

Table 5. Pedestrian Design Matrix

Design Treatments ⁿ	Street Types					Overlays				Implementation Feasibility ⁺	FHWA Proven Safety Countermeasure [§]
	Neighborhood Street	Neighborhood Connector	Business Main Street	Business Commercial Street	Gateway	School	Transit	Community Destinations	Truck	III = High; II = Medium; I = Low; ° = Low-cost, rapid implementation option available	
Key: <input checked="" type="checkbox"/> = Permitted; <input type="checkbox"/> = May be appropriate to use, based upon further review, if permitted in overlay or street type, or if other treatments are not effective; - = Not recommended or not appropriate for street type											
Crossing Treatments											
Curb extension	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	III°	✓
Median refuge island ¹	-	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	III°	✓
In-street pedestrian crossing sign (paddle sign) ²	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	I	✓
Mid-block crossing	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	III°	✓
Pedestrian Hybrid Beacon (PHB) ³	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	III	✓
Rectangular Rapid Flashing Beacon (RRFB) ³	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	II	✓
High-visibility crosswalk marking (i.e., ladder- or continental-style markings)	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	I	✓
Raised crossing ⁴	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	-	-	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-	II	✓
Crosswalk visibility enhancements (advance yield lines, pedestrian yield sign)	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	I	✓
Truck apron	-	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	II°	
Parking prohibition (red curb) near intersection (“Daylighting”)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	I°	✓
Daylighting with vertical elements to discourage parking	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	I°	✓
Pedestrian signal and leading pedestrian interval ⁵	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	II/III°	✓
Pedestrian scramble	-	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	III°	✓
Modern Roundabout	-	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	III	✓
Corridor Treatments											
Street lighting	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	III	✓
Sidewalks	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	III	
Vertical traffic calming (e.g., speed humps and cushions)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-	-	-	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	-	II	
Horizontal traffic calming ²	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-	-	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	-	II°	
Neighborhood traffic circle ²	<input checked="" type="checkbox"/>	-	-	-	-	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	-	II°	✓

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Lower speed limits (20 mph or 15 mph)	<input checked="" type="checkbox"/>	<input type="checkbox"/>	-	-	-	<input checked="" type="checkbox"/>	-	-	-	II	
Road diet (4 lanes to 3 or 2)	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	III°	✓
Partial traffic diverters (limiting through and left turns) ⁶	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	-	-	<input type="checkbox"/>	-	<input type="checkbox"/>	-	II°	
Streetscape Improvements											
Trees/planter strip	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	I/III	
Green infrastructure (e.g., bio-retention areas)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	III	
Bus stop amenities (e.g., benches and shelters) ⁷	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	II	
Bus bulb-outs	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	III°	
Street furniture (e.g., benches, art, water fountains and recycling bins)	-	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	I/II	
Pedestrian-scale lighting	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	III	✓
Above-ground planters and potted plants	-	-	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	-	I	
Sidewalk seating and dining	-	-	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	-	I	
Parklets	-	-	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	-	II	
Decorative/painted intersections and crosswalks	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	I	
Pedestrian-oriented wayfinding	-	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	-	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	-	I	
Pedestrian plazas and closed streets	-	-	<input checked="" type="checkbox"/>	-	-	<input type="checkbox"/>	-	-	-	II°	

Notes

ⁿ See Appendix F. Pedestrian and Bicycle Facility Types for more information on some of the treatments listed in this table.

⁺ Tiers of implementation feasibility are defined by timeframe, financial cost, and impact to right-of-way.

[§] Federal Highway Administration (FHWA) Proven Safety Countermeasures are treatments that have been scientifically studied and evaluated to offer safety benefits for road users.

¹ Preferable on streets with operating speeds of at least 30 mph unless in a school or community destination overlay.

² Mostly applicable on streets with posted speeds 25 mph or less. “Horizontal traffic calming” includes treatments such as neckdowns that create a yield condition or chicanes that force automobiles to slow speeds for a winding path of travel.

³ In general, PHBs are reserved for crossings with three or more travel lanes and roadways with 30+ mph posted speeds or higher motor vehicle volumes (9,000+ ADT) and RRFBs are used on one- or two-lane crossings typically with lower motor vehicle volumes and/or 35 mph posted speeds or less. RRFBs should be supplemented with a median crossing island on streets with four or more total travel lanes. Near schools, high-visibility crosswalks can be accompanied by RRFBs and multi-lane (3 or more travel lanes) crossings can be treated with PHBs instead of RRFBs.

⁴ Applicable on streets with posted speeds 30mph or less, ADT 9,000 or less, and less than four lanes.

⁵ Leading pedestrian intervals are recommended at signalized intersections with high pedestrian volumes and high conflicting turning vehicle volumes; pedestrian signals should be applied per CA-MUTCD standards.

⁶ Any possible traffic diversion would be evaluated prior to construction.

⁷ Transit stop improvements are only applicable along transit routes. Prioritize bus shelters at bus stops with the highest ridership.

Sources: Federal Highway Association. *Field Guide for Selecting Countermeasures at Uncontrolled Pedestrian Crossing Locations*. 2018. Transportation Research Board. *NCHRP 15-63: Guidance to Improve Pedestrian and Bicycle Safety at Intersections*. 2020.