Maintenance of Traffic Update 2020

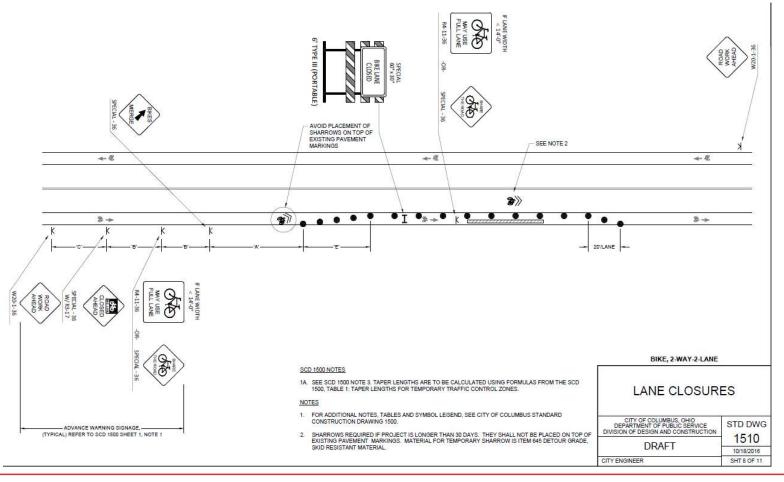




Standard Drawings Updates

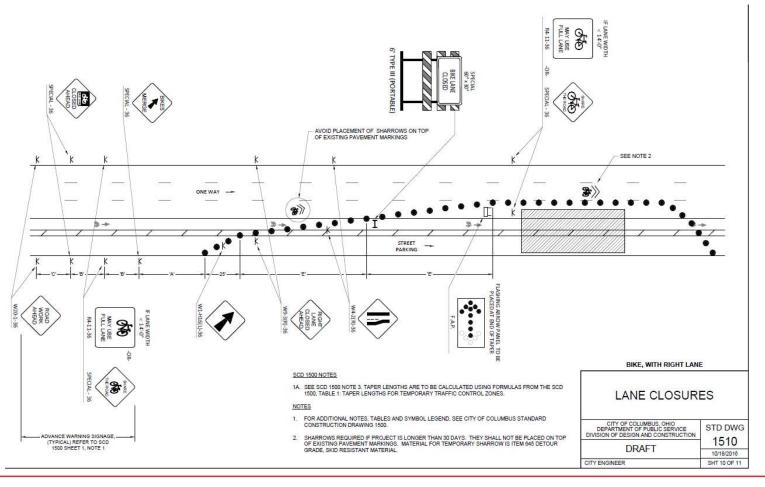


Standard Drawings Updates





Standard Drawings Updates





MOT Sample Plan Update



Sample Plan Update – MOT Notes

ITEM 614, MAINTAINING TRAFFIC, AS PER PLAN

TAMPORARY TRAFFIC CONTROL

At temporary tention control (TTC) devices shall be furnished, erected, mointoined onder

removed by the controctor in occordance with the Chro Manual of Inform Traffic Control

memory of the Control of t

Construction operations shall not begin until all buffic control is in place and approved by the Department of Public Service Respector. If the contractor does not comply with the attanction, including the installation of temporary parement markings and the removed responsibility of the control of the property of the control of the property parement markings to localuse, but not limited to, channelling lines, does fines, and centerfrines shall be installed and ministation do not construction properties lasting a minimum of 14 closified good on a directed by the temporary control of the properties of

BLE CORRECTOR SIMLL DES ADVANCE MOTIFICATION (METTER) AND VERBALLY) TO THE representation of Counter Counterfact of SIL-650-CL30 or 14-64-5-200. The representation of Counterfact of Counterfact of CORA of 514-500-6-201. The Project Exposer, and the Series Service Promer of CORA of 514-500-6-201. The Project Exposer, and the Series Service Promer of CORA of 514-500-6-201. The Project Exposer, and the Service Service Promer of CORA of 514-500-6-201. The Project Exposer of Counterfact Service S

PE OF CHANGE tours/Road closures 30 ne closures losting 2 weeks or more 2

ss than 2 weeks 3-days days or less 1-day rivice Planner shall be contacted 30 days prior to any planned o

The COTA Senior Service Planner shall be contacted 30 days prior to any planned class on assigned COTA routes. Any other unforeseen impacts to traffic shall be immediately reported as they occur.

The controller shall be responsible for the protection and soft movement of pelestrian through around, referred says from the controllers that The controllers than the transport of the protection of the controllers than the controllers of th

MAINTAINING TRAFFIC DURING HOLIDAYS AND SPECIAL EVENTS
to work shall be performed and all existing lanes shall be open to traffic during
designated holidays or special events including the Ohio State football home games,
seried of time that the lanes are to be open depends on the day of the week on it
the holiday or event falls, content the CPV of Columbus Temporary Traffic Control

partied of time that the lones are to be open depends on the day of the week or with holisting or went folia; contact the Coly of Columbus Temporary Traffic Control and the Columbus Control of Control of Columbus Control of Columbus Colu

The contractor shall contact the City of Columbus Temporary Traffic Control Coordinat for any additional mot requirements for special events, including OSU footbal home agrees.

The contractor shall maintain all permanent traffic controls not in conflict with the temporary traffic controls throughout this project. Permanent traffic controls may be temporarly relacated or covered, as approved by the engineer. The contractor shall assume all liability for missing, damaged, or improperly placed signs.

Any work done by the department of public service, including installation, relocation, removed and/or replacement of temporary traffic control devices as a result of wor done by the contractor or as a result of negligence of the contractor, shall be at contractors' expense.

The roadway shall not be opened to non-construction traffic until the critical permanent traffic controls are in place, or until temporary traffic controls agreewed by the engineer installed. The critical permanent traffic controls are stop, side, one — way, do not one of the place of the controls of the controls of the controls of the controls of the place of the controls of the place of the

In addition to the requirements herein, and the latest edition of the Ohio Manual of Uniform Traffic Control Devices, a uniformed Law Enforcement Officer (LEO) shall be provided for controlling traffic under the following conditions:

Work within a signalized intersection, defined as the area bounded by the rearing lines.
 When flagging within the intersection of two arterial roadways.
 When specified in the maintenance of traffic pion or as when directed by the pion.

 When specified in the mointervance of traffic plan or as when directed by the project engineer
 When shifting traffic left of center, through a signalized intersection, without shifting shorely head;

A flagger shall be utilized to assist in controlling traffic while equipment is entering exiting an intersection or work zone. The contractor may utilize his own flagger or U under pay item 614 Marktaining Traffic, Lump Sum.

Flaggers and LED's shall be equipped according to the standards for flagging traffic contained in the ONUTCO. Ragging operations performed by LED's or designated flagge shall only be permitted as long as all traffic control is in place according to figure 84-10 (TA-10) in the Ohio Morusul, Partol care shall not be used in flagging operation.

contractor shall make arrangement through the Columbus Police Division at (614) 645-4795.

LEO's shall be considered to be employed by the contractor and the contractor shall be considered to be employed by the contractor and the Columbus shall be contractor.

edit or modify any maintenance of traffic scheme without the permission of the Temporary Traffic Control Coordinator or Project Engineer unless on emergency develops of a safety largery develops in LEO may be assumed by the Columbus Public Safety.

and/or the Public Service Director at the contractor's expense.

Portable Changeable Message Signs (PCMS) shall be installed a minimum of 7 days prior to closure of a roadway. The message shall advise the motorist of the dates, times,

and duration of the closure. The PCMS shall remain in place for 7 days after the sta of the closure.

When not included in a signed plan, a TTC Plan (TTCP) including pedestrion control shall be submitted to the TTC Coordinator at 614-645-0355 or 614-645-845 at the pre-construction meeting or a minimum of ten (10) working days prior to beginning work for approval. Copies of the approved TTCP shall be given to the project engineer and keat on site clanar with a street classure-focusioning were project engineer and keat on site clanar with the street classure-focusioning when the street classure-focusioning was the street of source-focusioning with the street of source-focusioning was the street of source-focusioning with the street of source-focusioning was the street of source-focusioning with the street of source-focusioning was sufficient to the street of source-focusion was sufficient to the street of source-focus only source-focus on the street of source-focus

Type C steady-burn or Type 0 360-degree steady-burn warning lights shall be required on all barricades, drums, and similar traffic control devices in use at miniph. Only 42 reflectoraced channelizing devices (conce) shall be permitted for nighttime work with the approval of the TTC Coordinator at 614-645-0355 or 614-845-9845 per 0.0.0.T. standards.

