



CITY OF SPRINGFIELD WORK ZONE POLICY GUIDE



Policy guidelines to improve the safety of motorists and workers, improve the consistency of City work zones, and to provide additional clarity in the application of Temporary Traffic Control within the City of Springfield.

[May 2018]



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GOAL: - - - - -

To improve the safety of motorists and workers, improve the consistency of City work zones, and to provide additional clarity in the application of Temporary Traffic Control within the City of Springfield.

PREFACE: - - - - -

Typically, the City of Springfield references the MUTCD in plans, permits, and internal operations. This guide, and its associated Typical Applications (TAs), were developed to provide additional clarification, guidance, and detail in developing and utilizing standard Temporary Traffic Control Plans (TTCPs) within the City of Springfield.

The City of Springfield Typical Applications (COS-TAs), as outlined in this guide, provide customized applications, based on the MUTCD, to fit the traffic volumes, topography, and work applications most commonly encountered on streets within the City of Springfield. When the provided COS-TAs do not adequately cover all aspects of the required situation, customized TTCPs will be necessary. This guide covers the steps for City of Springfield employees to obtain guidance when COS-TAs do not apply and/or when clarification is needed in implementing TTCPs. Use of COS-TAs does **NOT** alleviate the requirements of contractors or permittees to submit a temporary traffic control plan for each project and have qualified personnel implement the traffic control in the field in conformance with the MUTCD.

Application and Work Zone Planning:

One of the key fundamentals of the MUTCD is the use of planning and coordination in the application of temporary traffic control. The use of COS-TAs and this guide does not lessen this responsibility, but rather provides additional guidance for planning and implementing TTCPs. This guide provides a formal structure for acceptance and implementation of TTCPs for City Employees.

City Internal Controls and Structure:

The City of Springfield formed a Work Zone Committee (WZC) to address all work zone and temporary traffic control-related issues within the City of Springfield. The WZC is tasked with ensuring the implementation of consistent work zones within the City of Springfield. The WZC will also oversee the development and updating of the Work Zone Field Guide. The Work Zone Field Guide is to be used as a technical reference for City field staff to use when conducting work zones. The WZC will periodically meet to discuss consistency, issues, and/or other work zone safety-related issues. The WZC is structured as follows:

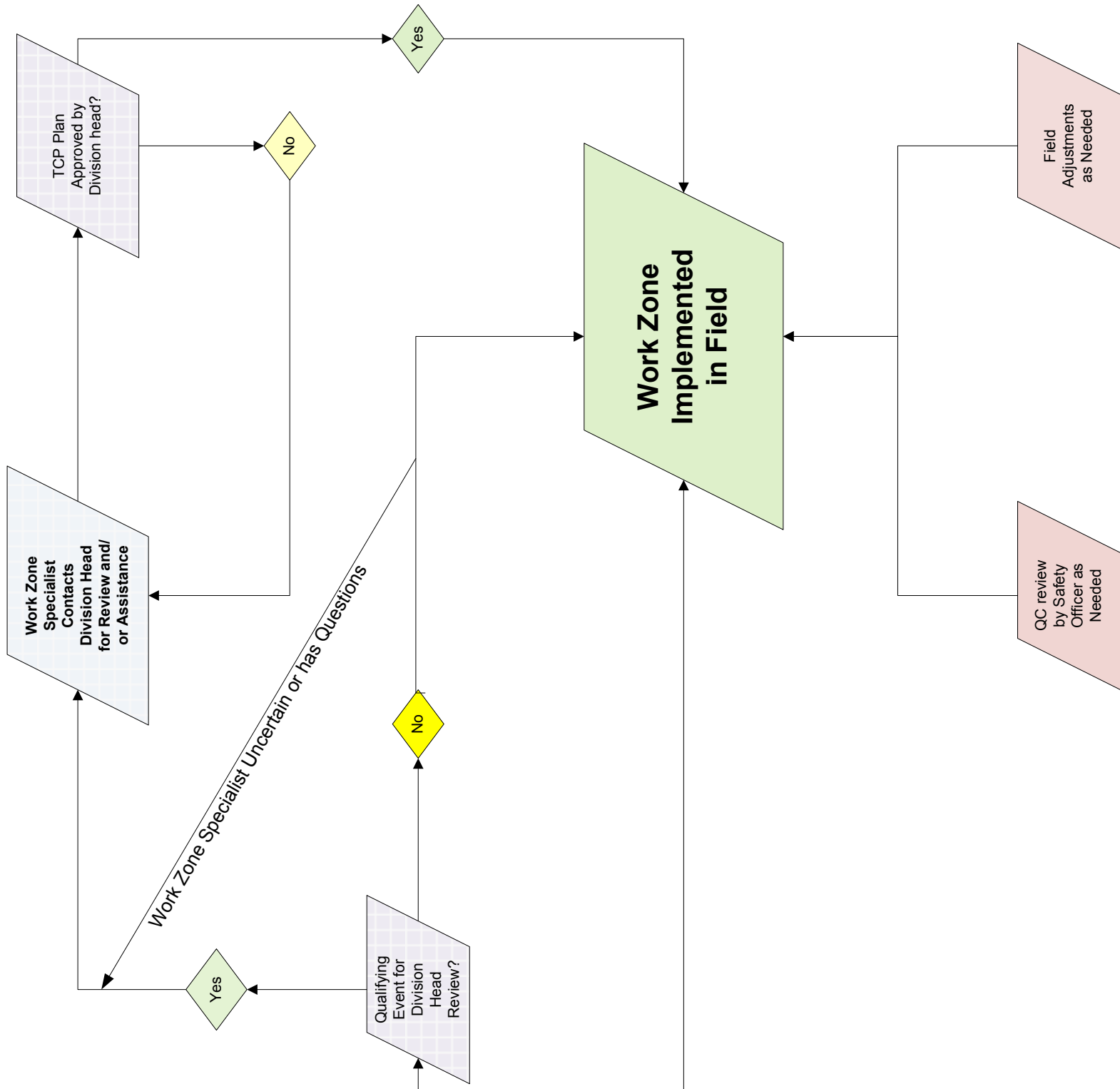
- **Committee Chair:** Assistant Director of Public Works (Operations) responsible for oversight of the WZC and approval of changes to the Work Zone Guide or Committee functions.
- **Division Heads:** Division Heads from Street Operations, Transportation Management, Traffic Operations, Construction Inspection, and Environmental Services. The Division Heads are Professional Engineers and serve as high level guidance.
- **Work Zone Specialists:** City employees with additional training, knowledge, and/or experience which qualifies them to make minor changes to COS-TAs or plan work zones for field implementation. Work Zone Specialists are boots-on-the-ground staff who are available for first-level questions from field staff.
- **PW/ES Safety Officers:** Serve as quality control for temporary traffic control operations and report directly to the WZC Chair.

Acceptance and Approval of Internal Work Zones:

The City of Springfield internal Traffic Control Plan (TCP) Process is outlined in the flowchart below and as provided herein. City field staff may implement the COS-TA for field conditions meeting the applicable uses of the respective COS-TA. In any case where the COS-TAs do not specifically meet the applicable uses as shown, or field staff does not feel comfortable with and/or has questions in the application of the work zone requirement, field staff should request additional guidance from a Work Zone Specialist. Additionally, when a Qualifying Event occurs, the Work Zone Specialist should concur with the appropriate Division Head for approval. A Qualifying Event is defined as a major circumstance that would require additional planning of a work zone. A Qualifying Event is more specifically defined as the following:

- Complete closure of an arterial/collector
- Work in a Major intersection
- Closure of a residential over 5 days in length.
- Work in or around the Downtown/Square Area.
- Work zone impacting or requiring traffic control on MoDOT Routes
- Work zones during school hours near or in School Zones
- Work zones impacting sensitive areas
 - During major events, such as ballgames, parades, etc.
 - Major retail access
 - Major Commercial facilities access

City of Springfield – Work Zone Policy Internal Traffic Control Plan Implementation(TCP) Process



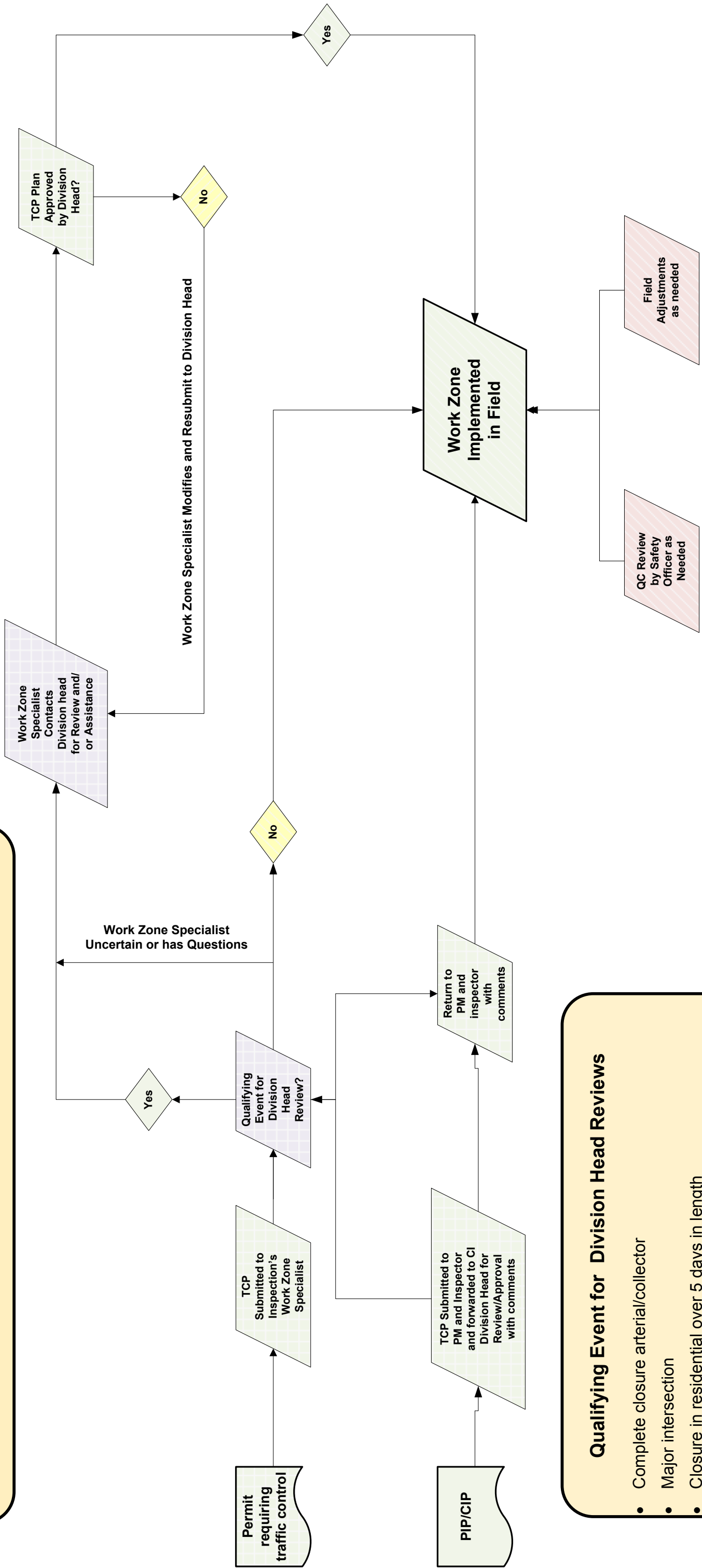
- ### Qualifying Event for Division Head Reviews
- Complete closure arterial/collector
 - Major intersection
 - Closure in residential over 5 days in length
 - Work in or around the Downtown/Square Area
 - Work zone impacting or requiring traffic control on MoDOT Routes
 - Work zones during school hours near or in School Zones
 - Work zones impacting sensitive areas:
 - During major events such as ballgames, parades, etc.
 - Major retail access
 - Major Commercial facilities access



Acceptance and Approval of External Work Zones:

The City of Springfield external Traffic Control Plan (TCP) Process is outlined in the flowchart attached and as provided herein. To provide clarity to external contractors and partners, this guide provides a general process for approval of Work Zone Traffic Control Plans for Capital Improvements (CIP), Private Improvement Projects (PIP), and Permits. All CIP and PIP work zones shall be submitted by the Contractor to the Project Inspector and Project Manager (PM). After review by the Inspector and/or PM, the Work Zone Traffic Control Plan should be submitted to the Principal Engineer of Construction Inspection for approval. For Permits, the Permit Inspector will also serve as the Work Zone Specialist. If needed or for a Qualifying Event, the Permit Inspector should forward to the appropriate Division Head for approval.

