

ATTACHMENT A

CITY OF MARICOPA AMENDMENTS

TO THE

CITY OF PHOENIX

2007 TRAFFIC BARRICADE MANUAL

Introduction

Part A of this document contains the official, complete detailed Maricopa amendment to the Phoenix 2007 Traffic Barricade Manual. An easy to read narrative version of the City of Maricopa's major amendments to the City of Phoenix 2007 Traffic Barricade Manual (COP TBM) is provided in Part B.

Format

Where the Maricopa amendment to the City of Phoenix 2007 Traffic Barricade manual deletes, replaces or modifies portions of the Phoenix manual, the affected page of the Phoenix manual is listed in a heading, and the changes noted in the following type style:

COP TBM p. 28

Replace third paragraph beginning with "When service vehicles..." with the following text:"

Where Maricopa additions are made, they appear with the following type style:

City of Maricopa additions will appear in this type style.

Any additional explanatory text appears with this type style:

Additional explanatory text will have this type style.

Preface

Some terms are used throughout the Phoenix manual that apply specifically to the City of Phoenix. Rather than noting this each time the terms appear, those terms are noted in the following table along with how they should be interpreted with respect to the City of Maricopa.

Term in Phoenix	Manual Maricopa Equivalent
RMP: The Right of Way Management Program	Temporary Traffic Control Program
RMP Administrator City	City Engineer or Designee
RMP Agent	Transportation Staff or any other authorized agent working on behalf of the City Engineer
RMP Client	Entity authorized to work in the right-of-way be it a contractor, City crew, or a utility company, etc.
TRACS—Temporary Restriction and Closure System Permit	Traffic Control Permit

Other more general terms referring to the City of Phoenix should be interpreted to applying to the City of Maricopa.

COP TBM p. 2

Disregard all of page 2 as this applies specifically to the City of Phoenix, and add the following:

Engineering Judgment

The 2003 MUTCD states in Section 1A.09 that the MUTCD “should not be considered a substitute for engineering judgment.” This is equally true of this Traffic Barricade Manual. No single publication could ever cover all the diverse conditions and circumstances a practitioner may face in controlling traffic on city streets. Engineering judgment is essential in applying the principles and practices contained in this Traffic Barricade Manual. Variations from the requirements and typical illustrations in this manual may be needed based on analysis and engineering judgment of a specific situation. The City Traffic Engineer shall have the final authority with respect to such variations.

COP TBM p. 8

Disregard this page entirely as it applies specifically to the City of Phoenix program, and add the following:

Designated Responsible Person

Any entity employing temporary traffic control on public streets, sidewalks, bike lanes, alleys or other public facilities must have a designated person who will be responsible for ensuring that all barricades, signs, barricade lights, signals, and other traffic control devices are established and maintained in compliance with the City of Maricopa Traffic Barricade Manual, and the MUTCD. The designated person shall be trained and possess a current certification in temporary traffic control standards and practices by either ATSSA (American Traffic Safety Services Association) or IMSA (International Municipal Signal Association). The designated person may be an employee of a traffic control company hired by the entity conducting the work. However use of a traffic control company does not relieve the entity doing the work from the responsibility to comply with the Traffic Barricade Manual.

COP TBM p. 10

Delete the last bullet point.

COP TBM p. 10-11

Under the heading “Who Needs a TRACS Permit?” delete the first paragraph and replace it with the following:

All persons, contractors, utilities, and other agencies including City departments must obtain a Traffic Control Permit if they are to restrict

access (partial or complete closures) on public streets, sidewalks, bike lanes, alleys or other public facility except as noted in the rules and procedures. The permit authorizes restrictions to be in place as specified on the permit, but does not guarantee the requester exclusive rights to occupy a particular portion of the public right-of-way. Weather, emergencies, incidents, or other projects and special events might require rescheduling of activities. The City will attempt to identify all known potential conflicts so they can be resolved cooperatively among those involved.

COP TBM p. 11

Second paragraph, first sentence beginning with “Requests for TRACS permits...” delete “or Downtown District Special Provisions.”

COP TBM p. 11

Third paragraph, delete “restrictions on Local streets,”

COP TBM p. 11

Under the heading “How to Obtain a TRACS Permit” delete the four bullet points.

