

City of Alexandria, Virginia

MEMORANDUM

MEMORANDUM TO INDUSTRY NO. 04-18

DATE: APRIL 4, 2018

TO: DEVELOPERS, ARCHITECTS, SURVEYORS, & ENGINEERS

FROM: HILLARY ORR, DEPUTY DIRECTOR, DEPARTMENT OF TRANSPORTATION
AND ENVIRONMENTAL SERVICES *HRO*

SUBJECT: MAINTENANCE OF TRAFFIC PLANS – MAINTAINING ACCESS FOR
PEDESTRIANS AND BICYCLISTS DURING CONSTRUCTION

In December 2017, the City approved the Vision Zero Action Plan which outlines several action items to help achieve the City's goal of eliminating deaths and serious injuries for people using Alexandria's transportation network. One of the action items calls for staff to "*Evaluate Maintenance of Traffic (MOT) Plan requirements and revise to prioritize safe, accessible, and convenient routes for bicyclists and pedestrians.*" (Action Item 2B.5 – Page 48). In support of this Plan and action item, the City will be requiring MOT plans to better accommodate pedestrians and people using bikes without diversions that might encourage them to make an unsafe decision.

Specifically, unless approved by the Director of T&ES (see Exemptions and Applicability section below), staff will no longer approve MOT plans that:

- (1) divert pedestrians to sidewalks across from or beyond construction sites; or
- (2) divert people using bikes to alternate routes beyond the site.

Pedestrian Access

Effectively immediately, protected access within the public right-of-way must be maintained to support pedestrian mobility adjacent to construction sites. Applicants must consider and propose options in which pedestrians do not have to cross the street to maintain their paths of travel. Applicants are encouraged to consider solutions that accommodate accessible routes without impacting existing on-street parking or travel lanes such as minimizing the construction area or providing covered walkways. In cases where sufficient right-of-way width is not available to accommodate both pedestrian travel and parking, applicants will be required to apply for the closure of on-street parking.

Applicants will be expected to consider implementation tools such as longitudinal channelizers/jersey barriers, temporary flexposts, and other raised traffic control devices to protect these temporary pedestrian facilities. Applicants must supply temporary ramps to support accessibility across changes in elevation (i.e. pedestrian movements from the curb to the parking lane and back onto the curb). Applicants are also responsible for the procurement, implementation, and removal of all necessary signage, control devices, and pedestrian elements. All proposals are subject to review and acceptance by the Department of Transportation and Environmental Services Development and Right-of-Way Division.

Bicycle Access

Effectively immediately, adequate access within the public right-of-way must be maintained for people using bikes where existing bicycle facilities (e.g. bike lane, trail) fall adjacent to construction sites. Temporary barriers, striping, or other pavement marking may be used to delineate temporary travel paths where existing bike lanes are impacted by construction. The minimum width of a temporary bike lane shall be 5 feet. Temporary off-road bike trails may also be allowed and shall be constructed of asphalt or another solid material if approved by the Director of T&ES. If there is not adequate space for a temporary bike lane or trail, people using bikes may be diverted into general travel lanes through supporting signage and/or temporary striping that communicates the change clearly to both bicyclists and drivers.

Applicants are responsible for the procurement, implementation, and removal of all signage and control devices. All proposals are subject to review and acceptance by the Department of Transportation and Environmental Services Development and Right-of-Way Division.

Exemption and Applicability

The requirements of this memo shall not apply in cases which the applicant demonstrates that the provisions of accessible pedestrian and bike routes present either: 1) undue hardship, such as the cost or scale of improvements is not commensurate with the cost or scale of the project or 2) direct and demonstrable safety conflicts, such as an unstable building façade, or the location of a construction entrance or crane. Exemption from these requirements may be provided at the discretion of the Department of Transportation and Environmental Services Development and Right-of-Way Division. In these cases, both the duration and extent of the closure of pedestrian or bicycle facilities must be minimized to the extent possible. In addition, MOT plans shall be designed to prevent or minimize the need for an exemption by locating construction entrances and other construction related facilities or activities in locations with the least impact to or conflict with pedestrian and bicycle preferred routes.

