



# Traffic Calming Devices

## Speed Humps



Speed humps are raised sections of pavement, constructed along a street, which cause drivers to reduce their speed. The humps are typically three inches at their highest point and have a gradual ramp up to that high point. To be effective, a roadway segment will have a series of humps, placed 200-500 feet apart. Neighborhood streets that have an 85% speed of 32-33 MPH will typically find that speeds are reduced by approximately 5 MPH after the installation of speed humps. Speed humps are easily constructed and are relatively low cost.

The City of Kirkland installs the 14-foot wide speed hump or a 22-foot wide raised crosswalk. The 14' speed hump is the conventional speed hump that is installed to slow speeds. The 22' raised crosswalk is a gentler hump with crosswalk markings on top that create a slow point and helps pedestrians cross the street safely.

Emergency response vehicles need to go slower over speed humps than automobiles to reduce the jarring effects of the hump. For this reason, Kirkland generally does not construct conventional speed humps on primary and secondary emergency response routes. Also, there may be an increase in noise when these larger vehicles travel over the speed humps.

| Pros                                                                                                                                        | Cons                                                                                                                                           |
|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>Effectively reduce speeds</li><li>Inexpensive</li><li>Do not change intersection operations</li></ul> | <ul style="list-style-type: none"><li>Increase noise from deceleration and acceleration</li><li>Slow emergency vehicles</li><li>Ugly</li></ul> |

### Sample Locations:

14' speed hump:

112<sup>th</sup> Avenue NE between NE 87<sup>th</sup> and 97<sup>th</sup> Streets  
NE 90<sup>th</sup> Street between 126<sup>th</sup> and 128<sup>th</sup> Avenues NE

22’ raised crosswalk:  
6<sup>th</sup> Street and 13<sup>th</sup> Avenue by Peter Kirk School  
7<sup>th</sup> Avenue South at 4<sup>th</sup> Street South

**Speed Cushions**

Speed cushions are modified speed humps that have a wheel path cut through them. The wheel path is designed so that emergency response vehicles can straddle the hump and avoid delays caused by conventional humps. Initial tests conducted by the City of Kirkland show that the cushions are as effective as speed humps in slowing speeds and have less of a negative impact on emergency response vehicles. The first speed cushions in Kirkland were installed in the North Rose Hill Neighborhood in the summer of 2002.



| Pros                                                                                                                                        | Cons                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>Effectively reduce speeds</li><li>Inexpensive</li><li>Do not change intersection operations</li></ul> | <ul style="list-style-type: none"><li>Increased noise from deceleration and acceleration</li><li>Not visually attractive</li></ul> |

*Sample Locations:*

126th Ave NE between NE 90th St and NE 95th St  
128th Ave NE between NE 90th St and NE 95th St

**Traffic Circles**

Traffic circles are raised islands, placed at intersections, around which traffic circulates. Circles prevent drivers from speeding through intersections by impeding straight-through movement and forcing drivers to slow down to yield. The circles offer an opportunity for landscaping and visually break up a long, straight stretch of roadway. Collisions and other traffic accidents are reduced at intersections with traffic circles. Traffic circles usually require the removal of some on-street parking. The landscaping within the circle is maintained by volunteer neighbors.

Kirkland has begun to install traffic circles more frequently. In a recent test, a new traffic circle on 7th Avenue South was as effective as a speed hump in slowing speeds. The speeds were reduced by 6 mph when measured near the circle.



**Traffic circle with curb extension** is similar to the traffic circle (see above description). The design of the circle is slightly smaller, and it is the curb extensions that force the vehicles to make a lateral movement to navigate through the intersection. The curb extension is landscaped with a pedestrian pathway through it so that pedestrians have a shorter distance in crossing the street. These are appropriate on wider streets that have a lot of pedestrian activity.

| Pros                                                                                                                                  | Cons                                                                                                                                                                                    |
|---------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>Effectively reduce vehicle speeds</li><li>Improved safety</li><li>Visually attractive</li></ul> | <ul style="list-style-type: none"><li>Can require some removal of on-street parking</li><li>Can cause bicycle/auto conflicts at intersections because of narrowed travel lane</li></ul> |

*Sample Locations:*

7th Avenue South between State and Lake  
103rd Avenue NE at NE 67th Street

**Curb Extensions**

Curb extensions narrow the roadway by extending the curb toward the middle of the street. Vehicles are forced to make lateral movements back and forth in order to navigate through the intersection. They are most often built at the corners of intersections, but they can also be placed mid-block.