COP TBM p. 12

Replace the two bullet points with the following:

- *Transportation/Engineering* *520-316-6922
(7:00 a.m. to 5:00 p.m.)*

- *Public Works Superintendent* *520-252-0789
(Nights and Weekends)*

COP TBM p. 12

Delete everything from the second paragraph starting with “The amount of advance...” through the fifth paragraph starting with “RMP reserves...” and replace it with the following:

The amount of advance notice provided to the public depends primarily on the functional classification of the street, the type and extent of the restriction and the amount of disruption to normal traffic the restriction will cause. Minimum advance notice requirements are as follows unless an alternative is approved in the Traffic Control Permit. Advance notice may be required for other situations as determined by TTC Staff.

- *Full street closure.....7 full calendar days*
- *Peak hour reduction in through lanes
on major street.....7 full calendar days*
- *Left turn prohibition at a major street
signalized intersection.....3 full weekdays*

The required advance notice is typically to be done with variable message boards. Use of static signs for advance notice may be feasible in limited situations. Use of static signs must be approved in the Traffic Control Permit.

COP TBM p. 12

Under the heading “Citywide General Regulations” change the times listed in item 1 to the following:

6:00 a.m. to 9:00 a.m. and 4:30 p.m. to 7:30 p.m. weekdays

COP TBM p. 13

Item 3, delete the second paragraph and replace it with the following:

Whenever traffic in one direction at a multi-lane signalized intersection is restricted to only one through lane, or when turn restrictions are in place, a uniformed police officer may be required to assist with traffic control during hours work is underway. (See p. 63-64.)

COP TBM p. 13

Item 7, add the following as a second paragraph under Item 7:

When pedestrian routes need to be temporarily relocated, the relocated routes should be maintained on the same side of the street as the original route unless otherwise approved by TTC Staff. If a traffic lane is used for a temporary pedestrian route on a major street, pedestrians shall be separated from traffic with temporary traffic barrier unless otherwise approved by TTC Staff. See additional information on temporary traffic barriers under COP TBM p. 62. In situations where temporary traffic barrier is not feasible, longitudinal channelizing barricades may be used if approved by TTC Staff. Other methods of maintaining pedestrian routes may be approved by TTC Staff depending on the specific circumstances of each situation.

COP TBM p. 13

Item 8, delete “the Fiesta Bowl Parade, Fabulous Phoenix 4th of July, and other major”

COP TBM p. 14

Add Item 10 as follows:

Restrictions and closures are permitted only when necessary considering impact to the traveling public, safety and efficiency. Restrictions shall not be in place when work activities are not being performed. Restrictions shall not be left in place simply for convenience or to avoid the need to remove barricades at the end of the work shift and reset them the following day. Restrictions shall not be left in place solely to accommodate storage of equipment, supplies, debris, etc. Excavations should be covered with steel plates or backfilled and the lanes opened to traffic at the end of the work day unless it is not feasible to do so.

COP TBM p. 14

Delete the text of the “Downtown Special Regulations” section.

COP TBM p. 22, Figure 1

Add the following to Figure 1:

This option is applicable in parking lanes only. Depending on the curb height and parking lane width, the ramp may need to be installed with the slope parallel to the sidewalk and a landing at the top of the ramp to provide an ADA compliant slope. Maximum slope allowed is 1:12.

COP TBM p. 28

Second paragraph, first sentence, change to read as follows:

Service vehicle operations are prohibited on Arterial/Collector streets, except when authorized by the City Engineer or its designee.

*During all other times, service vehicle operations need to perform services during non-peak hours (**9:30 am to 3:30 pm**) or parking service vehicles off of Arterial/Collector streets to minimize the extent of restrictions. An example of an approved traffic control plan has been added to Appendix A-1.*

COP TBM p. 28

Third paragraph, first bullet point delete “are designed to provide 360-degree visibility and”

COP TBM p. 28

Fourth paragraph delete second sentence.