These requirements shall not apply to construction activity for which a sidewalk or bicycle facility closure is needed for seven (7) calendar days or less. In these cases, applicants are encouraged to minimize diversions, but staff will accept MOT plans that include appropriate signage related to sidewalk or bicycle facility closures.

MOT plans will continue to be reviewed by the T&ES Development and Right-of-Way Division staff as part of the normal right of way permitting process. Applicants are encouraged to meet with staff prior to submitting a plan to discuss specific circumstances about the project and site. To minimize closures, an MOT plan shall include phases of implementation to accommodate needs at different stages of construction.

Next Steps

Within one year, staff will review this policy internally to identify how effective it has been in accomplishing the Vision Zero goal of maintaining and improving convenient pedestrian and bicycle access around construction sites. Staff will also discuss if this has caused any difficulties or delays with the permitting process. If needed, additional clarification and guidance will be developed to address these issues.

As part of the Fiscal Year 2020 budget development, staff will also review the permit fees for sidewalk and parking closures and recommend changes to these fees to incentivize maintaining open or accessible

sidewalks during construction. Details about potential changes to permit fees will be presented to the development community as part of this review.

Additional Guidance

Attachment 1 provides updated and new construction notes and standards conditions that will be required to be included in future development plans, site plans, grading plans, park (PRK) plans, or similar plans as well as construction management plans and MOT plans.

Attachment 2 provides examples of potentially acceptable accommodations to maintain pedestrian and bicycle access under different construction situations. These examples have been modified from the Virginia Department of Transportation’s *Virginia Department of Transportation Work Zone Pedestrian and Bicycle Guidance* (2016). The full document may be accessed on VDOT’s website <https://www.vdot.virginia.gov/doing-business/technical-guidance-and-support/technical-guidance-documents/vdot-work-zone-pedestrian-and-bicycle-guidance/>.

Attachment 3 provides the lane width information from the Complete Streets Guidelines to assist in determining appropriate widths for temporary travel and parking lanes. The complete document can be found at: <https://www.alexandriava.gov/CompleteStreets>.

Applicants can also refer to ADA Guidelines for more details related to accessibility requirements.

ATTACHMENTS:

- 1) Updated Construction Notes and Standard Conditions.
- 2) Options to Maintain Pedestrian and Bicycle Access during Construction
- 3) Complete Streets Guidelines – Minimum and Preferred Lane Widths

ATTACHMENT 1: Updated Construction Notes and Standard Conditions.

Standard Construction Management Plan Notes (to be included on all Construction Management Plans and Maintenance of Traffic (MOT) Plans as applicable)

Per Memo to Industry #04-18, pedestrian access shall be maintained at all times and outside the work area for the duration of the project. If sidewalks are impacted, minimum access shall be maintained or protected pedestrian access must be provided. Pedestrians shall not be diverted across the street without the approval from the Director of Transportation and Environmental Services or his designee. Sidewalk closures are subject to separate approval from Transportation and Environmental Services (T&ES) at the time of permit application.

Per Memo to Industry #04-18, bicycle access shall be maintained at all times and outside the work area for the duration of the project. If bicycle facilities are impacted, access shall be maintained by shifting existing travel lanes to accommodate a temporary bike lane or through the creation of an off-street diversion directly adjacent to the travel path. If there is not adequate space for a temporary bike lane or trail, people using bikes may be diverted into general travel lanes through supporting signage and/or temporary striping that communicates the change clearly to both bicyclists and drivers. People using bikes shall not be diverted onto alternate routes without the approval from the Director of Transportation and Environmental Services or his designee.

