**TURN ARROW** (Right Arrow Opposite)

**LANE-REDUCTION ARROW (RIGHT)** For Left Lanes, Use Mirror Image

**TWO-WAY LEFT-TURN ARROWS** (See Note 6)

**THROUGH ARROW**

**FISH-HOOK ARROW (ROUNDABOUTS)**

**TABLE 1 - LANE-USE ARROWS**

<table>
<thead>
<tr>
<th>ARROW TYPE</th>
<th>SIZE (FT)</th>
<th>AREA (SQ FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Turn Arrow</td>
<td>8.50</td>
<td>7.7</td>
</tr>
<tr>
<td>Through Arrow</td>
<td>8.50</td>
<td>13</td>
</tr>
<tr>
<td>Turn and Through Arrow</td>
<td>8.25</td>
<td>29</td>
</tr>
<tr>
<td>Lane-Reduction Arrow</td>
<td>8.00</td>
<td>46</td>
</tr>
</tbody>
</table>

* Indicates Station Reference Point

**LANE-REDUCTION ARROW MARKING DETAIL**

**DIAGRAM ELEMENT**

**OVERALL DIMENSIONS**

<table>
<thead>
<tr>
<th>ELEMENTS INCLUDED</th>
<th>OVERALL WIDTH</th>
<th>OVERALL HEIGHT</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>6.5'</td>
<td>14.67'</td>
</tr>
<tr>
<td>1 &amp; 3</td>
<td>6.5'</td>
<td>12.67'</td>
</tr>
<tr>
<td>1 &amp; 3</td>
<td>9.67'</td>
<td>14.67'</td>
</tr>
<tr>
<td>2 &amp; 3</td>
<td>9.67'</td>
<td>12.67'</td>
</tr>
<tr>
<td>2</td>
<td>9.67'</td>
<td>12.67'</td>
</tr>
<tr>
<td>2 &amp; 3</td>
<td>7.67'</td>
<td>12.67'</td>
</tr>
<tr>
<td>2 &amp; 3</td>
<td>7.17'</td>
<td>12.67'</td>
</tr>
<tr>
<td>1 &amp; 3</td>
<td>7.0'</td>
<td>12.67'</td>
</tr>
<tr>
<td>1</td>
<td>6.0'</td>
<td>8.0'</td>
</tr>
</tbody>
</table>

* The DOT ELEMENT 01 is only used in symbols for the leftmost lane.
**TABLE 4 - LANE USE MARKINGS**

<table>
<thead>
<tr>
<th>ROADWAY TYPE</th>
<th>DIMENSIONS (FT)</th>
<th>A</th>
<th>B</th>
<th>C</th>
</tr>
</thead>
<tbody>
<tr>
<td>RURAL</td>
<td>-</td>
<td>10</td>
<td>88</td>
<td>6</td>
</tr>
<tr>
<td>URBAN</td>
<td>-</td>
<td>10</td>
<td>88</td>
<td>6</td>
</tr>
</tbody>
</table>

*See Note 5*

**TABLE 2 - HANDICAP, BIKE & CHEVRON MARKINGS**

<table>
<thead>
<tr>
<th>SYMBOL</th>
<th>HEIGHT (IN)</th>
<th>WIDTH (FT)</th>
<th>AREA (SQ FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>HANDICAP</td>
<td>41</td>
<td>36</td>
<td>2.7</td>
</tr>
<tr>
<td>BIKE</td>
<td>72</td>
<td>40</td>
<td>36</td>
</tr>
<tr>
<td>CHEVRON</td>
<td>40</td>
<td>40</td>
<td>3.3</td>
</tr>
</tbody>
</table>

* - Indicates Station Reference Point

**TABLE 3 - WORDS (SQ FT)**

<table>
<thead>
<tr>
<th>MARKING</th>
<th>HEIGHT (IN)</th>
<th>WIDTH (IN)</th>
<th>AREA (SQ FT)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ONLY</td>
<td>17</td>
<td>23</td>
<td>8.0</td>
</tr>
<tr>
<td>SCHOOL</td>
<td>27</td>
<td>37</td>
<td>40</td>
</tr>
</tbody>
</table>

*See Note 1E*

**TABLE 5 - R X R SYMBOL**

<table>
<thead>
<tr>
<th>WIDTH (FT)</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
</tr>
</thead>
<tbody>
<tr>
<td>8</td>
<td>67</td>
<td>66</td>
<td>70</td>
<td>72</td>
</tr>
</tbody>
</table>

*See Note 2*
NOTES:

SCHOOL Marking

14. The SCHOOL markings shall be installed on all paved approaches in advance of all School zones.

15. The SCHOOL markings shall be placed at least 100' in advance of the School Zone. The preferred placement of the SCHOOL marking is adjacent to the School Zone advance sign.

