

- Bicycle detection is provided if detection is required to actuate the signal or the signals are not timed.

It is recommended that an educational program be developed to accompany the installation of bicycle boxes or two-stage bicycle turn boxes.

The use of intersection bicycle boxes or two-stage bicycle turn boxes require the approval of the State Roadway Design Engineer

223.2.2 Paved Shoulders

A paved shoulder is the portion of the roadway contiguous with the traveled way for accommodation of errant vehicles, stopped vehicles, bicycle traffic, and emergency use. A paved shoulder must be a minimum width of 4 feet to serve as a bicycle facility.

See **FDM 210.4** for additional information on paved shoulder requirements.

When audible and vibratory treatment is used adjacent to a paved shoulder that serves as a bicycle facility, see **FDM 210.4.6**.

223.2.2.1 Marked Shoulders

A paved shoulder that has the Helmeted Bicyclist Symbol and Bicycle Lane Arrow pavement markings (see **FDM 223.2.1.2**) are referred to as “marked shoulders”. Do not use bicycle lane signs on flush shoulder roadways.

Paved shoulders should be marked only when all the following are met:

- (1) Design speed \leq 45 mph,
- (2) Shoulder width \geq 5-foot,
- (3) Within C4, C5, C6 context classification, or within C3 when demand is demonstrated, and
- (4) Shared use path is not present along corridor.

223.2.3 Shared Use Paths

A shared use path may be substituted for a bicycle lane when the roadway design speed is **greater than** 35 mph **or greater** and all the following conditions are met:

- Context classification C1, C2, or C3,
- Separation can be maintained between bicycle and motorized traffic through intersections, and
- Conflict points are minimal and mitigated.

As shown in **Figure 223.2.1**, in some cases it may be possible to fit a shared use path into the same space required for a sidewalk and buffered bicycle lane. In other cases, additional width may be required. See **FDM 224** for shared use path design criteria. It is preferable to plan for shared use paths and separated bicycle lanes ahead of time by reflecting them in a district bicycle facility plan.