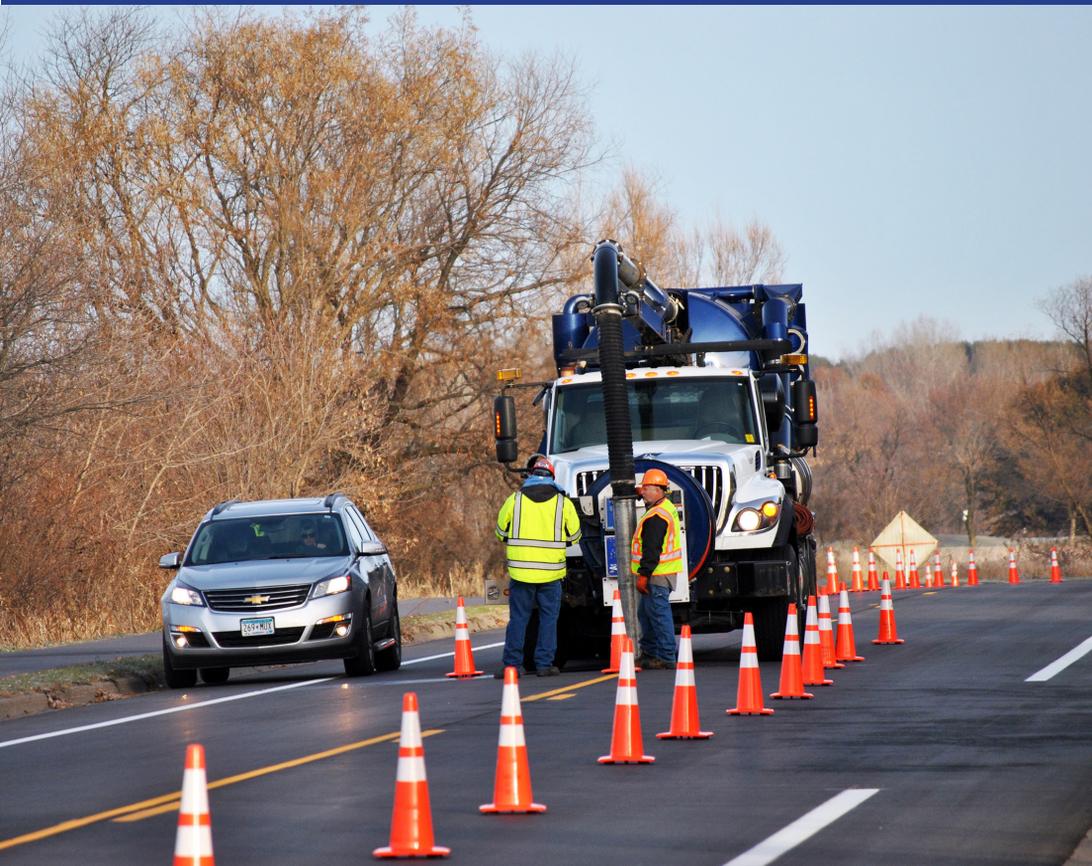


Low Volume Roads: Rural and Urban

**A Rural Highway with less than 400 ADT, and an
Urban Residential Street with less than 400 ADT
and speeds of 30 mph or less.**

Low
Volume

**Drawings Not To Scale*



| LOW VOLUME ROADS: RURAL AND URBAN | | | | |
|--|--|--|--|---|
| Low Volume Less than 400 ADT | MOBILE 15 Minutes or Less | SHORT DURATION 1 Hour or Less | SHORT TERM 12 Hours or Less | INTERMEDIATE TERM 3 Days or Less |
| Work Vehicle Parked On Shoulder | 6 | | 8 | |
| Work on Shoulder | 9 | | 8 | |
| Work off Shoulder | 8 | | | |
| Work off Roadway | 10 | | | |
| Shoulder or Parking Lane Closure | 8 | | | |
| Partial Shoulder Closure for Trailer Mounted Devices | 7 | | | |
| Lane Closure | 11 | | | |
| Uncontrolled | 4 | | | |
| One Flagger Control | 4* | | | |
| 2 Flagger Control | 16* | | | |
| Moving Work Spaces | 17 * | | | |
| Near Intersection | 20*, 21* | | | |
| Near Railroad Xing | 22* | | | |
| Pilot Car Operation | 18* | | | |
| Flagging Crossroads and Blind Curves | 19* | | | |
| Automated Flagger Assistance Device (AFAD) | 24* | | | |
| Portable Signal Control | 25 | | | |
| STOP Sign Control | 14 | | | |
| Flagging Station Enhancements | 23 | | | |
| Turn Lane Closures | 33, 34 | | | |
| Lane Shift | 29 | | | |
| Work on Centerline | 1 (30 mph or less only) | | | |
| Work in Center of Road | 2 | | | |
| Work in Intersection | 3 (30 mph or less only) | | | |
| Temporary Road Closure (15 minute intervals) | 31 | | | |
| Temporary Road Closure | 32 | | | |
| Road Closure - Special Events | 5 | | | |
| Sidewalk Closure | 88, 89 | | | |
| Gravel Road Maintenance | 30 | | | |

