

VIRGINIA DEPARTMENT OF TRANSPORTATION

TRAFFIC ENGINEERING DIVISION

MEMORANDUM

GENERAL SUBJECT: GUIDE SIGNS	NUMBER: TE-372.0
	TO SUPERSEDE: N/A
SPECIFIC SUBJECT: REFERENCE LOCATIONS SIGNS (RLS), INTERMEDIATE RLS, ENHANCED RLS	DATE: January 10, 2012
	SUNSET DATE: Upon Inclusion In the VaS-MUTCD
DIRECTED TO: Regional Operations Directors Regional Traffic Engineers Regional Operations Maintenance Managers Regional Traffic Operations Managers	SIGNATURE: State Traffic Engineer 

To assure that Virginia has and maintains a Reference Location Signs (RLS) program suited to its unique needs, Section 2H.05 and Section 2H.06 of the MUTCD are hereby altered.

Section 2H.05 of the current MUTCD, Reference Location Signs (D10-1 through D10-3) and Intermediate Reference Location Signs (D10-1a through D10-3a), is replaced by the following:

Support:

There are two types of reference location signs in use nationally:

- A. Reference Location (D10-1, 2, and 3) signs show an integer distance point along a highway, and
- B. Intermediate Reference Location (D10-1a, 2a, and 3a) signs, showing a decimal between integer distance points along a highway.

Standard:

Except as allowed by the paragraph that immediately follows this paragraph, Reference Location signs and Intermediate Reference Location (D10-1a, D10-2a, and D10-3a) signs (see figure 1) shall be placed on Freeway facilities that are a part of the Interstate System of routes and on all other Commonwealth maintained routes where the entire length of the route is controlled as a Freeway to assist road users in estimating their progress, to provide a means for identifying the location of emergency incidents and traffic crashes, and to aid in highway maintenance and servicing.

Placement of Reference Location signs and Intermediate Reference Location (D10-1a, D10-2a, and D10-3a) signs shall be such that a sign appears every two tenths (0.2) of the measured mile.

Certain highly urbanized sections of Interstate designated routes and highly urbanized sections of other Freeway routes may be left devoid of Intermediate Reference Location signs. Reference Locations signs shall still be provided. This exception applies only when conditions A; and, either B or C, as shown below, exist.

- A. Route segment passes through an area so urbanized that at least three motorist identifiable signs that provide messages unique to that sign; such as, overpass and underpass naming signs, waterway naming signs and/or interchange advance or actions signs, exist per mile of segment; and,
- B. Route segment is marked by narrow shoulders, separated acceleration-deceleration roadways, parapet walls, and other constrictions in conflict with optimal placement of Intermediate Reference Location Signs; and
- C. Route segment has geometrics that would predictably cause issues with maintaining Intermediate Reference Locations signs due to snow removal operations, grass cutting operations, and other similar activities.

Where engineering evaluations clearly support the use of one tenth (0.1) of the mile spacing of the Intermediate Reference Location Signs, such spacing may be allowed, with approval of the State Traffic Engineer. No section of roadway having one tenth (0.1) mile spacing intervals of Intermediate Reference Location Signs shall be less than three miles in length except where the route is less than 3 miles in total length.

Support:

Engineering evaluations used to support the placement of Intermediate Reference Location Signs at one tenth (0.1) mile intervals should reference such factors as an abnormally high accident rate; or, an unusually high call rate to emergency dispatchers; or, where few identifiable references exist (e.g. rural areas with few signs, limited number of cross roads, and devoid of landmarks); or, where weather issues such as fog, are prevalent.

Guidance:

Reference Location and Intermediate Reference Location signs should be placed on Freeway (fully controlled access) sections of highway that are a part of a Route where the entire length is not limited

