



# Illinois Department of Transportation

2300 South Dirksen Parkway / Springfield, Illinois / 62764

## BDE PROCEDURE MEMORANDUM

**NUMBER:** 19-07

**SUBJECT:** BDE Manual Revision – Chapters 5, 17, 19, 31, 48, and 57

**DATE:** August 30, 2019

---

Chapters 5, 17, 19, 31, 48, and 57 of the BDE Manual has been revised regarding the requirements for assessing and incorporating bicycle and pedestrian accommodations on projects. Please see Chapters 5, 17, 19, 31, 48, and 57 of the BDE Manual on the Department's website to view the revisions.

---

### Background

The majority of the revisions occurred in Chapter 17 Bicycle and Pedestrian Accommodations, which has been substantially revised regarding the ways in which non-motorized accommodations should be considered and incorporated on IDOT projects, including new construction/ reconstruction, 3R, and certain pavement rehabilitation/resurfacing projects.

Specifically:

- The chapter introduction has been supplemented to include discussion of the context classifications now identified in Chapter 1 of the *AASHTO Green Book* (7<sup>th</sup> Edition, 2018). A context-based approach provides a new framework for geometric design that is substantially influenced by consideration of non-motorized modes and is therefore specifically relevant and important to IDOT's Complete Streets Policy.
- The chapter has been updated to identify opportunities to apply updated AASHTO, FHWA, and NACTO guidance documents that cover bicycle facility assessment and design.
- Section 17-1.01 has been revised to include new and modified definitions to provide clarity to the subsequent policy discussion. Definitions have been added for bicycle level of service, several bicycle and pedestrian accommodation features, roadway types based on the AASHTO contexts, excessive cost, and the position of Bicycle and Pedestrian Policy Engineer in the Bureau of Design and Environment.
- Section 17-1.02 has been adjusted to clarify the requirements of the *Illinois Highway Code* and this Complete Streets Policy in evaluating and documenting the need for bicycle and pedestrian accommodations, including specific considerations to be applied on resurfacing projects.

## **BDE PROCEDURE MEMORANDUM 19-07**

**August 30, 2019**

**Page 2**

- The Section 17-1.03 bikeway warrants have been modified to incorporate network considerations and to reinforce the importance of providing accommodations directly along State routes. Bicycle Travel Assessment details have been removed from this section and are provided in a new form BDE 1702, Bicycle Travel Assessment.
- Section 17-1.04 has been updated to clarify accommodation coordination and the documentation to be provided in the Bicycle Travel Assessment (BTA) form. The form shall be used to document accommodation warrants and the process used in arriving at accommodation decisions. The documentation will now be fully contained in the BTA form, as described in this section and Section 17-2.01.
- Sections 17-1.05 through 17-1.07 provide minor clarifications on local participation in the funding and maintenance of accommodations.
- Design Guidance and Criteria for Bicycle Facilities has been modified in Section 17-2. The section has been reorganized and expanded to identify additional national guidance sources available for use in design. It specifies new requirements for documentation including assessment of Bicycle Level of Service (BLOS) for on-road accommodations, and presents a revised Bicycle Facility Selection Table, Figure 17-2.A. The figure expands on-road accommodation options (covered in 17-2.02) to include buffered bicycle lanes with widths varying based on speed and traffic volume, and one-way and two-way separated bicycle lanes (SBLs) on urban and suburban roadways. It also clarifies the use of off-road shared use paths (covered in 17-2.03) as an option that can fulfill accommodation requirements in any project context.
- Section 17-2.01 now references the BTA form (BDE 1702) and introduces BLOS as a way to evaluate conditions that may provide for acceptable on-road accommodation. The referenced Bicycle Facility Selection Table now identifies more optional on-road accommodations, including buffered and separated bike lanes. Since side paths are now an available option in any context they are not listed directly within the table. Paved shoulders for accommodation along rural roadways are considered potential accommodations with width varying by posted speed and ADT. Bicycle lanes are identified as an option for urban core, urban, rural town and suburban contexts. Separated Bike Lanes (SBLs) are a newly-introduced option for many urban and suburban conditions.
- Section 17-2.02 has been reorganized and expanded to provide additional detail regarding several on-road bikeway accommodations. These include paved shoulders, shared lanes, marked bicycle lanes with and without buffers, and separated bicycle lanes. Additional guidance and details are provided regarding on-road treatments through intersections, at interchanges, and near project limits. Among the design treatments

## **BDE PROCEDURE MEMORANDUM 19-07**

**August 30, 2019**

**Page 3**

described for intersections in Section 17- 2.02(e) are approach striping for turn lane configurations, bicycle boxes, two-stage bicycle turn boxes, bicycle signal faces, and green colored pavement markings. In Section 17-2.02(f) clarifications have been added on bicycle accommodations on structures as part of a larger or stand-alone project. Opportunities for bicycle and pedestrian accommodation along urban roadways have been highlighted to specifically describe opportunities for road diets, typically in conjunction with resurfacing projects. Specific issues to consider for road diet projects are now included in Section 17-2.02(g).