City of Springfield – Work Zone Policy External Traffic Control Plan Implementation(TCP) Process



- ### Qualifying Event for Division Head Reviews
- Complete closure arterial/collector
 - Major intersection
 - Closure in residential over 5 days in length
 - Work in or around the Downtown/Square Area
 - Work zone impacting or requiring traffic control on MoDOT Routes
 - Work zones during school hours near or in School Zones
 - Work zones impacting sensitive areas:
 - During major events such as ballgames, parades, etc.
 - Major retail access
 - Major Commercial facilities access



Acceptable Operations for Short Duration Closures:

The time frames provided in the Applicable Uses of City of Springfield Typical Applications (COS-TA) should be strictly followed for all City Staff and contractors implementing TTCPs. COS-TAs shown are not required (but may be used) for work that impacts traffic less than one hour. However, for all planned work on primary, high traffic routes; temporary traffic control is required regardless of the duration for the protection of workers in a closed lane with COS-TA35 to be used as a minimum application. MUTCD Section 6G provides guidance on the implementation of short duration and mobile work zones. All persons and entities working in City of Springfield Right of Way conducting a short-duration work zone, should provide adequate vehicle lighting including but not limited to: rotating, flashing, oscillating, or strobe lights placed on vehicles as can be appropriately seen by all approaching traffic.

Index of Included COS-TA's -----

- **COS-TA1 – Work within the ROW (Out of Roadway or Sidewalk)**
- **COS-TA8 - Road Closure**
- **COS-TA10 - Lane Closure on a Two-Lane Road using Flaggers**
- **COS-TA11 - Lane Closure on a Two-Lane Road with Low Traffic Volumes**
- **COS-TA15 - Work in the Center of the Road with Low Traffic Volumes**
- **COS-TA29 - Sidewalk Closures and Pedestrian Detours**
- **COS-TA30, COS-TA30a, COS-TA30b, - Lane Closure on a Multi-Lane Street**
- **COS-TA31 - Lane Closures using Two-Way Left Turn Lane**
- **COS-TA35 - Temporary Operation on High-Volume Divided or Multi-Lane Undivided Arterials**

COS-TA1 – Work within the Right of Way (Out of Roadway and Sidewalk)

MUTCD TA-1 was modified to meet the specific requirements of the City of Springfield while maintaining compliance with the MUTCD. This document provides a reference for reasoning of modifications to TAs provided by MUTCD to meet the City’s needs. Also, included are applicable uses and notes for implementation of COS-TA1. If person implementing work zone is not fully confident in the safety, setup, and compliance of the work zone, they should request assistance from a City Work Zone Committee member.

Modifications and/or clarifications of MUTCD TA-1:

No major modifications of MUTCD TA-1 were made.

Taper Lengths, Buffer Space Lengths, and Sign Spacing:

- Sign Spacing at 100 feet based on 6C-1 “low speed urban,” may be used with posted speed limits 30 mph and less on Residential and Minor Collector Streets only. Streets not classified as noted above shall use sign spacing as listed below:

Posted Speed Limit (mph)	"S" Sign Spacing (ft)
20	100
25	100
30	100
35	200
40	350
45	350

Applicable uses of COS-TA1:

- Work within City right-of-way with **NO encroachment onto roadway or sidewalk**
- Work within the median with **NO encroachment onto roadway**
- Duration of work lasting more than one hour

Notes for use of COS-TA1:

- If the work space is within the median of a divided roadway, an advanced warning sign should also be placed on the left side of the directional roadway
- The ROAD WORK AHEAD sign may be replaced with other appropriate signs which better describe the type of work being performed, such as MOWING AHEAD or UTILITY WORK AHEAD
- Signs may be on portable mounts placed at 1-foot mounting height provided they do not interfere with pedestrian movement or are obstructed by parking. Otherwise, signs shall be placed at 7 feet mounting height

- For work lasting less than one hour, a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights should be used in lieu of Road Work Ahead signs
- A temporary traffic control plan with additional signs is required for any work that encroaches onto roadway or sidewalk
- The “work zone” is defined as the entire area within the sign package and the “work area” as the specific area that work is occurring that required setup of a work zone package

COS-TA1

Work within Right-of-Way (Out of Roadway or Sidewalk)

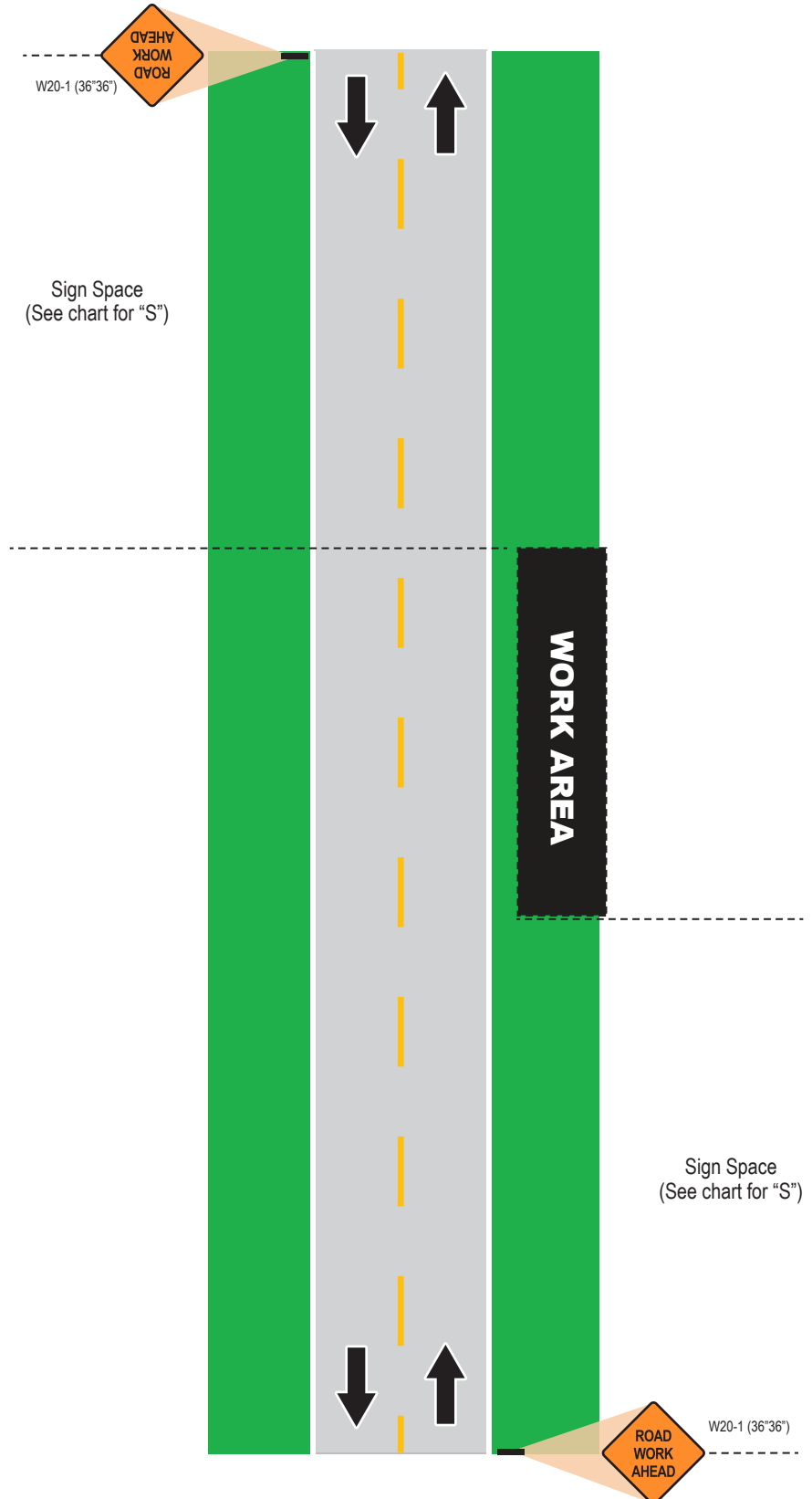
Posted Speed Limit (mph)	"S" Sign Spacing (ft)
20	100
25	100
30	100
35	200
40	350
45	350

APPLICABLE USES

- Work within City right-of-way with **NO encroachment onto roadway or sidewalk**
- Work within the median with **NO encroachment onto roadway**
- Duration of work lasting more than one hour

WORK ZONE NOTES:

- If the work space is within the median of a divided roadway, an advanced warning sign should also be placed on the left side of the directional roadway.
- The ROAD WORK AHEAD sign may be replaced with other appropriate signs which better describe the type of work being performed, such as MOWING AHEAD or UTILITY WORK AHEAD.
- Signs may be on portable mounts placed at 1 foot mounting height provided they do not interfere with pedestrian movement or are obstructed by parking. Otherwise, signs shall be placed at 7 feet mounting height.
- For work lasting less than one hour, a vehicle with activated high-intensity rotating, flashing, oscillating, or strobe lights should be used.
- A temporary traffic control plan with additional signs is required for any work that encroaches onto roadway or sidewalk.
- The "work zone" is defined as the entire area within the sign package and the "work area" as the specific area that work is occurring that required setup of a work zone package



This information is intended to provide the principles of proper work zone traffic control, but is not a standard. Part 6 of the MUTCD contains the standards for work zone traffic control. The typical application diagrams shown represent minimum requirements for typical situations, but do not include a layout for every conceivable work situation. They are NOT intended as substitutes for engineering judgment and when necessary, should be altered to fit the conditions of a particular temporary traffic control zone. The obligation of complying with the requirements and the liability for failing to do so are hereby placed upon the persons, entities, or agencies performing the work within or infringing upon the public right-of-way.