A flashing arrow panel (48" x 96"-Type C) shall be used in lane closures as per the

All trenches within the road right of way shall be backfilled or securely plated per (City of Columbus general policy on steel plate usage dated 11/15/2008 and STD, DWG, 1441

All existing traffic lanes shall be fully open to traffic at all times on:

All traffic lanes shall be fully apen to traffic from 6:00 a.m. to 9:00 a.m. and 4:00 p.m. to 6:00 p.m., or 6:00 to 9:00 a.m. and 3:00 to 6:00 p.m. in the Columbus Business Datrist (TEB) parting area, Menday through Friday on Idne(s) may be closed to traffic during working hours.

One-way _____ lane(s) of traffic shall be maintained at all times on

Two-way, two-lane (one-lane each direction) traffic shall be maintained at all times by use of existing, proposed, or temporary povement per City of Columbus Maintenance of Traffic, Standard Construction Drawing 1510 and figure 6H-32 typical application 32

Two-way, one-lone traffic may be maintained during construction operations on per the City of Columbus Maintenance of Traffic, Standard Construction Drawing 1550 and rigure 6H-10 (TA-10) of the Ohio Manual of Lindform Traffic Control Devices

may be closed between
for a maximum of hour(a)/doy(s) between the hours
cond per the City of Columbus Moniterance of Troffic, Stendard
Construction Drawing 1540 and per the City of Columbus Moniterance of Troffic, Stendard
opproved by the Department of Public Service. The contractor shall be responsible for all costs in providing detaur including the removal and reinstallation of any conflicting
troffic control and/or only necessary troffic signal contributions.

A temporary diversion shall be provided and maintained in good condition on during the period of work. All such diversions shall be in accordance with the object manual of uniform traffic control devices.

The Deportment of Public Service will remove or cover all pooking mater heads put out of service by the public. There is a \$50.00 dailer charge for the removal and of service by the public them is a \$50.00 dailer charge for the removal and restrictions the public protein perfect of services are set of services, see the public perfect of services are some fines contained to the services of services are some fines contained to the services of services are some fines and services are services as the services are services are services as the services are services as the services are services as the services are services are services as the services are services as the services are services as the services are services are services are services are services are ser

Temporary Tungsquop to Problem Geory shall be residual or 50° //s ninners by use and/or 40° Ninners advantage of the subjects. Ninner advantage of the problem of the subjects of the contract of the contract of the problem of the contract of the contract of the problem of the contract o

The contractor shall contact Uho Utility Protection Service (OUPS) to boode and mark all underground traffic control cobies prior to the beginning of any work within 450 feet of any significant interaction(s) or within any posted area where the department has underground cobie. The signal operation regimes (0.14–685–64.18) shall be notified six (6) weeks in outcome for signal evidence for signal exclasions or joble redoctions.

Signal conduit clearance 3° horizontal and 1° vertical from adjacent utilities shall be maintained at all times.

When any traffic control device, conduit, or cable is damaged, the contractor shall notify signal operation personnel of \$14-655-0423 (cell 614-419-4501) between 700 om and 4:00 pm, Monday through Friday. If unable to make contact through the other numbers, call 614-645-7393.

The roadway or any section of roadway shall not be opened to non-construction traffic until all temporary, non-reflective, blackout tope has been completely removed from non-conflicting permanent provenent marrians for that area of the roadway, or unless otherwise directed in willing by the engineer. This is supplemental to City of Columbus, USS-814.11.0, and shall be sool for through the 114-11 supplemental or City of Columbus,

Whenever yellow centerlines or furn-time lines one power over, removed, or otherwise unserviceds, the controctor shall install class it improvey striping (minimum 4 lang expensed). Temporary paper shall be used on all miles achieves. Limptovary laps shall be expensed, the property laps shall be controlled to the cont

Class II temporary striping (minimum 4° long segments) shall be as per item 614 – Mork Zone Powernett Marking and shall be placed within one (1) foot long-fluidful tolerance of the permonent strips(s). All temporary striping not to within one (1) foot loterance shall be removed and replaced in the proper location by the contractor. Class Il temporary striping shall be of the appropriate color and spaced a maximum of forty (40) feet center to center.

tryment. Will costs that consist of maintaining and protecting vehicular and pedestrian traffic will costs that consist of maintaining and protecting vehicular and pedestrian traffic protections of the China China of Uniform Traffic Control Devices for Streets and lighways (CAWITCD), and per the requirements designated in the plan including all Law forecasted CRIFFO (LTD) and Exposer hours shall be included in the plan including all Law protections of the Law Standard CRIFFO (LTD) and Exposer hours shall be included in the Jump Sum Item.

ITM. 614 — LAW ENTORCOMENT OFFICER (LED) WITH PATROL CAR. AS PER PLAN in addition to LED and flagger hours included in item 614 Ministening Traffic, Lump Som; tectioning quarticles have been carried to the General Summory to be used as directed by the engineer or an acceptable representable for the Day of Columbia. The whole is required by the Only of Columbia. The whole is required by the ONL PRESENCE OFFICE Confirmation that the position of the Columbia Columbia.

Item 614, Law Enforcement Officer with Potrol Cor, As Per Plon- _____ Hours

ITTM 614 — LAW INTORCEMENT OFFICER (LED) WITHOUT PATROL CAR, AS PER PLAN In addition to LEO and flagger hours included in Item 614 Maintaining Traffic, Lump Sum; the following quantities have been carried to the General Summony to be used as directed by the engineer or an acceptable representable for the City of Columbus. The contractors shall be posif for this bit dem only if directed by the engineer.

Item 614, Law Enforcement Officer without Patrol Car, As Per Plan - ____ Hours

EXSING PERMANENT TRAFFIC CONTROL.

Any work done by the Department of Public Service, including installation, relocation, removal and/or replacement of permanent traffic control devices as a result of work done by the contractor or as a result of negligence of the contractor; shall be at the contractor's expense.

e contractor shall be responsible for reinstallation and/or replacement of all permanent offic control devices damaged or removed during construction. Permanent traffic

The contractor shall replace all powerent markings, lockuling raised powerent markers (pm) above in conflict, removed due to construction or maintenance at briffs set up, represent Morting Morgor, all powerent marking formed shall be replaced finitely being a present former proposed finitely being in the proposed former proposed for

Il overhead cable, and down guys or book guys shall not block any partion of a traffic ignal, braffic control sign, or other traffic control device such that visibility or operation of the traffic control device is impaired.

All permanent povement markings and traffic control signs as shown on this plan shall be installed by the controctor at the projects expense. The project engineer shall be notified to direct appropriate personnel a minimum of forty-eight (48) hours (excluding Sat. & Sun.) prior to the installation of permanent markings to inspect and approve the povement marking layout prior to placing the permanent markings.

Permanent striping or Class I temporary striping shall be installed no later than fourteen 14) calendar days after the final paving course is completed. The paving contractor shall be responsible to notify the striping contractor to insure the permanent striping is natalled within the fourteen (14) calendar day limit.

If the Department of Public Service is to install permanent striping, the project engine shall be notified to direct appropriate personnel a minimum of ten (10) working days prior to the application of the final course of powerent.

All any location where the contractor demograph delection confirs their lead-in-citalities the propose units to local, the contractor shall profit be the contract shall profit be the contract shall profit be complete they be local, which local be contracted with largical to profit be contracted with 12 days time demand to display the contract of any location where the contractor contract leads and 12 days time demand to display the contract of the disentation of all profit profit in the contractor, or the disentation of the contractor, and the contractor, and the contractor, and the contractor of the disentation of the contractor of the contractor

recorded and provide the Department of Public Services Impector, prior to the memorement of work, the MSA (International Municipal Signal Association) certificationers for all signal dechnicions working on this project.