16. On two-way, two-lane highways the following shall apply:

1. When the approach lane to the School Zone is 11' or more in width -
   a. The SCHOOL word marking and transverse lines shall be contained in, and centered in, the lane.
   b. The character height shall be 6' for urban areas and 8' for rural areas.

2. When the approach lane to the School Zone is less than 11' in width -
   a. One installation of the SCHOOL word marking and transverse lines shall extend across both lanes of traffic.
   b. The characters shall be 10' in height.

17. On multi-lane approaches the following shall apply -

1. When the approach lanes to the School Zone are 11' or more in width -
   a. The SCHOOL word marking and transverse lines shall be contained in, and centered in, each lane.
   b. The character height shall be 6' for urban areas and 8' for rural areas.

2. When the approach lanes to the School Zone are less than 11' in width -
   a. One installation of the SCHOOL word marking and transverse lines shall extend across both lanes of traffic.
   b. The characters shall be 10' in height.

18. Center or lane lines shall not pass through the SCHOOL word marking.

19. 6' and 8' high SCHOOL word marking shall be marked with 4' strokes.

20. 10' high SCHOOL word marking shall be marked with 8' strokes.

21. X the area of the transverse lines varies with the width of the pavement, therefore, this area must be added to the value in Table 3 (sheet 2).

Railroad Crossing Markings

24. On multi-lane approaches, markings shall be as follows -

   a. The RRH symbol shall be placed in each approach lane.
   b. Transverse lines used with the railroad symbols shall extend across all approach lanes.

25. The railroad symbol shall be located so that the Railroad Advance Warning (W10-1) sign is within the transverse boundary lines of the railroad symbol.

26. The stop line shall be located for best sight distance between 15' - 20' of the near edge of the tracks.

27. The stop line shall be approximately 8' from a gate if present.

28. The height of the "X" will vary according to the lane width.

29. The height of the "R" shall be 6'.

30. The area of the transverse lines and stop lines varies with the width of the pavement; therefore, the area must be added to the value in Table 3 (sheet 2).

Stop Line Marking

31. Except as specified in Notes 38 and 39, the stop line should be placed as follows:

   a. The stop line should be placed where cross-corner vision is maximum.
   b. In no case shall the stop line be placed more than 150' or less than 4' from the nearest edge of the intersecting roadway.
   c. For normal intersections the maximum distance should be 10'.

32. If a marked crosswalk is present, the stop line should be placed 4' in advance of, and parallel to, the nearest crosswalk line.

33. For signalized intersections the stop line should be placed at a minimum distance of 10' from the nearest signal head.

34. The RXR symbol shall be placed in each approach lane.

35. The RXR symbol shall be located so that the RXR symbol and railroad symbols shall extend across all approach lanes.

36. The RXR symbol shall be located so that the Railroad Advance Warning (W10-1) sign is within the transverse boundary lines of the railroad symbol.

37. The stop line shall be located for best sight distance between 15' - 20' of the near edge of the tracks.

38. The stop line shall be approximately 8' from a gate if present.

39. The height of the "X" will vary according to the lane width.

40. The height of the "R" shall be 6'.

41. The area of the transverse lines and stop lines varies with the width of the pavement; therefore, the area must be added to the value in Table 3 (sheet 2).

Lane-Use Arrow Markings

47. Lane-use arrow markings are optional except where a through traffic lane(s) approaching an intersection becomes a mandatory turn lane(s).

48. Where used, the spacing between markings should be based on Table 4 (sheet 2). However, based on the turn lane length, the spacing between the markings may be adjusted.

Two-Way Left-Turn Only (TWLTO) Arrows

49. Arrow sets should be longitudinally spaced at intervals of:

   a. 150' - 200' for speeds less than or equal to 45 mph.
   b. 200' - 400' for speeds over 45 mph.

50. In addition, an arrow set should be placed:

   a. 200' - 300' from the near edge of an intersecting roadway, or
   b. Inside both ends of 100' lanes.

Shared Lane Marking

71. When chevron markings are used, its area must be added to the value of the bike symbol markings (see Table 3 (sheet 2). However, based on the turn lane length, the spacing between the markings may be adjusted.

Lane-Reduction Arrow Markings

84. Lane-reduction arrow markings should be placed where a lane reduction transition occurs on a roadway as follows:

   a. Lane-reduction arrow markings may be placed for speeds of less than 40 mph, determined to be appropriate based on engineering judgement.
   b. Lane-reduction arrow markings should be placed for speeds of 45 mph or over.
   c. Where lane-reduction arrows are used, they should be placed as follows:

      1. First lane-reduction arrow placed 300' in advance of the "Begin Taper" point.
      2. Second lane-reduction arrow placed at the 3/4d point.