Curb extensions shorten the crossing distance between the curbs. This increases the number of opportunities to cross by allowing children to use naturally occurring shorter gaps in traffic. Curb extensions also bring pedestrians out from behind parked cars so they can see and be seen better.

| Pros                                                                                                                                                                             | Cons                                                                                     |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>Increase safety for pedestrians crossing the street</li><li>At 2-way or 4-way stop signs, encourages vehicles to stop completely</li></ul> | <ul style="list-style-type: none"><li>May require removal of on-street parking</li></ul> |

[Chicanes](#)

A chicane is a series of two or more staggered curb extensions on alternating sides of the roadway. It creates a serpentine route along the street. Drivers slow down to make the lateral movement necessary to maneuver through the chicane. On wider streets, a raised island can be added to the center of the road to prevent motorists from crossing the center line. Kirkland has not had any experience with chicanes, but they can be an effective tool where the geometry of the street precludes the use of other traffic calming devices.

| Pros                                                                                                                                         | Cons                                                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Can be used in places where traffic circles are not appropriate because of street geometry</li></ul> | <ul style="list-style-type: none"><li>• Usually lacks neighborhood support</li><li>• May require removal of on-street parking</li></ul> |

[Medians](#)

Medians are raised islands placed at the center of a roadway that separate two directions of traffic. Typically, medians are landscaped to provide a visual enhancement and to create the perception of a narrower roadway. A medians at the entrance to the neighborhood notifies drivers that they are entering a residential area. Medians usually require the removal of on-street parking.

| Pros                                                                                                                                                                                                                                                                                                 | Cons                                                                                                                                                               |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Separates opposing vehicle travel lanes</li><li>• Prevents vehicle from passing other vehicles</li><li>• May visually enhance the street through landscaping</li><li>• Can be designed with breaks in the landscaping to provide pedestrian refuge</li></ul> | <ul style="list-style-type: none"><li>• May require major parking removal</li><li>• Not as effective as speed humps or traffic circles in slowing speeds</li></ul> |

***Sample Location:***

104th Avenue NE north of NE 116th Street

[All-Way Stop Signs – Not a Traffic Calming Tool!](#)

All-way or 4-way stop signs are usually not an appropriate traffic calming tool on neighborhood streets. Citizens frequently request all-way stop signs at a neighborhood intersection to slow cars down and make the intersection safer. However, all-way stops that are placed in in appropriate locations do little to to slow traffic and can actually make the intersection less safe.

Places where all-way stops are appropriate:

- High Volume of Cars (200-300 vehicles per hour for 8-hours on each of the intersecting streets)
- High Number of Accidents (5 or more reported crashes in a 12-month period)
- No Visibility (driver, after stopping, can't see conflicting traffic unless the cross-traffic stops)
- Balanced volumes (each of the intersecting streets must have about the same volume of cars)

In most other cases, 4-way stops are not appropriate because:

**Drivers Won't Stop** - Unneeded stop signs are frequently ignored. Drivers on the major street either roll through or run through the stop sign because, in their experience, there is little cross-traffic. This puts pedestrians and cross-traffic at risk. In Kirkland, residents frequently complain that drivers do not come to a complete stop at 4-way stop signs. If you observe motorists at many 4-way stops, such as the intersection of 19th Avenue and 3rd Street in Norkirk, you would find that nearly half of the drivers fail to make the required stop.

**Stop Signs Don't Slow Speeds** -- Numerous studies nation-wide have shown that speeds within a block of the stop sign are largely unaffected by the stop. Naturally, motorists have to slow down when approaching a stop sign. But, they often speed up quickly after the stop to make up for lost time. Overall speeding is not reduced by the stop sign. Tests that the City of Kirkland has conducted shown that traffic calming devices such as speed humps are much more effective at slowing speeds over a stretch of roadway.

**Stops Increase Noise and Pollution** -- Stopping and starting cause increased tire and engine noise. Residents living near the stop will experience an increase in traffic noise. Stopping and idling at unwarranted stop signs also increase automobile exhaust and fuel consumption unnecessarily.

For more information and study results on 4-way stops: [Multi-Way-Stops](#)



123 Fifth Avenue  
Kirkland, Washington 98033  
425-587-3000  
TTY Relay: 711

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