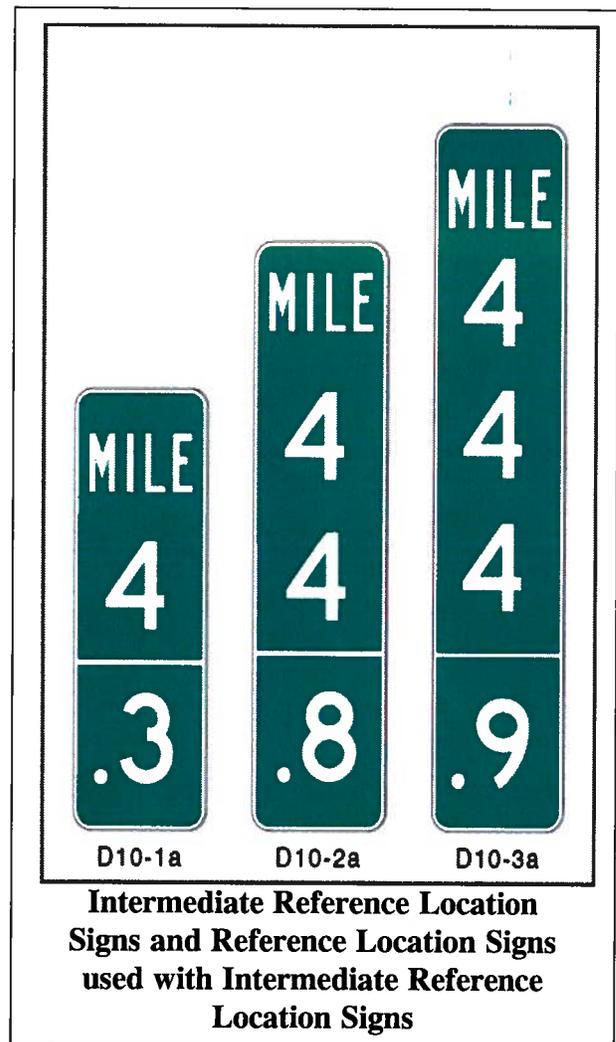


FIGURE 1

access, but where the Freeway portion is greater than three (3) miles in length and where there might be reference location sign continuity with other segments of the same route where Reference Location sign placements exist.

Reference Location and Intermediate Reference Location signs should be placed on routes controlled as Expressway routes in accordance with the provisions set for Freeway Routes.

Option:

Reference Location Signs (D10-1 to D10-3 – see figure 2) alone or in conjunction with Intermediate Reference Location signs (D10-1a to D10-3a –see figure 1) may be installed along any section of a highway route or ramp (limited access or non-limited access) to assist road users in estimating their progress, provided reference location sign continuity with other segments of the same route is maintained; to provide a means for identifying the location of emergency incidents and traffic crashes, and to aid in highway maintenance and servicing.

Standard:

Reference Location signs used with Intermediate Reference Location signs shall display a decimal point and a zero numeral.

Option:

Reference location signs use alone (where permitted) and not in conjunction with Intermediate Reference Location signs may be displayed without a decimal point and a zero numeral (D10-1, D10-2, D10-3 [see figure 2]).

Standard:

When placed on Freeway or Expressway routes, Reference Location signs and Intermediate Reference Location signs shall contain 10-inch white numerals on a 12-inch wide green background with a white border. A white separator line shall be used between the integer and the decimal reference. The signs shall be 36, 48, or 60 inches in height for two, three, or four digits, respectively, and shall contain the word MILE in 4-inch white letters.

When placed on non Freeway or non Expressway routes, reference location signs and Intermediate Reference Location signs shall, as a minimum, contain 6-inch white numerals on a green background that is at