COP TBM p. 29

In Figure 5, in the top-most portion of the figure noted for “Maximum 40 Minutes” and the middle portion of the figure noted for “Maximum 60 Minutes” replace the “Optional” notation for the cones with the following:

- *A short taper of cones (typically 50’) should be used. If site conditions do not allow a 50’ +/- taper, a shorter cone taper should be used.*

COP TBM p. 30

First bullet point at top of the page, change to read as follows:

***40 minutes** if equipped with high intensity rotating, flashing, oscillating, or strobe lights.*

COP TBM p. 33

Replace second paragraph under “Traffic Signs” with the following:

Existing signs that are no longer applicable shall be handled per the contract plans and specifications. If the plans and specifications are silent on existing signs, the signs are to be salvaged by carefully storing them out of the way on the adjacent property line. The Public Works Department shall be notified immediately of all sign removals by calling 520-316-6940, and arrangements made to return the salvaged signs to.

COP TBM p. 33

Under the heading “Traffic Signals,” delete the entire first paragraph.

COP TBM p. 33

Under the heading “Procedures to be Used Near Traffic Signals,” first paragraph, second sentence replace “City Signal Engineer (602-262-4693)” with:

Transportation Staff (520-568-9098)

COP TBM p. 34

Second paragraph beginning with “The Signal Shop will...”, delete the entire paragraph.

COP TBM p. 34

Third paragraph beginning with “Responsibility for...”, delete the entire paragraph including the two bullet points and replace it with the following:

For work affecting traffic signal equipment, notify Transportation Department staff at least two working days prior at 520-568-9098.

If temporary traffic control at an intersection with left turn signals includes left turn prohibitions, care must be taken to avoid a situation where green left turn signals are displayed in conflict with “NO LEFT TURN” signing at the intersection. This can happen if through traffic is routed in what is normally a left turn lane, or if construction equipment occupies the vehicle detection zone in a closed left turn lane.

Notify Transportation Department staff in advance at 520-568-9098 when there is a need to deactivate a left turn signal. It is also critical for Transportation Department staff to know when a left turn signal is to be reactivated to avoid a situation where left turn traffic is faced with a red left turn signal that does not change. At intersections with fully protected left turn signals (where a red arrow is part of the signal display), the left turn signals must be reactivated before removing the left turn prohibition.

COP TBM p. 34

Fourth paragraph beginning with “Signal equipment modifications...” delete “24-hours” and replace it with:

two working days

COP TBM p. 34

Replace the last paragraph with the following:

When traffic through a signalized intersection is guided into lanes other than the lanes normally used for that movement, visibility of the traffic signal indications should be checked. At least one, and preferably two signal faces shall be located within the 40-degree cone of vision approaching the signal. See p. 35 of COP TBM.

COP TBM p. 36

Delete the last sentence in the second paragraph, and the first two sentences in the third paragraph referring to slurry seal. Add the following to the beginning of the third paragraph:

Slurry seal is not to be used to obliterate markings unless specifically approved by the Transportation Department.

COP TBM p. 36

Delete the entire "Parking Meters" section.

COP TBM p. 39

Immediately after p. 39 add the following:

No Lane Lines On Multilane Streets

Where traffic is maintained on multilane streets without lane lines, the following minimum requirements apply.

- *Centerline must be delineated with channelizing devices, and separate left turn pockets must be channelized.*
- *Exclusive right turn lanes at driveways and intersections must be delineated with channelizing devices.*
- *Where the street normally carries no more than two lanes of traffic in one direction, no additional lane delineation between the centerline barricades (or raised median) and the curb is required.*
- *Where the street normally carries three or more lanes of traffic in one direction, delineation of the lanes between the centerline barricades (or raised median) and the outside curb is required. This can be done with channelizing barricades or with temporary pavement markings.*
- *If done with channelizing barricades, it is usually necessary to eliminate one through lane. For example where there are normally three lanes, channelize traffic into two lanes. This type of setup requires review and approval in advance.*
- *If done with temporary pavement markings, such markings shall be reflective and comply with ADOT Standard Specifications for Road and Bridge Construction, 2008, sections 701-2.05, 701-3.05, and 701-*

3.09. The Chip Seal Pavement Marker per 701-2.05 and ADOT Standard Drawing M-20, may be used for fog, slurry, microseal, overlay and other paving projects where traffic is maintained without permanent lane lines. The markers may be placed on the top surface of a paving course on overlay and similar projects. All temporary pavement markings placed on or visible on final surface courses shall be placed in line with the location of permanent pavement markings. Unless otherwise specified in the project plans or specifications, the minimum spacing of the Chip Seal Marker is one marker per 40 feet, as noted on ADOT Standard Drawing M-20.

