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# Bicycle and Pedestrian Facilities

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## A. Introduction

There are four major categories for bicycle and pedestrian facilities: sidewalks, shared use paths, on-street, and trails. Sidewalks are an integral component of the transportation system, usually used only by pedestrians. For information on designing sidewalks, see Section 12A-1 and Section 12A-2. Shared use paths are also an integral component of the transportation system and use the sidewalk standards, but must also be designed for bicycle usage. Shared use paths are generally separate from the street, but in limited instances it may be necessary to utilize an on-street facility.

The word “trail” has conflicting definitions in ADA, AASHTO, program funding, and common usage. Projects developed around the state and those let through the Iowa DOT are generally shared use paths as defined by the Access Board, not trails. Facilities with a transportation purpose cannot use the trail guidelines published by the Access Board, even though they are commonly referred to as trails. The trail information from the Access Board only applies in parks and other limited locations; therefore, they are not covered in this manual.

## B. Definitions

The following definitions are from the “AASHTO Guide for the Development of Bicycle Facilities” (or *AASHTO Bike Guide*).

**Bicycle Boulevard:** A street segment, or series of contiguous street segments, that has been modified to accommodate through bicycle traffic and minimize through motor traffic.

**Bicycle Facilities:** A general term denoting improvements and provisions to accommodate or encourage bicycling, including parking and storage facilities, and shared roadways not specifically defined for bicycle use.

**Bicycle Lane or Bike Lane:** A portion of roadway that has been designated for preferential or exclusive use by bicyclists by pavement markings and, if used, signs. It is intended for one-way travel, usually in the same direction as the adjacent traffic lane, unless designed as a contra-flow lane.

**Bicycle Route:** A roadway or bikeway designated by the jurisdiction having authority, either with a unique route designation or with BIKE ROUTE signs, along which bicycle guide signs may provide directional and distance information. Signs that provide directional, distance, and destination information for bicyclists do not necessarily establish a bicycle route.

**Bikeway:** A generic term for any road, street, path, or way that in some matter is specifically designated for bicycle travel, regardless of whether such facilities are designated for the exclusive use of bicycles or are to be shared with other transportation modes.

**Independent Right-of-Way:** A general term denoting right-of-way outside the boundary of a conventional highway.

**Roundabout:** A type of circular intersection that provides yield control to all entering vehicles and features channelized approaches and geometry to encourage reduced travel speeds through the circular roadway.

**Rumble Strips:** A textured or grooved pavement treatment designed to create noise and vibration to alert motorists of a need to change their path or speed. Longitudinal rumble strips are sometimes used on or along shoulders or center lines of highways to alert motorists who stray from the appropriate traveled way. Transverse rumble strips are placed on the roadway surface in the travel lane, perpendicular to the direction of travel.

**Shared Lane:** A lane of a traveled way that is open to both bicycle and motor vehicle travel.

**Shared Lane Marking:** A pavement marking or symbol that indicates an appropriate bicycle positioning in a shared lane.

**Shared Use Path:** (From U.S. Department of Transportation, Federal Highway Administration) The term “shared use path” means a multi-use trail or other path, physically separated from motorized vehicular traffic by an open space or barrier, either within a highway right-of-way or within an independent right-of-way, and usable for transportation purposes. Shared use paths may be used by pedestrians, bicyclists, skaters, equestrians, and other nonmotorized users.

**Traveled Way:** The portion of the roadway intended for the movement of vehicles, exclusive of shoulders and any bike lane immediately inside of the shoulder.

## C. Design Process

Comprehensive systematic design is necessary to ensure a useful shared use path or on-street bicycle facility is provided for the public. To do this, the following items need to be addressed.

1. Identification of need of shared use path(s) and/or on-street bicycle system.
2. Determine objective of shared use path(s) and/or on-street bicycle facility.
3. Develop shared use path(s) and/or on-street bicycle facility potential use.
4. Route(s) evaluation, location, and selection:
  - Adequate access
  - Directness and convenience
  - Continuity with shared use path network
  - Attractiveness of route
  - Safety and security
  - Delays along route
  - Cost of improvements
  - Shared use of facility
  - Maintenance
  - Conflicts with other vehicles
  - Adequacy of street use
    - Grades and geometrics
    - Surface obstructions and conditions
    - Traffic volumes and speeds
    - Truck and bus traffic
    - Parking
    - Intersection conditions

- Signing and pavement markings
  - Sight distances
  - Clearance (vertical and horizontal)
  - Bridge and railroad crossings
5. Choosing an appropriate facility type. (Refer to *AASHTO Bike Guide* Exhibit 2.3 for more information in selecting a facility type).
- Shared lanes
  - Paved shoulders
  - Bike lanes
  - Bike boulevards
  - Shared use paths