Development Standard Conditions (in “Construction Management” section)

Revised Condition:

~~Any~~ Bicycle facilities adjacent to the site shall remain open during construction. If a bicycle facility ~~cannot be maintained on the street adjacent to the site must be closed, a detour for bicyclists shall be established and maintained~~ bicycle access shall be maintained adjacent to the site per Memo to Industry #04-18, or to the satisfaction of the Director of T&ES throughout the construction of the project. The plan for maintenance of bicycle access shall be included in the Construction Management Plan for approval by T&ES. (T&ES) [Include for projects adjacent to existing bike lanes or trails]

New Condition:

Sidewalks adjacent to the site shall remain open during construction. If sidewalks must be closed, pedestrian access shall be maintained adjacent to the site per Memo to Industry #04-18, or to the satisfaction of the Director of T&ES throughout the construction of the project. The plan for maintenance of pedestrian access shall be included in the Construction Management Plan for approval by T&ES. (T&ES)

City Department Code Comments (in Transportation and Environmental Services section)

Revised Findings:

A Maintenance of Traffic Plan shall be provided within the Construction Management Plan and shall replicate the existing vehicular and pedestrian routes as nearly as practical, and the Pedestrian and bike access shall be maintained adjacent to the site per Memo to Industry #04-18 or to the satisfaction of the Director of T&ES. ~~pathway shall not be severed or moved for non-construction~~

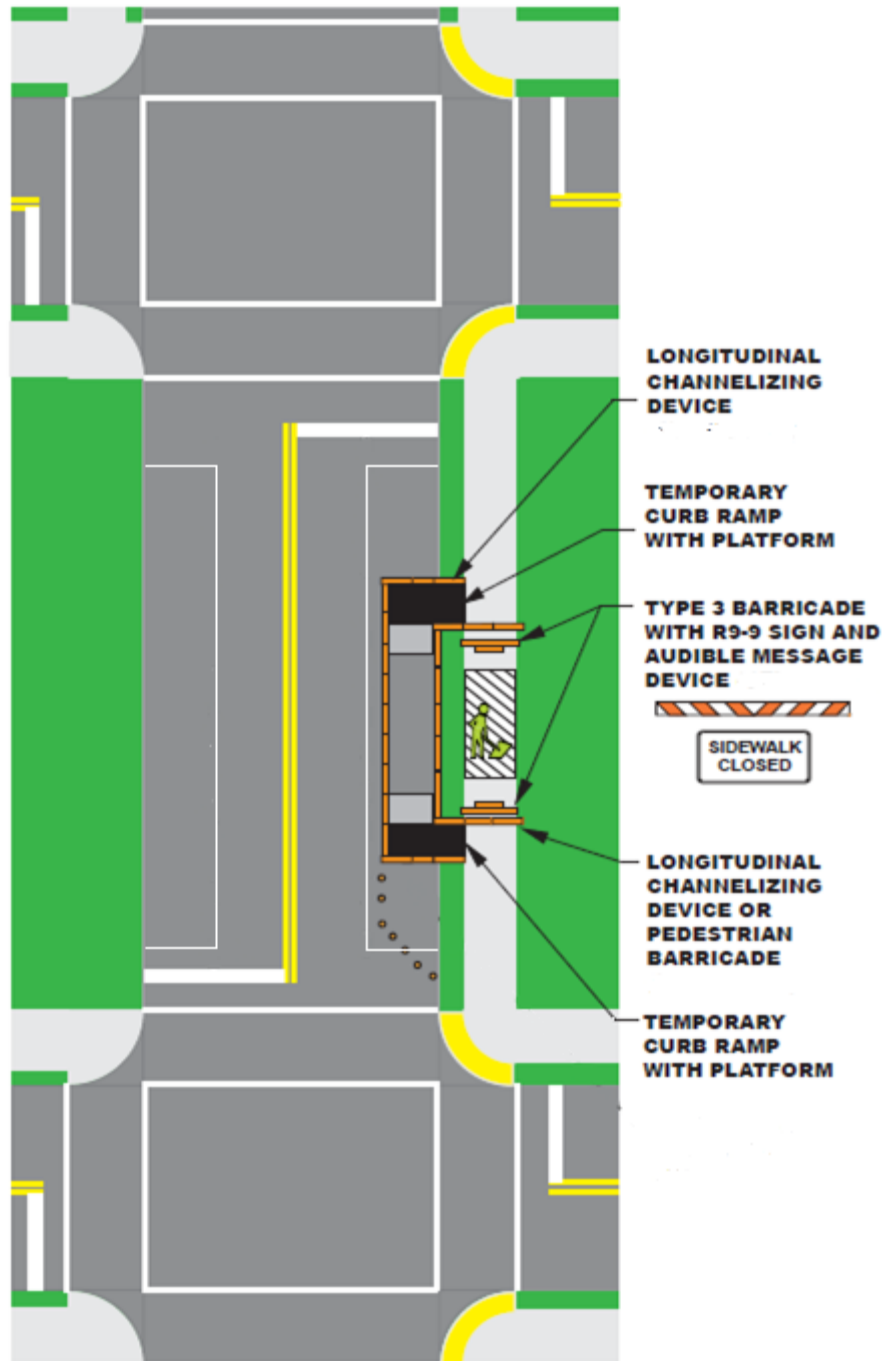
~~activities such as parking for vehicles or the storage of materials or equipment. Proposed traffic control plans shall provide continual, safe and accessible pedestrian pathways for the duration of the project.~~ These sheets are to be provided as “Information Only.” (T&ES)

