

Table 3: Uncontrolled Crossing Treatments (in conjunction with markings and signs)

Treatment	Advantages	Disadvantages	Recommended Locations	Stage Pedestrian Yield Rate	Unaided Pedestrian Yield Rate	Cost
Center Median with Refuge Island	<ul style="list-style-type: none"> Decreases pedestrian crossing distance Provides higher pedestrian visibility Reduces vehicle speeds approaching the island Reduces conflicts Increases usable gaps Reduces pedestrian exposure time 	<ul style="list-style-type: none"> May make snow removal more difficult May be a hazard for motorists Small islands not recommended on high-speed roadways (>40 mph) 	<ul style="list-style-type: none"> Wide, two-lane roads and multilane roads with sufficient right-of-way 	34%	29%	Variable depending on length
Signal Crossing (Guards)	<ul style="list-style-type: none"> Inexpensive Provides higher pedestrian visibility Highlights when a pedestrian crossing is being used 	<ul style="list-style-type: none"> May require trained staff or local law enforcement, especially on high-speed and high-volume roadways 	<ul style="list-style-type: none"> At school locations 	NR	86%	Variable
Pedestrian Crossing Flags	<ul style="list-style-type: none"> Inexpensive Provides higher pedestrian visibility to drivers assuming the flag is held in a noticeable location 	<ul style="list-style-type: none"> No effect at night Requires pedestrians to actively use a flag Can be easily removed/stolen Shorter crossings are preferred 	<ul style="list-style-type: none"> Downtown/urban locations High pedestrian volume locations Across low-speed (<45mph) roadways 	65%	74%	<\$500
Warning Sign with Side Mount LED	<ul style="list-style-type: none"> Highlights a crossing both at night and during the day 	<ul style="list-style-type: none"> Requires pedestrian activation Minimal to no effect on speed 	<ul style="list-style-type: none"> In conjunction with in-road warning lights Downtown/urban conditions 	NR	28%	\$3,000-\$8,000
In-Road Warning Lights	<ul style="list-style-type: none"> Highlights a crossing both at night and during the day Provides higher driver awareness when a pedestrian is present 	<ul style="list-style-type: none"> Snowplows can cause maintenance issues No effect when road surface is snow covered Requires pedestrian activation 	<ul style="list-style-type: none"> Downtown/urban conditions 	NR	66%	\$20,000-\$40,000
Pedestrian Mounted Pedestrian Flashing Signal Beacons	<ul style="list-style-type: none"> Provides higher driver awareness when a pedestrian is present 	<ul style="list-style-type: none"> Requires pedestrian activation Not advisable on multilane streets Not shown to reduce crashes 	<ul style="list-style-type: none"> Low-speed school crossings Two-lane roads Midblock crossing locations 	NR	57% (two-lane, 35mph)	\$12,000-\$18,000
Pedestrian Overhead Flashing Signal Beacons	<ul style="list-style-type: none"> Provides higher driver awareness when a pedestrian is present 	<ul style="list-style-type: none"> Requires pedestrian activation 	<ul style="list-style-type: none"> Multilane roadways Mid-block crossing locations Lower speed roadways 	active 47% passive 31%	active 49% passive 67%	\$75,000-\$150,000
Rectangular Rapid Flash Beacons (RRFBs)	<ul style="list-style-type: none"> Provides higher driver awareness when a pedestrian is present Increases yielding percentage Increases usable gaps Reduces probability of pedestrian risk taking Can be seen from 360 degrees 	<ul style="list-style-type: none"> Requires pedestrian activation 	<ul style="list-style-type: none"> Supplement existing pedestrian crossing warning signs School crossings Midblock crossing locations Low- and high-speed roadways 	84%	81%	\$12,000-\$18,000

NR = No research found on effect to yielding rate