

Pedestrian Project Toolkit

Updated 2021

For Pedestrian and Neighborhood Projects

This toolkit describes the engineering strategies the Seattle Department of Transportation commonly uses to make streets safer and more comfortable for pedestrians.

Safety Improvements

-  ↓ Reduced Pedestrian Collisions
-  ↓ Reduced Collisions
-  ↓ Reduced Turning Collisions
-  ↓ Reduced Speed
-  ↑ Increased Driver Yielding

Estimated Cost

-  < \$20,000.00
-  \$21,000.00 - \$100,000.00
-  > \$100,000.00

Accessibility

-  ADA Infrastructure

Installation Timeline

-  0-1 Years
-  1 -3 Years
-  3 + Years

Find more information at: www.seattle.gov/transportation/pedestrian



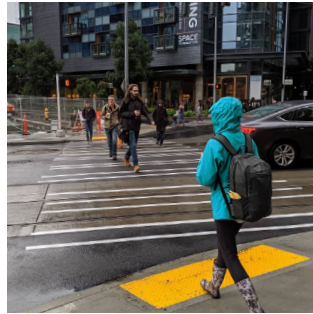
Seattle
Department of
Transportation

Pedestrian Project Toolkit: Crossings

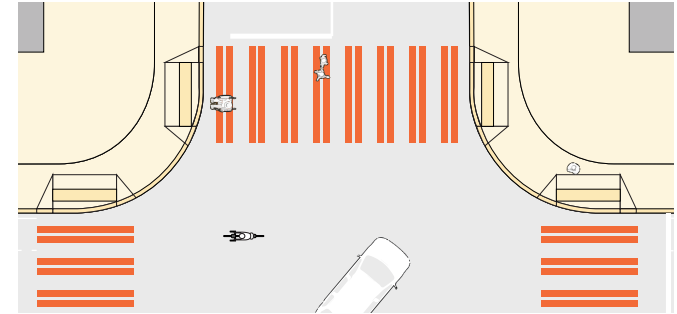
Crosswalk Marking



- Alerts drivers to frequent crossing locations
- For additional cost can include community designed artwork
- Includes signage to restrict parking 20 - 30' from crosswalk in order to improve visibility



8th Ave & Westlake Ave



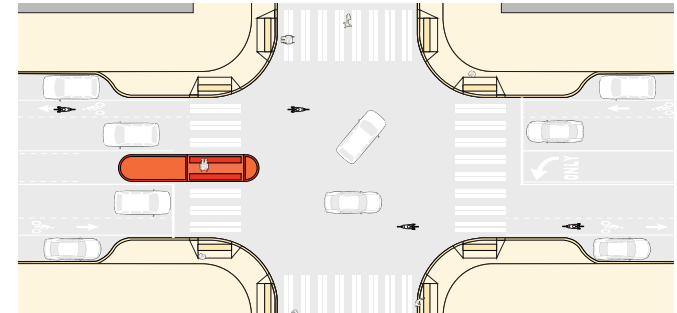
Pedestrian Refuge Island



- Provides a protected space for pedestrians to cross half the roadway and wait until it is safe to cross the remainder
- Used on roads with a center turn lane or parking lane



Boylston Ave E & E Olive Way



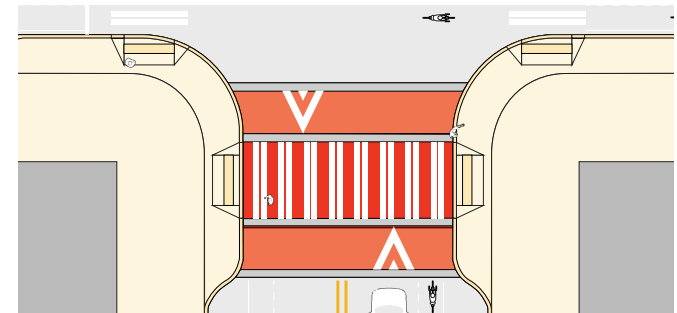
Raised Crosswalk



- Alerts drivers to pedestrians and slows vehicles with an elevated marked crosswalk



