

**SECTION 450.00 – HIGHWAY APPROACHES**

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## SECTION 450.00 – HIGHWAY APPROACHES

Each District will monitor right-of-way use on state highways within their respective Districts in conformance with the provisions of Department policy and applicable state and federal regulations. Access control on other transportation systems is the responsibility of the public highway agency having jurisdiction of that roadway.

Uncontrolled encroachments can nullify carefully planned safety and maintenance features; therefore, modifications of existing encroachments or any new encroachments must be covered by a permit. It is essential that those in the field (maintenance foreman, maintenance technician, etc.) control these encroachments. A permit to use the right-of-way must be completed and approved before installation of any encroachment begins.

Field personnel that have contact with those owning property adjoining the highway should be knowledgeable of the policies and procedures regarding encroachment permits and be willing to explain and assist those that plan changes or improvements.

The state policy controlling right-of-way encroachments is covered in [Rule 39.03.42](#), “Rules Governing Use of Right-of-Way Encroachments on State Highway Rights-of-Way”, [Administrative Policy A-12-01](#) and the ITD documents “Access Management: Standards and Procedures for Highway Right of Way Encroachments” and “A Policy for the Accommodation of Utilities within the Right of Way of the State Highway System in the State of Idaho.”

## SECTION 451.00 – TURN LANES FOR NEW APPROACHES

**451.01 Determining Needs.** The need for turn lanes on State Highways shall be addressed during the Concept Review of any proposed new construction. All public-use approaches to the State Highway System, including private approaches to subdivisions and/or adjacent businesses, shall be reviewed for the need to provide turn lanes on the State highway.

Justification for each turn lane shall be supported by an engineering study approved by the Highway Operations and Safety Engineer that considers at least the following factors:

- Operating speed of the highway,
- Traffic volumes,
- Number of anticipated turning moves,
- Availability of passing opportunities,
- Sight distance, and
- Past collision history and/or potential for collisions.

Turn lanes shall not be constructed to enhance an existing roadside business, unless the applicant is willing to participate in the cost. However, when the safety of the traveling public is a significant factor, the participation requirement may be waived. If the engineering study does not support justification for a turn lane, the turn lane may not be approved even when requested by the applicant.

When the need for a turn lane is the result of a planned commercial development(s), and the requirements for a turn lane are met, the turn lane shall be paid for by the developer(s).

**451.02 Left-Turn Lanes.** The chart below provides warrants for a left-turn lane based on the portion of the current year design hourly volume (DHV) on the highway carried in a single lane, the peak-hour volume of vehicles turning left, and the posted speed. A left-turn lane is warranted when the single-lane portion of the DHV of the highway and the DHV of left turns intersect at a point on or above the curve for the posted speed. In most cases, left-turn lanes should be provided where there are more than 12 left turns per peak hour.

Where the DHV of the left turn into the access is more than 12 vph and the highway's inside lane volume exceeds 250 vph on 45 to 65 mph highways or 400 vph on 25 to 40 mph highways, a left-turn lane may be required due to the high traffic volumes or other unique site-specific safety considerations.