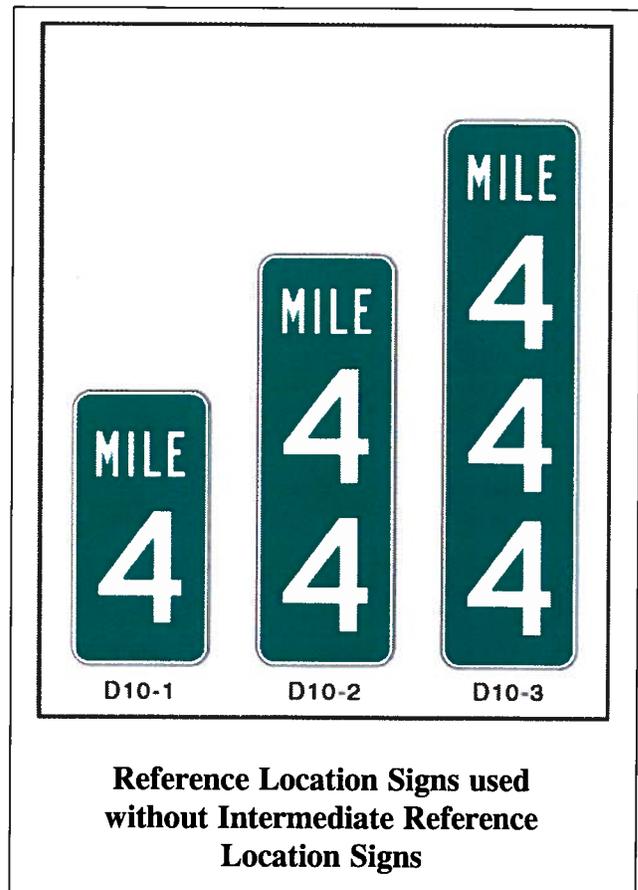


FIGURE 2

least 10 inches wide with a white border. The signs shall be 27, 36, or 48 inches in height for two, three, or four digits, respectively, and shall contain the word MILE in 4-inch white letters. A white separator line shall be used between the integer and the decimal reference.

Reference location signs and Intermediate Reference Locations signs shall have a minimum mounting height of 4 feet, measured vertically from the bottom of the sign to the elevation of the near edge of the roadway, and shall not be governed by the mounting height requirements prescribed in Section 2A.18 of the MUTCD.

On Freeway and Expressway routes, the distance numbering shall be continuous for each route within the State, except where overlaps occur (see Section 2E.31 of the MUTCD). Where routes overlap, reference location sign continuity shall be established for only one of the routes. If one of the overlapping routes is classified as an Interstate route, that route shall be selected for continuity of distance numbering.

Standard:

Where a Freeway or Expressway route exist that is greater than three miles in length as stipulated above, but does not constitute an entire route, (such as sections of continuous routes around urbanized or built-up areas to replace more congested “business routings”) Reference Location signs (if used) shall reference a mileage consistent with the actual mileage point on that route (devoid of any other Business Route sections) measured along the northbound or eastbound roadway. Should an added Freeway/Expressway portion of a continuous route (relocated or realigned portion) add mileage to that route, existing portions of the same route that lie either north or east of the added section and have Reference Location signs existing, shall not be reposted to accommodate the new mileage addition. Instead, the added section shall be posted using Reference Location signs that accommodate an equality principle.

Option:

Where needed, the accommodation of an equality principle in the Reference Location Sign display, in order to avoid the renumbering of other, previously numbered, Route sections of the same Route, should follow the principle outlined in the following paragraph or another similar principle.

Support:

Reference Location signs should be positioned to provide equal spacing between the signs unless the spacing will be greater than two tenth (0.2) mile. In that event, signs shall be installed to ensure that duplicate numbers are not indicated. An example of one method is shown in Figure 3. That Figure depicts the addition of a new road segment that bypasses a community. The old road segment (becoming a business route) should have all reference location signs, which might have existed before the completion of the new routing, removed.

Section 2H.06 of the current MUTCD, Enhanced Reference Location Signs (D10-4, D10-S), is amended to include the following:

Standard:

Except where already in use on or before August 1, 2011 or where allowed by the paragraphs that follow; Enhanced Reference Location Signs (D10-4 and D10-5, see Figure 4) shall not be used on limited access routes or other routes maintained by the Commonwealth.

REFERENCE LOCATION SIGN NUMBERING EQUALITY AFTER RELOCATING OR REALIGNING PRIMARY ROUTE (Rendering Old Route as "Business Route")