8th Ave



Pedestrian Project Toolkit: Curbs and Sidewalk

Sidewalk or Walkway



Cost Effective Walkway

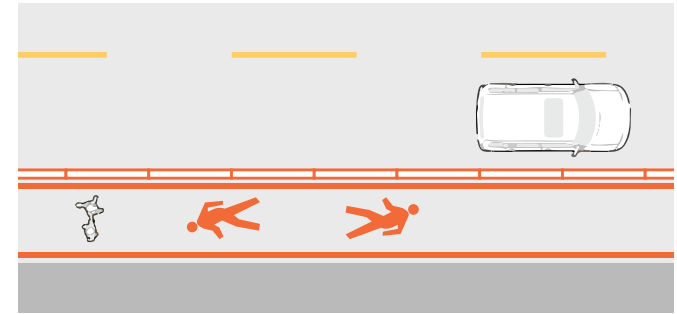
- Delineates pedestrian space from vehicles, can include paint, curb, planting, and paving.

Traditional Sidewalk

- Separates pedestrians from vehicles via a raised concrete walkway, curb, and planting strip.



N 113th St - Cost Effective Walkway



Cost Effective Walkway

Curb Bulb



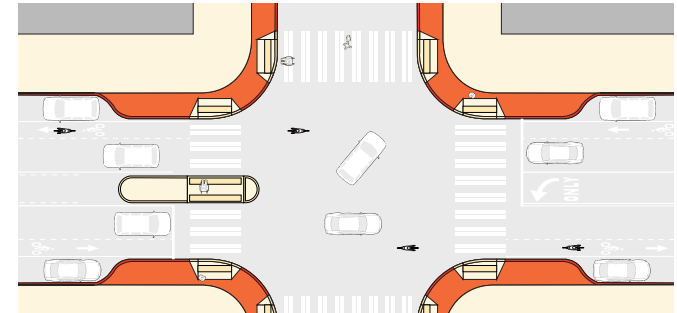
- Shortens the distance needed to cross the roadway
- Improves visibility of pedestrians waiting to cross
- Used on streets with a parking lane

Raised: more expensive, expands the sidewalk

Painted: less expensive, can include artwork



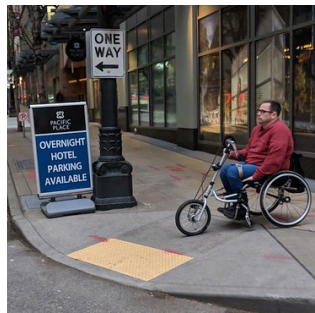
24th Ave S & E Yesler Way



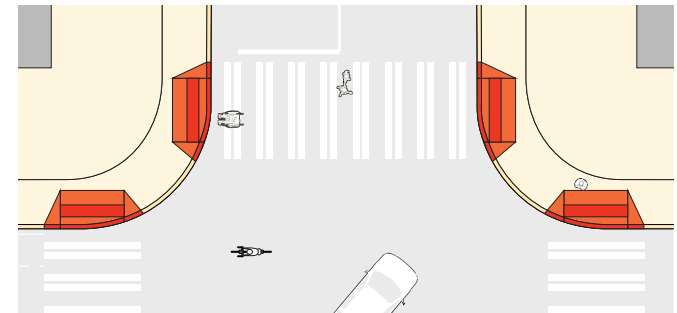
Curb Ramp



- Provides access to sidewalks for pedestrians using mobility devices
- Can be community requested through the SDOT ADA Program



