



COMMONWEALTH *of* VIRGINIA

DEPARTMENT OF TRANSPORTATION

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PHILIP A. SHUCET
COMMISSIONER

THOMAS F. FARLEY
DISTRICT ADMINISTRATOR

December 3, 2003

Mr. R. Sam Kem, Director
Arlington County Department of Public Works
2100 Clarendon Boulevard, #900
Arlington, VA 22201 -5445

Dear Mr. Kem:

In response to a discussion with Arlington County officials regarding urban design standards, Commissioner Philip Shucet requested the District Administrator Council (DAC) to evaluate the current standards being applied in urban jurisdictions and to identify opportunities to provide greater flexibility. In January 2003, the DAC met with Arlington County staff to discuss and view first-hand the specific challenges facing urbanized areas to accommodate all modes of transportation.

As a result of this initial discussion, the Arlington County Urban Design Workgroup was formed to:

- (1) identify specific issues and concerns related to current design standards for urban areas;
- (2) evaluate the flexibility which currently exists in the VDOT and AASHTO Guidelines;
- (3) identify various circumstances within urban areas that may require greater flexibility;
- (4) promote greater consistency in the plan design and review phase.

The guiding principle used by the Workgroup was to provide Arlington County with the necessary flexibility to design "walk-ability and bike-ability communities" without compromising the safety and mobility of the transportation network.

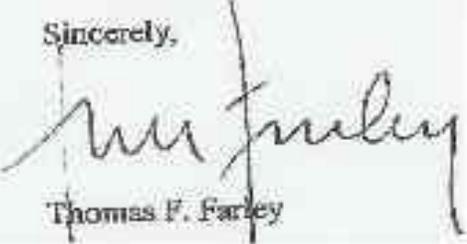
I have attached the urban design guidelines developed by the Workgroup, which provides greater detail regarding the issues and highlights opportunities to apply "context sensitive" design principles. The Workgroup used AASHTO guidelines, accompanied with sound engineering judgment, to provide a framework for the unique challenges of urbanized communities.

In conclusion, it was agreed the application of the existing VDOT urban street standards should be guided by the recommendations found in AASHTO for the VDOT facilities located in Arlington County. It was also noted that those roadways, which are in the National Highway System (NHS), require a higher degree of justification for reduced design standards. This would

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afford Arlington County with the greatest flexibility and consistency during the design and review process. The Workgroup also recognized the importance of communicating special design features early in the design phase (conceptual scoping) so that VDOT and Arlington County can work together to find the best design solution.

I would like to take this opportunity to thank the Arlington County and VDOT staff members who worked so diligently to make the process a success. We trust the effort will assist Arlington County in meeting the needs of the communities as well as accommodating all modes of transportation.

Sincerely,

Thomas F. Farley

Attachments

cc: Philip Shucet
Mohammed Mirshahi, P. E.
Rich Viola, Arlington County Department of Public Works
JoAnne Sorenson
Bill Cuttler, P. E.
Renee Hamilton

A. Travel Lane Widths:

AASHTO Guidance is for lanes from 10 to 12 feet in width. The VDOT standard design is 11 feet or 12 feet depending on the design speed. Left and right turn lanes without transit vehicles, may be 100 feet wide if adjacent to a gutter or shy line (minimum one-foot wide). The widths needed for all lanes and intersection design controls should be evaluated collectively. For example, a wider right-hand lane that provides for right turns without encroachment on adjacent lanes may be attained by providing a narrower left turn lane. The roadway typical section should be discussed during the conceptual design phase and prior to design initiation.

A reduction in the standard 11-foot wide lane may be considered when:

- Driver expectancy is for narrow lanes because of reduced lane widths in adjacent sections of the roadway.
- There is a low amount of bus or large truck use (If any bus routes traverses the section, the curb lane width should not be reduced below 11 feet.).
- There is an adjacent bike lane.
- The posted speed is less than or equal to 35 MPH.

The standard 11-foot wide lane should be maintained when:

- There is a parking lane and no bike lane.
- There is neither parking or bike lane and an inadequate separation between the curb and the sidewalk.

