

# Pedestrian Refuge Island

SAFE TRANSPORTATION  
FOR EVERY PEDESTRIAN


COUNTERMEASURE TECH SHEET



A pedestrian refuge island is a median with a refuge area that is intended to help protect pedestrians who are crossing a multilane road. This countermeasure is sometimes referred to as a crossing island, refuge island, or pedestrian island. The presence of a pedestrian refuge island at a midblock location or intersection allows pedestrians to focus on one direction of traffic at a time as they cross, and gives them a place to wait for an adequate gap in oncoming traffic before finishing the second phase of a crossing.

Refuge islands are highly desirable for midblock pedestrian crossings on roads with four or more travel lanes, especially where speed limits are 35 mph or greater and/or where annual average daily traffic (AADT) is 9,000 or higher. They are also a candidate treatment option for uncontrolled pedestrian crossings on 3-lane or 2-lane roads that have high vehicle speeds or volumes. When installed at a midblock crossing, the island should be supplemented with a marked high-visibility crosswalk.

 The combination of a long crossing distance and multiple lanes of oncoming traffic can create an unsafe pedestrian environment.

 A pedestrian refuge island can improve safety and comfort by providing pedestrians with the option of waiting in the median area before beginning the next stage of the crossing.

Pedestrian refuge islands can reduce pedestrian crashes by

**32%**



## FEATURES:

- Median can enhance visibility of the crossing and reduce speed of approaching vehicles.
- Refuge area provides a place to rest and reduces the amount of time a pedestrian is in the roadway

## OFTEN USED WITH:

- Crosswalk visibility enhancements
- Curb extensions (where road width allows)

# Pedestrian Refuge Island

EDC-4 STEP: [https://www.fhwa.dot.gov/innovation/everydaycounts/edc\\_4/step.cfm](https://www.fhwa.dot.gov/innovation/everydaycounts/edc_4/step.cfm)



Asheville, NC. Photo: Lyubov Zuyeva, pedbikeimages.org

## CONSIDERATIONS

The design must accommodate pedestrians with disabilities. Islands should be at least 4 feet wide (preferably 8 feet) and of adequate length to allow the anticipated number of pedestrians to stand and wait for gaps in traffic before crossing. The cut-through must include detectable warnings if island width is at least 6 feet.

Islands should be illuminated or highlighted with street lights, signs, and/or reflectors to ensure that they are visible to motorists. They can be constructed so that crossing pedestrians are directed to the right, so they can more easily view oncoming traffic after they are halfway through the crossing. If applicable, evaluate the impact of the island on bicycle facility design.

## COST

The cost of a median island depends on its size and construction materials. The costs range from \$2,140 to \$41,170 per island, depending on the length of the island, with an average cost of \$13,520. The average cost per square foot is approximately \$10. Costs will be higher for concrete islands versus asphalt islands, though the lifespan of concrete is longer compared to the lifespan of asphalt. Cost reductions may be realized if the refuge island can be incorporated into planned roadway improvements or utility work.

## References

Zegeer, C., R. Srinivasan, B. Lan, D. Carter, S. Smith, C. Sundstrom, N.J. Thirsk, J. Zegeer, C. Lyon, E. Ferguson, and R. Van Houten. (2017). NCHRP Report 841: Development of Crash Modification Factors for Uncontrolled Pedestrian Crossing Treatments. Transportation Research Board, Washington, D.C.

Federal Highway Administration. (2013). "Crossing Islands" in PEDSAFE: Pedestrian Safety Guide and Countermeasure Selection System. Available: [http://www.pedbikesafe.org/PEDSAFE/countermeasures\\_detail.cfm?CM\\_NUM=6](http://www.pedbikesafe.org/PEDSAFE/countermeasures_detail.cfm?CM_NUM=6)

Federal Highway Administration. "Medians and Pedestrian Crossing Islands in Urban and Suburban Areas." Proven Safety Countermeasures. Available: [https://safety.fhwa.dot.gov/provencountermeasures/fhwa\\_sa\\_12\\_011.cfm](https://safety.fhwa.dot.gov/provencountermeasures/fhwa_sa_12_011.cfm)

Bushell, M., Poole, B., Zegeer, C., & Rodriguez, D. (2013). Costs for Pedestrian and Bicyclist Infrastructure Improvements: A Resource for Researchers, Engineers, Planners, and the General Public. Pedestrian and Bicycle Information Center.