and visible that is free of splintered, jagged, and sharp surfaces/edges: concrete barriers (k-rail) or other similar protective devices. Caution tapes, cones, drums, sawhorses, and A Frames are not considered effective substitutions for this purpose.

Pedestrians routed onto the roadway shoulder at locations not normally traveled by bicycles or locations where bicycle traffic has been relocated must be protected with a continuous, immovable, stable, rigid, and visible barrier that is free of splintered, jagged, and sharp surfaces/edges. Pedestrian barricades and channelizing devices shall consist of a wall, fence, or enclosures specified in section 6F–58, 6F–63, and 6F–66 of the MUTCD. Caution tapes, cones, drums, sawhorses, and A Frames are not considered effective substitutions for this purpose. Barriers shall have a bottom or lower continuous rail equivalent to a 2x6 secured in a vertical orientation and a 2x6 minimum upper rail 36 inches (915 mm) minimum above the ground or walkway surface. Barrier support members shall not protrude beyond the barricade face into the pedestrian access route or alternate circulation path.

These pathways shall be well marked with reflective materials to assist both visually impaired pedestrians and vehicles traveling at times when visibility may be limited. The reflective materials shall be color yellow conforming to Federal Color No. 33538, as shown in Table IV of Standard No. 595B.

During working hours, at least one worker shall be assigned the responsibility to escort elderly, disabled or any other pedestrians in need of assistance through the construction site. Worker assigned this responsibility may also participate in other construction activities however, the assigned worker shall be aware of his or her responsibilities for providing this assistance.

<u>Lighting</u>

The pathway is to be continuously and uniformly illuminated at all times. When existing artificial lighting does not continuously and uniformly illuminate the path or there is no artificial lighting, there shall be temporary lights installed, if electrical power is available. Paths are more visible for persons with low vision when a pedestrian barricade or channelizing device contrasts as much as possible with its surroundings. Additional factors affecting the ease with which the pathway can be distinguished from its surroundings include shadows cast by lighting sources, surface reflectance, and the uniformity of the color and texture of the materials making up the walking surface, pedestrian barricade, or channelizing device.

Holes in the Permanent Path of Travel

When there is a hole or opening, e.g. manhole cover, within the permanent pathway of travel, there shall be a continuous, immovable, stable, rigid, and visible pedestrian barricade surrounding the boundary of the opening which is free of splintered, jagged, and sharp surfaces/edges. There shall also be a clear pathway around the pedestrian barrier at a minimum of 1.2 m (4.0 ft) preferably 1.5 m (5.0 ft). The pedestrian barrier/pathway must also meet all requirements as listed above.

REVISIONS REV. DESCRIPTION BY DATE		M & O TYPICAL TRAFFIC CONTROL PLANS	JOB NO	SCALE HOR: N/A
	Smolt -	PEDESTRIAN MITIGATION REQ. TYPICAL PEDESTRIAN CONTROL	DRAWN LB DESIGNED CHECKEDSU/GK	VER: N/A SHEET
D	REZA MOGHISSI, CHIEF DEPARTMENT OF TRANSPORTATION		sheet date 7/1/2010	0F 50 SHEETS



*TAPER LENGTH	*SPACING OF CONES	*SIGN SPACING	*BUFFER LENGTH

ONTROL PLANS	JOB NO	SCALE
	TEMPLATE NAME TC-45.1	HOR: N/A VER: N/A
CONTROL	DRAWN <u>GK</u> DESIGNED	SHEET
ROL	CHECKED GK	I TC _ 45 1
NS	SHEET DATE	
	1/1/2014	of <u>50</u> sheets



- 1. EYE CONTACT MUST BE MAINTAINED BETWEEN FLAGGERS OR
- 2. CONE TO BE MAINTAINED ON PAVEMENT ADJACENT TO FLAGGER
- 4. USE C29 WHEN DISTANCE BETWEEN SIGNS IS LESS THAN 2 MILES. USE G20-1 WHEN DISTANCE IS 2 MILES OR GREATER.
- 5. IF PEDESTRIAN FACILITY IS OBSTRUCTED, PROVIDE MONITOR TO

*TAPER LENGTH	*SPACING OF CONES	*SIGN SPACING	*BUFFER LENGTH

ONTROL PLANS	JOB NO	SCALE HOR: N/A VER: N/A
CONTROL JANCE RICTION	DRAWN	sheet TC-46 of 50 sheets







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ION	DRAWN LB	VER: N/A SHEET
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