



Neighborhood Traffic Management

Need for Traffic Management

Do you ever get this call?

Me: Good morning, Public Works.

Caller: You need to do something about this traffic before somebody gets killed.

Me: Can you give me some details?

Caller: Everybody's driving too fast around here. We need some stop signs / a speed hump at [location of interest] .

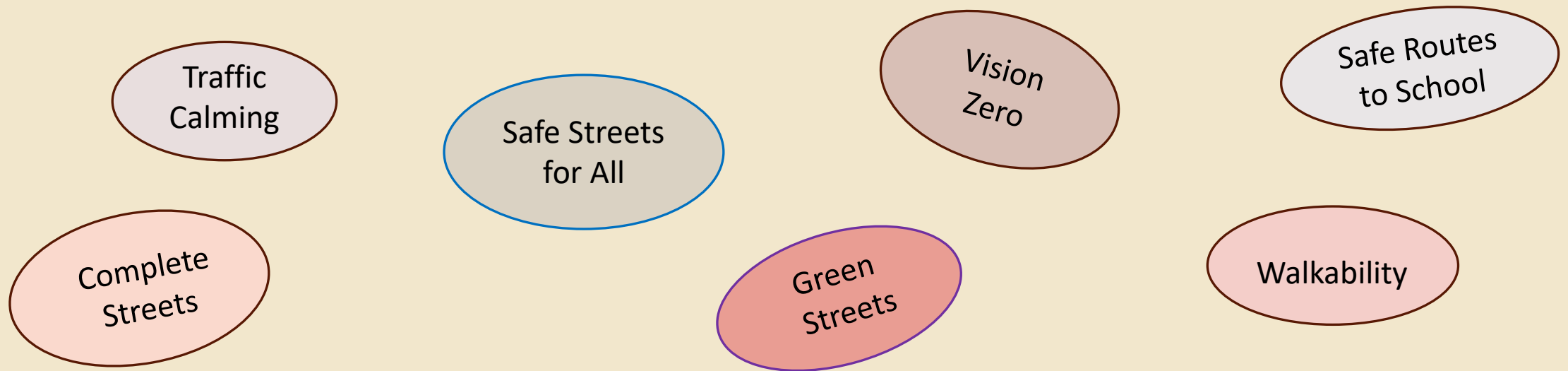
Me: Let's talk about our neighborhood traffic management program.



Image: Pexels, Moose Photos

What is Traffic Calming?

- Physical roadway measures intended to improve safety for motorists, pedestrians and cyclists.
- Primarily focused on reducing speeding and inattentive driving.
- Often considered with other, related programs:



Traffic Calming is not Traffic Control

- Traffic Signals and Stop Signs are intended to assign right-of-way to drivers at what may otherwise be a confusing or dangerous intersection.
- In the absence of traffic signals or stop signs, right-of-way is assigned by Statutory rules of the road.
- Warrants for consideration of signal or stop control are in Manual on Uniform Traffic Control Devices (MUTCD), which is a Federal law, adopted by Wisconsin with some changes.
- Traffic control devices have negative consequences, and they should only be installed where their benefit will outweigh their problems.

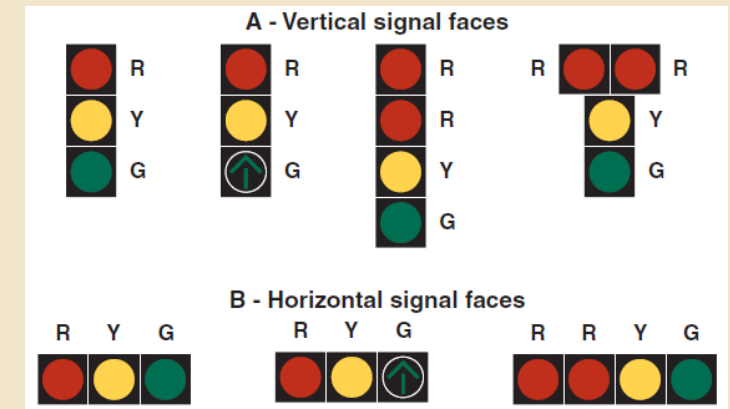


Image: MUTCD



Image: MUTCD

Traffic Calming is not Traffic Control

Stop Signs installed where not warranted:

- Most drivers are reasonable and prudent, but they may not respect a regulation they perceive to be unreasonable.
- Drivers may not always come to a full, complete stop if they perceive that a stop sign isn't necessary.
- Over time, drivers may train themselves not to stop at certain locations – leading to calls for police enforcement.
- Drivers may speed to make up for perceived wasted time. Stop signs don't slow down traffic.
- Unwarranted stop signs can lead to driver contempt at the same time as they may contribute to a sense of safety for pedestrians.



Image: New Holland, PA

Middleton's First Traffic Calming

2003 – Three areas of City streets

- Hired consultant to review traffic control & speed limits.
- Included neighborhood meetings for input and ideas.
- Installed temporary traffic calming devices to mimic permanent features.
- Neighborhood voted on planned changes.
- Sample results of balloting in one area:
 - 232 ballots sent.
 - 83 ballots returned (36% response).
 - 48 in favor / 35 opposed (58% of votes, 21% of ballots).



Image: Public Domain

Middleton's First Traffic Calming

- Lessons Learned:
 - Reduced percentage of excessive speeding, but didn't have much effect on 85% speeds.
 - Some residents really liked the traffic calming features.
 - Some people really disliked the traffic calming features.
 - Needed to set a higher threshold for balloting.
 - Perception of too much government involvement.
 - Aesthetics of temporary features may have skewed some votes.
 - Difficult to reach consensus if discussions are emotional / subjective.

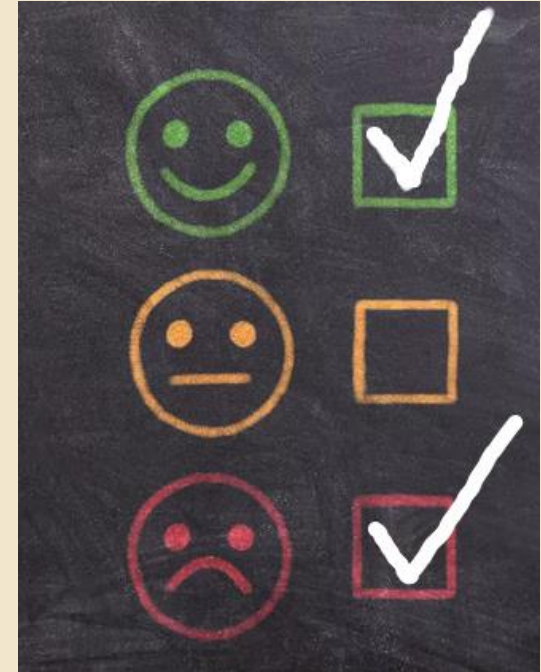
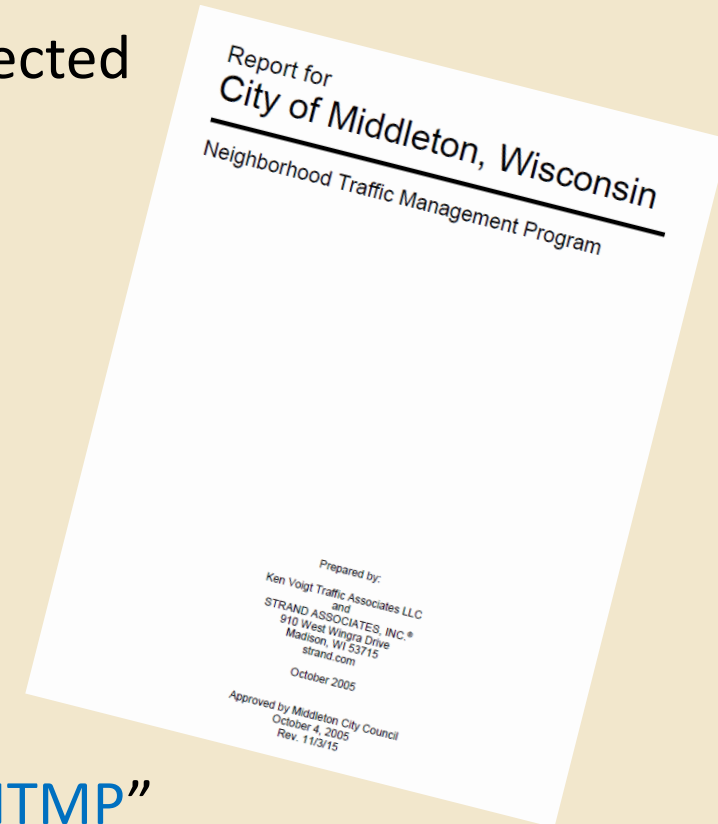