The following notes shall be included on all Maintenance of Traffic Plan Sheets: (T&ES)

- a. The prepared drawings shall include a statement “FOR INFORMATION ONLY” on all MOT Sheets.
- b. ~~Sidewalk closures will not be permitted for the duration of the project. Temporary sidewalk closures are subject to separate approval from Transportation and Environmental Services (T&ES) at the time of permit application.~~ Sidewalk closures are subject to separate approval from Transportation and Environmental Services (T&ES) at the time of permit application. Pedestrian access must be maintained for the duration of the project. Per Memo to Industry #04-18, pedestrians shall not be diverted across the street without the approval from the Director of Transportation and Environmental Services or his designee.
- c. Contractor shall apply for all necessary permits for uses of the City Right of Way and shall submit MOT Plans with the T&ES Application for final approval at that time. *

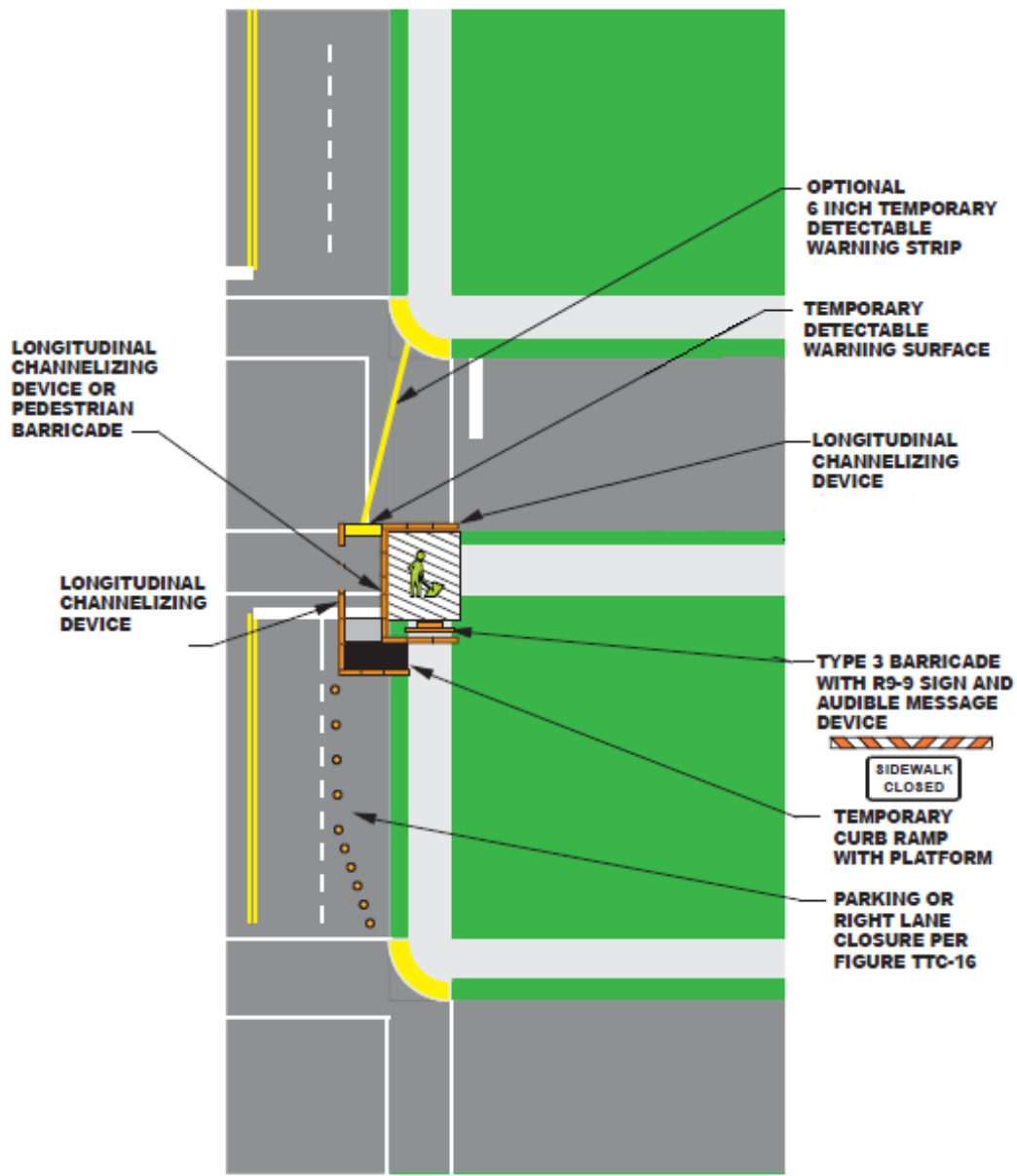
ATTACHMENT 2: Options to Maintain Pedestrian and Bicycle Access during Construction
(images from or modified from *Virginia Department of Transportation Work Zone Pedestrian and Bicycle Guidance*)