* This layout may be used for nighttime operations only if the flagging stations are occupied and illuminated with auxiliary lighting such as floodlights or balloon lighting except in emergency situations.

Layout Selection Matrix by Maintenance Activity

*The following are examples of situations where layouts may be used.
Layouts may be used for other operations.*

| URBAN | | WORK DURATION | | |
|-----------------------------|--|---------------------------|-----------------------|-------------------------|
| | | MOBILE | SHORT DURATION | SHORT TERM |
| MAINTENANCE ACTIVITY | | 15 Minutes or Less | 1 Hour or Less | 12 Hours or Less |
| On Road | Asphalt Pavement Patching | 11 | 4* | 4* |
| | Concrete Pavement Patching | | | 4* |
| | Pothole Patching | 11 | 4* | |
| | Crack Filling | | 4* | 4*, 16* |
| | Crack Sealing - Route and Seal | | | 4*, 16* |
| | Surface Treatment | | | 4*, 16* |
| | Sweeping - Residential | 11 | | |
| | Utility Repair - Centerline | 1 | 1 | 1, 2 |
| | Utility Repair - Center of Intersection | 3 | 3 | 3 |
| | Road Closure (e.g. water main break) | 31 | 31 | 31, 32 |
| | Road Closure (for Special Event) | 5 | 5 | 5 |
| | Utility Maintenance (partial road closure) | | | 4* |
| Roadside | Mowing | 10 | | |
| | Tree/Brush Removal | 10, 11 | 4* | 4* |
| | Debris Removal - Routine (e.g. litter pickup) | 8, 9 | 8, 9 | |
| | Debris Removal - Large Item (e.g. couch, roadkill) | 11 | | |
| | Utility Repair - Shoulder | 8, 9 | 8, 9 | 8 |
| | Sign Repair | 8, 9, 11 | 8, 9 | |
| | Snow Cleanup | 8, 9, 11 | 8, 9 | |

* This layout may be used for nighttime operations only if the flagging stations are occupied and illuminated with auxiliary lighting such as floodlights or balloon lighting except in emergency situations.