Locations of the repleasance delection tool its field method or dismonland develope which is submitted to the contraction section by department of public service perspects. Location of final powerent markings or the markings themselves shall be clearly indicated location of final powerent markings or the markings themselves shall be clearly indicated loops on the powerent of it developes to account the original power of the profit of loops on the powerent of it developes absoluted. If disnotly here or to been profit of contact signal operations personnel of 614–464–362 (and 614–4194–361) of local twothe colors markings. The shall be contacted to the colors and the colors marked in Joseph San Marking San

The saw slot depth for loop wire installation shall be four (4) inches with six (6) inches to the conduit entrance. If adverse pavement conditions warrons, depth may be increased to six (6) inches throughout and shall be determined by the department of

h loop shall have its own conduit from edge of pavement to pull box unless specified

The pull low assembly shall be coled as medium to heavy duly, to be installed in concrete walkways, and shall have all stanless steel hardware. The pull box ocaver shall have the word "Traffic" on it. The cover shall be balted to the box and shall be below: 5,000 lb, static lood over a 10°,10° over an ext 63° 0.0°. The loos of order shall led 15° lobes enrowmen to 50° lobes enrolled in the project does not specify 200.6 polymer concrete pail loses, the supplied assembles hald be as followed assemble to the specific spe

When a pull box is not used, the soldered spice shall be made in an anchor base strain pole or a conduit riser specified by the department of public service's representative, except where a controller cabinet is mounted on that pole in which case the loop wire shall be routed directly into the cabinet.

cobmid. When such connections are required, the confractor shall notify the Iraffix operations Shop of 14-645-7338, Mon. – Fri, 8 am to 4 pm, to schedule city forces making the actual connections. The confractor shall be available of the agreed time the contractor will be billed for any time that alty forces are required to wait for th contractors work to be completed.

Conduit placed in "right of way" areas bearing no traffic for detector lead in shall be them 725.051, City of Columbus Construction and Material Specifications, latest edition conduit placed under a roadway or in areas that may bear traffic shall be concrete encased (sizes and type to be determined by the department of public service's

Loop wire shall be identified with a plastic tog (WBLT, EBRT, etc.) at the splice point of

The Items and estimated quantities for the replacement of the Department of Public Service's detection Items shall be included in these plans when directed by the plan eviewer. These astimates are for the purpose of bidding the project. The following is a

roject:			
Item	Quantity	Unit	Item Description
202	XX	SF	Walk Removed
608	XX	SF	4" Concrete Walk
632	XX	LF	Conduit Riser, 1 or 2 Inch Diometer
625	XX	LF	Conduit 1, 1 1/2, or 2 Inch. (As Per Plan)
625	XX	LF	Trench
625	XX	Each	Pull Box, 12"x18", (As Per Plan)
632	XX	Each	Detector Loop
632	300	LF	Loop Detector Lead-In Cable
632	xx	TE	Losh / Unlosh Coble

The contractor shall notify Signal Operation Personnel at 614-645-0423 (cell 614-419-4501) after all loops have been installed at each intersection. If unable to make contact through the above number, call 614-645-7393. The Department of Public Service shall impact all sersors and test as necessary. The contractor shall replace all

DESIGNER NOTE.

MANTENANCE OF TRAFFIC NOTES ILLUSTRATED ON THIS SHEETS WERE
CURRENT AT THE THIS OF PLAN DEVELOPMENT, THE DESIGN CONSULTANT IS
REQUIRED TO GENTAL THE MOST RECENT WERSION OF THESE NOTES FROM
EXPLANCED THE STATE OF THE STATE OF THESE NOTES FROM
EXPLANCED BY CONTACTING MARK DELONG AT MADDISONG/EXPLANDING SQN. ALL
NOTES SHALL BE REVIEWED ON A PROJECT BY PROJECT BASIS AND ONE

XXXX - E

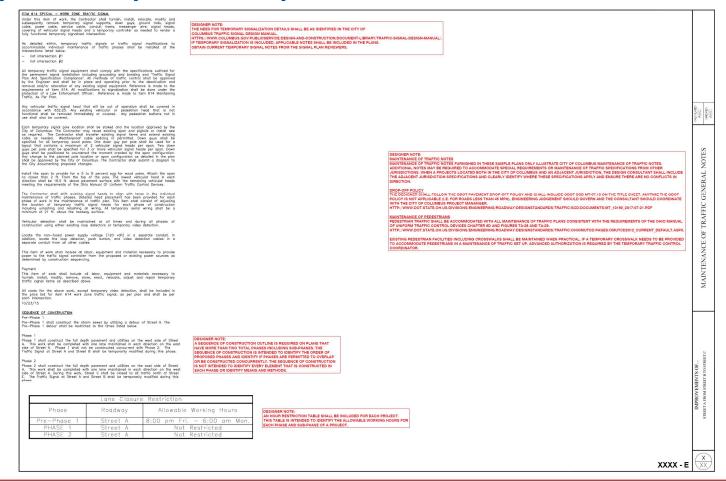


Sample Plan Update – MOT Notes

- Use most up to date notes
 - Obtained from Mark Delong MADelong@Columbus.gov
- Only use notes appropriate for your project
 - Don't just copy and paste all notes
 - Projects in multiple jurisdictions should clearly identify where/when notes and specifications apply
 - Check to make sure no conflicts exist



Sample Plan Update – Sequence & Lane Closure Table





Sample Plan Update – Sequence & Lane Closure Table

SEQUENCE OF CONSTRUCTION

Pre-Phase 1

Pre-Phase 1 shall construct the storm sewer by utilizing a detour of Street A. The

Pre-Phase 1 detour shall be restricted to the times listed below.

Phase 1

Phase 1 shall construct the full depth pavement and utilities on the west side of Street A. This work shall be completed with one lane maintained in each direction on the east side of Street A. Phase 1 shall not be constructed concurrent with Phase 2. The Traffic Signal at Street A and Street B shall be temporarily modified during this phase.

Phase 2

Phase 2 shall construct the full depth pavement and utilities on the east side of Street A. This work shall be completed with one lane maintained in each direction on the west side of Street A. During this work, Street C shall be closed to all traffic north of Street E. The Traffic Signal at Street A and Street B shall be temporarily modified during this phase.

DESIGNER NOTE

A SEQUENCE OF CONSTRUCTION OUTLINE IS REQUIRED ON PLANS THAT HAVE MORE THAN TWO TOTAL PHASES INCLUDING SUB-PHASES. THE SEQUENCE OF CONSTRUCTION IS INTENDED TO IDENTIFY THE ORDER OF PROPOSED PHASES AND IDENTIFY IF PHASES ARE PERMITTED TO OVERLAP OR BE CONSTRUCTED CONCURRENTLY. THE SEQUENCE OF CONSTRUCTION IS NOT INTENDED TO IDENTIFY EVERY ELEMENT THAT IS CONSTRUCTED IN EACH PHASE OR IDENTIFY MEANS AND METHODS.

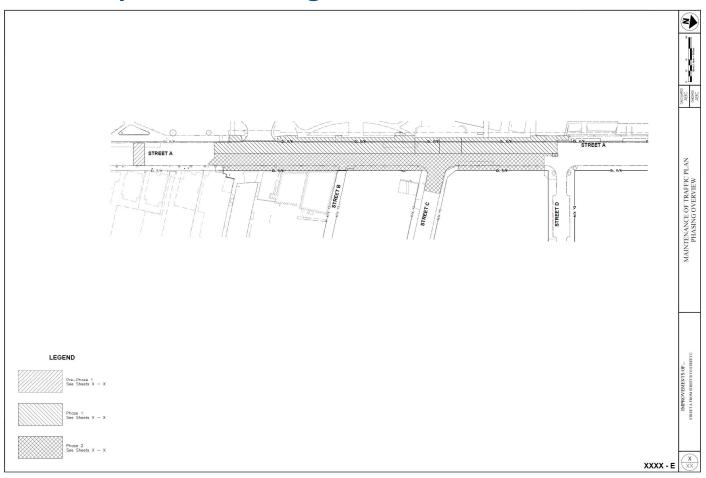
Lane Closure Restriction							
Phase	Roadway	Allowable Working Hours					
Pre-Phase 1	Street A	8:00 pm Fri. — 6:00 am Mon.					
PHASE 1	Street A	Not Restricted					
PHASE 2	Street A	Not Restricted					

DESIGNER NOTE:

AN HOUR RESTRICTION TABLE SHALL BE INCLUDED FOR EACH PROJECT. THIS TABLE IS INTENDED TO IDENTIFY THE ALLOWABLE WORKING HOURS FOR EACH PHASE AND SUB-PHASE OF A PROJECT.