Example 1 – Closure at Sidewalk: Pedestrians Access Maintained in Parking Lane



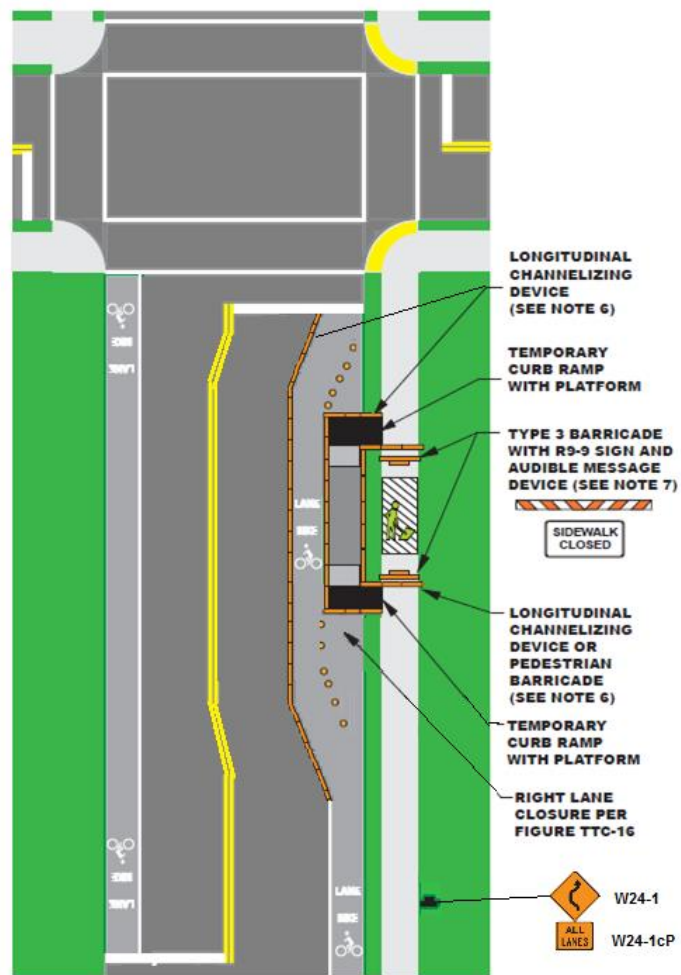
MIDBLOCK PEDESTRIAN DIVERSION

Example 2 – Closure at Sidewalk near Intersection – Pedestrian Access Maintained in Parking Lane



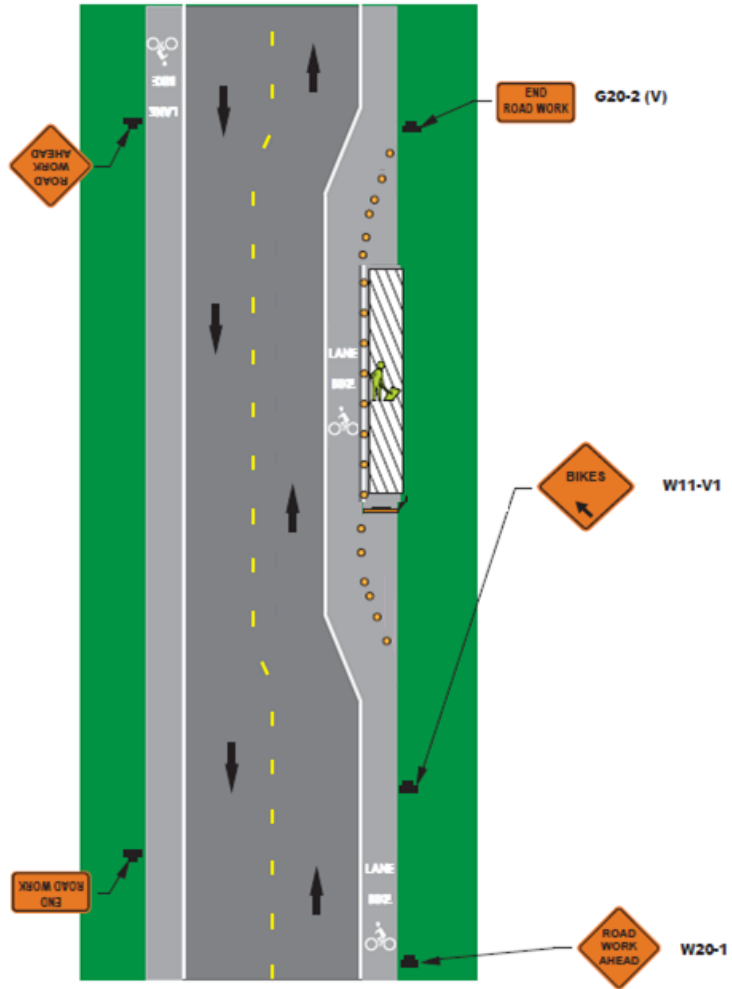
EXAMPLE OF A SIDEWALK BYPASS AT AN INTERSECTION

Example 3 – Midblock Sidewalk Closure with Bike Lane – Closure of Parking Lane and Restriping of Travel Lane