Layout Selection Matrix by Maintenance Activity

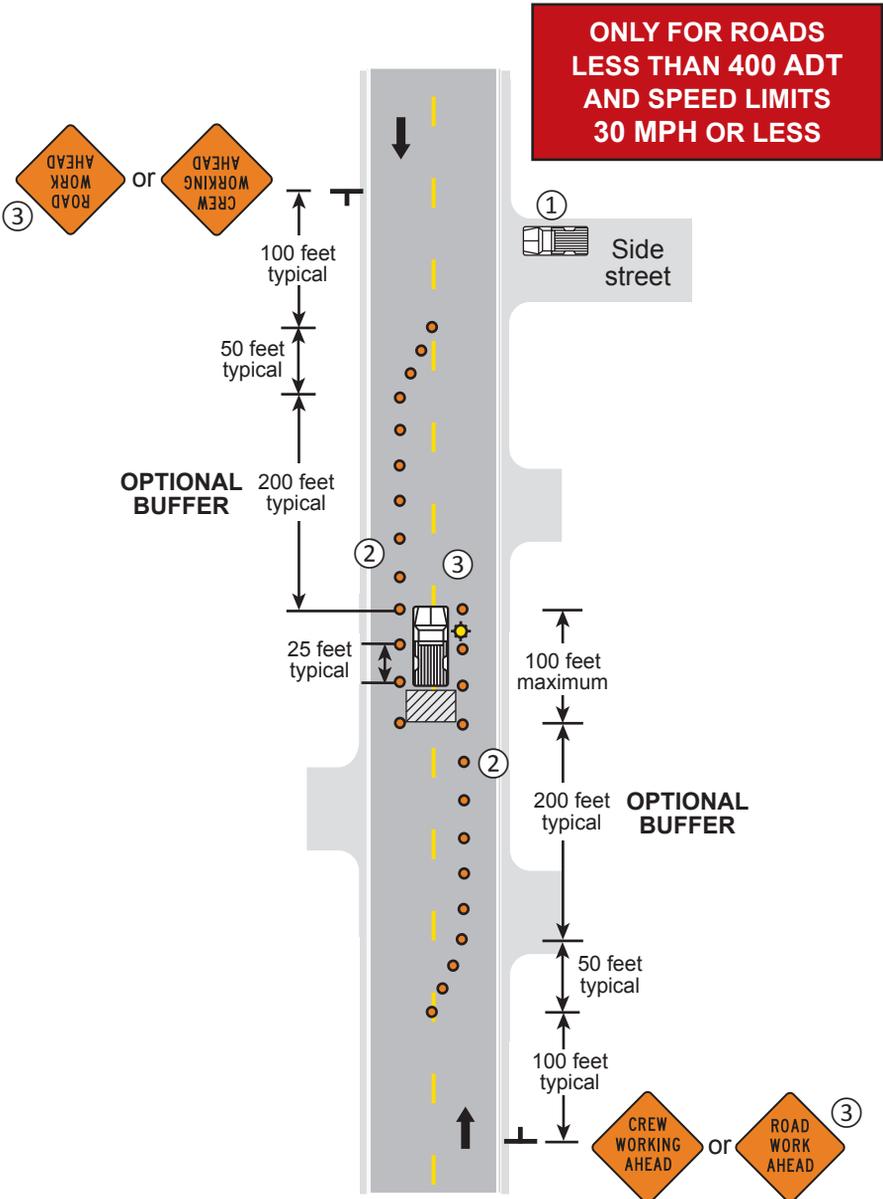
*The following are examples of situations where layouts may be used.
Layouts may be used for other operations.*

| RURAL | | WORK DURATION | | |
|-----------------------------|---|--|--|--|
| | | MOBILE 15 Minutes or Less | SHORT DURATION 1 Hour or Less | SHORT TERM 12 Hours or Less |
| MAINTENANCE ACTIVITY | | | | |
| On Road | Asphalt Pavement Patching | 11 | 4* | 4* |
| | Concrete Pavement Patching | | | 4* |
| | Temporary Pothole Patching | 11 | 4* | |
| | Crack Filling | | 4* | 16* |
| | Crack Sealing - Route and Seal | | | 16* |
| | Surface Treatment | | | 16* |
| | Grading a Gravel Road | 30 | | |
| | Road Closure (e.g. water main break) | 31 | 31 | 31, 32 |
| | Culvert Maintenance (partial road closure) | | | 4* |
| | Shouldering Shoulder Disking/Blading | 10, 11 | | |
| Roadside | Mowing | 10 | | |
| | Tree/Brush Removal | 10, 11 | 4* | 4* |
| | Debris Removal - Routine (e.g. litter pickup) | 11 | 8 | |
| | Debris Removal - Large Item (e.g. couch, roadkill) | 11 | | |
| | Utility Repair - Shoulder | 8 | 8 | 8 |
| | Sign Repair | 11 | 8 | |
| | Snow Cleanup | 11 | | |
| | Driveway Culvert Maintenance | 8 | 8 | 8 |
| | Ditch Maintenance (Partial Road Closure) | | | 8 |

* This layout may be used for nighttime operations only if the flagging stations are occupied and illuminated with auxiliary lighting such as floodlights or balloon lighting except in emergency situations.

NOTES:

- ① Additional Work Vehicle shall be parked off of the roadway. Do not obstruct the shoulder in the coned areas.
- ② A minimum of 10 feet of drivable surface outside of the channelizers should be maintained on all sides. Anything less than 10 feet shall be approved by the road authority.
- ③ Channelizers and ROAD WORK AHEAD signs are optional at 15 minutes or less.



