NCHRP 17-113 COUNTERMEASURES

Protective Blisters on Corners

PEDESTRIANS AND BICYCLISTS

Protective blisters on corners are raised or extended curb areas at intersections that physically separate pedestrians from vehicle traffic and shorten crossing distances

Implementation Strategy

How and Where to Apply

- Implement protective blisters at intersections with high pedestrian volumes, frequent crossings, or a history of pedestrian-vehicle crashes to provide greater separation from traffic and enhance waiting areas.
- Prioritize locations on urban corridors, near schools, at transit stops, and at intersections with wide crossing distances where pedestrians are most vulnerable and visibility is a concern.
- Coordinate installation with curb ramp improvements and ensure ADA compliance, providing accessible, safe, and convenient pedestrian paths for all users.

Use in a Safe System Approach

Protective blisters on corners support the Safe System Approach by improving road design (Safe Roads) to separate pedestrians from vehicle traffic and shorten crossing distances. This treatment enhances safety for vulnerable road users (Safe Road Users) by increasing visibility and reducing exposure to traffic at intersections.

Key Stakeholders

City and transportation agencies, urban planners and engineers, pedestrian advocacy groups.

Proactive Implementation

Proactive implementation involves identifying intersections with high pedestrian volumes, frequent crossings, or a history of pedestrian crashes for the installation of protective blisters. Agencies should use crash data, field observations, and community input to prioritize locations and coordinate improvements with ongoing roadway or accessibility projects.

Countermeasure Overview

Objective: Reduce Pedestrian Exposure to Vehicular Traffic

Strategy: Provide Vehicle Restriction/Diversion Measures

Targeted Solution

CONTRIBUTING FACTORS	▪ Reduced visibility ▪ vehicle encroachment into
TARGET CRASH TYPE	▪ Encroachment -related
ROAD FACILITY TYPE	▪ Not specified
AREA TYPE	▪ Urban and Suburban

Safety Linkage

NCHRP 500 Series	SAFE SYSTEM APPROACH
Pedestrian and Bicyclists	Safe Road Users
AASHTO'S TOWARD ZERO DEATHS	SAFE SYSTEM ROADWAY DESIGN
Safer Vulnerable Users	TIER 1 TIER 2 TIER 3 TIER 4 Tier 2

Selected Related Countermeasures

- CM1 Curb extensions for visibility
- CM2 Pedestrian refuge islands
- CM3 Raised crosswalks for safety

Cost: $ (Moderate)

Service Life: 20 years

Safety Benefits

Shortens pedestrian crossing distance and improves visibility at intersections.

Resources

- Pedestrian Safety Guide and Countermeasure Selection System