

# Bikeway Examples

An overview of typical bikeways is provided below with descriptions modified from the FHWA Bikeway Selection Guide, February 2019. An assessment of roadway context, speeds, and traffic volumes are all essential to determining the most appropriate bikeway. For greater details on how to select the best bikeway for your community, refer to the full [Bikeway Selection Guide](#).

## Shoulders



- A paved section of roadway outside of the travel lane with no less than 5ft wide riding space to accommodate bicycles.
- Often used in rural contexts; shoulder widths should be based on traffic volumes and posted speeds. For rural roads over 45 mph and/or 3,000-6,000 vehicles per day, shared use paths may be desirable.
- Shoulders can be differentiated with contrasting pavement materials and/or surface coloring, wide solid white edge line markings, buffered white edge lines, and/or rumble strips. Attention should be paid to rumble strip design and shoulder maintenance to ensure a usable safe facility.

## Bike Boulevards



- Low-stress bikeways primarily located on low-volume, low-speed local streets.
- Treatments such as shared lane markings, wayfinding signs, and traffic calming features are implemented to prioritize bicycle travel, including at crossings with higher volume arterials.
- A key aspect design is to ensure comfortable and safe crossings of intersecting arterials so that travel along the bicycle boulevard can be maintained.
- At approaches to higher speed and volume streets, many bicycle boulevards transition to bike lanes, separated bike lanes, or shared use paths.

## Conventional Bike Lanes



- Exclusive space for bicyclists to operate one-way on the roadway through the use of pavement markings and signs.
- Width determined by context, speed and traffic volumes, minimum 5 feet.
- Research shows improvements to bicyclist safety; however, many studies do not account for factors such as exposure, maintenance, or differences in implementation.
- Intersections can be enhanced with bicycle lane extensions through the intersections, green colored pavement, and regulatory signs.
- Conventional lanes may also transition to shared lanes or one-way separated bike lanes.

## Buffered Bike Lanes



- Similar to conventional bike lanes, but provides additional horizontal separation between cyclists and motorized travel lanes with street painting only.
- Typically used on streets with moderate traffic volumes (1,500 to 6,000 vehicles per day) and low speeds (20 to 30 mph typical speeds).
- Often implemented on streets with excess width but without high enough vehicle speeds or volumes to warrant physical separation.
- Painted buffer increases lateral separation between bicyclists and hazards such as passing motor vehicles and car doors.

## Separated Bike Lanes



- A bike lane physically separated from motor vehicle traffic by parking, landscaping, curb, flexpost, or other vertical element.
- Can provide a low-stress bicycling environment along busier corridors (greater than 6,000 vehicles per day or speeds above 30 mph).
- May be at sidewalk level, street level, or intermediate height.
- May be one-way or two-way configuration.
- Separate sidewalk is provided for pedestrians.
- Requires clear bike lane markings or protective treatments at intersections.

## Shared Use Paths / Trails



- Fully separated from traffic and intended for shared use by a variety of users, including pedestrians, bicyclists, and joggers.
- Can provide a low-stress bicycling environment along busier roadway corridors (greater than 6,000 vehicles per day or speeds above 30 mph) or outside of a roadway environment in parks, along streambeds or railway corridors, etc.
- Minimum width of 10', typically range from 10' to 14' depending on frequency and the variety of users.
- Major road crossings may have signals, crossing beacons, refuge islands, or bridges and underpasses.
- Can provide connections along non-roadway corridors (e.g. rivers and railways).
- Can have separate pedestrian space or jogging surface.

# Enhanced Crossing Treatment Examples

## Marked Crosswalk



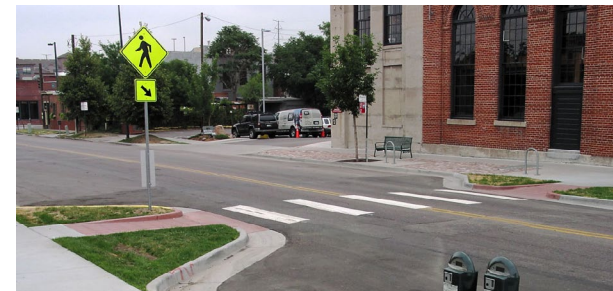
- Indicates to pedestrians the recommended location to cross the roadway and alerts approaching motorists as to where pedestrians may be crossing the street.
- When combined with other treatments such as curb extensions or a Rectangular Rapid Flashing Beacon, marked crosswalks improve safety.
- Crosswalks should directly connect the approaching sidewalks and should be located to maximize the visibility of pedestrians.
- Marked crosswalks should be at least 8 feet wide or the width of the approaching sidewalk, whichever is greater.

## Medians and Crossing Island



- Also known as refuge islands or center islands.
- Raised areas that are constructed in the center portion of a roadway, serving as a place of refuge for people who cross the road mid-block or at an intersection.
- Allows pedestrians and bicyclists to concentrate their attention on one direction of traffic at a time while crossing the roadway.
- Refuges can drastically reduce pedestrian delay and vehicle conflicts by increasing the number of safe gaps that are available.
- A width of 8' or greater is preferred to allow storage space for a bicycle and to allow space for a level landing and truncated domes.

## Curb Extension



- Extends the sidewalk into the roadway to reduce the crossing distance of the roadway for pedestrians and pedestrian exposure to vehicular traffic.
- Provides visual cues to drivers that encourage them to reduce speeds and be aware of pedestrians and bicyclists.
- Improves intersection sight distance for vehicles and pedestrians since they restrict parking near the intersection.
- Provides additional space to construct ADA-compliant curb ramps.
- Can be used at intersections and mid-block crosswalks.
- Most appropriate in urban or town settings.

## Raised Crosswalk



- Combines a marked crosswalk with a speed table that extends the full width of the crossing.
- A speed table is a traffic calming device that raises the entire wheelbase of a motor vehicle. This type of vertical deflection can have a positive effect for bicyclists and pedestrians, as it reduces motor vehicle speeds.
- Typically used at midblock locations with marked crosswalks.
- Also good for locations with high bicycle and pedestrian activity, roundabout crossings, and locations where shared use paths cross commercial driveways or ramps.

## Pedestrian Hybrid Beacon (PHB)



- Formerly known as a High-intensity Activated crosswalk (HAWK), a PHB is a beacon installed at unsignalized locations to assist pedestrians in crossing a street at a marked crosswalk.
- Warns and controls traffic with the use of two side-by-side red lenses and a single yellow below the red.
- Most effective at locations where signs and markings do not provide adequate safety measures and/or where installation of a conventional traffic signal is unwarranted and/or cost prohibitive.

## Rectangular Rapid Flashing Beacon (RRFB)



- A crossing enhancement at uncontrolled intersections that can be activated manually by a pedestrian pushbutton or by a pedestrian detection system.
- Typically includes one RRFB device on each end of a crosswalk with two rapidly and alternatively flashing rectangular yellow indications attached to a pole supplementing the pedestrian warning sign or school crossing sign at a crosswalk.
- Most effective on roadways with volumes less than 12,000 vehicles per day and with speeds less than 40 mph.
- Can reduce vehicle-pedestrian crashes by 47%

For additional treatment resources, visit the [KDOT Active Transportation Resources website](#).