WORK ON CENTERLINE

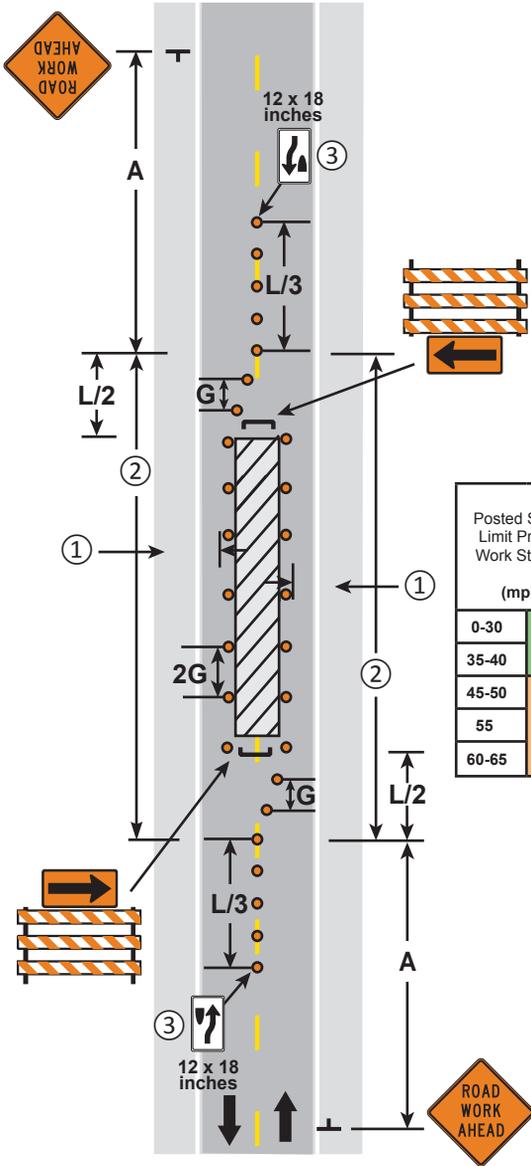
12 HOURS or LESS

LAYOUT 1

NOTES:

- ① Minimum drivable surface outside of the channelizing devices shall be 10 feet.
- ② Parking and stopping should be prohibited along the work area and tapers.
- ③ Keep Right sign may be omitted if posted speed limit is 40 mph or less.

**ONLY FOR ROADS
LESS THAN
400 ADT**



| Posted Speed Limit Prior to Work Starting (mph) | Advance Warning Sign Spacing (A) feet | Shifting Taper (12 ft lane) (L/2) feet | Typical Shoulder Taper (12 ft lane) (L/3) feet |
|---|---------------------------------------|--|--|
| 0-30 | G = 25 ft. | 100 | 75 |
| 35-40 | G = 25 ft. | 325 | 125 |
| 45-50 | G = 50 ft. | 600 | 900 |
| 55 | | 750 | 250 |
| 60-65 | | 1000 | 275 |