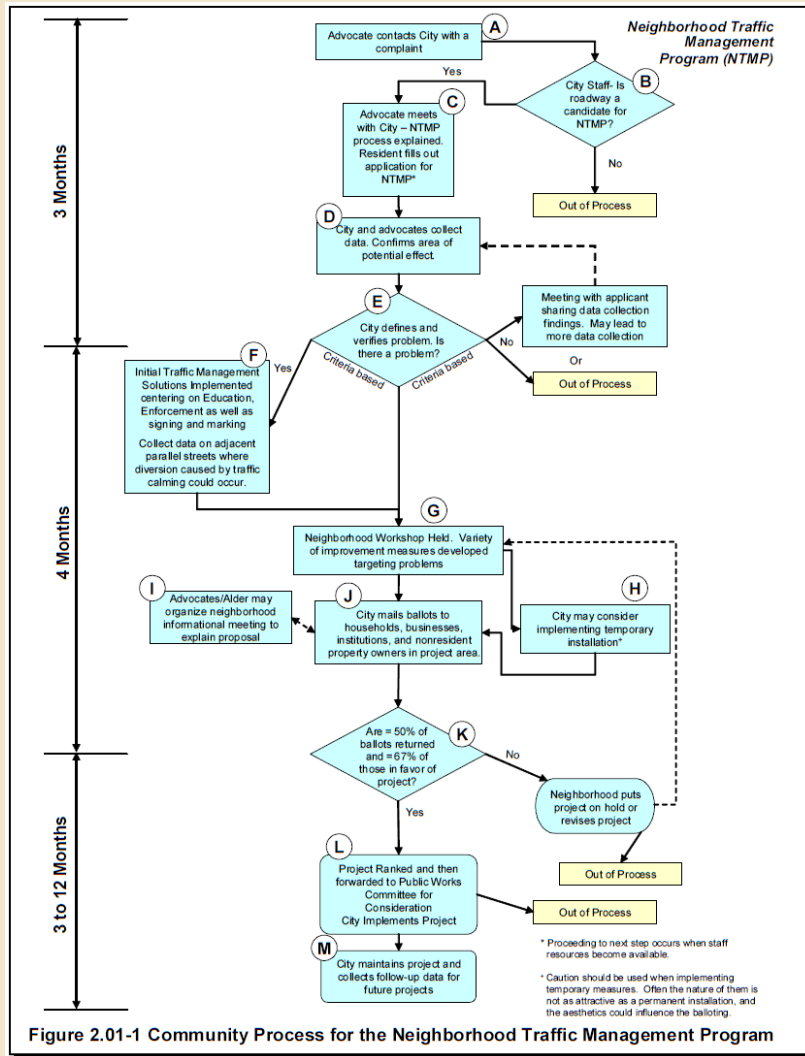
Image: Public Domain

Neighborhood Traffic Management Program

- Hired a consultant to develop a program for use by staff and elected officials.
 - Intended to be led by neighbors, with City staff support.
 - Intended to be data driven.
 - Intended to be easy to understand.
- Program adopted by Common Council in 2005.
 - Available to download from City of Middleton website
 - Search “[Neighborhood Traffic Management Program](#)” or “[NTMP](#)”



Neighborhood Traffic Management Program



Program Successes:

- Neighbor-led. No “favorites.”
- Data driven. Measurable “points.”
- Clarity of process flow and next steps.

