Table 1. Pedestrian Design Matrix

Design Treatments <sup>n</sup>		Overlays				Implementation Feasibility †	FHWA Proven Safety Countermeasure <sup>§</sup>				
	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: ☑ = Permitted; □ = May be app	propriate to use, bas	sed upon further rev	iew, if permitted in ove	rlay or street type, or if	other treatments are	not effective; - = N	ot recommende	ed or not appropriate for	street type		
Crossing Treatments											
Curb extension		$\square$	$\square$	☑		☑		Ø		III°	✓
Median refuge island <sup>1</sup>	-	Ø				☑		Ø		III°	✓
In-street pedestrian crossing sign (paddle sign) <sup>2</sup>	Ø	Ø	Ø	Ø	-	Ø	Ø	Ø	-	I	✓
Mid-block crossing	-		$\square$	-	-	Ø	Ø	$\square$		III°	✓
Pedestrian Hybrid Beacon (PHB) <sup>3</sup>	-					Ø				III	✓
Rectangular Rapid Flashing Beacon (RRFB) <sup>3</sup>	-				-	Ø				II	✓
High-visibility crosswalk marking (i.e., ladder- or continental-style markings)	-	Ø	Ø	团	Ø	Ø	Ø	团	Ø	I	<b>✓</b>
Raised crossing <sup>4</sup>	$\square$			-	-	<b>☑</b>		$\square$	-	II	✓
Crosswalk visibility enhancements (advance yield lines, pedestrian yield sign)	-	<b>Z</b>	Ø	<b>I</b>		Ø	☑	<b>I</b>	☑	ı	<b>✓</b>
Truck apron	-						Ø	-	☑	II°	
Parking prohibition (red curb) near intersection ("Daylighting")	Ø	Ø		Ø	Ø	Ø	Ø	Ø	Ø	I°	<b>✓</b>
Daylighting with vertical elements to discourage parking		☑				Ø				I°	✓
Pedestrian signal and leading pedestrian interval <sup>5</sup>	-	Ø	Ø	$\square$	$\square$	Ø	Ø	$\square$	Ø	II/III°	✓
Pedestrian scramble	-				-	Ø				III°	✓
Modern Roundabout	-	Ø		Ø	☑	Ø		Ø	Ø	III	✓
Corridor Treatments											
Street lighting	Ø	$\square$	Ø	$\square$	$\square$	Ø	Ø	$\square$	Ø	III	✓
Sidewalks	$\square$	$\square$			$\square$		$\square$		Ø	III	

Design Treatments <sup>n</sup>	Street Types						Overlays				FHWA Proven Safety Countermeasure§
	Neighborhood Street	Neighborhood Connector	Business Main Street	Business Commercial Street	Gateway	School	Transit	Community Destinations	Truck	<ul><li>III = High; II =</li><li>Medium; I = Low;</li><li>° = Low-cost, rapid implementation option available</li></ul>	
Key: ☑ = Permitted; ☐ = May be app	propriate to use, bas	sed upon further rev	riew, if permitted in ove	rlay or street type, or if	other treatments are	e not effective; - = N	ot recommende	ed or not appropriate fo	r street type		
Vertical traffic calming (e.g., speed humps and cushions)	Ø		-	-	-	Ø	-	Ø	-	II	
Horizontal traffic calming <sup>2</sup>	Ø	$\square$		-	-	$\square$	-	Ø	-	II°	
Neighborhood traffic circle <sup>2</sup>	Ø	-	-	-	-	$\square$	-	Ø	-	II°	✓
Lower speed limits (20 mph or 15 mph)	☑		-	-	-	Ø	-	-	-	II	
Road diet (4 lanes to 3 or 2)	-	$\square$	$\square$	$\square$		$\square$		Ø		III°	✓
Partial traffic diverters (limiting through and left turns)	Ø	Ø	-	-	-		-		-	II°	
Streetscape Improvements											
Trees/planter strip	Ø	Ø	Ø	Ø	Ø	$\square$	$\square$	Ø	$\square$	III	
Green infrastructure (e.g., bioretention areas)	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	Ø	III	
Bus stop amenities (e.g., benches and shelters) <sup>7</sup>	-	Ø	abla	Ø	☑	Ø	Ø	Ø	Ø	II	
Bus bulb-outs	-	$\square$	$\square$		Ø	$\square$	$\square$	Ø		III°	
Street furniture (e.g., benches, art, water fountains and recycling bins)	-		Ø	-	Ø	Ø		<b>☑</b>		1/11	
Pedestrian-scale lighting	Ø			-		$\square$	$\square$	$\square$	-	III	✓
Above-ground planters and potted plants	-	-		-	Ø	-			-	I	
Sidewalk seating and dining	-	-		-	Ø	-			-	I	
Parklets	-	-		-	$\square$	-			-	II	
Decorative/painted intersections and crosswalks			Ø	-			Ø	Ø		I	
Pedestrian-oriented wayfinding	-				团	-	Ø	Ø	-	I	
Pedestrian plazas and closed streets	-	-		-	-		-	-	-	ll°	

## Notes

<sup>&</sup>lt;sup>n</sup> See Appendix G. Pedestrian and Bicycle Facility Types for more information on some of the treatments listed in this table.

<sup>+</sup> 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.

- <sup>1</sup>Preferable on streets with operating speeds of at least 30 mph unless in a school or community destination overlay.
- <sup>2</sup> 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.
- <sup>3</sup> 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.
- <sup>4</sup> Applicable on streets with posted speeds 30mph or less, ADT 9,000 or less, and less than four lanes.
- <sup>5</sup>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.
- <sup>6</sup> Any possible traffic diversion would be evaluated prior to construction.
- <sup>7</sup>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.