

The US Federal Highway Administration has links to several documents describing problems with bollards.

- [Bollards, Gates, and Other Barriers](#) describes problems that may result from installing bollards, gates, and other barriers.

NOTE: This was developed with assistance from many APBP members. As far as I remember, we posted this prior to the AASHTO *Guide for the Development of Bicycle Facilities, 2012*, which is cited below.

- [What Kind of Barrier Will Keep Cars Off a Bike Path?](#) (article from 1992, posted with permission)
- Presentation: [Bicycle Path Entry Control](#). (Ed Cox, Bicycle and Pedestrian Coordinator, City of Sacramento, CA and Maggie O'Mara, Senior Transportation Engineer, California Department of Transportation). This presentation discusses methods to control entry to shared use paths. It considers issues related to bollards, gates, and other barriers. It looks at examples and discusses what works well and what doesn't.

Disclaimer: This presentation is provided in the interest of information exchange, and reflects the views of the authors. Providing this resource does not necessarily represent endorsement by the U.S. Department of Transportation.

Other sources:

- ***Trails for the Twenty-First Century***, Rails-to-Trails Conservancy. islandpress.org/books/trails-twenty-first-century. The 1993 edition had information on better solutions than bollards (pages 119-120), see pages 85-86 in the 2001 version.
- The ***AASHTO Guide for the Development of Bicycle Facilities, 2012***, pages 5-46 and 5-47 discussions bollards and solutions that are better than bollards. Page 5-46 states: "The routine use of bollards and other similar barriers to restrict motor vehicle traffic is not recommended. Bollards should not be used unless there is a documented history of unauthorized intrusion by motor vehicles. Barriers such as bollards, fences, or other similar devices create permanent obstacles to path users. Bollards on pathways may be struck by bicyclists and other path users and can cause serious injury. Approaching riders may shield even a conspicuous bollard from a following rider's view until a point where the rider lacks sufficient time to react."