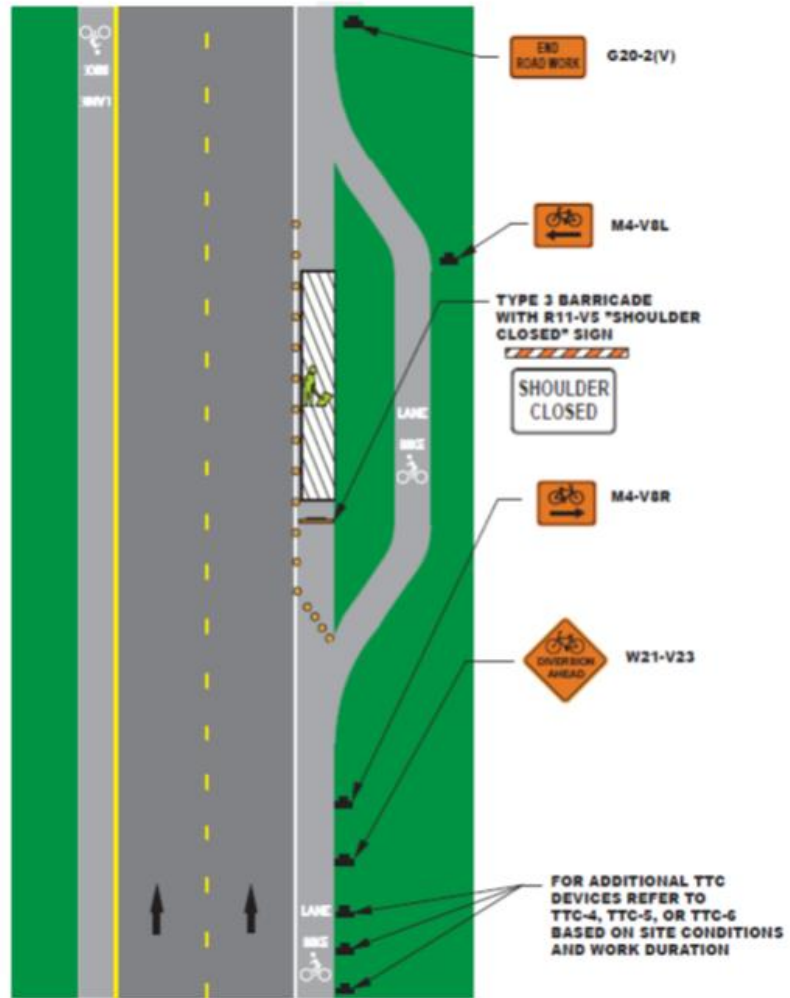
MID-BLOCK DIVERSION OF A SIDEWALK AND BIKE LANE

Example 4 – Closure with Bike Lane – Bicycle Lane/Travel Lane Shift



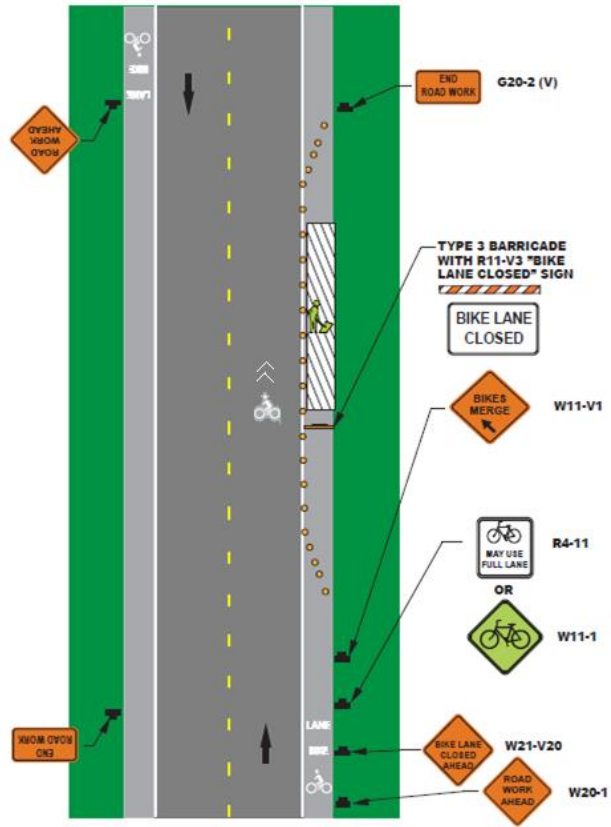
Example of Travel Lane and Bike Lane Shift