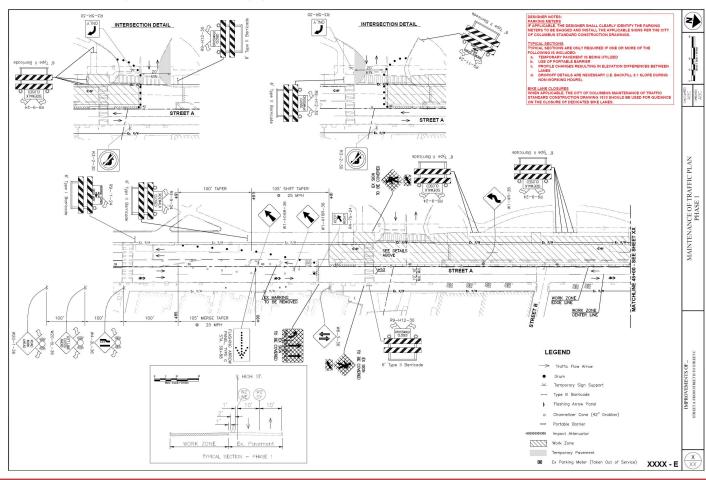


Sample Plan Update - Phasing



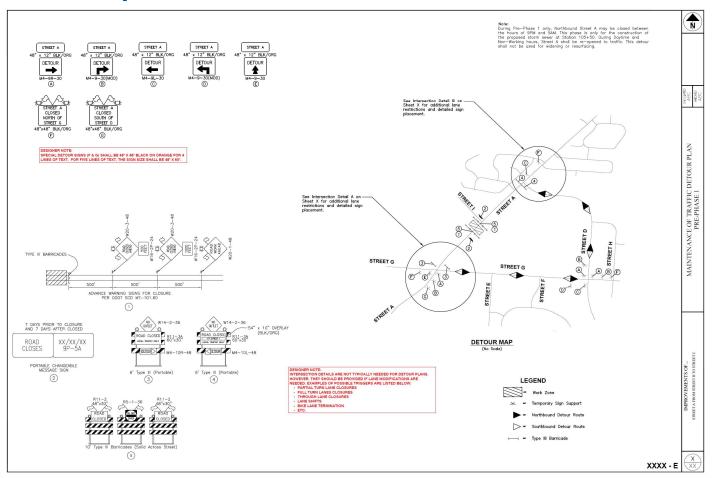


Sample Plan Update – Typical Plan Sheets



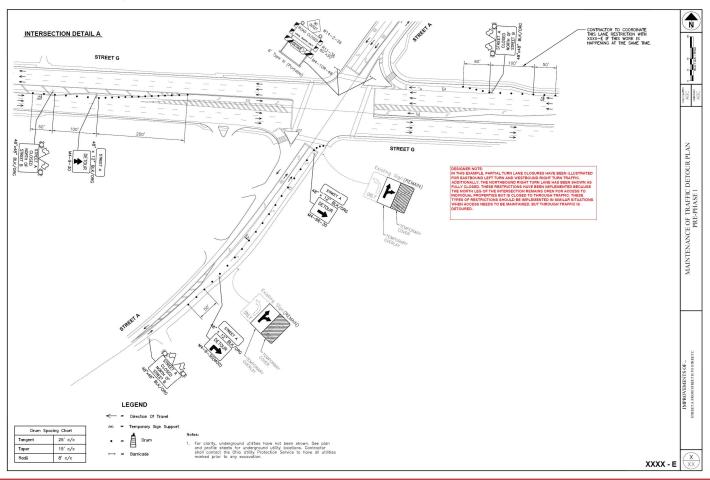


Sample Plan Update - Detours



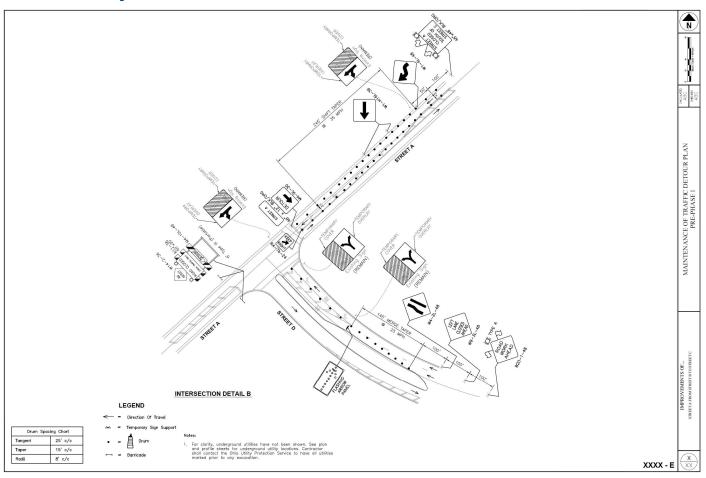


Sample Plan Update - Detours





Sample Plan Update - Detours





Traffic Signal Design Manual &

Traffic Signal Sample Plan MOT Update



TSDM Update – Chapter 3 Goals

- Separate signal operation and safety requirements from design requirements
 - le. phasing/head placement/signs vs. specific wiring/wood pole sizing



TSDM Update – Chapter 3 Goals

- Separate signal operation and safety requirements from design requirements
 - le. phasing/head placement/signs vs. specific wiring/wood pole sizing
- Remove items that are impractical to explicitly detail in plans
 - le. pushbutton and ped head locations, deactivated or slightly shifted detection loops/zones
 - Can be determined during construction



TSDM Update – Chapter 3 Goals

- Separate signal operation and safety requirements from design requirements
 - le. phasing/head placement/signs vs. specific wiring/wood pole sizing
- Remove items that are impractical to explicitly detail in plans
 - le. pushbutton and ped head locations, deactivated or slightly shifted detection loops/zones
 - Can be determined during construction
- Three tier system
 - Help designers include appropriate number of hours in contracts based on anticipated signal impacts
 - Reference temporary signal sample plan sheets and new standard plan notes for additional details on each tier
 - Obtain notes from Andrew Krumel ADKrumel@Columbus.gov or Jared Fowler – WJFowler@Columbus.gov



TSDM Update – Temporary Signal Summary

<u>Table 3.1</u> <u>Summary of Temporary Signal Plan Tier Requirements</u>

Item to be shown on plan sheet	Basic	Intermediate	Detailed
Vehicular signal heads	Yes	Yes	Yes
Pedestrian signal heads	No	No	No
Pedestrian pushbuttons	No	No	No
Existing signal poles	Yes	Yes	Yes
Temporary wood poles	N.A.	Yes	Yes
Wood pole station/offset	N.A.	No	No
Pole elevation details	N.A.	No	No
Span mounted signs	Yes	Yes	Yes
Pole mounted signs	No	No	No
Down guys	N.A.	No	No
Span diagram	No	No	No
Field wiring hook up chart	No	No	No
Timing chart	No	No	Yes
Phasing diagram	No	No	Yes
Detection chart	No	Yes	Yes
Temporary detection locations	No	Yes	Yes
Wiring diagram	No	No	No
Grounding and bonding diagram	No	No	No
Power service details	No	No	No
Interconnect details	No	No	Yes ⁽³⁾
Utilities	No	Yes	Yes
Applicable temp signal plan notes	Yes	Yes	Yes



Notes:

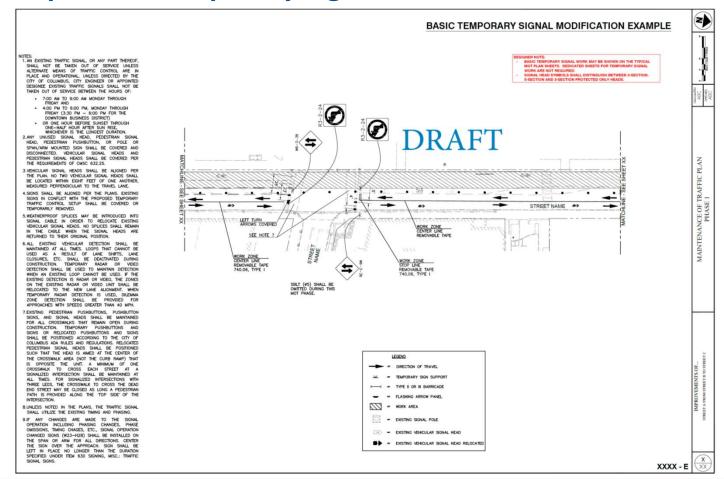
- 1. Basic modifications may be shown on standard MOT plan sheets. Intermediate and Detailed modifications shall be shown on dedicated temporary signal plan sheets.
- 2. All items marked as "Yes" are to be included only if applicable.
- 3. See Section 3.8 for temporary interconnect requirements.