7th Ave & Olive Way



Pedestrian Project Toolkit: Signals

Signal

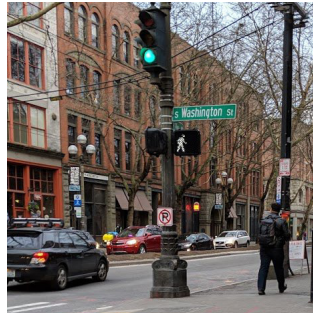


Full Signal

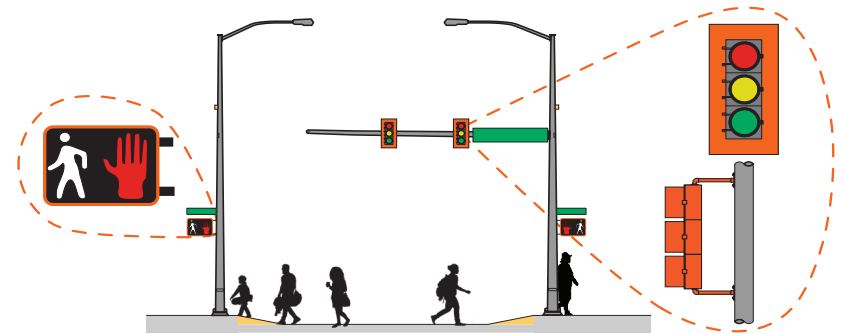
- Controls all vehicle and pedestrian movements at an intersection

Half Signal

- Stops vehicle traffic on the busier streets to allow pedestrians to cross



Pioneer Square



Accessible Pedestrian Signal



- Indicates whether walk sign is on or off, and intersection location, with signal and audio cues for pedestrians who are blind, have low vision, or are blind with other disabilities
- Can be community requested through the SDOT ADA Program



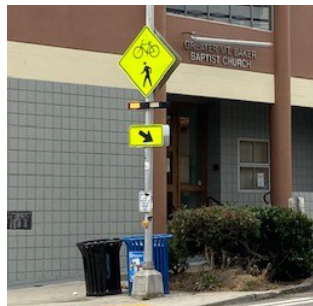
Westlake Ave N & Denny Way



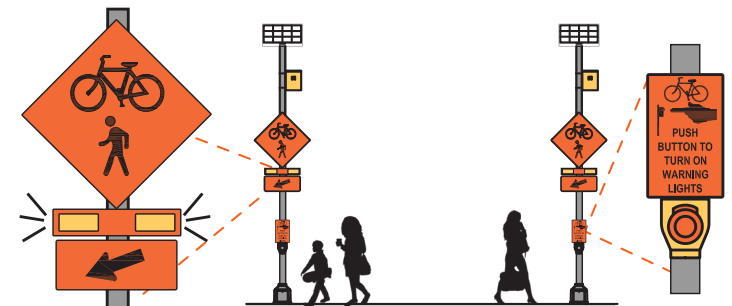
Rapid Flashing Beacon



- Blinking lights that turn on only when pedestrians or bicyclists push a button to cross the roadway
- Alerts drivers to pedestrian or bike activity on the road



25th Ave S & S Jackson St



Pedestrian Project Toolkit: Traffic Calming

Speed Control

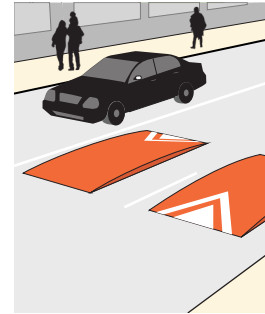


Speed Hump, Speed Cushion, Speed Table

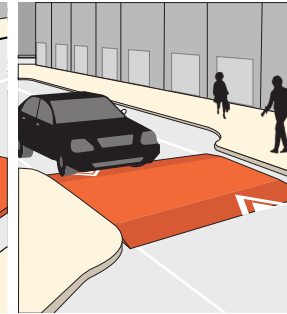
- Slows vehicles with mid-block rise in the roadway
- Speed cushions include cut outs to make it easier for emergency vehicles to pass through unhindered
- Best for streets that are steep