COS-TA8 - Road Closure

MUTCD TA-8 was modified to meet the specific requirements of the City of Springfield while maintaining compliance with the MUTCD. This document provides a reference for reasoning of modifications to TAs provided by MUTCD to meet the City's needs. Also, included are applicable uses and notes for implementation of COS-TA8. If person implementing work zone is not fully confident in the safety, setup, and compliance of the work zone, they should request assistance from a City Work Zone Committee member.

Modifications and/or clarifications of MUTCD TA-8:

Due to the complexity of closures and applicable detours on city streets, a detour package was not shown. Detours may be used, but will be approved and/or implemented on a case by case basis by appropriate personnel.

Taper Lengths, Buffer Space Lengths, and Sign Spacing:

- Sign Spacing at 100 feet based on 6C-1 "low speed urban" and may be used with speed limits 30 mph and less on Residential and Minor Collector Streets only
- Buffer Space – Recommended when room allows between the hard closure and the work area.
- Use of Type B warning lights required on all barricades if left in place during night time hours

Applicable uses of COS-TA8:

- Long or short term full closures on Residential or Minor Collector Streets
- For use with posted speed limits of 30 mph or less
- May be used in conjunction with Detour Sign Package as needed
- Distance from ROAD CLOSED AHEAD sign to hard closure shall not be less than 200 feet.
- If closure is at or near intersection additional signs may be needed to provide proper notice

Notes for use of COS-TA8:

- ROAD CLOSED LOCAL TRAFFIC ONLY and soft closure should be placed at last intersection where traffic can choose a different route before encountering closed street
- Hard closure should be placed at last point any traffic may proceed. This is normally placed at a location which will provide adequate sign spacing for closure package without cutting off access to property entrances (if possible)
- Utilize as much space between hazard/work area and hard closure as possible and avoid placing equipment and objects directly behind hard closure
- Use of portable message boards and/or specialized signing for advanced notice of closure is recommended
- If left in place overnight, Type B warning lights should be added to the barricades

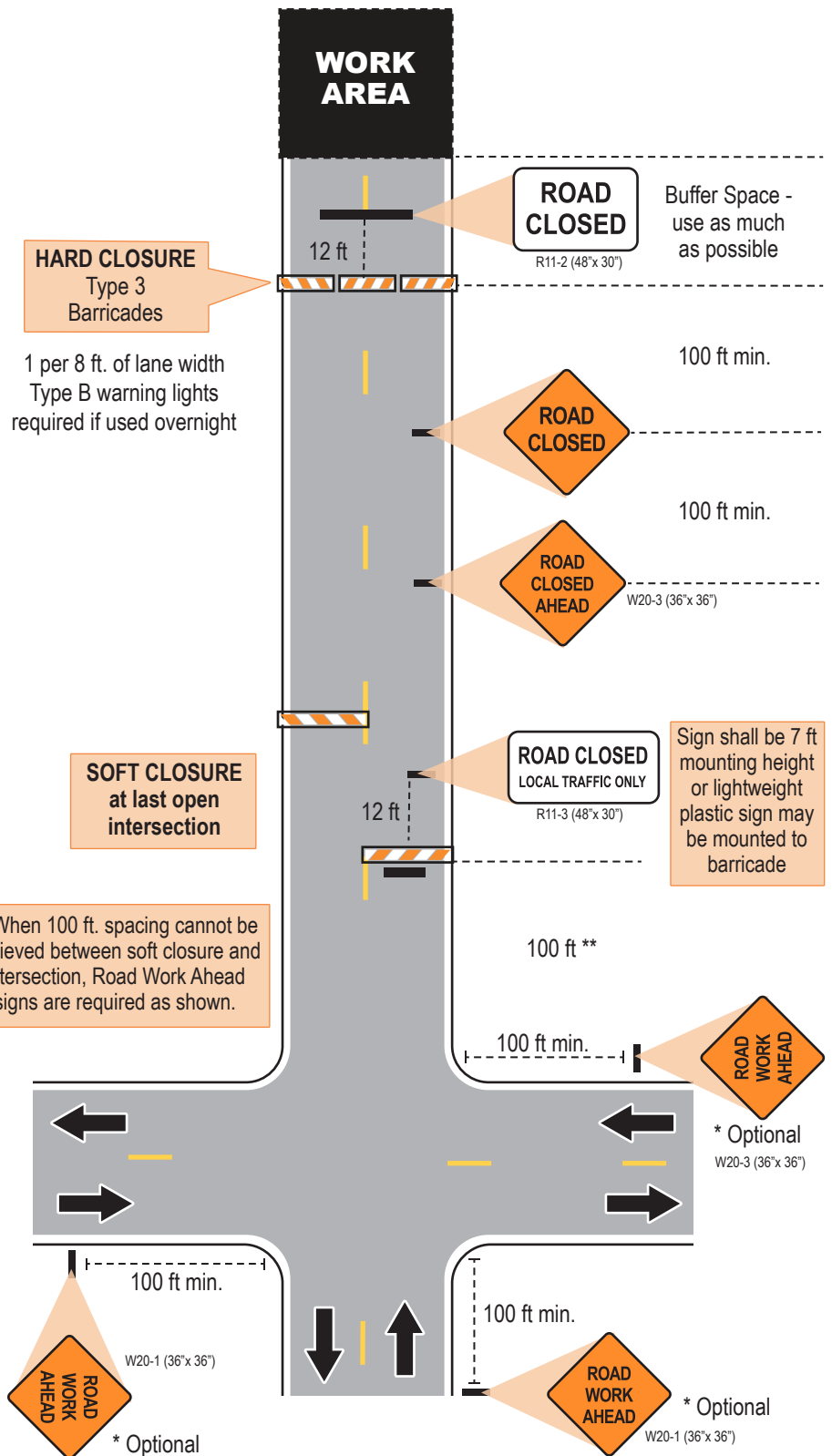
- The “work zone” is defined as the entire area within the sign package and the “work area” as the specific area that work is occurring that required setup of a work zone package

APPLICABLE USES

- Long or short term full closures on Residential or Minor Collector Streets
- For use with posted speed limits of 30 mph or less
- May be used in conjunction with Detour Sign Package as needed
- Distance from ROAD CLOSED AHEAD sign to hard closure shall not be less than 200 feet.
- If closure is at or near intersection additional signs may be needed to provide proper notice

WORK ZONE NOTES:

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- Hard closure should be placed at last point any traffic may proceed. This is normally placed at a location which will provide adequate sign spacing for closure package without cutting off access to property entrances (if at all possible).
- Utilize as much space between hazard/work area and hard closure as possible and avoid placing equipment and objects directly behind hard closure.
- Use of portable message boards and/or specialized signing for advanced notice of closure is recommended.
- If left in place overnight, Type B warning lights should be added to the barricades.
- The "work zone" is defined as the entire area within the sign package and the "work area" as the specific area that work is occurring that required setup of a work zone package.



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COS-TA10 - Lane Closure on a Two-Lane Road using Flaggers

MUTCD TA-10 was modified to meet the specific requirements of the City of Springfield while maintaining compliance with the MUTCD. This document provides a reference for reasoning of modifications to TAs provided by MUTCD to meet the City's needs. Also, included are applicable uses and notes for implementation of COS-TA10. If person implementing work zone is not fully confident in the safety, setup, and compliance of the work zone, they should request assistance from a City Work Zone Committee member.

Modifications and/or clarifications of MUTCD TA-10:

Optional Signs not used:

- END ROAD WORK
- Distance Placards on ROAD WORK, ONE LANE ROAD, & FLAGGER SIGNS

Taper Lengths, Buffer Space Lengths, and Sign Spacing:

- One Lane, Two Taper (Upstream) – 50 feet minimum (MUTCD 6C-3)
- Downstream Taper – 50 feet minimum (MUTCD 6C-3)
- Taper at Driveways or Entrances – 50 feet minimum (MUTCD 6C-3)
- Sign Spacing at 100 feet based on 6C-1 “low speed urban,” may be used with posted speed limits 30 mph and less on Residential and Minor Collector Streets only. For Streets not classified as noted above shall use sign spacing as listed below:

Posted Speed Limit (mph)	"S" Sign Spacing (ft)
20	100
25	100
30	100
35	200
40	350
45	350

- Buffer Space – Recommended when room allows. Buffer space may not be practical in many work zone setups therefore additional measures such as temporary barricades, arrow boards, sign lighting, and/or protective trucks may be used
- City requires 6 cones in all tapers as a minimum for taper lengths up to 100 ft.

Applicable uses of COS-TA10:

- Semi-mobile operations such as milling, paving, chip seals, etc.
- Stationary operations with limited sight distance
- Occupied and/or blocked lane for 1 hour or more

Notes for use of COS-TA10:

- Minimum of 6 channelizers for all tapers
- All cones and/or channelizers should have maximum 20 ft. spacing
- If backups occur outside of sign package, additional signs shall be added
- If used on major routes or high traffic volumes and/or for use during nighttime hours, 42" minimum height channelizers shall be used
- Flaggers shall maintain communication with 2-way radios
- Flaggers and work area shall be adequately lighted during nighttime operations
- Flaggers shall have proper ANSI Class 2 PPE and have proper flagger training
- Should maintain a minimum of 10 feet of clear lane width
- The "work zone" is defined as the entire area within the sign package and the "work area" as the specific area that work is occurring that required setup of a work zone package