TSDM Update – Temporary Signals - Basic

- Signal head shifts
- Covering signal/pedestrian heads and pushbuttons
- Use existing hardware, phasing, and timing
 - Phases may be omitted
- May be shown on standard MOT sheet
- Show:
 - Existing and relocated signal heads
 - Note for any omitted phases
 - Note for temporary detection zones
 - Note for ped heads and pushbuttons to be covered



TSDM Update – Temporary Signals - Basic



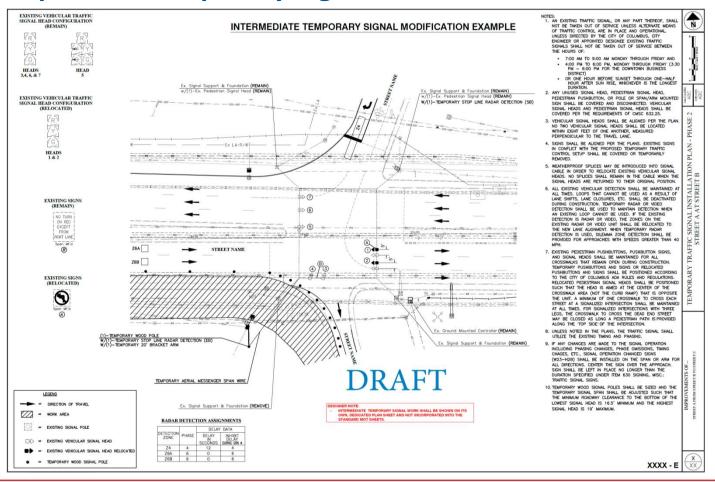


TSDM Update – Temporary Signals - Intermediate

- One or more temporary pole
- Modification to signal span
- Use existing hardware, phasing, and timing
 - Phases may be omitted
- Must be shown on separate temporary signal sheets
- Show:
 - Requirements listed in Basic plan
 - Graphic location of temporary/relocated signal poles and span configuration
 - Location and phase of detection zones that have been added or shifted (plan view only)
 - Detection chart for added or shifted detection zones



TSDM Update – Temporary Signals - Intermediate



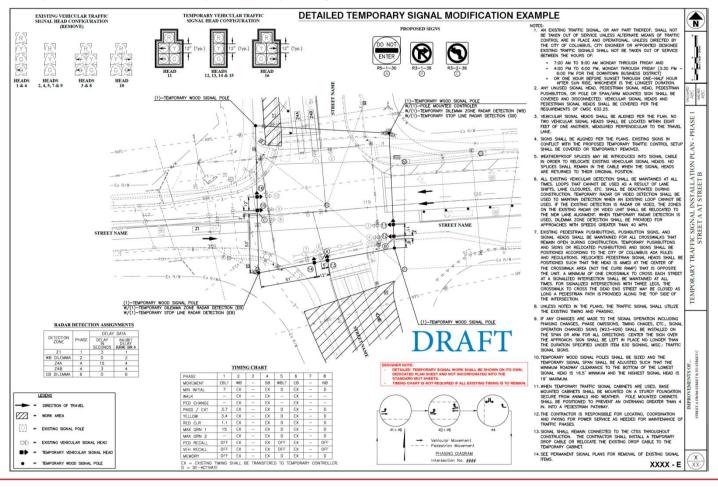


TSDM Update – Temporary Signals - Detailed

- Temporary cabinet required
- Phasing is modified
 - More than omitting phases
- Must be shown on separate temporary signal sheets
- Show:
 - Requirements listed in Basic and Intermediate plans
 - Temporary phasing diagram and timing chart as applicable
 - Temporary detection zones phase, detector type, and unit placement
 - Note for maintaining interconnect to cabinet



TSDM Update – Temporary Signals - Detailed





Drop-Off Policy



Drop-off Policy – ODOT MT-101.90

CONDITION I

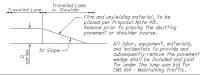
DROP-OFFS BETWEEN ADJACENT TRAVELED LANE(S) / PAVED SHOULDER (Freeways, Expressways, other Roadways ≥ 45 mph)

These treatments are to be used for resurfacing or pavement planing, etc. where a drop-off is located between or within traveled lanes and/or shoulder.

D	Treatment
≤ 1-½"	Erect W8-II or W8-9 sign as appropriate.
> 1-1/2" - < 3"	N Optional Wedge Treatment; or, 2) Close a lane and/or shoulder per Condition II.
> 3"	Close a lane and/or shoulder per Condition II.

OPTIONAL WEDGE TREATMENT (MILLING OR RESURFACING)

- 1. W8-9/W8-11 sign shall be used as appropriate.
- 2. This treatment shall not be used where a hot longitudinal joint per CMS 446 is required.

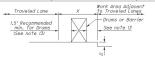


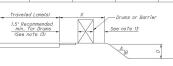
CONDITION II

DROP-OFFS BEYOND EDGE OF TRAVELED LANES / PAVED SHOULDER (Freeways, Expressways, other Roadways > 45 mph and minimal driveways)

- The treatments indicated below are for use in conjunction with resurfacing, planing, or excovations located beyond the edge line of the traveled lones.
 The treatment indicated below are applicable for parament-tenduled reported and for locations where forested 428° are steeper than 341.
 Where the drop-off is located outside the clear zone, no treatment is necessary (see Table II and SCDs MT-95.30, 95.40, or 102.10).
 Where Toreslapes AV26" are 31-00 failtre, no treatment is necessary.

	Method of Drop-off Protection to be used to separate the traffic from the drop-off								
D	Drop-off location "X" from traveled lane	Drop-off location "X" from traveled lane 4' - 12'		Drop-off location "X" from traveled lane > 12' - 20'		Drop-off location "X" from traveled lane > 20' -30'			
	<4'	Daytime Only	Nigh†	Daytime Only	Night	Daytime Only	Night		
≤ 3"	DRUMS OF OPTIONAL WEDGE TREATMENT	NONE	NONE	NONE	NONE	NONE	NONE		
> 3" - < 5"	DRUMS or OPTIONAL WEDGE TREATMENT	DRUMS	DRUMS	NONE	NONE	NONE	NONE		
> 5" - < 12"	PB	DRUMS	DRUMS	NONE	NONE	NONE	NONE		
> 12" - < 24"	PB	DRUMS	PB	DRUMS	DRUMS	NONE	NONE		
> 24"	PB	DRUMS	PB	DRUMS	PB	DRUMS	PB		





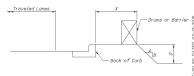
NOTES:

- I. It is intended that this drawing be used for freatment of drop-offs that develop during construction operations and that are not otherwise provided for in the construction plans, where the plans do not provide specific items for labor, equipment, or anterials to implement the drop-off freatments specified herein, they shall be included for payment in the lump sum but for OIL 844 Medictaining fractice.
- 2. Minimum lane widths shall be 10' unless otherwise specified in the
- 3. While the need for certain advisory signing is noted herein, it is not intended that this be indicative of all signing that may be required to advise or war motorists, and all requirements of the Ohio Manual of Uniform Traffic Control Devices (DMUTCD) must be fulfilled.
- 4. In urban or otherwise heavily developed areas where intersections, driveways, padestrians and/or bicyclists may be present in significant numbers, additional signing and protective measures other than those shown herein may be required.
- The drop-off treatment selected for use at any given location shall be as appropriate for the prevailing conditions at the site.
- Where portable barrier is specified, it shall be in accordance with SCD RM-4.1 or 4.2 and with CMS 622.
- For locations such as at ramps, lane shifts, lane closures, etc., where traffic is required to negotiate a difference in elevation between pavements, the Optional Wedge Treatment shall be provided.
- 8. Pavement Repairs (or similar work): a) Lengths greater than 60' utilize appropriate treatment from Condition 1.