Program Shortfalls:

- Time intensive. Can be iterative.
- Doesn’t require majority support.
- Can be divisive in neighborhoods.
- Disappointment in data outcomes can be directed toward elected officials.

Neighborhood Traffic Management Program

Speed Humps:

- By far, our most frequently requested feature.
- Love / Hate reactions.
- Use concrete instead of asphalt.
- Not favored for Fire / EMS / Metro / Sweeper vehicles.
- Avoid placing on hills or near driveways.
- Use in series if possible.



Image: NACTO

Neighborhood Traffic Management Program

Median Islands:

- Can help pedestrian refuge in wide roads.
- Slows traffic by narrowing lanes / diverting alignment.
- Raises driver awareness of crosswalk.
- Prevents passing / short turns at crosswalk.
- Leave enough width for plow blades.
- May need to reduce on-street parking.
- Expect some sign knock-downs.



Image: Traffic Calming Flickr Photoset, Wikimedia Commons

Neighborhood Traffic Management Program

Chokers, Curb Extensions, Bulb-Outs:

- Shorten pedestrian crossing distance.
- Improve sight lines for drivers & pedestrians.
- Difficult for snow removal with plows.
- Need to account for gutter drainage.
- May need to reduce on-street parking.
- Conflict with bike lanes if at curb lines.



Image: Center for Transportation Research and Education

Neighborhood Traffic Management Program

Traffic Circle:

- Heightens driver awareness of intersection.
- Opportunity for landscaping.
- Difficult for long-wheelbase vehicles.
- Reduce on-street parking.
- Some drivers may swerve around island, potentially into crosswalks.

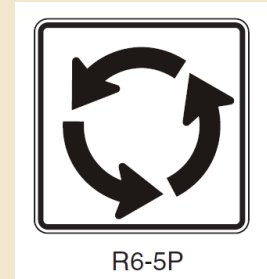


Image: New York City Street Design Manual

Neighborhood Traffic Management Program

- Lessons Learned with our NTMP:
 - Frustration that the process requires so much neighbor involvement.
 - Neighbor groups often want to skip ahead to solutions, before identifying problems and considering potential measures.
 - May divert traffic to a nearby neighborhood street. Better to consider a bigger area for comprehensive program.
 - Large affected areas may have a harder time getting affirmative votes.
 - Features in series work better than individual features.
 - Difficult to get sufficient neighbor support to remove features after installed.

Other Crosswalk Safety Measures

Red Flag Program:

- Heightens driver awareness of pedestrians in crosswalk.
- Effective driver behavior modifications noted.
- Some people are hesitant to wave a flag while crossing the street.
- Flags tend to be removed from holders, so a modest annual budget and time are needed to monitor and replace flags.



Image: Paul Sableman, Flickr

Other Crosswalk Safety Measures

In-Street Pedestrian Crossing Signs:

- Heightens driver awareness of pedestrians in crosswalk.
- Effective driver behavior modifications noted.
- Signs sometimes get moved into crosswalks.
- Signs get damaged from vehicle strikes. Can't put too near an intersection.
- Remove in winter months to avoid plow damage.



Image: TAPCO

Other Crosswalk Safety Measures

Rectangular Rapid Flashing Beacon (RRFB):

- Heightens driver awareness of pedestrians in crosswalk.
- Effective driver behavior modifications noted.
- Need power source – either metered or solar.
- Can be triggered by microwave detector instead of push button – especially useful for high pedestrian crosswalks.

