

RECTANGULAR RAPID FLASHING BEACON (RRFB)

Purpose

Increase driver yielding to pedestrians at mid-block crossings.

Description

Bright, irregularly flashing LEDs, mounted with pedestrian crossing signs, which increase pedestrian visibility to drivers at uncontrolled crossings.

Estimated Cost



Applicable Street Types

- Downtown Boulevard
- Downtown Street
- Boulevard
- Town Center Street
- Neighborhood Connector
- Neighborhood Street
- Neighborhood Yield Street
- Industrial Street
- Country Connector
- Country Road

Applicable Locations

RRFBs are a treatment option at many types of unsignalized pedestrian crossings, including at standard pedestrian, school, or trail crossings.

- RRFBs are particularly effective at multilane crossings with speed limits under 40 mph.⁴⁷
- Consider a Pedestrian Hybrid Beacon (PHB) for roadways with multiple lanes and higher speeds.

See Complete Street Guide for detailed list of acceptable speeds, volumes and lanes that Montgomery County would consider the use of an RRFB.





Safety Benefits

- Increases driver yielding.
- May increase effectiveness of other safety treatments, such as advance yield markings with “YIELD HERE FOR PEDESTRIAN” signs.
- More effective than traditional overhead beacons.⁴⁸
- At multilane crossings, multiple threat crashes still exist.

Expected Crash Reduction

47 percent for vehicle-pedestrian crashes.⁴⁹

Design Guidance

- Place on both sides of an uncontrolled crosswalk.
- If pole-mounted, place below a W11-2 (Pedestrian), S1-1 (School), or W11-15 (Trail) crossing warning sign and above a diagonal downward arrow (W16-7P) plaque.
- May also be used with an overhead-mounted W11-2, S1-1, or W11-15 crossing warning sign, located at or immediately adjacent to an uncontrolled marked crosswalk.

- If sight distance approaching the crosswalk is limited, an additional RRFB may be installed on the approach with a post-mounted W11-2, S1-1, or W11-15 sign with an AHEAD (W16-9P) or distance (W16-2P or W16-2aP) plaque. Consider other treatments in these locations.

Considerations

- RFBs should not be used in conjunction with “Yield,” “Stop,” or traffic signal control (except at roundabouts).
- If multiple RRFBs are needed in close proximity, consider redesigning the roadway to address systemic safety challenges.
- Other treatments may be more appropriate in locations with sight distance constraints.

Systemic Safety Potential

Spot treatment or targeted systemic locations, such as trail or school crossings are appropriate. Broad application suggests other treatments such as speed reduction or roadway redesign may be necessary.

Additional Information

- Montgomery County Complete Streets Design Guide
- FHWA Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations
- Maryland Manual on Uniform Traffic Control Devices