COS-TA10

Lane Closure on Two-lane Road Using Flaggers

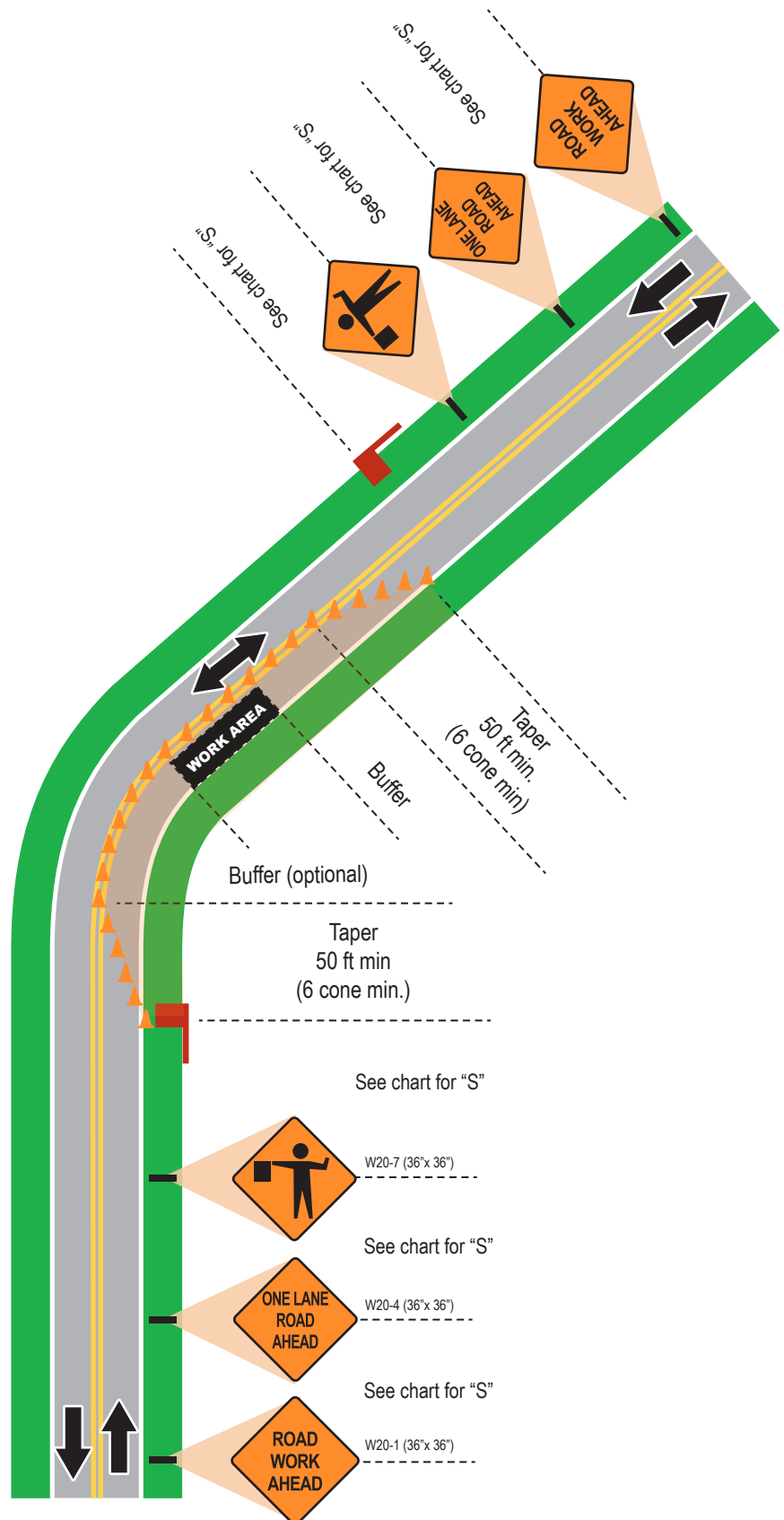
Posted Speed Limit (mph)	"S" Sign Spacing (ft)
20	100
25	100
30	100
35	200
40	350
45	350

APPLICABLE USES

- Semi-mobile operations such as milling, paving, chip seals, etc.
- Stationary operations with limited sight distance
- Occupied and/or blocked lane for 1 hour or more

WORK ZONE NOTES:

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COS-TA11 - Lane Closure on a Two-Lane Road with Low Traffic Volumes

MUTCD TA-11 was modified to meet the specific requirements of the City of Springfield while maintaining compliance with the MUTCD. This document provides a reference for reasoning of modifications to TAs provided by MUTCD to meet the City's needs. Also, included are applicable uses and notes for implementation of COS-TA11. If person implementing work zone is not fully confident in the safety, setup, and compliance of the work zone, they should request assistance from a City Work Zone Committee member.

Modifications and/or clarifications of MUTCD TA-11:

The following signs were omitted to allow work area to be contained within one block whenever possible. Advanced warning is not needed based on requirements of COS-TA11 work on level terrain, low speed, and use on residential or minor collector streets only:

Optional Signs not used:

- END ROAD WORK
- ADVANCED YIELD
- Sign Lighting

Taper Lengths, Buffer Space Lengths, and Sign Spacing: From MUTCD 6C-3

- One Lane, Two Taper (Upstream) – 50 feet minimum (MUTCD 6C-3)
- Downstream Taper – 50 feet minimum (MUTCD 6C-3)
- Taper at Driveways or Entrances – 50 feet minimum (MUTCD 6C-3)
- Sign Spacing at 100 feet based on 6C-1 “low speed urban,” may be used with posted speed limits 30 mph and less on Residential and Minor Collector Streets only. COS-TA11 shall NOT be used on streets not classified as noted above
- Buffer Space – Recommended when room allows. Buffer space may not be practical in many work zone setups therefore additional measures such as temporary barricades, arrow boards, sign lighting, and/or protective trucks may be used
- City requires 6 cones in all tapers as a minimum for taper lengths up to 100 ft.

Applicable Uses of COS-TA11:

- Residential or minor collector streets only with posted speed limit 30 mph or less
- Only for use on level terrain with adequate sight distance throughout the work zone
- For singular work area in one City block
- Stationary work lasting longer than one hour but less than one week

Notes for use of COS-TA11:

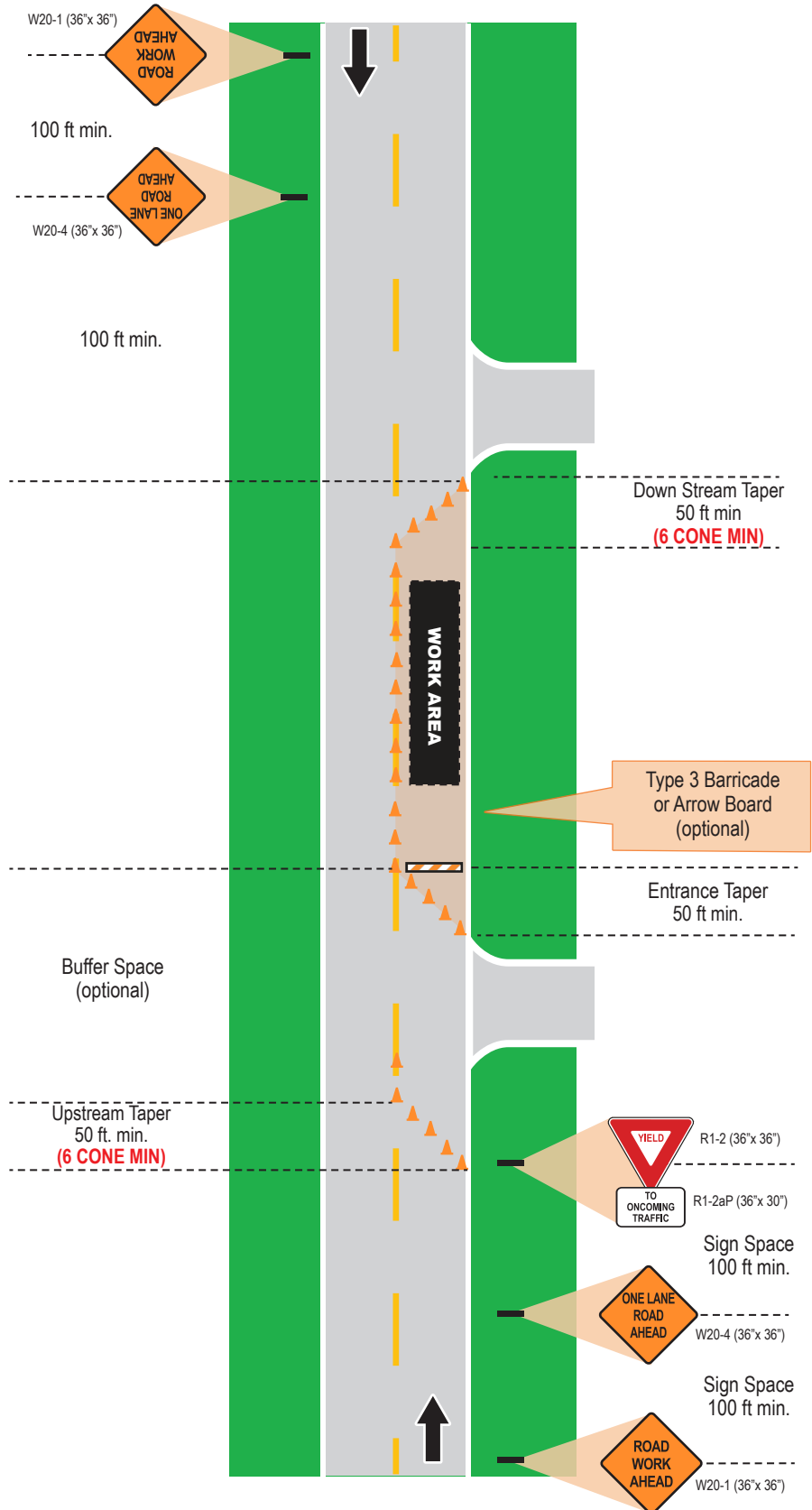
- Minimum of 6 channelizers for all tapers
- All cones and/or channelizers should have maximum 20 ft. spacing
- If used overnight, 42" channelizers shall be used
- No major excavations or deep, unsafe trenches should be left in place during non-working hours
- During non-working hours, equipment should be removed from the work area and adjacent shoulders and/or right of way
- Should maintain a minimum of 10 feet of clear lane width
- The "work zone" is defined as the entire area within the sign package and the "work area" as the specific area that work is occurring that required setup of a work zone package

APPLICABLE USES

- Residential or minor collector streets only with posted speed limit 30 mph or less
- Only for use on level terrain with adequate sight distance throughout the work zone
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WORK ZONE NOTES:

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COS-TA15 - Work in the Center of the Road with Low Traffic Volumes

MUTCD TA-15 was modified to meet the specific requirements of the City of Springfield while maintaining compliance with the MUTCD. This document provides a reference for reasoning of modifications to TAs provided by MUTCD to meet the City's needs. Also, included are applicable uses and notes for implementation of COS-TA15. If person implementing work zone is not fully confident in the safety, setup, and compliance of the work zone, they should request assistance from a City Work Zone Committee member.

Modifications and/or clarifications of MUTCD Requirements:

Optional Signs not used:

- FLAGGER TREE

Taper Lengths, Buffer Space Lengths, and Sign Spacing:

COS-TA15 was based on City of Springfield Street Conditions with frequent stop conditions and most posted speed limits 30 mph or less. COS-TA15 is considered "low speed, urban" (as used to determine applicable spacings).