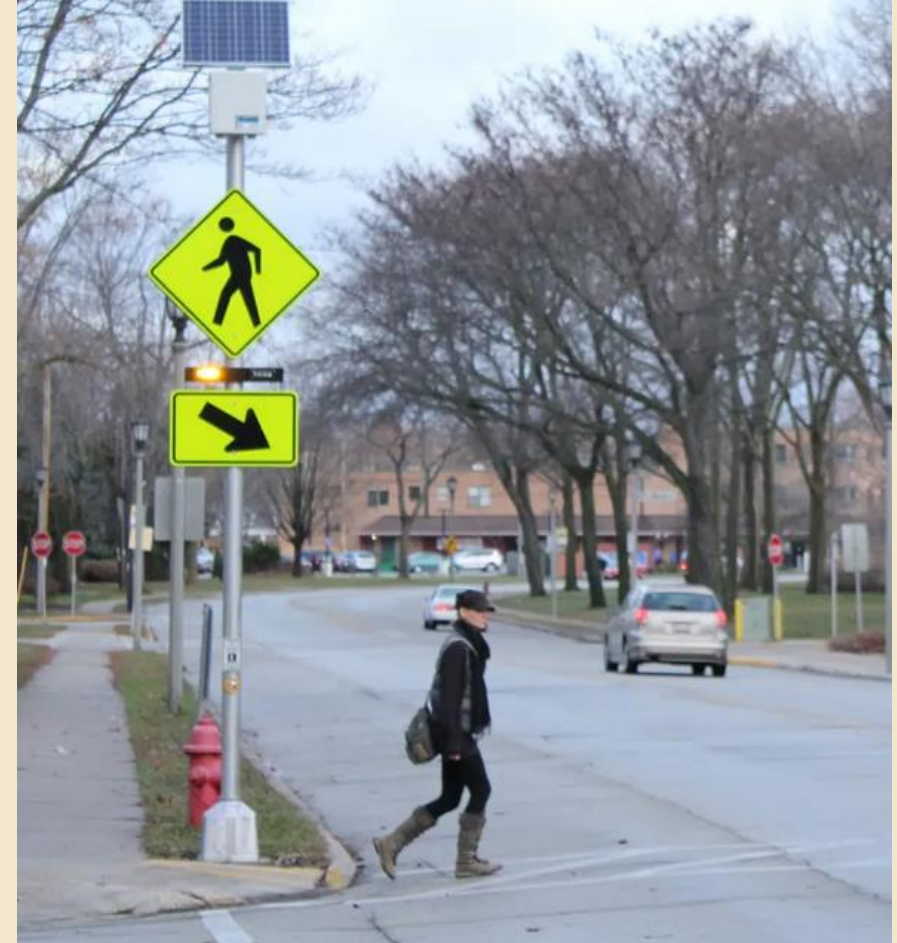


Image: TAPCO

Measures with Limited Effectiveness

Change Speed Limit:

- Drivers tend to go at speed they think is prudent (85%).
- Studies have shown that speed limit signs don't materially affect actual vehicle speeds.

Slow Down Yard Signs

- Drivers may see when new, or novel.
- Become part of “background.”

Speed Display Signs

- Same information as available on vehicle speedometer.
- Some drivers seem to see these as a challenge...