12-foot lanes should be considered where speeds are 40 mph and higher.

B. Curb Return Radius:

The curb return should be checked using a turning template for the design vehicle. Generally, the design vehicle will be the SU-30 single unit truck, however larger vehicles such as a 40-foot bus should be used when it is known that large vehicles regularly turn right at that location.

AASHTO guidelines recommend radii of 15 to 30 feet based upon circumstances. The VDOT minimum standard for curb return radii is 30 feet for public street intersections and as little as 12.5 feet for commercial driveway entrances. Arlington County has a standard curb return radius of 15 feet. The arterial streets within Arlington County have a typical curb return radius is 25 feet.

A reduction in the VDOT standard 30-foot radius may be considered when:

- The existing radius is smaller and works adequately (25 feet is typical).
- There is substantiation of a high amount of pedestrian crossings.
- There is on-street parking on the primary street, even more if parking is provided on both the primary street and secondary street.
- There is a bike lane.
- The receiving street is wide or vehicles can cross the centerline. Under normal operations, right-turning vehicles should not cross a marked centerline into opposing traffic lanes.

- The angle of the turn is less than 90 degrees.
- There are restrictions on truck traffic or the amount of large vehicle (trucks & buses) turns are low.
- There is a designated right turn lane on the primary street.

A reduction in the standard 30-foot radius would normally not be considered when:

- There is a high number of bus or large truck turns.
- The angle of the turn is greater than 90 degrees.
- The receiving street is narrow or turning space is restricted.
- Curb Extensions Nubs often require larger radii to accommodate turns by truck traffic, a turning template should be used to determine the appropriate dimension.

C. Street Trees on Primary Roads:

The main concern about street trees in an urban area is that they pose a hazard as a fixed object that requires a minimum clear zone setback. The VDOT minimum urban clear zone is 6 feet behind the face of curb, but in rare instances, a design exception may be allowed for as little as 18 inches from the face of curb for existing fixed objects. Design exceptions using form ill 440 should be submitted for any reduction in clear zones early in the design process. No design exception is required for street trees where there is a parking lane between the curb and the travel lanes.

VDOT will continue to evaluate Arlington County's new Street Tree Planting Standards for consideration and possible general approval.

In no instance will trees be planted that obscure sight lines at entrances or unsignalized intersections. Landscaping within normal sight lines at signalized intersections will be examined on a case-by-case basis.

The desire to plant trees adjacent to the curb should not take precedence over the nonnallocation of storm sewers behind the curb.

D. Median Extensions:

Medians may be extended across crosswalks to provide pedestrian refuge provided that they are handicapped accessible, are of sufficient construction to ensure the 4" visibility to traffic and maintenance crews and do not obstruct the normal path of left-turning vehicles. Island "noses" for medians should be a minimum of 75 square feet in size or should be constructed to be physically a part of the median. VDOT's standard is to assume a 50- foot wheel tracking radius for left-turning vehicles when determining how much a median can extend into an intersection. For dual turn lanes a 75-foot wheel tracking radius should be used and/or confirmed using wheel track templates.

E. Curb Extensions (nubs) & Bus Bulbs:

Curb extensions are acceptable to VDOT without a design exception provided that they are readily visible (>75 square feet) and have adequate curb return radii.

F. Design Speed:

The design speed should be set based upon the existing and expected land use and traffic mix on the street. It is common practice to use a design speed that is five miles per hour above the posted or intended speed limit.

G. Curb & Gutter:

The use of County standard curb and gutter is acceptable to VDOT without exceptions provided that documentation is provided to show adequate drainage. Non-standard gutters may be used when it can be demonstrated that adequate drainage is provided without exceeding normal "spread" into the adjacent lane.

H. Light Fixtures:

It is agreed that breakaway light fixtures are permissible in medians.

I. Enhanced Crosswalks:

Enhanced pedestrian crosswalks using materials such as stamped asphalt, stamped concrete, concrete pavers, thermoplastic, inlaid thermoplastic and in-pavement lighting (trial basis) may be installed provided that an agreement has been reached regarding the maintenance responsibilities of the County and VDOT.