- Median Taper = $\frac{1}{2}$ L as defined by 6C-4 of the MUTCD. Median Taper is figured at $\frac{1}{2}$ L (30 mph and 12ft (L = 180 feet) = 90 ft.
- Sign Spacing at 100 feet based on 6C-3 "low speed urban"
- Lane Width Should be a minimum of 10 feet based on low speed urban design

Applicable uses of COS-TA15:

- Residential or minor collector streets only with low traffic volumes
- For singular work area in one City block
- Stationary work lasting longer than one hour but generally for a single day's operations
- For use with posted Speed Limits of 30 mph or less

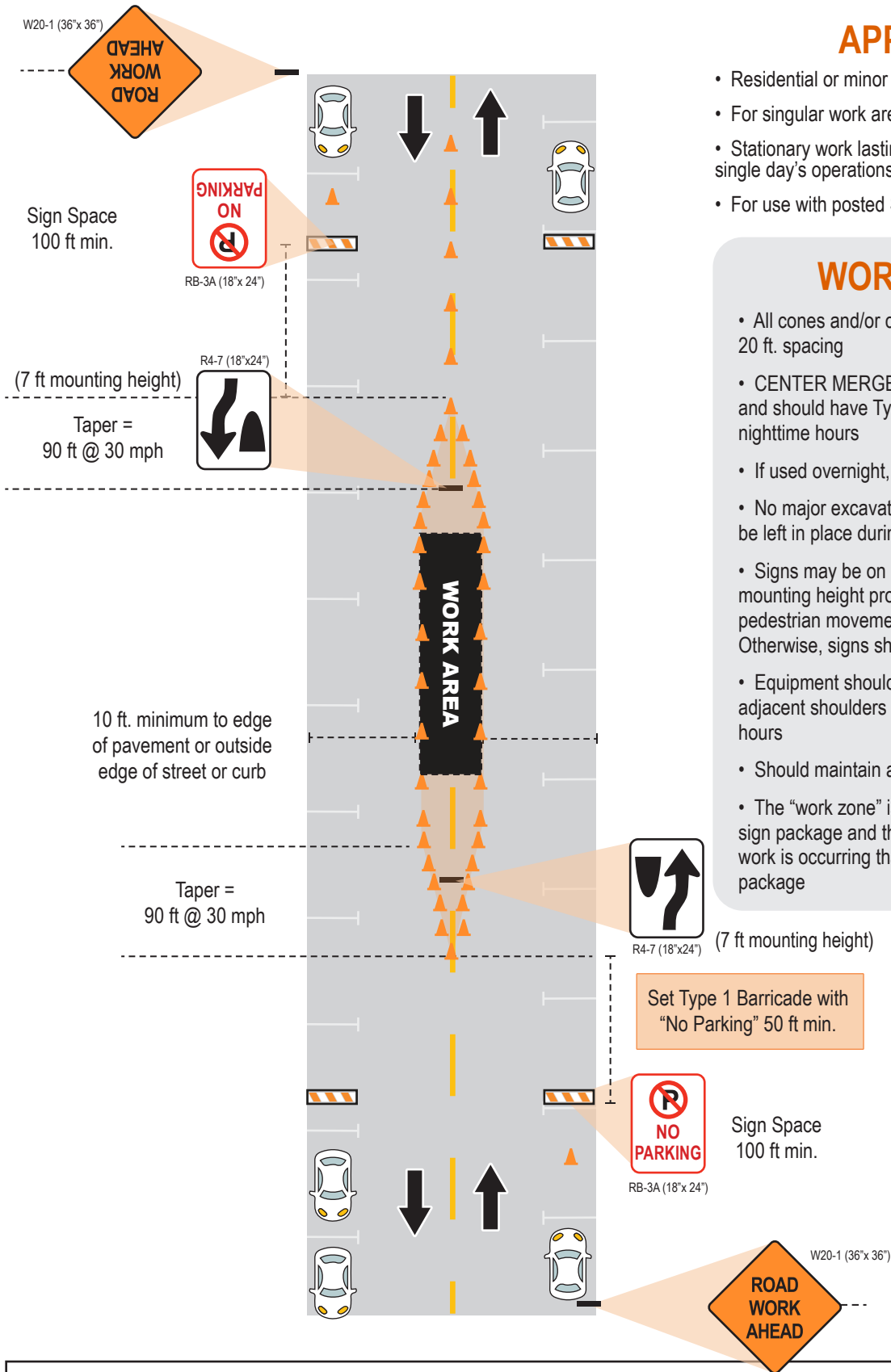
Notes for use of COS-TA15:

- All cones and/or channelizers should have maximum 20 ft. spacing
- CENTER MERGE sign shall be 7 ft. mounting height and should have Type B warning light if used during nighttime hours
- If used overnight, 42" channelizers shall be used.
- No major excavations or deep, unsafe trenches should be left in place during non-working hours
- Signs may be on portable mounts placed at 1-foot mounting height provided they do not interfere with pedestrian movement or are obstructed by parking. Otherwise, signs shall be placed at 7 feet mounting height
- Equipment should be removed from the work area and adjacent shoulders and/or right of way during non-working hours

- Should maintain a minimum of 10 feet of clear lane width
- The “work zone” is defined as the entire area within the sign package and the “work area” as the specific area that work is occurring that required setup of a work zone package

COS-TA15

Work in Center of a Road with Low Traffic Volumes



APPLICABLE USES

- Residential or minor collector streets only with low traffic volumes
- For singular work area in one City block
- Stationary work lasting longer than one hour but generally for a single day's operations
- For use with posted Speed Limits of 30 mph or less

WORK ZONE NOTES:

- All cones and/or channelizers should have maximum 20 ft. spacing
- CENTER MERGE sign shall be 7 ft. mounting height and should have Type B warning light if used during nighttime hours
- If used overnight, 42" channelizers shall be used.
- No major excavations or deep, unsafe trenches should be left in place during non-working hours
- Signs may be on portable mounts placed at 1 foot mounting height provided they do not interfere with pedestrian movement or are obstructed by parking. Otherwise, signs shall be placed at 7 feet mounting height
- Equipment should be removed from the work area and adjacent shoulders and/or right of way during non-working hours
- Should maintain a minimum of 10 feet of clear lane width
- The "work zone" is defined as the entire area within the sign package and the "work area" as the specific area that work is occurring that required setup of a work zone package

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COS-TA29 - Sidewalk Closures and Pedestrian Detours

MUTCD TA-29 was modified to meet the specific requirements of the City of Springfield while maintaining compliance with the MUTCD. This document provides a reference for reasoning of modifications to TAs provided by MUTCD to meet the City's needs. Also, included are applicable uses and notes for implementation of COS-TA29. If person implementing work zone is not fully confident in the safety, setup, and compliance of the work zone, they should request assistance from a City Work Zone Committee member.

Modifications and/or clarifications of MUTCD Requirements:

Sign not required for operations within the City of Springfield urban streets due to general width and sidewalk blockage when sign is placed adjacent to traffic.

Optional Signs not used:

- SHOULDER WORK AHEAD

Additional Comments:

- Temporary crosswalk locations will not be a requirement of a sidewalk closure. Subsequently, traffic control should be set with SIDEWALK CLOSED AHEAD CROSS HERE signs at the nearest intersection or existing crosswalk prior to the work area
- Where there are no sidewalks on the other side of the street or there is not a reasonable place for pedestrians to cross the street, communication should be made with the City's Traffic Control Coordinator to address the sidewalk closure on a case by case basis

Applicable uses of COS-TA29:

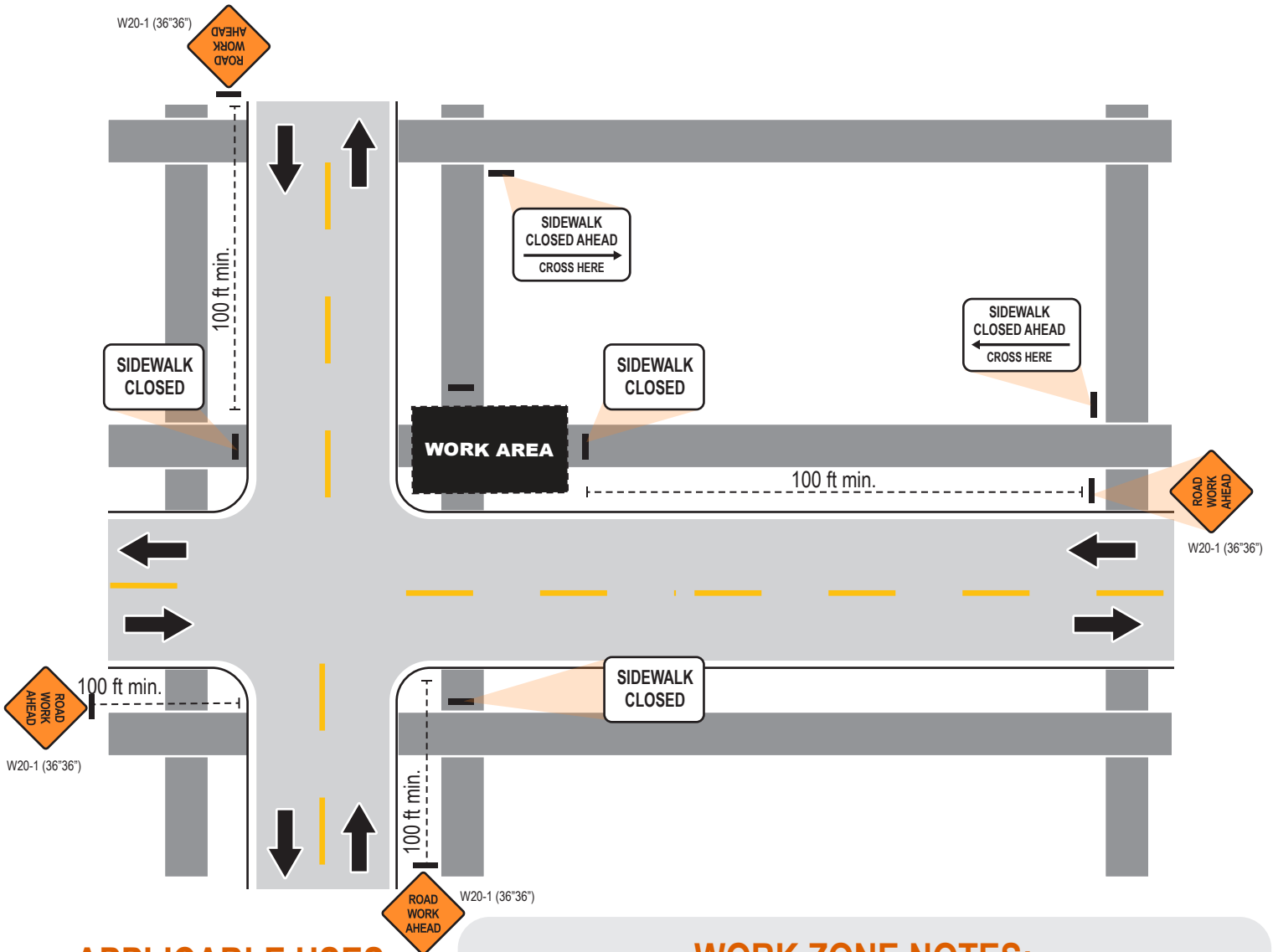
- All sidewalks under the City of Springfield jurisdiction
- May be utilized for the work durations up to two weeks in low pedestrian traffic areas
- NOT for use, without prior approval, in high pedestrian areas and areas that pedestrian facilities are known to be utilized regularly handicapped individuals

Notes for use of COS-TA29:

- All cones and/or channelizers should have maximum 20 ft. spacing
- Signs may be on portable mounts placed at 1-foot mounting height provided they do not interfere with pedestrian movement or are obstructed by parking. Otherwise, signs shall be placed at 7 feet mounting height
- Pedestrian traffic signal displays and devices controlling a closed crosswalk should be covered or deactivated.
- Only the temporary traffic control devices related to pedestrians are shown. Other devices may be necessary to control traffic depending on the scope of work
- Public notice and active communication is necessary in central business districts and other high pedestrian locations. Specific pedestrian temporary traffic control plans will

need to be accepted by City's Traffic Control Coordinator in these and other high pedestrian areas.