MUTCD R2-1



Image: Safe Communities



Image: Traffic Calming Flickr Photoset, Wikimedia Commons

Paint isn't the most important thing... most of the time

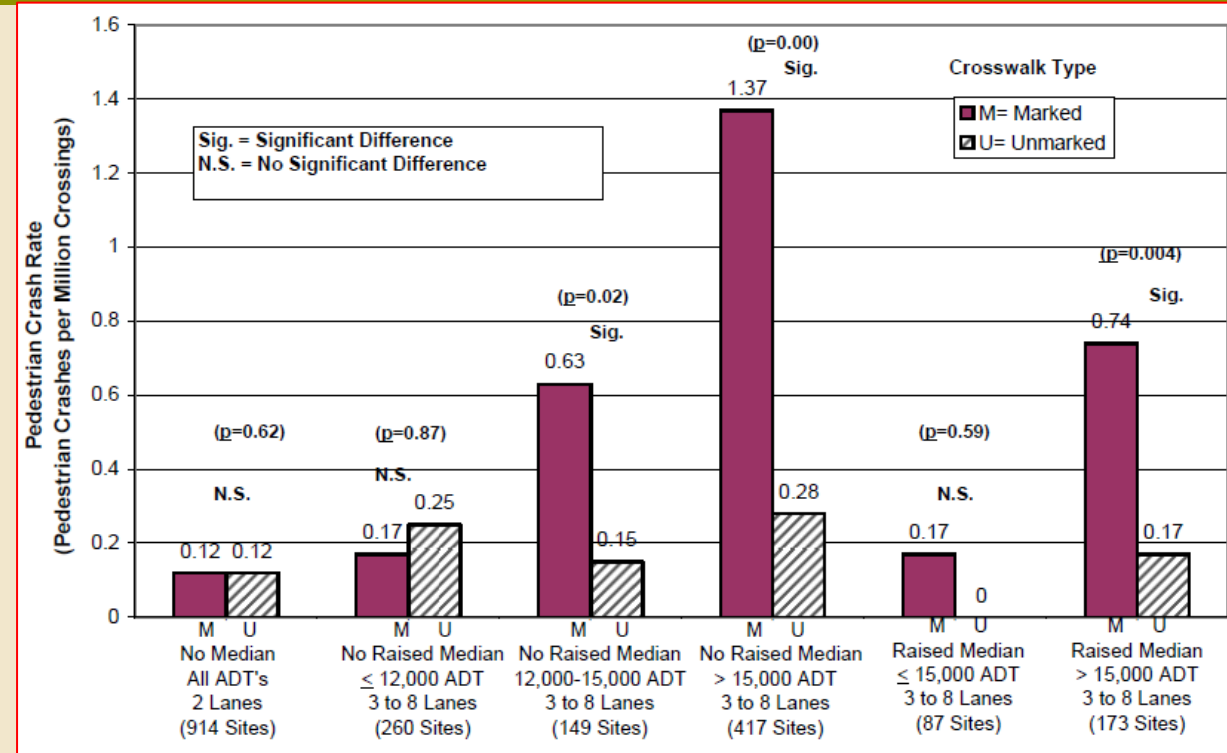
Safety Effects of Marked Versus Unmarked Crosswalks at Uncontrolled Locations

Final Report and Recommended Guidelines

FHWA PUBLICATION NUMBER: HRT-04-100

SEPTEMBER 2005

When you do paint, but sure to follow the Manual on Uniform Traffic Control Devices (MUTCD) – it's the law.



- For traffic volumes (ADTs) of about 10,000 or less, pedestrian crash rates were about the same (i.e., less than 0.25 pedestrian crashes per million pedestrian crossings) between marked and unmarked crosswalks.
- For ADTs greater than 10,000, the pedestrian crash rate for marked crosswalks became increasingly higher as the ADTs increased. The pedestrian crash rate at unmarked crossings increased only slightly as the ADTs increased.