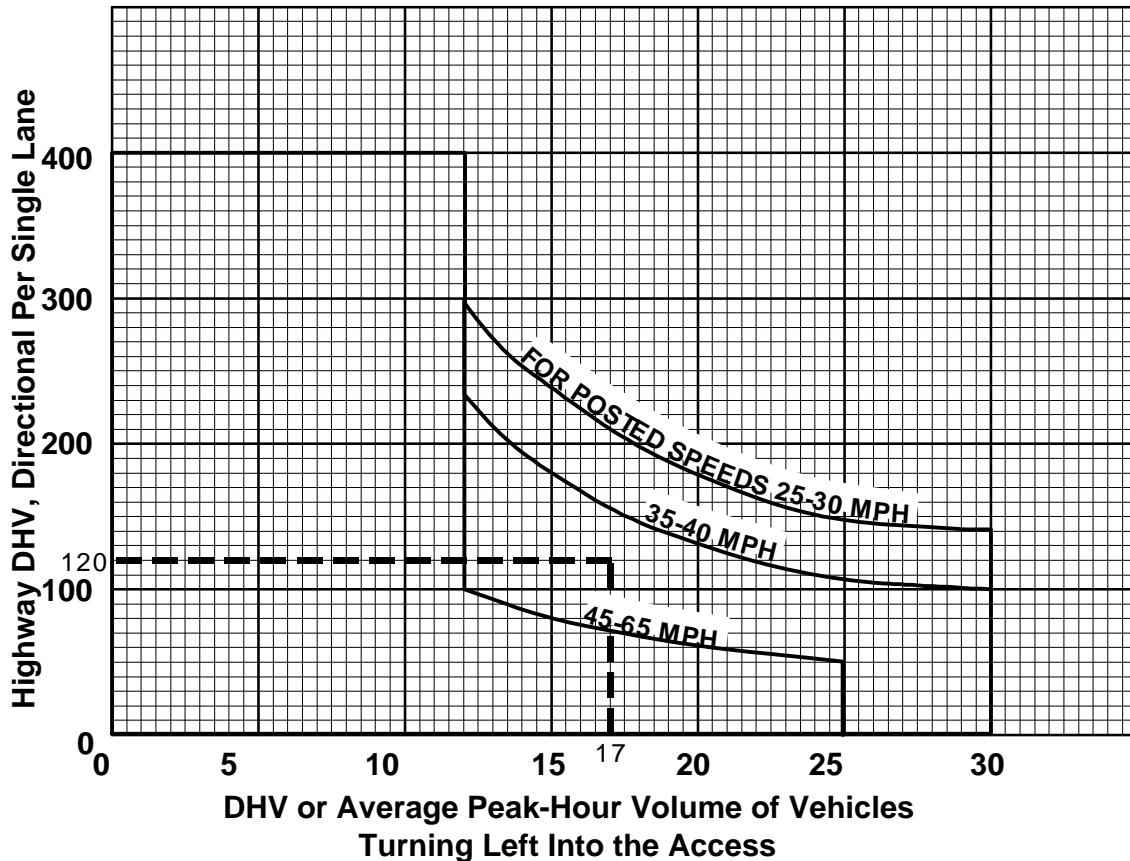
Left-turn lanes should also be considered if there have been four accidents per year at an existing approach, or if that number of accidents could be expected to occur as a result of a new approach without turn lanes.

The effect that a left-turn lane will have on restricting passing opportunities must be weighed against the safety benefit the left-turn lane may provide. On a highway section where passing opportunities are critical, the adverse effect that construction of a left-turn lane would have on the capacity of that roadway section may be more significant than the safety benefit from the left-turn lane. At T-intersections, a possible alternative to constructing a left-turn lane is to widen the right shoulder for an adequate distance on both sides of the intersection to permit through traffic to pass a left-turning vehicle on the right, thus making a no-passing zone unnecessary.

Example:

A highway with a posted speed of 55 mph has a current year DHV of 200 vehicles per hour and a directional distribution of 60/40. At an intersection the left-turning DHV is 17 vehicles per hour.

### LEFT-TURN LANE WARRANT



The highest single-lane DHV is  $0.6 \times 200 = 120$  vph. Entering the left-turn warrant chart with 17 vph on the horizontal axis and 120 vph on the vertical axis gives a point of intersection above the 45-65 mph curve. A left-turn lane should be considered at this intersection after evaluation of all the above factors.

**451.03 Right-Turn Lanes.** The chart below provides warrants for a right- turn lane based on the current year design hourly volume on the highway, the peak-hour volume of vehicles turning right, and the posted speed. A right-turn lane is warranted when the single-lane portion of the DHV of the highway and the DHV of right turns intersect at a point on or above the curve for the posted speed.