- The "work zone" is defined as the entire area within the sign package and the "work area" as the specific area that work is occurring that required setup of a work zone package.



APPLICABLE USES

- All sidewalks under the City of Springfield jurisdiction
- May be utilized for the work durations up to two weeks in low pedestrian traffic areas
- NOT for use, without prior approval, in high pedestrian areas and areas that pedestrian facilities are known to be utilized regularly by handicapped individuals

WORK ZONE NOTES:

- All cones and/or channelizers should have maximum 20 ft. spacing
- Signs may be on portable mounts placed at 1 foot mounting height provided they do not interfere with pedestrian movement or are obstructed by parking. Otherwise, signs shall be placed at 7 feet mounting height
- Pedestrian traffic signal displays and devices controlling a closed crosswalk should be covered or deactivated.
- Only the temporary traffic control devices related to pedestrians are shown. Other devices may be necessary to control traffic

depending on the scope of work

- Public notice and active communication is necessary in central business districts and other high pedestrian locations. Specific pedestrian temporary traffic control plans will be needed to be accepted by City's Traffic Control Coordinator in these and other high pedestrian areas.
- The "work zone" is defined as the entire area within the sign package and the "work area" as the specific area that work is occurring that required setup of a work zone package.



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COS-TA30, COS-TA30a, COS-TA30b, - Lane Closure on a Multi-Lane Street

MUTCD TA-30 was modified to meet the specific requirements of the City of Springfield while maintaining compliance with the MUTCD. This document provides a reference for reasoning of modifications to TAs provided by MUTCD to meet the City’s needs. Also, included are applicable uses and notes for implementation of COS-TA30, COS-TA30a, & COS-TA30b. If person implementing work zone is not fully confident in the safety, setup, and compliance of the work zone, they should request assistance from a City Work Zone Committee member.

Modifications and/or clarifications of MUTCD Requirements:

Optional signs were omitted due with posted Speed Limit 35 mph and less as shown below:

Optional Signs Not Required:

- Additional signing such as XXXX LANE CLOSED AHEAD

Taper Lengths, Buffer Space Lengths, and Sign Spacing: From MUTCD 6C-3

- Merge Taper (Upstream) – Should be based on the “L” dimension as listed on the chart below
- Center Lane Taper – 100 feet sufficient for slower travel speeds in two-way left turn lane (TWLTL) and to channelize traffic to the appropriate through lane
- Downstream Taper – 50 feet minimum (MUTCD 6C-3)
- Taper at Driveways or Entrances – 50 feet minimum (MUTCD 6C-3)
- Sign Spacing at 100 feet based on 6C-1 “low speed urban,” may be used with posted speed limits 30 mph and less on Residential and Minor Collector Streets only. For Streets not classified as noted above shall use sign spacing as listed below:

Posted Speed Limit (mph)	"S" Sign Spacing (ft)	Merging Taper Length* "L" (feet)		
		10 ft lane	11 ft lane	12 ft lane
20	100	70	75	80
25	100	105	115	125
30	100	150	165	180
35	200	205	225	245
40	350	270	295	320
45	350	450	495	540

- Buffer Space – Recommended when room allows. Buffer space may not be practical in many work zone setups therefore additional measures such as temporary barricades, arrow boards, sign lighting, and/or protective trucks may be used
- City requires 6 cones in all tapers as a minimum for taper lengths up to 100 feet

Applicable uses of COS-TA30:

- Streets with two or more travel lanes in either direction.
- Stationary work lasting longer than one hour but less than one week.
- When posted speed limit is 45 mph and less

Notes for use of COS-TA30:

- Minimum of 6 channelizers for all tapers
- All cones and/or channelizers should have maximum 20 feet spacing
- If used overnight, 42" channelizers shall be used
- No major excavations or deep, unsafe trenches should be left in place during non-working hours
- Equipment should be removed from the work area and adjacent shoulders and/or right of way during non-working hours
- Should maintain a minimum of 10 feet clear lane width
- Mounting height for all signing shall be 7 feet
- XXXX LANE CLOSED AHEAD sign may be omitted if posted speed limit is 35 mph or less
- The "work zone" is defined as the entire area within the sign package and the "work area" as the specific area that work is occurring that required setup of a work zone package

Applicable uses of COS-TA30a:

- Streets with two or more travel lanes in either direction requiring the closure of the two-way left turn lane.
- Stationary work lasting longer than one hour but less than one week.
- When posted speed limit is 45 mph and less

Notes for use of COS-TA30a:

- Minimum of 6 channelizers for all tapers
- All cones and/or channelizers should have maximum 20 feet spacing
- If used overnight, 42" channelizers shall be used
- No major excavations or deep, unsafe trenches should be left in place during non-working hours
- Equipment should be removed from the work area and adjacent shoulders and/or right of way during non-working hours
- Should maintain a minimum of 10 feet clear lane width
- Mounting height for all signing shall be 7 feet
- XXXX LANE CLOSED AHEAD sign may be omitted if posted speed limit is 35 mph or less

- For divided roadway with raised median, utilize COS-TA30 and modify to reflect interior lane closure
- For undivided roadway without two-way left turn lane, and where it is necessary to close opposing inside through lane, utilize COS-TA30 for both directions and modify to reflect interior lane closures

Applicable Uses of COS-TA30b:

- Stationary work requiring the closure of a two-way left turn lane and lasting longer than one hour but less than one week.
- When posted speed limit is 45 mph and less

Notes for use of COS-TA30b:

- Minimum of 6 channelizers for all tapers
- All cones and/or channelizers should have maximum 20 feet spacing
- If used overnight, 42" channelizers shall be used
- No major excavations or deep, unsafe trenches should be left in place during non-working hours
- Equipment should be removed from the work area and adjacent shoulders and/or right of way during non-working hours.
- Should maintain a minimum of 10 feet clear lane width
- Signs may be on portable mounts placed at 1-foot mounting height provided they do not interfere with pedestrian movement or are obstructed by parking. Otherwise, signs shall be placed at 7 feet mounting height
- The "work zone" is defined as the entire area within the sign package and the "work area" as the specific area that work is occurring that required setup of a work zone package

COS-TA30

Exterior Lane Closure on a Multi-Lane Street

Posted Speed Limit (mph)	"S" Sign Spacing (ft)	Merging Taper Length* "L" (feet)		
		10ft lane	11ft lane	12ft lane
20	100	70	75	80
25	100	105	115	125
30	100	150	165	180
35	200	205	225	245
40	350	270	295	320
45	350	450	495	540

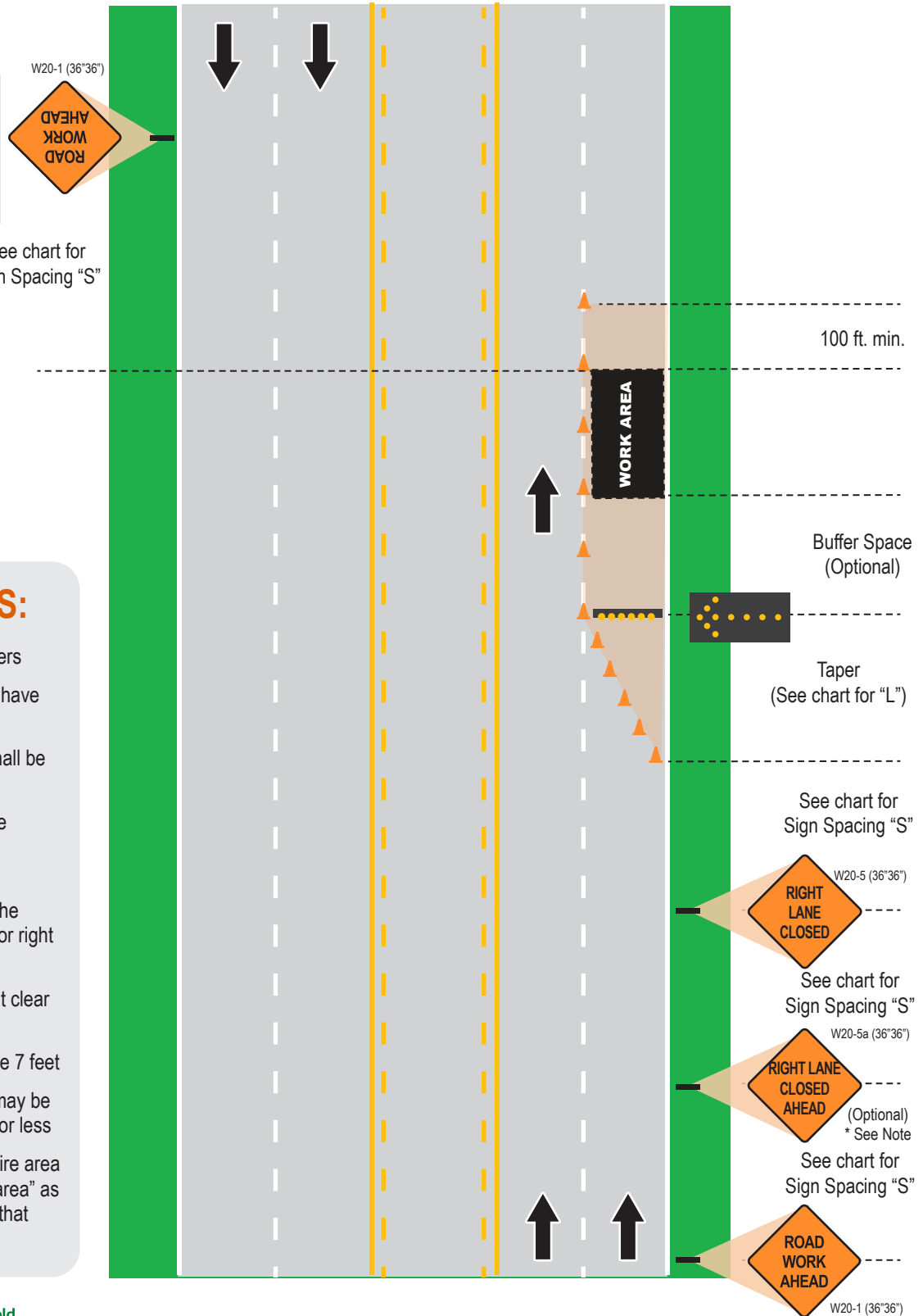
See chart for Sign Spacing "S"

APPLICABLE USES

- Streets with two or more travel lanes in either direction.
- Stationary work lasting longer than one hour but less than one week.
- When posted speed limit is 45 mph and less

WORK ZONE NOTES:

- Minimum of 6 channelizers for all tapers
- All cones and/or channelizers should have maximum 20 feet spacing
- If used overnight, 42" channelizers shall be used
- No major excavations or deep, unsafe trenches should be left in place during non-working hours
- Equipment should be removed from the work area and adjacent shoulders and/or right of way during non-working hours
- Should maintain a minimum of 10 feet clear lane width
- Mounting height for all signing shall be 7 feet
- XXXX LANE CLOSED AHEAD sign may be omitted if posted speed limit is 35 mph or less
- The "work zone" is defined as the entire area within the sign package and the "work area" as the specific area that work is occurring that required setup of a work zone package