Safety Countermeasures for Uncontrolled Crosswalks



Guide for Improving Pedestrian Safety at Uncontrolled Crossing Locations

July 2018, Updated

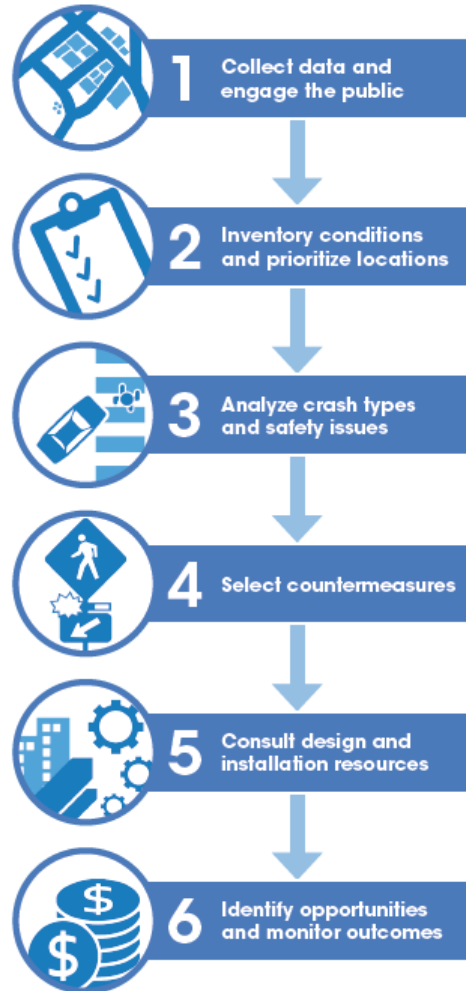


Table 1. Application of pedestrian crash countermeasures by roadway feature.

Roadway Configuration	Posted Speed Limit and AADT								
	Vehicle AADT <9,000			Vehicle AADT 9,000–15,000			Vehicle AADT >15,000		
	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph	≤30 mph	35 mph	≥40 mph
2 lanes (1 lane in each direction)	① 2 4 5 6	① 5 6 7 9	① 5 6 7 9	① 4 5 6 7 9	① 5 6 7 9	① 5 6 7 9	① 4 5 6 7 9	① 5 6 7 9	① 5 6 9
3 lanes with raised median (1 lane in each direction)	① 2 3 4 5	① ③ 5	① ③ 5	① ③ 4 5	① ③ 5	① ③ 5	① ③ 4 5	① ③ 5	① ③ 5
3 lanes w/o raised median (1 lane in each direction with a two-way left-turn lane)	① 2 3 4 5 6 7 9	① ③ 5 6 7 9	① ③ 5 6 9	① ③ 4 5 6 7 9	① ③ 5 6 7 9	① ③ 5 6 9	① ③ 4 5 6 7 9	① ③ 5 6 9	① ③ 5 6 9
4+ lanes with raised median (2 or more lanes in each direction)	① ③ 5 7 8 9	① ③ 5 7 8 9	① ③ 5 8 9	① ③ 5 7 8 9	① ③ 5 7 8 9	① ③ 5 8 9	① ③ 5 7 8 9	① ③ 5 8 9	① ③ 5 8 9
4+ lanes w/o raised median (2 or more lanes in each direction)	① ③ 5 6 7 8 9	① ③ 5 6 7 8 9	① ③ 5 6 8 9	① ③ 5 6 7 8 9	① ③ 5 6 7 8 9	① ③ 5 6 8 9	① ③ 5 6 7 8 9	① ③ 5 6 8 9	① ③ 5 6 8 9

Given the set of conditions in a cell,

- # Signifies that the countermeasure is a candidate treatment at a marked uncontrolled crossing location.
- Signifies that the countermeasure should always be considered, but not mandated or required, based upon engineering judgment at a marked uncontrolled crossing location.
- Signifies that crosswalk visibility enhancements should always occur in conjunction with other identified countermeasures.*

The absence of a number signifies that the countermeasure is generally not an appropriate treatment, but exceptions may be considered following engineering judgment.

- 1 High-visibility crosswalk markings, parking restrictions on crosswalk approach, adequate nighttime lighting levels, and crossing warning signs
- 2 Raised crosswalk
- 3 Advance Yield Here To (Stop Here For) Pedestrians sign and yield (stop) line
- 4 In-Street Pedestrian Crossing sign
- 5 Curb extension
- 6 Pedestrian refuge island
- 7 Rectangular Rapid-Flashing Beacon (RRFB)**
- 8 Road Diet
- 9 Pedestrian Hybrid Beacon (PHB)**

Conclusions

Public Safety Takes All of Us

- Pedestrians, bicyclists, drivers, police and road maintenance workers all play a role in keeping themselves and each other safe.
- In some cases, we may need to change a road environment to help a few drivers behave reasonably.
- There are lots of measures available, and it's generally preferable to use the least restrictive measure that will achieve the desired result.



Image: Flickr/SDOT