

**39-4.03 Underpass Width**

The roadway section passing beneath a bridge will determine the bridge length in combination with structural design elements (e.g., abutment type). The underpass width will be based on the following roadway design elements:

- the approaching roadway width;
- the presence of sidewalks and/or bikeways (see Section 39-4.05);
- the presence of auxiliary lanes (e.g., acceleration lanes at interchanges); and
- the horizontal clearance to obstructions (i.e., the roadside clear zone).

For high unit cost bridges, the designer should consider locating abutments or piers on the right side of the roadway adjacent to the shoulder where the savings in structure cost could make the required barrier protection cost effective. All reduced clearances below the minimum horizontal clearance requirements must be economically justified and barrier protection must be provided.

The maximum practical horizontal clearance between the left edge of the roadway and pier in the median of divided highways will be realized by placing a single pier at the center of the median. Median piers should have protective barrier where warranted as discussed in Chapter 38.

**39-4.04 Vertical Clearances**

The vertical clearance for underpassing roadways will significantly impact the size of the overpassing structure. In some cases, the required vertical clearances may also impact the selection of the superstructure type. Sections 39-5 and 39-6 and Part V, Design of Highway Types, presents the Department's vertical clearance criteria for underpassing roadways based on functional classification and rural/urban location.

**39-4.05 Sidewalks and Bikeways**

If pedestrian activity is anticipated, provide sidewalks on both sides of urban structures. The standard sidewalk width on structures is 5 ft (1.5 m). See the *Bridge Manual* for sidewalk details. Also, refer to Section 48-2 for a detailed discussion on sidewalks. In addition, examine the gradeline of the sidewalks for ADA requirements (see Section 58-1). Where wider sidewalks exist on approaching roadways, sidewalk widths greater than 5 ft (1.5 m) can be considered. See the typical urban sections in Section 39-5.

~~Special sidewalks or bikeways, separated from the roadway by a traffic barrier, may be provided as discussed in Chapter 17. Bikeway widths will be determined from the bikeway design criteria, but in no case will the width be less than 5 ft (1.5 m) for a one-way bikeway or 10 ft (3.0 m) for a two-way bikeway across a structure. For geometric combinations, see the typical sections in Chapter 17 and Section 39-5.~~

39-4(2)

## Summary of Comments on chap39\_Murtha.pdf

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with a rail or barrier separating the sidewalk from the street; or 7 feet without such a barrier.

these dimensions

Off-street

on structures

. Bikeways should be 10 ft (clear, with barrier) minimum,

8 ft (clear, with barrier)

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minimum

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(with a rail or barrier separating the sidewalk from the street) or 7 feet (without a rail or barrier)

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Wider widths may be appropriate to match approach sidewalk widths in business districts, approaching bikeways, etc.

39-6(10)

Footnotes for Figure 39-6C

- (1) Implies reconstruction of a significant length of existing highway either on new location or on existing ROW. For reconstruction of relatively short intermittent highway segments within a project, the design criteria used, where cost-safety effective, should be consistent with the adjacent highway design but not less than that allowed to remain in place.
- (2) For marked highways functionally classified as collectors, use the arterial criteria. For other streets on the unmarked State-maintained system see the Bureau of Local Road and Streets Manual.
- (3) Volumes calculated with PHF = 1.0; adjust for local peak hour factor (PHF).
- (4) On freeways where truck traffic exceeds 250 DDHV, see Figure 44-5A for the use of 12 ft (3.6 m) right shoulders.
- (5) Bridge widths for bridge rehabilitation projects are discussed in Chapters 49 and 50.
- (6) For urban bridges requiring sidewalks, the width of the sidewalks is 5 ft (1.5 m) unless a wider width is specified by the district.
- (7) For new freeway or expressway construction, the bottom of the superstructure will not be below the all time high-water elevation.
- (8) For reconstruction projects, the proposed low superstructure will not be below the existing superstructure unless a 2 ft (600 mm) clearance is achieved. Any proposed clearance less than 2 ft (600 mm) above design high-water elevation must be accompanied by a request for a design exception.
- (9) For the Interstate System, provisions will be made for the Alternate Military Loading.
- (10) The minimum required vertical clearance must be available over the traveled way and any paved shoulders.
- (11) For reconstructed urban arterials, existing structures with a vertical clearance of 14 ft 0 in (4.3 m) may be allowed to remain in place. For a freeway or expressway passing through a highly developed urban area, a 14 ft 9 in (4.5 m) vertical clearance may be provided if a circumferential route is designated around the urbanized area and if the circumferential route has a minimum vertical clearance of 16 ft 0 in (4.9 m).
- (12) A vertical clearance of 17 ft 3 in (5.25 m) shall be provided for through trusses, overhead signs, and pedestrian overpasses.

Illinois

STRUCTURE PLANNING/GEOMETRICS

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