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COS-TA30a

Interior Lane Closure on a Multi-Lane Street

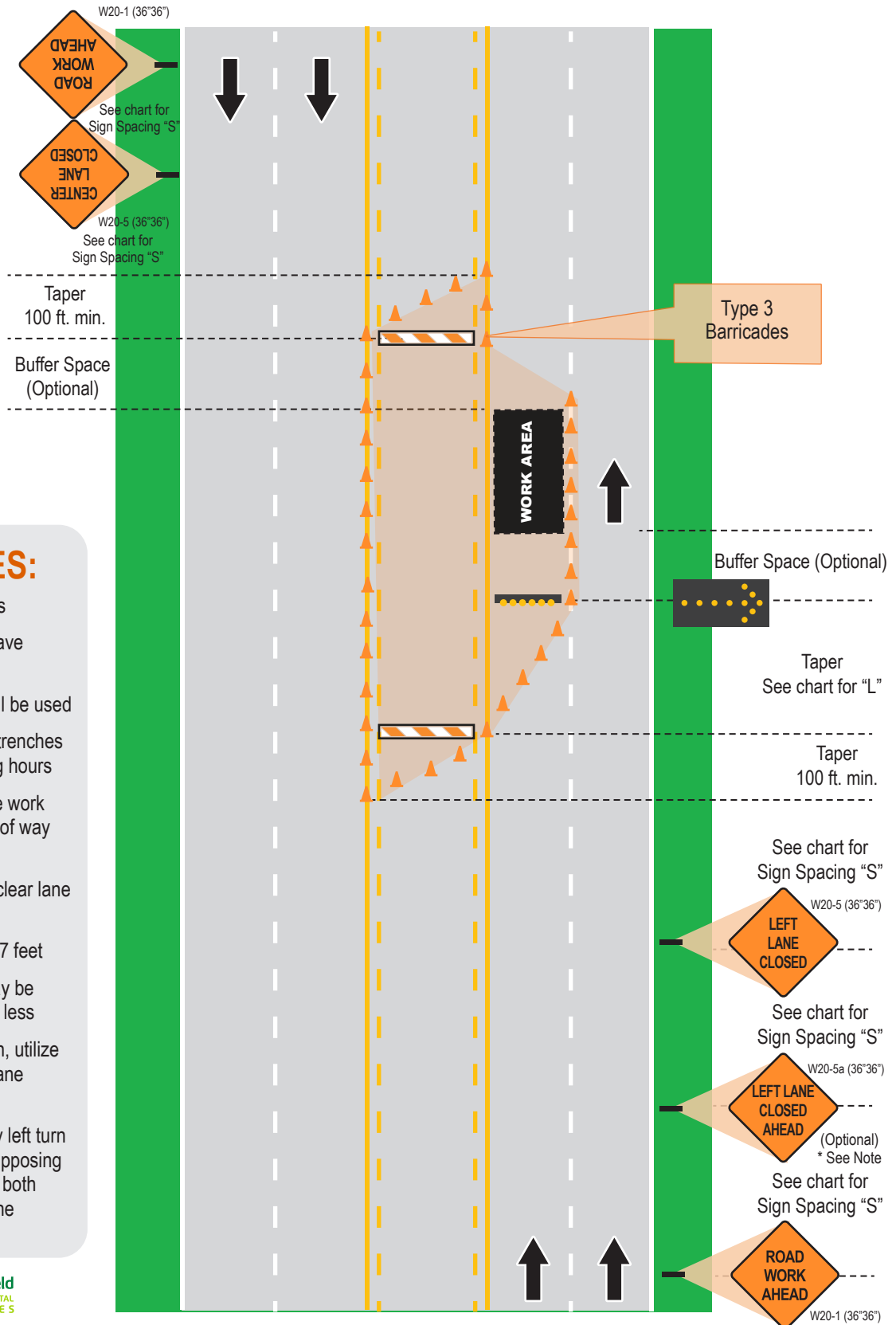
Posted Speed Limit (mph)	"S" Sign Spacing (ft)	Merging Taper Length* "L" (feet)		
		10ft lane	11ft lane	12ft lane
20	100	70	75	80
25	100	105	115	125
30	100	150	165	180
35	200	205	225	245
40	350	270	295	320
45	350	450	495	540

APPLICABLE USES

- Streets with two or more travel lanes in either direction requiring the closure of the two-way left turn lane.
- Stationary work lasting longer than one hour but less than one week.
- When posted speed limit is 45 mph and less

WORK ZONE NOTES:

- Minimum of 6 channelizers for all tapers
- All cones and/or channelizers should have maximum 20 feet spacing
- If used overnight, 42" channelizers shall be used
- No major excavations or deep, unsafe trenches should be left in place during non-working hours
- Equipment should be removed from the work area and adjacent shoulders and/or right of way during non-working hours
- Should maintain a minimum of 10 feet clear lane width
- Mounting height for all signing shall be 7 feet
- XXXX LANE CLOSED AHEAD sign may be omitted if posted speed limit is 35 mph or less
- For divided roadway with raised median, utilize COS-TA30 and modify to reflect interior lane closure
- For undivided roadway without two-way left turn lane, and where it is necessary to close opposing inside through lane, utilize COS-TA30 for both directions and modify to reflect interior lane closures



This information is intended to provide the principles of proper work zone traffic control, but is not a standard. Part 6 of the MUTCD contains the standards for work zone traffic control. The typical application diagrams shown represent minimum requirements for typical situations, but do not include a layout for every conceivable work situation. They are NOT intended as substitutes for engineering judgment and when necessary, should be altered to fit the conditions of a particular temporary traffic control zone. The obligation of complying with the requirements and the liability for failing to do so are hereby placed upon the persons, entities, or agencies performing the work within or infringing upon the public right-of-way.

COS-TA30b

Two-Way Left Turn Lane Closure

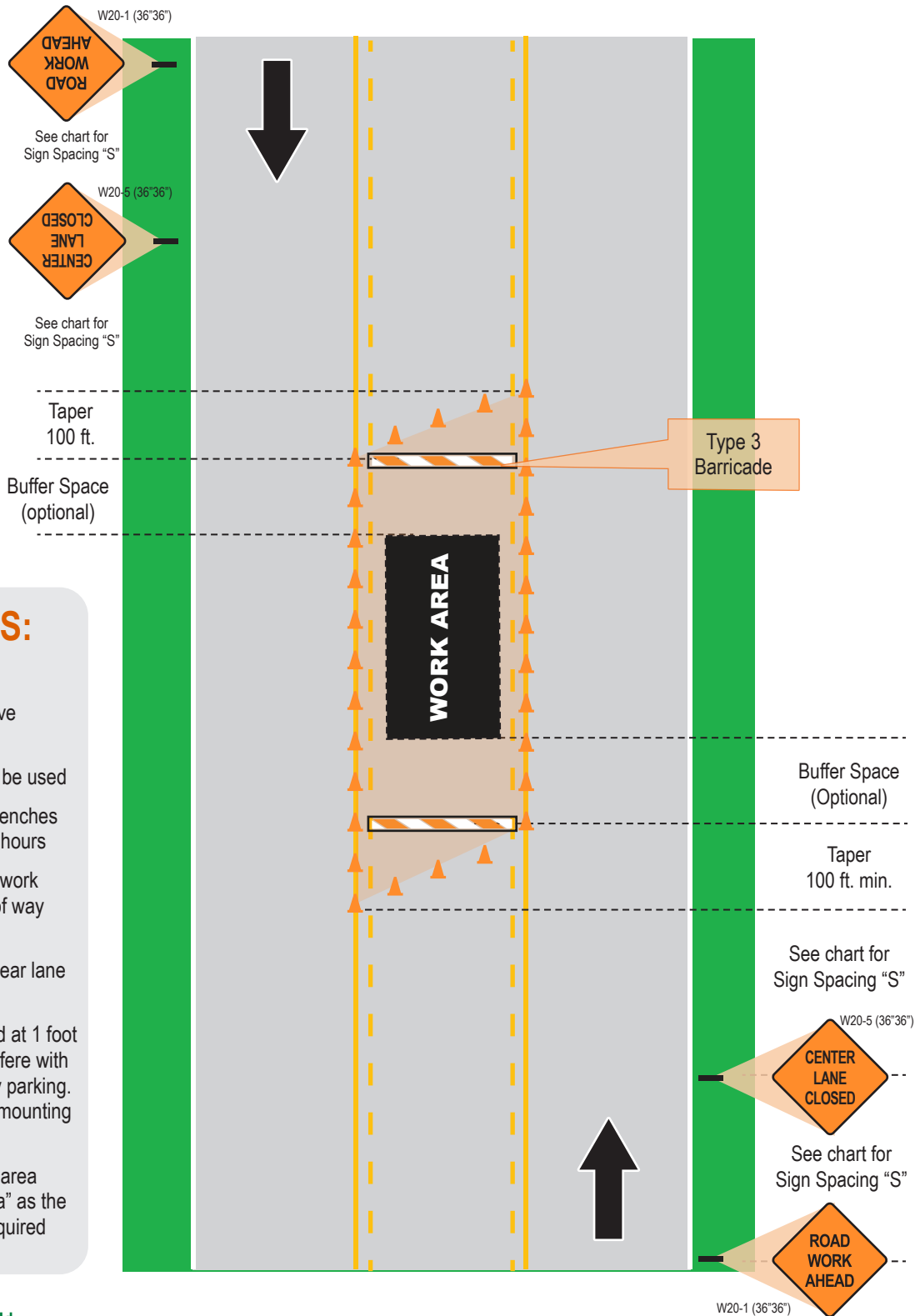
Posted Speed Limit (mph)	"S" Sign Spacing (ft)	Merging Taper Length* "L" (feet)		
		10ft lane	11ft lane	12ft lane
20	100	70	75	80
25	100	105	115	125
30	100	150	165	180
35	200	205	225	245
40	350	270	295	320
45	350	450	495	540

APPLICABLE USES

- Stationary work requiring the closure of a two-way left turn lane and lasting longer than one hour but less than one week.
- When posted speed limit is 45 mph and less

WORK ZONE NOTES:

- Minimum of 6 channelizers for all tapers
- All cones and/or channelizers should have maximum 20 feet spacing
- If used overnight, 42" channelizers shall be used
- No major excavations or deep, unsafe trenches should be left in place during non-working hours
- Equipment should be removed from the work area and adjacent shoulders and/or right of way during non-working hours.
- Should maintain a minimum of 10 feet clear lane width
- Signs may be on portable mounts placed at 1 foot mounting height provided they do not interfere with pedestrian movement or are obstructed by parking. Otherwise, signs shall be placed at 7 feet mounting height
- The "work zone" is defined as the entire area within the sign package and the "work area" as the specific area that work is occurring that required setup of a work zone package



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COS TA-31 - Lane Closures using Two-Way Left Turn Lane

MUTCD TA-31 was modified to meet the specific requirements of the City of Springfield while maintaining compliance with the MUTCD. This document provides a reference for reasoning of modifications to TAs provided by MUTCD to meet the City’s needs. Also, included are applicable uses and notes for implementation of COS-TA31. If person implementing work zone is not fully confident in the safety, setup, and compliance of the work zone, they should request assistance from a City Work Zone Committee member.