- Section 17-2.03 now includes expanded discussion and design criteria for shared-use paths both adjacent to highways (side paths) and within exclusive rights-of-way. Minimum path widths and clearances have been clarified for one-way and two-way paths. A revised procedure adjusts the minimum radii to be utilized with a 20-degree lean angle, and a 10 mph (16 km/hr) design speed case has been added primarily to add flexibility for the design of approaches to intersections. Path treatments at intersections are now covered in a revised section 17-2.03(k). Paths on independent structures are covered in Section 17-2.03(l), while those located on highway structures as side paths have specific requirements for railings and parapet walls depending on posted speed limits as identified in Section 17-2.03(m). Design issues unique to certain interchange types are covered in Section 17-2.03(n). It has also been clarified that ADA requirements for accommodation of individuals with disabilities apply to the full width of shared-use paths.
- Section 17-2.04 continues to describe safe and usable bicyclist accommodations through roundabouts. The section clarifies that different types of users may require on-road and/or off-road accommodations, and that good design practice generally involves providing for both paths of travel.
- In Section 17-3, a figure has been added to illustrate the typical bicycle rider envelope that is an important consideration in establishing the width requirements of bicycle lanes, SBLs, and shared-use paths.
- Section 17-4, covering pedestrian accommodations, has been expanded and several subsections added to clarify how to assess needs and to better identify measures that are currently recognized as appropriate for more safely accommodating pedestrians.
- Section 17-4.02 notes that accommodating pedestrians is a standard goal for all projects not in a rural context, and that pedestrians should be an identified design user in all urban core and urban context projects and in most suburban and rural town context projects. Warrants for pedestrian accommodations are listed.

## **BDE PROCEDURE MEMORANDUM 19-07**

**August 30, 2019**

**Page 4**

- Section 17-4.03 covers sidewalk design features, minimum widths and offsets, and pedestrian network considerations. Use of both operational offset and enhanced lateral offset are noted for considering design elements in the pedestrian zone.
- Section 17-4.04 covers pedestrian accommodations on highway structures. Guidance has been added regarding the requirements for inclusion of barriers (to separate vehicular and pedestrian traffic) and railings on bridges, and figures have been added to illustrate the dimensions needed for sidewalks on bridges. Bridge omission and retrofit issues related to pedestrians are also covered.
- Section 17-4.05 includes policies for crosswalks at intersections, including guidance on markings and the provision of pedestrian countdown signal heads and pushbuttons. The section identifies pedestrian safety considerations including opportunities for use of reduced curb radii, raised medians and corner islands to reduce exposure, right angle crossings to maximize visibility, and lead pedestrian interval phasing, especially in urban core and urban contexts.
- Section 17-4.06 provides guidance on the location and design of midblock crosswalks. Crosswalk striping, median cut-throughs, bump-outs and other geometric features, lighting, pedestrian hybrid beacons (PHBs), and Rectangular Rapid Flashing Beacons (RRFBs) are covered in this section. A figure is added to illustrate some of the typical measures applied at midblock crosswalks.
- Section 17-4.07 covers typical applications of safety railings and handrails along pedestrian facilities. A figure has been added to illustrate typical applications for safety railings.
- Section 17-4.08 identifies the bicycle and pedestrian policy engineer (BPPE) as the appropriate contact for pedestrian accommodation issues during project development.
- Section 17-4.09 reinforces the requirement that an Alternate Pedestrian Access Route (APAR) must be provided whenever existing pedestrian accommodations through work zones may be adversely affected during construction.
- A list of FHWA-endorsed webpages that provide additional guidance on bicycle and pedestrian facility location and design is provided in Section 17-5, References.

**BDE PROCEDURE MEMORANDUM 19-07**

**August 30, 2019**

**Page 5**

As previously mentioned, several other BDE Manual chapters have been updated to maintain consistency with the revised Chapter 17. These changes are as follows:

- Section 5-3.10 has been revised to refer to “shared use” paths rather than bicycle paths. Section 5-5.02(o) clarifies the local maintenance responsibilities of newer accommodations such as separated bicycle lanes and recognizes that side paths are now an available accommodation for most project contexts. New side paths will involve 80/20 cost sharing such that “paths above and beyond selection criteria” are no longer recognized. The revisions also note the possibilities of short bikeway extensions and structure retrofits (in Section 5-5.02(p)) for additional accommodations as part of projects.
- Section 19-3.03(a) has been revised to add road diet projects to the list of those for which public meetings are usually appropriate.
- Section 31-5.03 has been revised to extend the discussion of pedestrian facilities to include additional references to Chapter 17 (listing the features now discussed) and Chapter 55 (noting the need to accommodate pedestrians through and around work zones).
- Section 48-6 has been revised to modify Figures 48-6.A and 48-6.B for the 14 ft (4.3m) minimum width requirement for a Shared Lane (a lane considered a design accommodation for both bicyclists and motor vehicles).
- Chapter 57 increases the level of bicycle facility traffic control information provided in Section 57-3.07(f), primarily to include guidance for the use of green colored pavement markings.



Jack A. Elston, P.E.  
Bureau Chief  
Bureau of Design and Environment