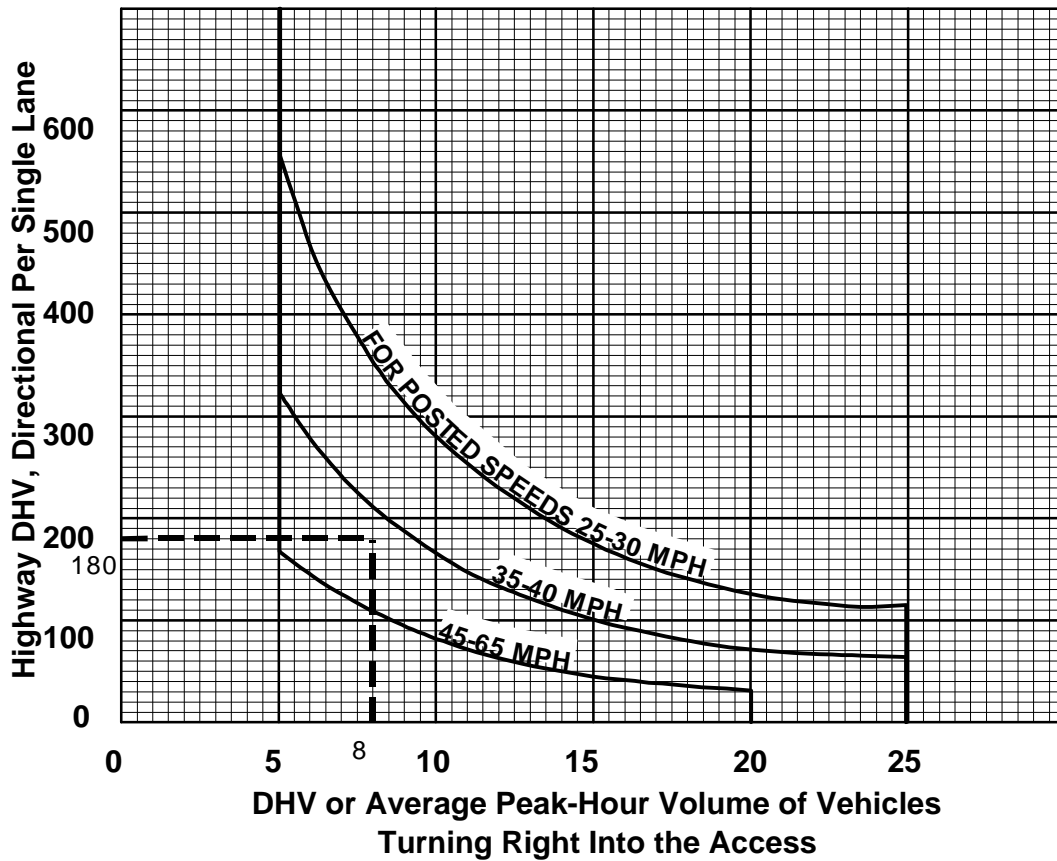
Where the DHV of the right turn into the access is less than 5 vph and the highway’s outside lane volume exceeds 250 vph on 45 to 65 mph highways or 450 vph on a 35 to 40 mph highway, or 600 vph on a 25 to 30 mph highway, a right-turn lane may be required due to the high traffic volumes or other unique site-specific safety considerations.

Where the existing shoulder is of adequate width, it may be possible to adjust the pavement markings to provide a sufficient right-turn lane without widening the road.

Example:

A highway with a posted speed of 40 mph has a current year DHV of 360 vehicles per hour and a directional distribution of 50/50. At an intersection the right-turning DHV is 8 vehicles per hour.

### RIGHT-TURN LANE WARRANT



The single-lane DHV is  $0.5 \times 360 = 180$  vph. Entering the right-turn warrant chart with 8 vph on the horizontal axis and 180 vph on the vertical axis gives a point of intersection below the 35-40 mph curve. A right-turn lane should not be considered at the intersection.