- b) Lengths of 60' or less repairs shall be effected in accordance with CMS 255.08. Drums may be used as a separator adjacent to the traveled lane.
- 9. When drums are specified for a drop-off condition, a minimum number of 4 drums shall be used. Spacing shall be as indicated in the plans or as specified in the OMUTCD. Provisions shall be made to stabilize the drums (cones) to prevent them from
- 10. When UNEYELL AMES. (Ne-II) signs or 1.08 SMUSDER (Ne-I) signs or respected, they shall be a locate 750° that condition on all intersecting entronce range within the limits of the condition. When the drop-off condition extends more than 0.5 miles, additional signs should be erected at intervals of 1.0 mile or less.

- II. Cones may be substituted for drums as follows:
 a) Cones used for day time traffic control shall have a minimum height of 28",
 b) Cones used for nighttime traffic control shall have a minimum height of 42" aght shall be reflectorized.
 c) Cones used an inject shall be reflectorized.
 d) be of cones or night shall be reflectorized.
 e) lot of cones or night hall be prohibited along tapers.
 e) lot of cones or night make this him the same run of barrier protection shall not be permitted.
- 12. Where drums are used and their presence would reduce traveled lane widths to less than IO', drums may be placed on the opposite level from that of traffic, provided the drap-off depth does not exceed 5" and approval is granted by the Project Engineer.
- 13. Portable barrier shall be placed on the same level as the traffic Portable barrier shall be placed on The same level as The Traffic surface and shall not neared no widths designated as the minimum required for fraffic use. Offset from the travel way to the barrier to shall be a minimum of 2°. Offset from the back side of the barrier to e to the work area shall be a minimum of 2° unless otherwise specified in the plans due to anchoring.

CONDITION III



X	D		Treatment Required	
X	D	A/B	Day	Night
0' - 10'	≤ 12*	Any	None	Drums
0' - 10'	> 12"	Any	Drums	Drums
>10'	Any	Any	None	None

MT-101.90

z

OFFS



DEPARTMENT OF PUBLIC SERVICE

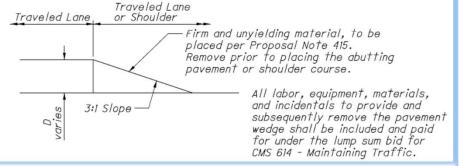
Drop-off Policy – ODOT MT-101.90

- What about speeds under 45 mph??
 - Direction from ODOT is to use engineering judgement
 - Ask City design project engineer if unsure

OPTIONAL WEDGE TREATMENT

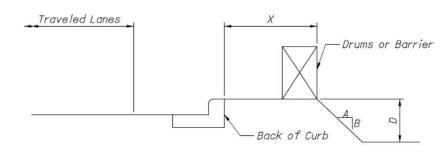
(MILLING OR RESURFACING)

- 1. W8-9/W8-11 sign shall be used as appropriate.
- This treatment shall not be used where a hot longitudinal joint per CMS 446 is required.



CONDITION III

DROP-OFFS BEHIND CURB WHERE CURB IS 6" OR GREATER IN HEIGHT AND THE LEGAL SPEED IS 40 MPH OR LESS

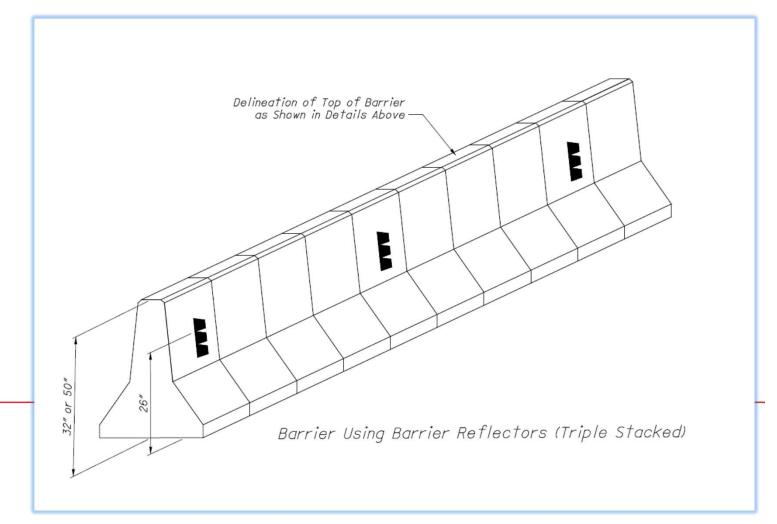


X	D	A/B	Treatment Required		
^	U	AZD	Day	Night	
0' - 10'	<u><</u> 12"	Any	None	Drums	
0' - 10'	> 12"	Any	Drums	Drums	
>10'	Any	Any	None	None	



Drop-Off Policy – Barrier and Impact Attenuators

- Barrier delineation ODOT MT-101.70
 - Use increased delineation method for all barrier within 5' of edge of travel lane



Drop-Off Policy – Barrier and Impact Attenuators

- Impact attenuator placement ODOT MT-101.75
 - Use ODOT approved impact attenuator list
 - Water-filled attenuators preferred on low-speed/downtown roadways since they are not required to be bolted down





Drop-Off Policy – Barrier and Impact Attenuators

- Water-filled barrier
 - Not acceptable as replacement of PCB when low deflection is required on impact (ie. drop-off protection)
 - OK for use as a channelizing device for pedestrian walkways
 - Provide "positive protection" and channelization in low speed applications





Pedestrian MOT



- Pedestrian Considerations
 - Young, elderly, disabled
 - ADA requirements included





- Pedestrian Considerations
 - Young, elderly, disabled
 - ADA requirements included
 - Pedestrians take the shortest route





- Pedestrian Considerations
 - Young, elderly, disabled
 - ADA requirements included
 - Pedestrians take the shortest route
 - Alternate routes are discouraged





- Pedestrian Considerations
 - Young, elderly, disabled
 - ADA requirements included
 - Pedestrians take the shortest route
 - Alternate routes are discouraged
 - Vehicles and equipment crossing walking path





Pedestrian MOT – OMUTCD Chapter 6D

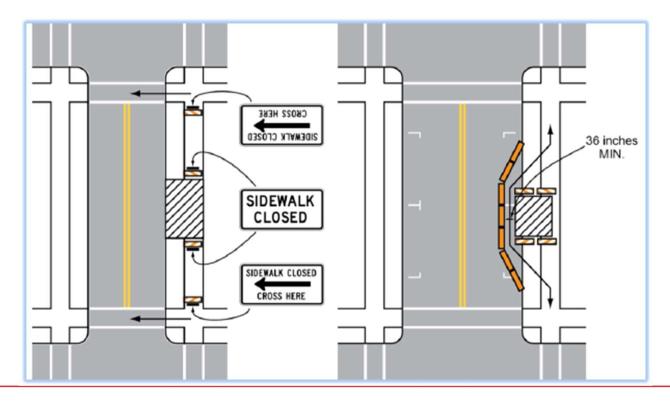
- Pedestrian Considerations
 - Young, elderly, disabled
 - ADA requirements included
 - Pedestrians take the shortest route
 - Alternate routes are discouraged
 - Vehicles and equipment crossing walking path
 - Separation and "positive" protection from vehicles