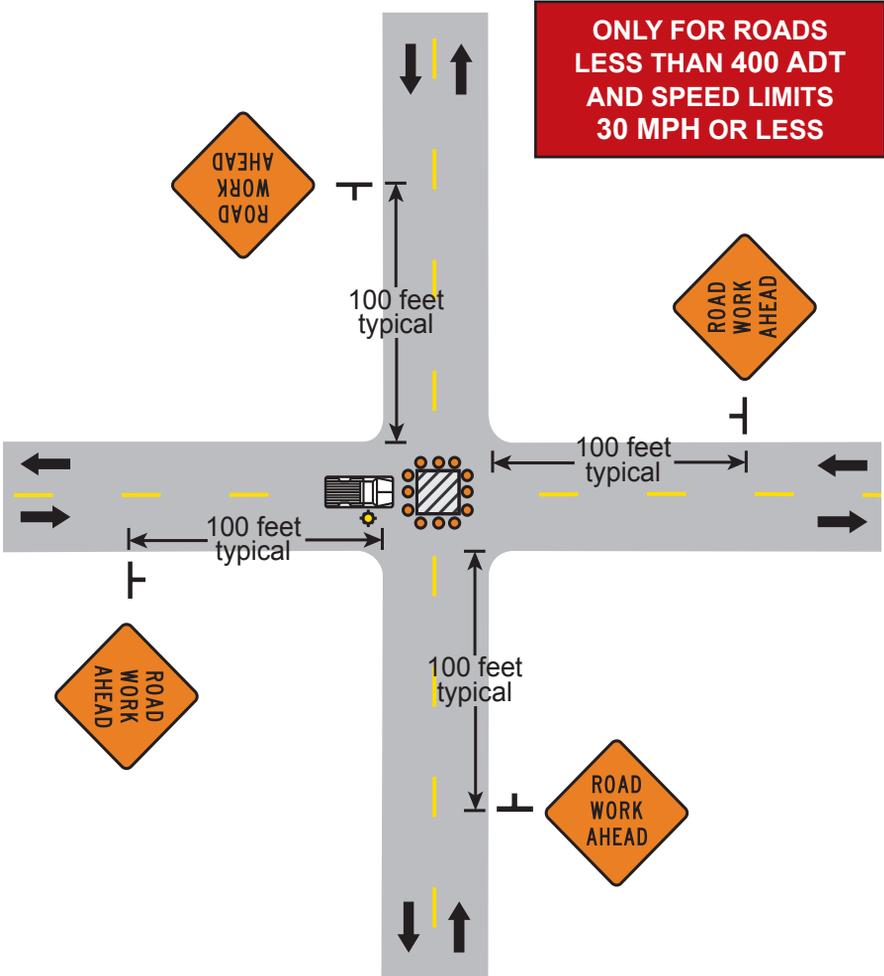
**WORK SPACE IN CENTER OF ROAD
TWO-LANE, TWO-WAY ROAD**

3 DAYS or LESS

LAYOUT 2

NOTES:

1. A minimum of 10 feet of drivable surface outside of the channelizers shall be maintained such that traffic can self-regulate.