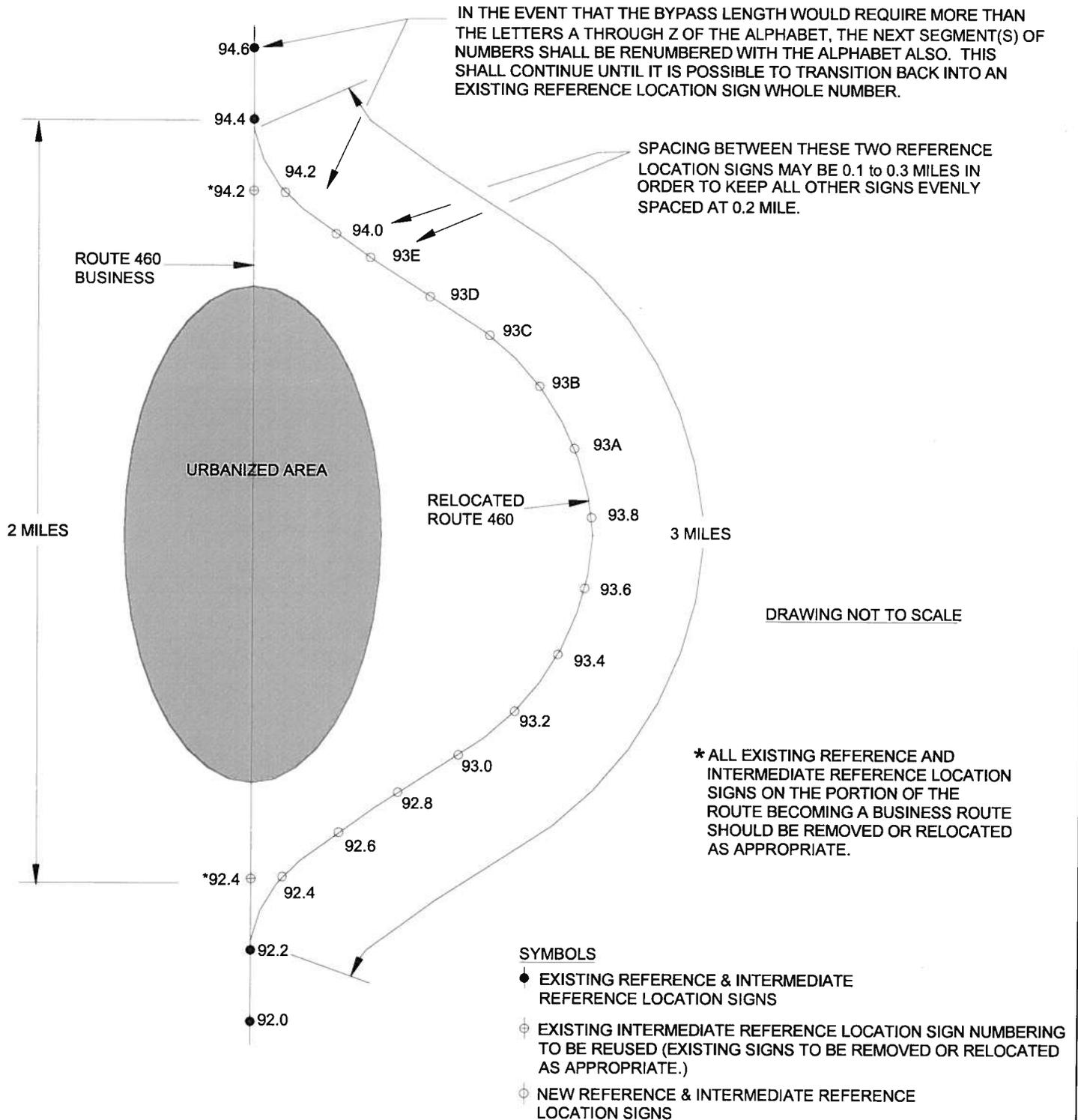


FIGURE 3

Option:

Exceptions for the usage of Enhanced Reference Locations signs may be requested to the State Traffic Engineer with final approval by the Chief of Systems Operation.

For those Enhanced Reference Location Signs (D10-4 and D10-5) that might exist, said sign may continue to remain in service and may be replaced due to individual signs being damaged by such occurrences as errant vehicle knockdown, mowing or snow plowing operations, etc. All existing Enhanced Reference Location Signs (D10-4 and D10-5) in a series must be replaced by non-enhanced Reference Location signs when the majority of the signs in the series reach the end of their service life.

Where other entities, such as private toll roads or abutting States are using Enhanced Reference Location Signs (D10-4 and D10-5), Enhanced Reference Location Signs may be used in a similar display on routes maintained by the Commonwealth; but only to a point on that route where a reasonable transition to Reference Location and Intermediate Reference Location Signs (D10-1, D10-2 and D10-3) can be made. Reasonable transition points are considered to be major interchanges, major natural barriers (wide river crossings, etc.), or other points where it may be less obvious to the motorist that a transition has been made.



FIGURE 4

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