COP TBM p. 39

Last paragraph, add a fourth bullet point as follows:

- *The existing two-way-left-turn lane marking is obliterated or missing. This applies to any portion, even if only one side of the two-way-left-turn marking is missing.*

COP TBM p. 52

Between the fourth and fifth paragraph, add the following:

Channelization requires “KEEP LEFT” and/or “KEEP RIGHT” signs to clearly indicate the proper path to drivers. “KEEP LEFT” or “KEEP RIGHT” sign shall be placed at the beginning of a line of channelizing devices, except where the W12-1 or W12-1a lane splitter sign is used. In addition, “KEEP LEFT” and/or “KEEP RIGHT” signs shall be placed at each intersection and at a maximum spacing of 500 feet where intersections are spaced more than 500 feet apart.

Additional “KEEP LEFT” and/or “KEEP RIGHT” signs shall be used at or near driveways as needed to direct drivers to the correct lanes. However “KEEP RIGHT” and/or “KEEP LEFT” signs are not required in a short term setup (less than one hour) where traffic is not being channelized left of center and where channelizing devices are set in such a way that the proper path to follow is self-evident to drivers.

COP TBM p. 56

Immediately before the heading “High Level Warning Devices:” insert the following:

Longitudinal Channelizing Barricades

Longitudinal channelizing barricades are lightweight, deformable channelizing devices that can be used singly as Type I, II, or III barricades, or connected so they are highly visible and have good target value. They can be used to channelize vehicular and/or pedestrian traffic, and can provide a continuous separation between pedestrians and traffic lanes or work zones. When used during hours of darkness to channelize

traffic, the channelizing barricades are to have approved barricade warning lights attached and operational.

Longitudinal channelizing barricades are not temporary traffic barriers. However, devices can function either as a channelizing barricade or a temporary barrier depending on how they are installed. It is important to follow the manufacturer's instructions for a given device to make sure it is being installed properly for the intended use.

COP TBM p. 57

Under "Flashing Devices and Applications" add the following:

In addition to the types of lamps listed above, flashing devices may use light emitting diodes (LEDs) with the same flash rates and similar visibility characteristics as the listed lamp types.

COP TBM p. 58

Under the heading "Arrow Panels" second paragraph, third sentence, delete "at night."

This has the effect of requiring arrow panels for lane closures on major streets, except for short term closures as provided for in Chapter 4 and illustrated in Figure 5 of the COP TBM.

COP TBM p. 60

Replace the first two bullet points with the following:

- *Centerline markings are to be two 4-inch wide yellow lines with a 4-inch space between.*
- *Lane line markings are to be 4-inch wide white lines, placed with 10-foot lineal feet of marking and 30 lineal feet of space between markings. When approaching marked crosswalks, the lane markings shall be 4-inch solid lines within approximately 75 feet of the crosswalk. Edge lines are to be 4-inch wide, continuous, white lines.*

COP TBM p. 60

Replace the next to last paragraph with the following:

Temporary pavement markers may be used instead of paint or tape markings. Temporary markers shall be reflective and comply with ADOT Standard Specifications for Road and Bridge Construction, 2008, sections 701-2.05, 701-3.05, and 701-3.09. The Chip Seal Pavement Marker per 701-2.05 and ADOT Standard Drawing M-20 may be used in Maricopa for fog, slurry, microseal, overlay, reconstruction and similar paving projects where traffic is maintained without permanent lane lines. When used on overlays, reconstruction and other projects that provide more than a surface treatment, the markers shall be placed on

the new surface immediately after paving, rather than on the old surface before treatment. All temporary pavement markings placed on or visible on final surface courses shall be placed in line with the location of permanent pavement markings.

COP TBM p. 61

Last paragraph, delete the remainder of the paragraph after the first two sentences (delete the third through sixth sentences).

COP TBM p. 62

Delete everything on this page and replace it with the following:

Temporary barriers must be designed, installed, and maintained in compliance with the MUTCD and the AASHTO Roadside Design Guide. A detailed plan is required for any proposed use of temporary barriers. Such plan shall be prepared under the supervision of a registered professional engineer familiar with the design requirements for temporary barriers in the MUTCD and AASHTO Roadside Design Guide and sealed by the engineer.

COP TBM p. 63-64

Delete these two pages and replace them with the following:

In some situations, off-duty police officers or flaggers may be required to assist with temporary traffic control.

