NCHRP 17-113 COUNTERMEASURES

Install Raised Median with or without Marked Crosswalk (Uncontrolled)

INTERSECTIONS

Installing a raised median at uncontrolled locations involves placing a physical, often landscaped or curbed, island in the center of a roadway to separate opposing traffic and provide a refuge area for pedestrians

Implementation Strategy

How and Where to Apply

- Install raised medians during corridor redesigns to provide pedestrian refuge and reduce crossing conflicts on multilane roads.
- Apply at midblock or unsignalized locations with high pedestrian demand, crash history, or limited safe crossing opportunities.
- Best suited for uncontrolled crossings on multi-lane roads with high traffic volumes; avoid on high-speed roads or complex intersections where visibility is poor and no additional safety measures are present.

Use in a Safe System Approach

This countermeasure supports Safer Roads element of the Safe System Approach by accommodating human mistakes and vulnerabilities. By separating opposing traffic and providing pedestrians a refuge space, it builds redundancy and upholds the principle that death and serious injuries are unacceptable.

Key Stakeholders

State DOTs, MPOs, engineering consultants, construction contractors, business owners, community associations.

Proactive Implementation

Proactive implementation involves identifying high-risk pedestrian corridors through crash data, speed studies, and community input, then installing raised medians before serious incidents occur. Agencies can integrate median construction into scheduled roadway resurfacing or reconstruction projects, ensuring cost-effectiveness and timely delivery. This forward-thinking approach enhances safety without waiting for crash thresholds to be met.

Countermeasure Overview

Objective: Reduce Pedestrian Exposure to Vehicular Traffic
Strategy: Construct Pedestrian Refuge Islands and Raised Medians.

Selected Related Countermeasures

- CM1 Rectangular Rapid Flashing Beacons (RRFBs)
- CM2 Pedestrian Hybrid Beacons (PHBs)
- CM3 High-Visibility Crosswalk Markings

Cost: $$$$ (High)
Service Life: 20 years

Targeted Solution

CONTRIBUTING FACTORS	Risky crossing behavior
TARGET CRASH TYPE	Crossing-related
ROAD FACILITY TYPE	Minor Arterial
AREA TYPE	Urban, Suburban

Safety Linkage

NCHRP 500 Series	Unsignalized Intersection
AASHTO'S TOWARD ZERO DEATHS	Safer Infrastructure
SAFE SYSTEM APPROACH	Safe Roads
SAFE SYSTEM ROADWAY DESIGN	Tier 1

Raised Median with or without Marked Crosswalk. Source: VHB.

Safety Benefits

29% Reduces all types of crashes and severity levels A, B, and C on urban and suburban minor arterial roads (CMF ID: 9014)

28% Reduces rear end and sideswipe crashes and A, B, C severities on urban and suburban minor arterial roads (CMF ID: 9016)

Resources

- FHWA Proven Safety Countermeasures
- NCHRP Report 562, Page 77
- AASHTO Pedestrian Guide