Pedestrian Project Toolkit
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

Installation Timeline
- 0-1 Years
- 1-3 Years
- 3+ Years

Accessibility
- ADA Infrastructure

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

![Crosswalk Marking Image](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

![Pedestrian Refuge Island Image](Boylston Ave E & E Olive Way)

Raised Crosswalk

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

![Raised Crosswalk Image](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.

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

Curb Ramp

- Provides access to sidewalks for pedestrians using mobility devices
- Can be community requested through the SDOT ADA Program
Pedestrian Project Toolkit: Signals

**Signal**

- **55%**
- **$$$$**
- **Clock**
- **Handicap**

**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

**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

**Rapid Flashing Beacon**
- **45%**
- **Bike 350%**
- **$**
- **Clock**

- 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
Pedestrian Project Toolkit: Traffic Calming

**Speed Control**

40-50% MPH

**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

**Traffic Circle**

30%

- 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

**Radar Speed Feedback Sign**

5-10% MPH

- 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
Leading Pedestrian Interval

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

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

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
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%

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%

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%.