Police Officers

Use of police officers for manual control of traffic is helpful with certain types of temporary control. Police officers are particularly helpful at major intersections where lanes are restricted and/or some movements are prohibited. Police officers can reinforce posted prohibitions, actively direct drivers in the appropriate direction, and can assess changing traffic conditions and respond accordingly.

The contractor, utility, agency or other entity responsible for the work may be required to provide a uniformed off-duty police officer to assist with temporary traffic control. All costs associated with using off-duty police officers is the responsibility of the contractor, utility, agency or other entity responsible for the work.

Police officers hired to support construction, maintenance or special event traffic control should be briefed by their employer in detail on how the traffic is to move through the temporary traffic control zone, and what the officer is expected to do. Typical expectations of officers include:

- *Position themselves so as to have a good view of traffic approaching from all directions*
- *Reinforce signed prohibitions on specific vehicle movements*
- *Be in uniform and equipped with proper equipment such as high-visibility safety vest, two-way radio, signal cabinet police panel key, etc.*
- *Assist pedestrians as needed through the work zone*
- *Direct traffic manually as needed to accommodate unforeseen or unusual traffic pattern changes*
- *Assist difficult flagging operations by providing a more authoritative presence to drivers.*

COP TBM p. 65

Second paragraph, add the following:

Flaggers shall be trained and certified as flaggers by ATTSA or IMSA, and possess current flagger certification.

COP TBM p. 70

Third paragraph, delete the last three sentences and add the following:

All temporary traffic control devices shall comply with NCHRP Report 350 requirements.

APPENDIX A-2

DEFINITIONS

Change the title to “Definitions and Abbreviations” and add the following to the listed definitions:

AASHTO: American Association of State Highway and Transportation Officials

ADOT: Arizona Department of Transportation

ATSSA: American Traffic Safety Services Association

COP: City of Phoenix

EMERGENCY: An unplanned event requiring immediate action to preserve or protect public health, safety or welfare

IMSA: International Municipal Signal Association

MUTCD: The Manual On Uniform Traffic Control Devices as adopted by the Arizona Department of Transportation

NCHRP: National Cooperative Highway Research Program

NCU: Non-City Utility

ROW: Right-of-way

SERVICE VEHICLE: Any vehicle used in the construction, operation or maintenance of a municipal, utility or other similar facility or infrastructure, or in the provision of service for a municipal, utility or other similar service.

TBM: Traffic Barricade Manual

TTC: Temporary Traffic Control

APPENDIX A-4

TELEPHONE NUMBERS

COP TBM p. 110-111

Delete Appendix A-4 in its entirety. Refer to inside back cover for City of Maricopa phone numbers.

CITY OF MARICOPA PHONE NUMBERS

<i>Temporary Traffic Control Permits & Information.....</i>	<i>520-568-9098</i>
<i>Fire/Police/Medical Emergency</i>	<i>911</i>
<i>.....After Hours, Weekends & Holidays, Emergency Numbers</i>	
<i>Public Works</i>	<i>520-252-0789</i>
<i>Maricopa Police (Non-emergency).....</i>	<i>520-866-5111</i>
<i>Maricopa Fire Department (Non-emergency).....</i>	<i>520-568-3333</i>
<i>Pinal County Sherriff's Office.....</i>	<i>520-266-6800</i>
<i>Building Safety</i>	<i>520-316-6926</i>
<i>Graffiti Hotline</i>	<i>520-316-6900</i>
<i>Maricopa Police—Off-duty Officers.....</i>	<i>520-316-6800</i>
<i>Electrical District #3 (Private)</i>	<i>520-424-9021</i>
<i>Global Water (Private)</i>	<i>520-568-4452</i>
<i>Maricopa Domestic Water (Private).....</i>	<i>520-568-2239</i>
<i>Southwest Gas</i>	<i>602-271-4277</i>
<i>Arizona Department of Transportation (Tucson District).....</i>	<i>520-388-4200</i>
<i>Arizona Department of Public Safety.....</i>	<i>602-223-2000</i>
<i>Century Link.....</i>	<i>800-244-1111</i>
<i>Public Transportation.....</i>	<i>520-316-6948</i>
<i>Blue Stake, Underground Utility Locations.....</i>	<i>602-263-1100</i>