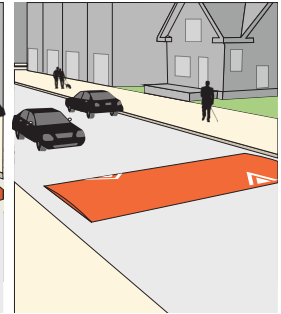
Highland Park Way SW



Speed Cushion



Speed Table



Speed Hump

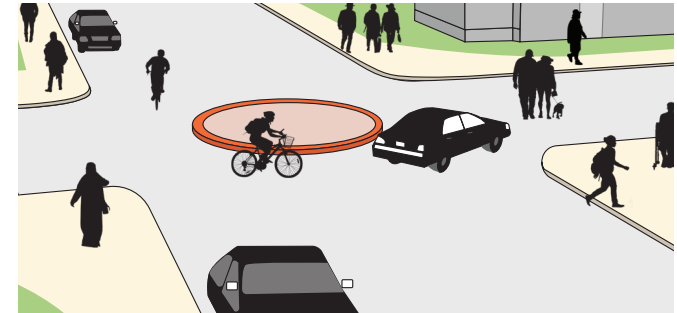
Traffic Circle



- Requires drivers to slow and look for cross traffic at the intersection of residential streets
- Used on residential streets to reduce collisions and slow traffic
- Can include landscaping maintained by neighbors



Meridian Ave N & N 36th St



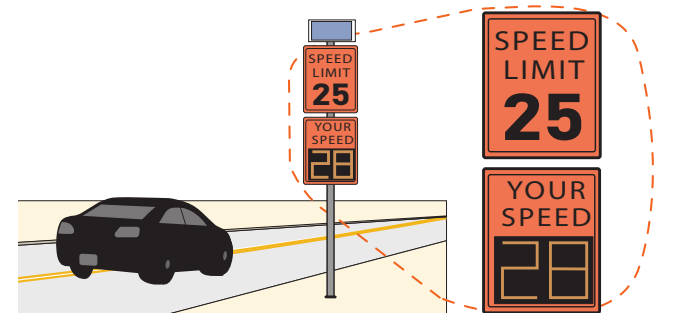
Radar Speed Feedback Sign



- Discourages speeding by displaying speed of passing vehicles on sign along roadway
- Best used on arterials and streets with a pattern of drivers traveling above the posted speed limit



Rainier Ave S & S Alaska St



Pedestrian Project Toolkit: Additional Tools

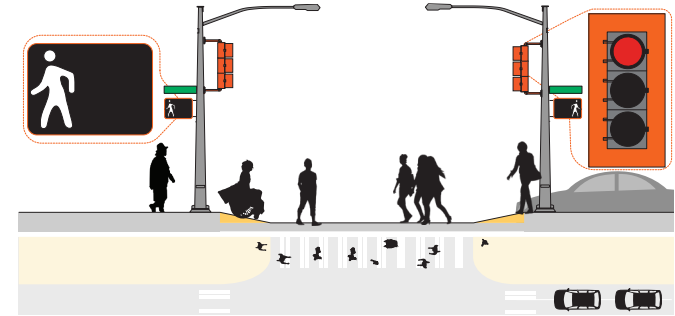
Leading Pedestrian Interval



- Provides pedestrians time to cross intersection without moving vehicles
- Walk sign turns on while vehicles still have a red light



MLK Jr Way & S Jackson St



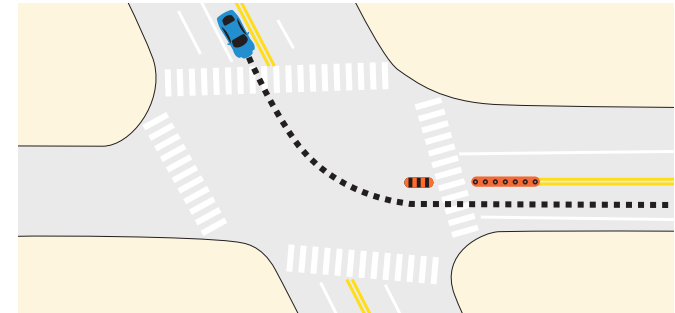
Hardened Center Line



- Slows vehicles making a left turn and improves visibility of pedestrians using the crosswalk
- Raised line separates vehicle lanes at intersection before and after crosswalk