Pedestrian MOT – TA-28 & TA-29

- Consider work duration, pedestrian volumes, and distance/ease of detour
- Mid-block crossings highly discouraged (use diversion or beef up closure)





Pedestrian MOT – TA-28







Pedestrian MOT – TA-29







Pedestrian MOT – Temporary Surface





Pedestrian MOT – Temporary Surface





Common Issues



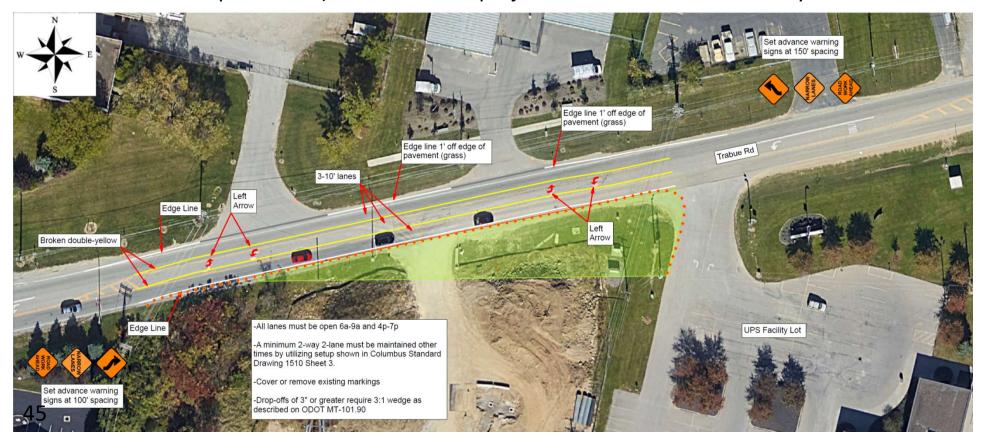
Common Issues – Work Hours and Traffic Volumes

- OMUTCD Part 6A.01
 - "Consideration for road user safety, work and responder safety, and the efficiency of road user flow is an integral element of every TTC zone.."



Common Issues – Work Hours and Traffic Volumes

- Desire is to maintain as many lanes as possible and reasonable at all times
 - Possible: restripe to accommodate work features (ie. sawcut for widening) and close lane off-peak on long term projects and high volume roadways
 - Reasonable: close lane 24/7 to accommodate work features (ie. sawcut for curb replacement) for short-term projects and low volume roadways



Common Issues – Work Hours and Traffic Volumes

- Talk about this early in design process
 - Consider MOT required
 - Constructability: How is this built while meeting traffic requirements
 - Consult MOT reviewer if challenges arise early in process
 - Consolidate setups to perform more work items at once
 - Avoid redesign further along in project



Common Issues – Constructability

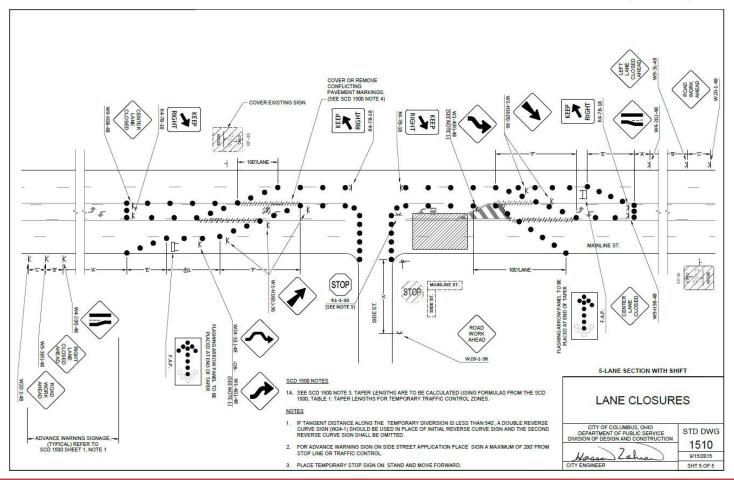
- What is required to build it?
 - Can equipment fit in a single lane?
 - Ie. Excavator, dump truck, loader, ability to swing bucket to load dump truck, etc.
 - Trench width/depth, can it be plated, etc.
 - Shoring/PCB may be required
 - Edge of pavement sawcut (curb/widening)





- Arrow board is for merging two lanes together
- Use a W1-H16 for a shift

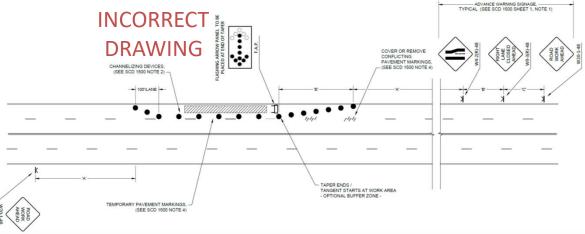






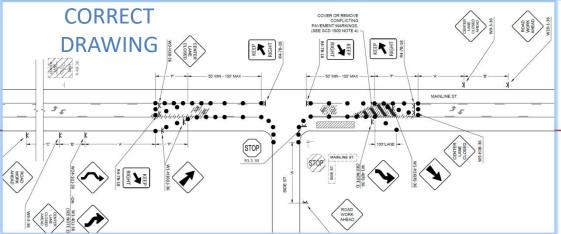
- Referencing correct standard drawing for work being done
 - Ie. 3-lane roadway requiring shift, but right-lane closure is referenced





- Referencing correct standard drawing for work being done
 - Ie. 3-lane roadway requiring shift, but right-lane closure is referenced

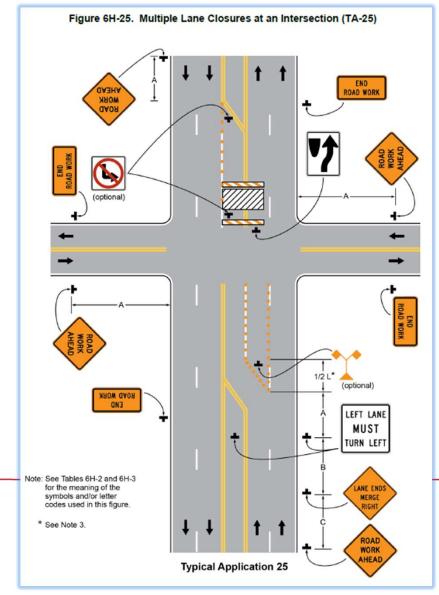






Common Issues – Closing Through-Lane at an Intersection

- OMUTCD TA-25 can cause motorists to perform hazardous maneuvers
 - Last second merge
 - Turn across multiple lanes when "trapped"
- Should close the lane in advance and then open for turn lane
 - Fewer decisions for drivers to make