Modifications and/or clarifications of MUTCD Requirements:

Although derived from TA-31, which is for use where two lanes of vehicular traffic are to be maintained in the direction of travel for which one lane is closed, COS-TA31 is for use only when one lane of traffic is to be maintained in the direction of travel for which one lane is closed by utilizing the two-way left turn lane (TWLTL).

Optional Signs Not Required:

- Additional signing such as XXXX LANE CLOSED AHEAD

These signs may be omitted on roadways with posted Speed Limit 35 mph and less.

Taper Lengths, Buffer Space Lengths, and Sign Spacing: From MUTCD 6C-3

- Shifting Tapers (Upstream) – All Shifting Tapers are based on ½ L as L is defined in chart below
- Center Lane Tapers – 100 feet sufficient for slower travel speeds in two-way left turn lane (TWLTL) and to channelize traffic to the appropriate through lane
- Taper at Driveways or Entrances – 50 feet minimum recommended (MUTCD 6C-3)
- Sign Spacing at 100 feet based on 6C-1 “low speed urban,” may be used with posted speed limits 30 mph and less on Residential and Minor Collector Streets only. For Streets not classified as noted above shall use sign spacing as listed below:

Posted Speed Limit (mph)	"S" Sign Spacing (ft)	Merging Taper Length* "L" (feet)		
		10 ft lane	11 ft lane	12 ft lane
20	100	70	75	80
25	100	105	115	125
30	100	150	165	180
35	200	205	225	245
40	350	270	295	320
45	350	450	495	540

- Buffer Space – Recommended when room allows. Buffer space may not be practical in many work zone setups, therefore additional measures such as temporary barricades, arrow boards, sign lighting, and/or protective trucks may be used to enhance to work zone. City requires 6 cones in all tapers as a minimum for taper lengths up to 100 feet

Applicable uses of COS-TA31:

- For use on streets with a two-way left turn lane and posted speed limits 45 mph or less, and is not intended for use on a street with more than one lane in the direction of travel for which a closure occurs
- Stationary work lasting longer than one hour but less than one week.

Notes for use of COS-TA31:

- Minimum of 6 channelizers for all tapers
- All cones and/or channelizers should have maximum 20 feet spacing
- If used overnight, 42” channelizers shall be used
- No major excavations or deep, unsafe trenches should be left in place during non-working hours
- Equipment shall be removed from the work area and adjacent shoulders and/or Right-of-Way within the work zone signing during non-working hours.
- Should maintain a minimum of 10 feet clear lane width in tangent segment and 16 feet in taper segment
- Signs may be on portable mounts placed at 1-foot mounting height provided they do not interfere with pedestrian movement or are obstructed by parking. Otherwise, signs shall be placed at 7 feet mounting height
- For use where posted Speed Limit is 45 mph or less
- The “work zone” is defined as the entire area within the sign package and the “work area” as the specific area that work is occurring that required setup of a work zone package.

COS-TA31

Lane Closure Using Two-Way Left Turn Lane

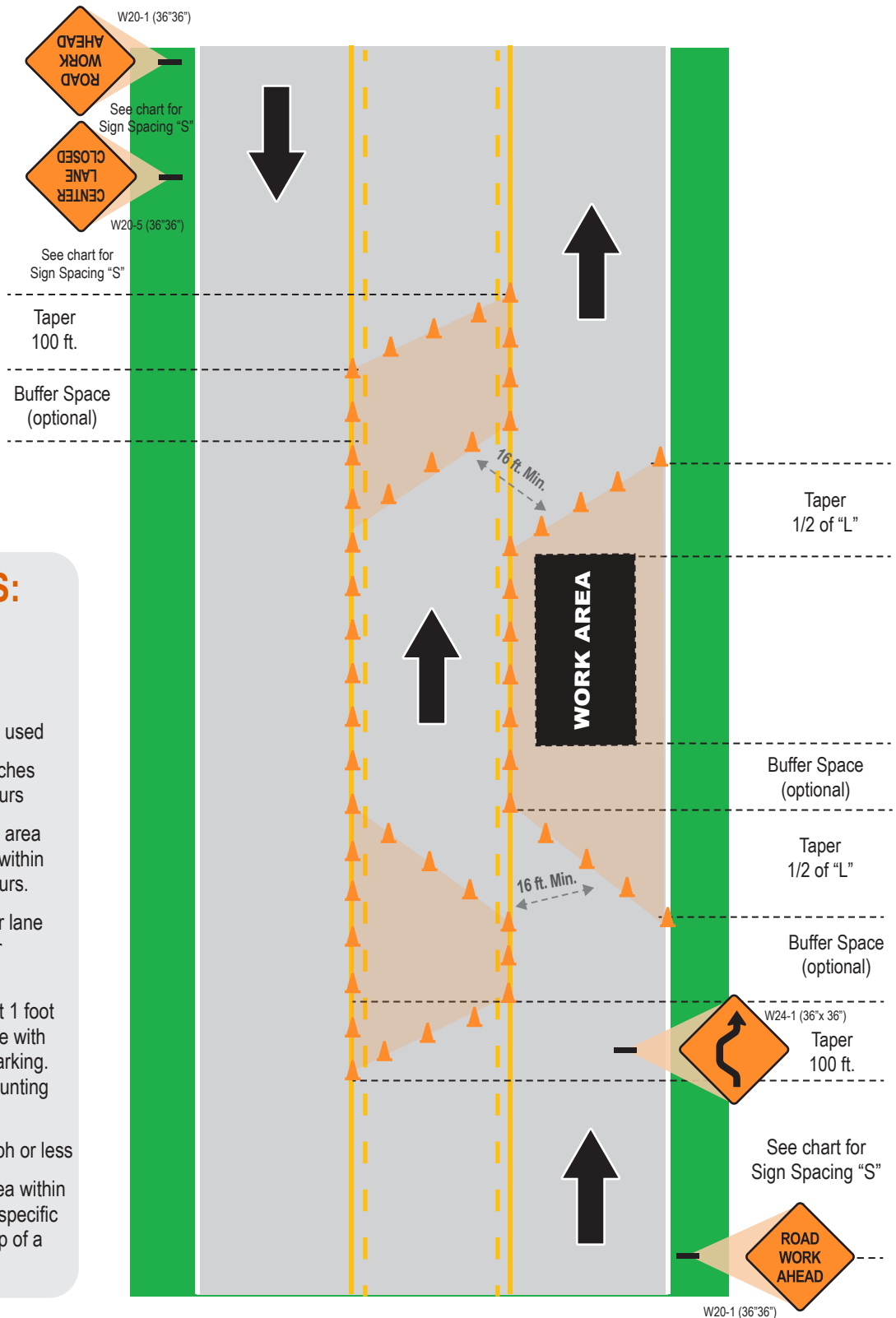
Posted Speed Limit (mph)	"S" Sign Spacing (ft)	Merging Taper Length* "L" (feet)		
		10ft lane	11ft lane	12ft lane
20	100	70	75	80
25	100	105	115	125
30	100	150	165	180
35	200	205	225	245
40	350	270	295	320
45	350	450	495	540

APPLICABLE USES

- For use on streets with a two-way left turn lane and posted speed limits 45 mph or less, and is not intended for use on a street with more than one lane in the direction of travel for which a closure occurs
- Stationary work lasting longer than one hour but less than one week.

WORK ZONE NOTES:

- Minimum of 6 channelizers for all tapers
- All cones and/or channelizers should have maximum 20 feet spacing
- If used overnight, 42" channelizers shall be used
- No major excavations or deep, unsafe trenches should be left in place during non-working hours
- Equipment shall be removed from the work area and adjacent shoulders and/or Right-of-Way within the work zone signing during non-working hours.
- Should maintain a minimum of 10 feet clear lane width in tangent segment and 16 feet in taper segment
- Signs may be on portable mounts placed at 1 foot mounting height provided they do not interfere with pedestrian movement or are obstructed by parking. Otherwise, signs shall be placed at 7 feet mounting height
- For use where posted Speed Limit is 45 mph or less
- The "work zone" is defined as the entire area within the sign package and the "work area" as the specific area that work is occurring that required setup of a work zone package.



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COS-TA35 – Temporary Operation on High-Volume Divided or Multilane Undivided Arterials

MUTCD TA-35 was modified to meet the specific requirements of the City of Springfield while maintaining compliance with the MUTCD. This document provides a reference for reasoning of modifications to TAs provided by MUTCD to meet the City's needs. Also, included are applicable uses and notes for implementation of COS-TA35. If person implementing work zone is not fully confident in the safety, setup, and compliance of the work zone, they should request assistance from a City Work Zone Committee member.

Modifications and/or clarifications of MUTCD Requirements:

Optional Signs not used:

- Shoulder Advanced Warning Truck

Additional Comments:

- COS-TA35 is intended for use on high-volume arterial streets all times of day when the scope of the planned work being performed is less than one hour. For work requiring a setup of more than an hour, refer to the COS-TA30 or COS-TA31
- In addition to the use of the Rear Advanced Warning Truck, a cone/channelizer taper may be installed for additional protection. If a taper is installed, it shall be placed at a minimum length of 100 feet in length. Also, cones/channelizers should be placed at 20 ft or less intervals from the end of the taper to the end of the work area as applicable. Additional cones may be added to lengthen work areas as needed.

Applicable uses of COS-TA35:

- High-speed (> 35 mph), high-volume arterial roadways
- Scope of work less than one hour
- Applicable all times of day
- For singular work are in one City block
- For use on four or five lane sections with or without a TWLTL

Notes for use of COS-TA35:

- Minimum of 6 channelizers for all tapers
- All vehicles shall have activated high-intensity rotating, flashing, oscillating, or strobe lights
- Cones/channelizers should be placed at 20 ft or less intervals from the end of the taper to the end of the work area as applicable. Additional cones may be added to lengthen work area and/or buffer as needed
- Should maintain a minimum of 10 feet clear lane width
- Same basic setup with altered taper and arrow board for the inside lane
- All cones and/or channelizers should have maximum 20 feet spacing

- The “work zone” is defined as the entire area within the sign package and the “work area” as the specific area that work is occurring that required setup of a work zone package

APPLICABLE USES

- High-speed (> 35 mph), high-volume arterial roadways
- Scope of work less than one hour
- Applicable all times of day
- For singular work are in one City block
- For use on four or five lane sections with or without a TWLTL

WORK ZONE NOTES:

- Minimum of 6 channelizers for all tapers
- All vehicles shall have activated high-intensity rotating, flashing, oscillating, or strobe lights
- Cones/channelizers should be placed at 20 ft or less intervals from the end of the taper to the end of the work area as applicable. Additional cones may be added to lengthen work area and/or buffer as needed
- Should maintain a minimum of 10 feet clear lane width
- Same basic setup with altered taper and arrow board for the inside lane
- All cones and/or channelizers should have maximum 20 feet spacing
- The “work zone” is defined as the entire area within the sign package and the “work area” as the specific area that work is occurring that required setup of a work zone package

