

surface treatment course to accommodate multiple patron use. Special measures also may be needed where highway traffic conditions encourage hard braking or high acceleration by vehicles entering or exiting the mailbox turnout.

Edge dropoffs often are found at rural mailbox locations. The daily use by the delivery vehicles may loosen the soil at the edge of the pavement. When the soil at the edge is eroded, a drop of 100 mm [4 in.] or more may result. These edge dropoffs can make it difficult for drivers to safely return to the pavement if the vehicle strays onto the unstable soil. The use of paved turnouts is one solution. Another approach is a recent paving innovation called the Safety Edge, which shapes the edge of the traveled way into a 30 degree angle rather than a vertical drop. This new angle is optimal in allowing motorists to return their vehicle to the pavement without overcorrecting or losing control.

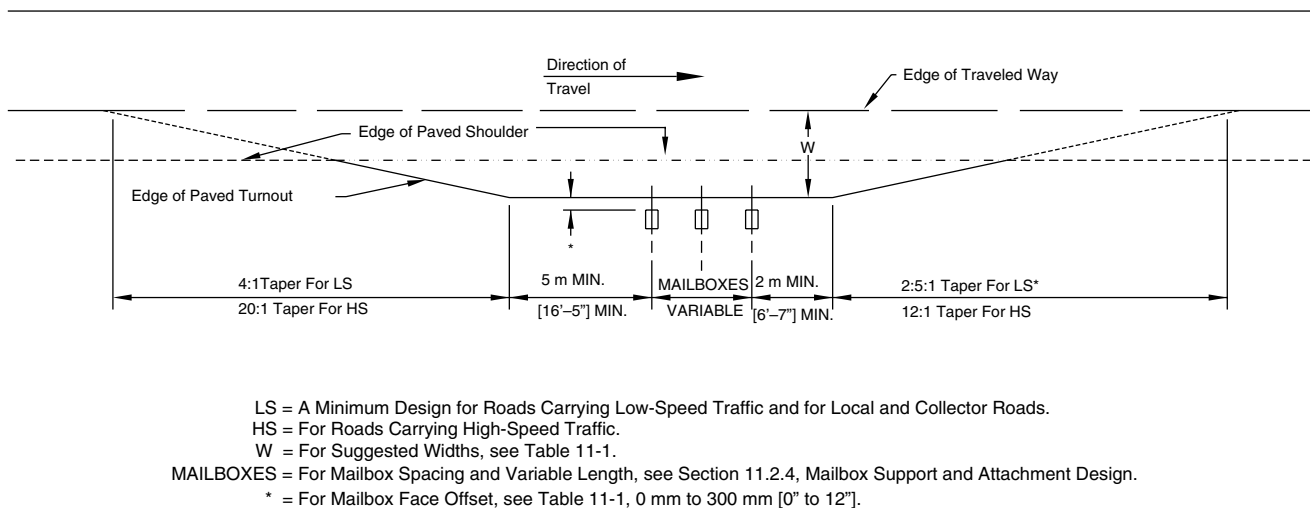
Drivers usually are required to slow their vehicles in traffic, which increases the risk of a crash. The ideal way to minimize this risk is to provide a speed-change lane. A wide surface-treated shoulder is ideal for this purpose. Unfortunately, suitable shoulders are not available at most mailbox turnout locations and it would be far too expensive to provide shoulders or turnouts that would allow a speed change outside the traveled way. Figure 11-5 presents a mailbox turnout layout considered appropriate for different traffic conditions.

The minimum space needed for maneuvering to a parallel position in and out of traffic also is shown in Figure 11-5. However, when only the minimum space is provided, the typical driver probably would slow considerably before starting into the low-speed turnout. This tendency renders such minimum space unsuitable for high-speed highways where driver expectancy does not include such slow-moving traffic.

Before entering a 2.4-m [8-ft] wide turnout with a 20:1 taper for high-speed traffic, as shown in Figure 11-5, a driver probably would not slow as much before clearing the traveled way. Although this is not an ideal exit maneuver, it probably would not create an unacceptable hazard on most rural highways for the few stops generated by a single mailbox.

Increasing the width of the turnout to 3.6 m [12 ft] and maintaining the 20:1 taper rate suggested in Figure 11-5 would induce a driver using the turnout to enter it at a fair rate of speed, but it will not be as fast as the through speed. Although this still is not ideal, it should be acceptable for most sites. The exception may be found on highways operating at high speeds and carrying more than 3,000 vehicles per day, with a high percentage of them on long trips. For these conditions, mail stops should be kept to a minimum and consideration should be given to providing shoulders or turnouts at the mail stops to facilitate greater speed-change opportunities outside the traffic stream.

The tapers shown in Figure 11-5 represent theoretical layouts. It may be more practical to square the ends of the turnout or to provide a stepped layout by strengthening and widening the shoulder to the full width of the turnout for the entire length of the taper. It also may be simpler to construct a continuous turnout-width shoulder rather than individual turnouts where mailbox turnouts are closely spaced.



**Figure 11-5. Mailbox Turnout**