Example 5 – Closure with Bike Lane – Temporary Off-Road Diversion



EXAMPLE OF SHOULDER CLOSURE WITH A BICYCLE DIVERSION PATH

Example 6 – Closure with Bike Lane – Bicycles Diverted into Travel Lane with Signage



EXAMPLE OF A BICYCLE LANE CLOSURE

ATTACHMENT 3: Complete Streets Guidelines – Lane Widths

Lane Widths

Minimizing travel lane widths is essential to creating additional roadway space for other users. Travel lane width also has an impact on motor vehicle speeds: motorists tend to drive faster in wide travel lanes and slower in narrower lanes. Traditionally, 12' has been the standard for motor vehicle travel lanes. The AASHTO "Green Book" allows 10' travel lanes in low speed environments (45 mph or less). Narrower lane widths have been avoided in the past due to concerns about vehicle occupant safety and congestion, especially on arterial roadways; however, research on suburban and urban arterials has shown that in most cases, travel lane widths between 10 feet and 11' on arterials and collectors do not negatively impact overall motor vehicle safety or operations, and also have no measurable effect on capacity.² The study found one exception where 10' wide travel lanes should be used with caution— on four-lane, undivided arterial roadways.

The benefits of narrower lane widths include:

- Lower speeds, improving the safety of all users
- Fewer, less severe crashes for all users
- Reduced crossing distance for pedestrians
- Reduced footprint of the roadway, resulting in better use of land and reduced run-off

The chart below summarizes guidelines for designating lane widths in the City of Alexandria. The values in this chart should be applied to major street reconstructions as well as resurfacing or other maintenance projects where lane reallocation or resizing may occur.

Many existing residential streets in Alexandria are "yield streets," which are two-way streets with parallel parking on both sides, where oncoming drivers must yield in order pass each other when parked cars are present. These streets are generally 25' in width (curb to curb dimension) and carry traffic volumes that do not exceed 1,500 vehicles per day.

STREET TYPOLOGY	MINIMUM ^{3 4 5}	PREFERRED	MAXIMUM
Commercial Connector	10'	11'	12'
Main Street	10'	10'	12'
Neighborhood Residential	9'	10'	10'
Mixed Use Boulevard	10'	10'	12'
Neighborhood Connector	10'	10'	12'
Parkways	10'	10'	11'
Industrial	11'	12'	13'
Shared Streets	N/A	N/A	N/A
Overlays	Minimum	Preferred	Maximum
Bicycle Network Streets	N/A	N/A	N/A
Transit Streets ⁶	11'	11'	12'
Historic Streets and Alleys	N/A	N/A	N/A
Other	Minimum	Preferred	Maximum
Parking Lane	7'	8'	N/A
Two-way left turn lane	10'	12'	12'
Right or left turn lane	9'	10'	11'
Alley (one-way)	N/A	15'	N/A
Alley (two-way)	N/A	18'	N/A

Notes: A design exception may be required for some widths on federal or state-funded projects.

² Potts, Ingrid B, Harwood, Douglas W and Richard, Karen R. Relationship of Lane width to Safety for Urban and Suburban Arterials. Washington, D.C.: Transportation Research Board, 2007.

³ The width of the gutter is included as a part of the total width of the lane. When a travel lane is adjacent to the curb, add 1' to the preferred lane width. When the speed limit is 35 mph or greater, the width of the concrete gutter should not be counted towards the width of the travel lane adjacent to the curb. Additionally, when a travel lane is next to a raised median, a 1' shy distance should be added to the lane width. There should also be a stripe painted around the median.

⁴ On streets with high volumes of heavy vehicles (>8%), one 11-foot wide travel lane should be provided in each direction (generally the curb-side lane).

⁵ A street should not be designed using all minimums.

⁶ For Complete Streets retrofit projects involving a constrained transit street, maintain the existing width of the transit lane.