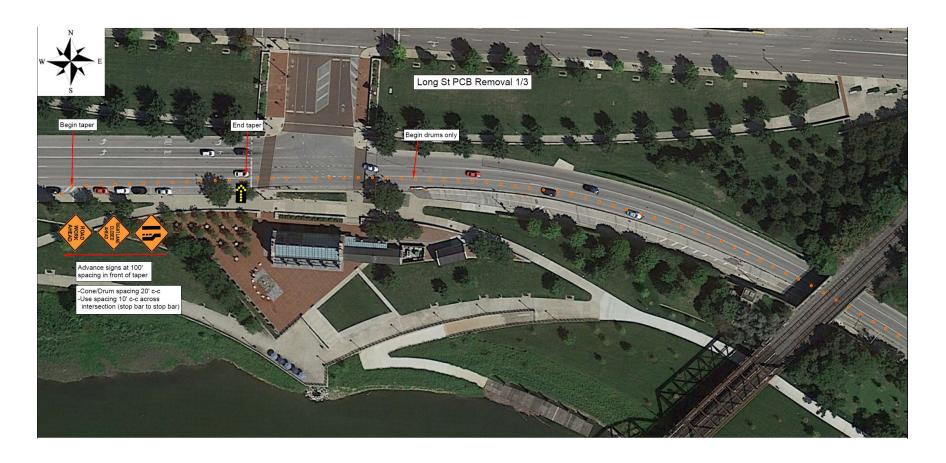


Common Issues – Closing Through-Lane at an Intersection



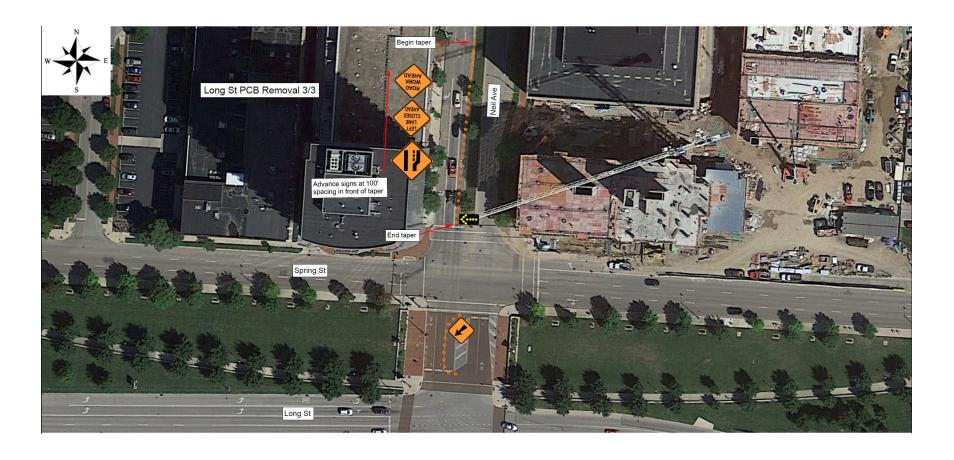


Common Issues – Double-Turn Lanes





Common Issues – Double-Turn Lanes





Common Issues – Setups at Signalized Intersections

- All work at signalized intersection requires detailed MOT plan
 - MOT standard drawings do not address requirements for signalized intersections
 - Check Signal Design Manual for requirements
- Consider during scoping
 - May be discovered that temporary signal is required



Common Issues – Overhead Signs At Signals

- Overhead and ground mounted signing for turn restrictions and Do Not Enter signs
 - No Left/Right Turn to the left/right of left/right-most signal head
 - Do Not Enter between signal heads





Common Issues – Shifting and Bagging Signal Heads

- Shifting/bagging signal heads when required
 - Take mast arms into consideration when shifting heads left of center as a temporary span may be required
 - One-way pattern requires bagging heads in closed direction





Common Issues – Ped Heads and Push Buttons

 Bagging pedestrian signal heads and push buttons when crosswalks are closed





Common Issues – Use of MOT Table for Multiple Locations

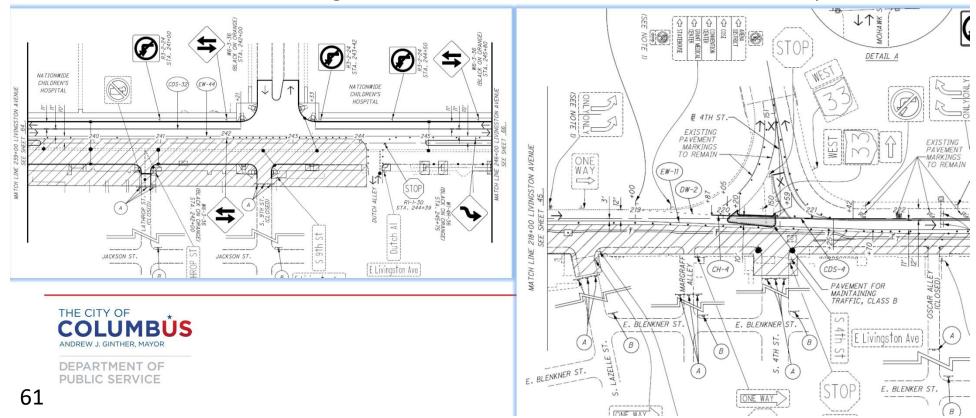
- Should be used when there are multiple streets where standard drawings are applicable
 - Email Mark Delong for template <u>MADelong@Columbus.gov</u>

Maintenance of Traffic Table for a Single Project with Multiple Locations															
EXISTING CONDITIONS									MAINTENANCE OF TRAFFIC CONDITIONS						
STREET NAME	WORK LIMITS	SIGNALIZED INTERSECTIONS	PAVEMENT WIDTH	LANE WIDTH(S)	PARKING	COTA ROUTE	TRAFFIC PATTERN	TRAFFIC PATTERN	TYPE CLOSURE	LEO REQUIRED	DETAIL NAME/PG. #	DETOUR PG.#	WEEKDAY WORK HOURS	WEEKEND WORK HOURS	
					YES W/ PK										
E. BROAD ST.	3RD ST TO GRANT	3RD AT BROAD	96'	12'	HR RESTRICT.	Υ	2W-8L	2W-7L	RIGHT LANE	N	1510 Sht 1	N	9AM - 3:30 PM	NONE	
		4TH AT BROAD													
		5TH AT BROAD													
		6TH AT BROAD													
		GRANT AT BROAD													
BRYDEN RD	18TH ST TO 19TH ST	N	40'	20'- W/PARK	Y, NON REST.	Y	2W-2L	2W-1L	NONE	N	1550 Sht 1	N	9AM-4PM	7AM-7PM SAT & SUN	
MAIN ST	WELLMAN AVE TO TORREY AVE	N	48'	12'	Y, NON REST.	Υ	2W-4L W/CLTL	2W-4L	Side street	N	1540 Sht 1	N	9AM-4PM	8PM FRI-5AM MON.	
KINGSTON PIKE	S.R. 32(TALLMAN BLVD) TO RXR	KINGSTON AT COURT ST	36'	12'	N	N	2W-3L	2W-2L	LEFT LANE	N	1510 Sht 2	N	9AM-5PM	NONE	
CLEVELAND AVE	SUMMER ST TO BROOKLYN AVE	N	20'	10'	N	N	2W-2L	CLOSED	24 HR	N	ROAD CLOSURE W/LOCAL ACCESS	Υ	SUBJ. TO NOISE ORD.	SUBJ. TO NOISE ORD.	
									SINGLE LANE		2W TO 1W DETAIL		SUBJ. TO NOISE		
WARNER RD	ULRY AVE TO HAMILTON RD	N	23'	11.5'	N	N	2W-2L	OW-WB	BARRICADE	N	PHASE 1 AND 2	Υ	ORD.	SUBJ. TO NOISE ORD.	
							2W-2L W/LEFT TURN 3-LANE				1520 3-LANE				
NOE-BIXBY RD	REFUGEE TO CARBONDALE	Υ	24'	112'	N	Y	SECTION	2W-2L	LANE SHIFT	N	SECTION	N	9AM-4PM	9AM-4PM	



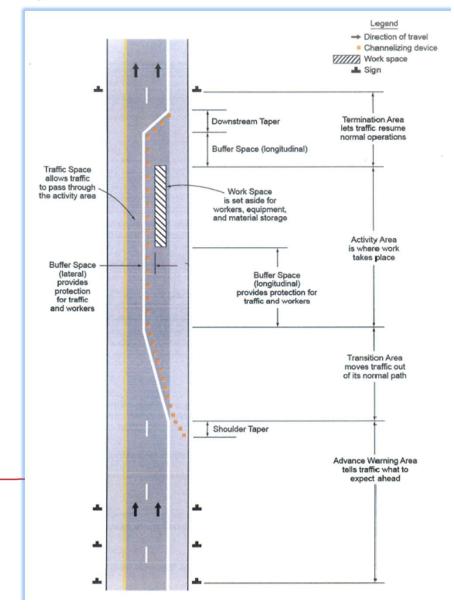
Common Issues – Work Performed

- Show work that is being performed this phase
 - Ie. Show trench location in work zone
- Show work that has been performed in all previous phases
 - le. Temporary pavement must be shown until removed
 - Ie. When something is built or removed, show it as such in all future phases



Common Issues – Temporary Markings

- Label all temporary markings
- Show existing markings and those to be removed
- Show existing conditions for length of Work Zone, not just work area
 - Limits of work zone are first sign to end of termination area





Common Issues – Parking Meters

- Show parking meters, mobile payment zones, and kiosk locations when they are required to be taken out of service
- Note has been updated to include mobile pay and kiosks







