

Other Design Considerations

Railroad Crossings

Railroad-highway grade crossings should ideally be at a right angle to the rails. This can be accomplished either as a separate path or a widened shoulder, as shown in Figure 27. The greater the crossing deviates from this ideal crossing angle, the greater is the potential for a bicyclist's front wheel to be trapped in the flangeway, causing loss of steering control. If the crossing angle is less than approximately 45 degrees, an additional paved shoulder of sufficient width should be provided to permit the bicyclist to cross the track at a safer angle, preferably perpendicularly. Where this is not possible, and where train speeds are low, commercially available compressible flangeway fillers may enhance bicyclist operation. It is also important that the roadway approach be at the same elevation as the rails.

Consideration should be given to the crossing surface materials and to the flangeway depth and width. Rubber or concrete crossing materials are longer lasting than wood or asphalt and require less maintenance. In some cases, abandoned tracks can be removed. Warning signs and pavement markings should be installed in accordance with the MUTCD².

Bicycles on Freeways

In some instances, bicyclists are permitted to operate on freeways. Normally, a freeway would not be signed or marked as a bikeway, but in some states it can be opened for use if it meets certain criteria. Essentially, the criteria involve assessing the safety and convenience of the freeway compared with available alternate routes. However, a freeway should not be available to bicycle use if it is determined to be incompatible.

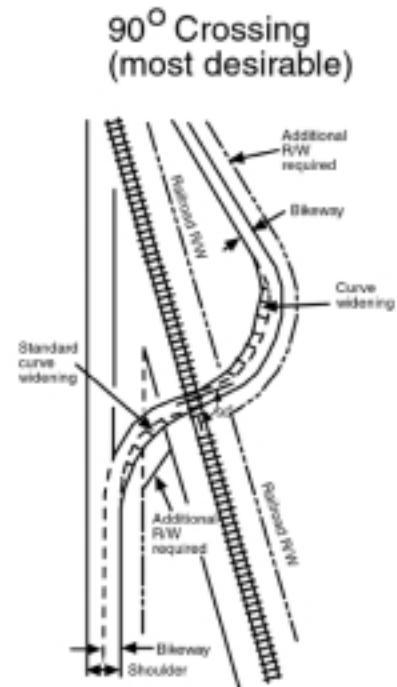
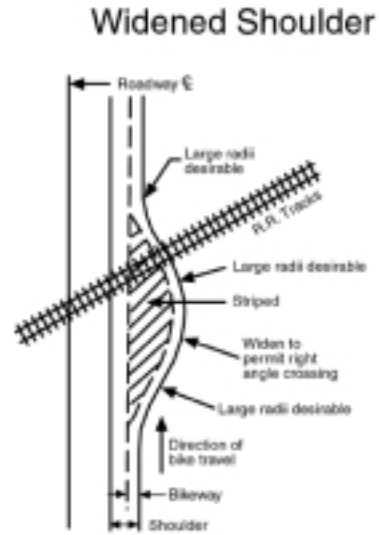
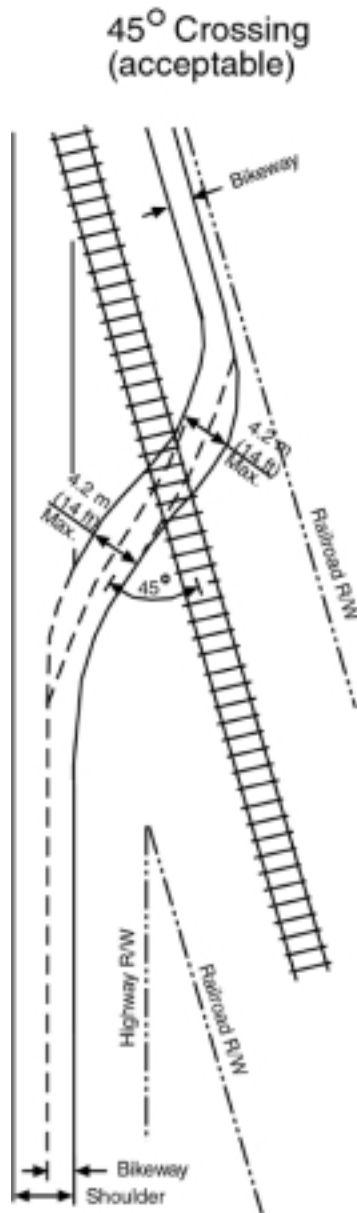
If a suitable alternate route exists, it would normally be unnecessary to open the freeway to bicycle use. However, if alternate routes are unsuitable for bicycle travel, the freeway may be a better or the only alternative for bicyclists. In determining the suitability of an alternate route, safety should be the paramount consideration. The following factors should be considered:

- Number or frequency of intersections
- Shoulder width on roadway and across structures
- Traffic volumes
- Vehicle speeds
- Bus, truck and recreational vehicle volumes
- Grades
- Travel time



Design

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NOTE:
Additional width to 4.2 m (14 ft) to be provided at railroad crossing to allow cyclists to choose their own crossing routes.

Figure 27. Railroad Crossings