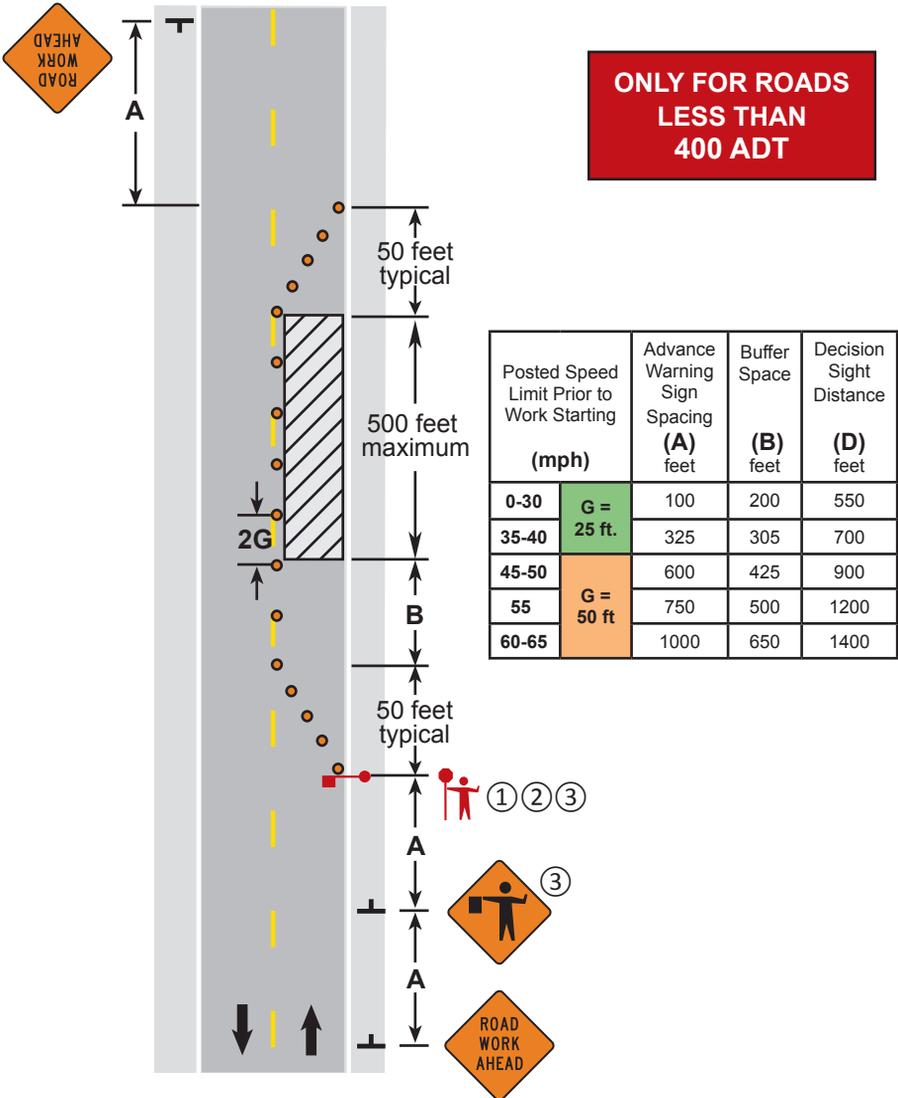
CLOSURE IN CENTER OF INTERSECTION

3 DAYS or LESS

LAYOUT 3

NOTES:

- ① The approach sight distance to the flagger shall be at least the Decision Sight Distance (**D**).
- ② If the flagger's ability to see oncoming motorists beyond the work space is less than the Decision Sight Distance (**D**), two flaggers shall be used - See [Layout 16](#).
- ③ The Flagger and Flagger Ahead sign may be omitted if the operation is during daylight hours, 12 hours or less, and traffic is able to self-regulate.
4. If the work space must be left unattended at night use [Layout 14](#).



**LANE CLOSURE, ONE FLAGGER
TWO-LANE, TWO-WAY ROAD**

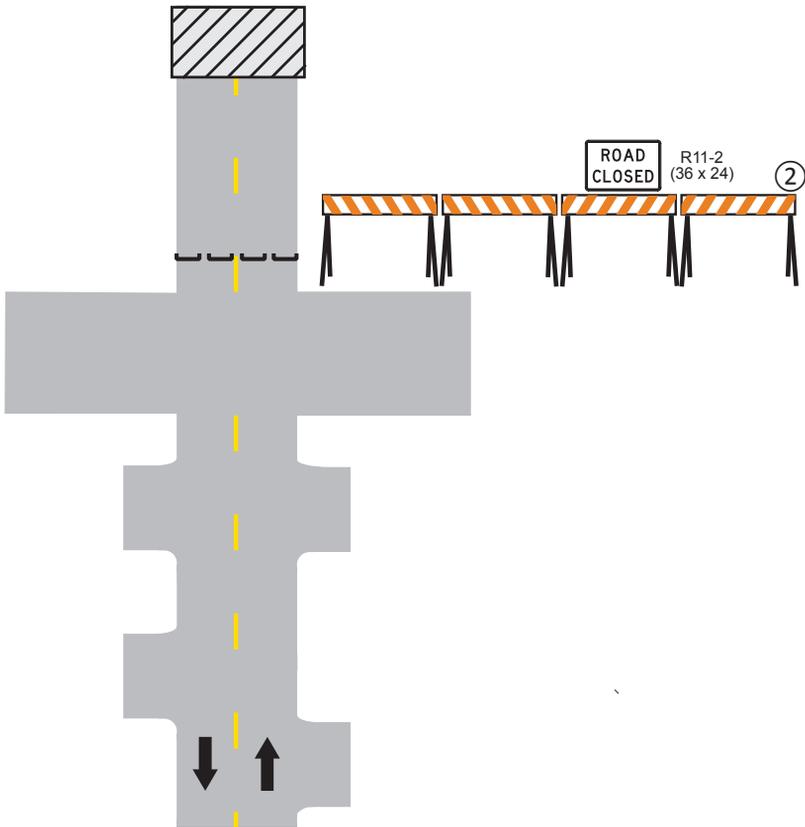
3 DAYS or LESS

LAYOUT 4

NOTES:

1. The road authority shall be contacted prior to closure and may provide requirements related to detours and/or additional temporary traffic control.
- ② Install Type I barricades at the last driveway or intersection beyond which there is no public access. Barricades shall span the entire roadway including traversable shoulders. All signs and barricades used at night shall be retroreflective.

**ONLY FOR ROADS
LESS THAN 400 ADT
AND SPEED LIMITS
30 MPH OR LESS**



**ROAD CLOSURE
SPECIAL EVENTS**

12 HOURS or LESS

6K-5

LAYOUT 5