Rainier Ave S & S Massachusetts St



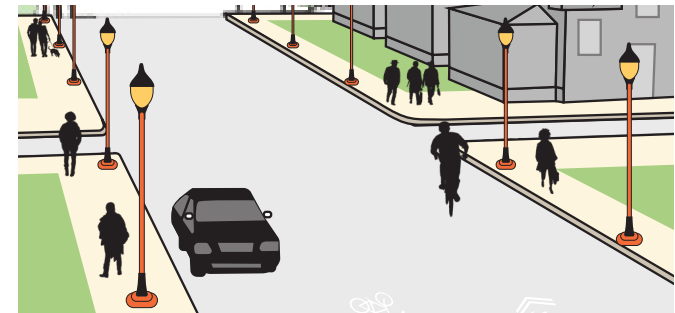
Pedestrian-Scale Lighting



- Brightens pedestrian spaces, improving visibility
- Typically shorter than traditional streetlights
- Can have a variety of designs to enhance sidewalks, parks, or other pedestrian-focused areas



Occidental St



Pedestrian Project Toolkit: Data Sources

Marked Crosswalk

Can reduce collisions by 20-40%

Source: Crash Modification Factors Clearinghouse (www.cmfclearinghouse.org)

Raised Crossing

Can reduce pedestrian collisions by 45%

Source: https://safety.fhwa.dot.gov/ped_bike/step/docs/techSheet_RaisedCW2018.pdf

Pedestrian Refuge Island

Can reduce pedestrian collisions by 55%

Source: <https://safety.fhwa.dot.gov/provencountermeasures/pedmedians/>

Sidewalks

Can reduce pedestrian collisions by 65-89%

Source: <https://safety.fhwa.dot.gov/provencountermeasures/walkways/>

Curb Bulbs

Can increase drivers yielding to pedestrians

Source: https://www.pedbikeinfo.org/cms/downloads/PedestrianLitReview_April2014.pdf#page=27&zoom=100,69,330

Signals

Half Signals: Can reduce pedestrian collisions by 55%

Source: https://safety.fhwa.dot.gov/provencountermeasures/ped_hybrid_beacon/

Flashing Beacon

Can reduce pedestrian collisions by 45%

Collision Source: Crash Modification Factors Clearinghouse (www.cmfclearinghouse.org)

Can increase drivers yielding to pedestrians by 350%

Yielding Source: <https://www.fhwa.dot.gov/publications/research/safety/pedbike/10046/index.cfm#:~:text=The%20average%20yielding%20during%20baseline,in%20yielding%20to%2087.8%20percent.>

Speed Control

Can reduce collisions by 40-50%

Source: Crash Modification Factors Clearinghouse (www.cmfclearinghouse.org)

Traffic Circle

Can reduce collisions by 30%

Source: <https://nacto.org/docs/usdg/fhwa-mini-roundabouts-technical-report.pdf>

Radar Feedback Signs

Can reduce collisions by 5%

Source: Crash Modification Factors Clearinghouse (www.cmfclearinghouse.org)

Can reduce speeds by 5-10%

Source: SDOT (Vision Zero) local study on West Marginal Way (2021)

Leading Pedestrian Interval

Can reduce turning collisions with pedestrian by 50%

Source: SDOT (Vision Zero) local study of LPI's

Hardened Center Lines

Can reduce turning speed by 10-16%.

Source: <https://www.portland.gov/sites/default/files/2020-07/left-turn-calming-evaluation-report.pdf>