

VI. TRAFFIC CALMING

TRAFFIC CALMING



The design of the street network has a great influence on the livability, vitality and character of Burlington. Growth in Burlington and the surrounding region coupled with overall growth in automobile ownership and vehicle miles traveled, have seen attendant growth in traffic volume, speed and congestion. Much of the focus of street design in past decades has been on facilitating and expediting automobile circulation. Due to these various circumstances, many residents feel that their neighborhoods have become overwhelmed with speeding and cut-through traffic that erodes their quality of life.

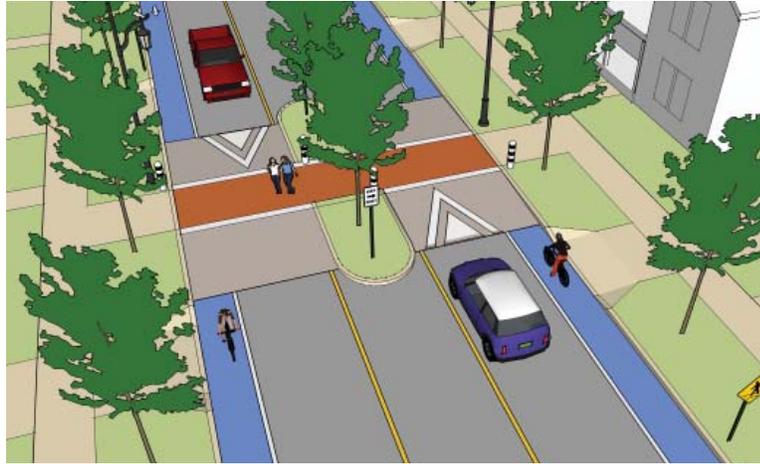
The following section describes traffic calming approaches that are used to reduce speed, improve safety, and enhance the livability of the street environment while still accommodating through traffic. Traffic calming measures that address speed are typically grouped into the following categories: vertical deflections such as speed tables, textured pavement, raised crosswalks, and intersections; horizontal deflections such as chicanes and neighborhood traffic circles; and roadway narrowings such as center medians and curb extensions. Many of these measures are used in combination with one another in the street design guidelines to calm traffic and make environments more pedestrian and bicycle friendly. Other methods may be applied to streets that are not specifically addressed in the Street Design Guidelines.

For neighborhoods, implementing traffic calming measures should begin with an assessment of the problem that identifies the sources of the problem and includes neighborhood participation. Many communities have adopted traffic calming policies and a process for neighborhoods to study and adopt neighborhood traffic management plans and set priorities for funding and implementation.

VERTICAL DEFLECTION MEASURES

Speed Tables and Raised Crosswalks

Speed tables are raised platforms of pavement placed within a traffic lane. They are typically used in mid-block locations and work well as raised crosswalks in those areas. Dynamic painting and textured paving help to increase visibility and driver awareness of pedestrians.



Speed tables that are 22 feet in length have been effective at reducing speed by an average of 18% (from an average of 36.7 to 30.1 miles per hour) and reducing accidents by an average of 45% (from an average of 6.7 to 3.7 accidents per year).

Raised Intersections

Raised intersections are flat raised areas covering the entire intersection. The intersection often employs colored and textured paving as well to demarcate the intersection as part of the pedestrian zone. Applied at an intersection, raised intersections calm two streets at once.

Raised intersections have been observed to result in a 1% reduction in speed (from an average of 34.6 to 34.3 mph).



Textured Pavement

Colored and textured pavement treatments are used to heighten the visual and tactile sense of prominent pedestrian zones. They are used in combination with raised crosswalks and intersections, and are sometime used along entire blocks. There is currently no data available that describes the effectiveness of textured pavement with respect to reducing speed.



HORIZONTAL DEFLECTION MEASURES

Neighborhood Traffic Circles or Intersection Island

Neighborhood traffic circles are raised islands placed within an intersection. They are not to be confused with modern roundabouts, which are applied to a different set of circumstances. Traffic circles require drivers to slow down in order to go around the circle. Like raised intersections, they have the advantage of calming traffic on two streets at once.



Neighborhood traffic circles are very effective at reducing speed and frequency of collisions, and with landscaping can be an attractive addition to the street environment. They should not be used where there is a high volume of buses and large vehicles.

Burlington has a neighborhood traffic circle at the intersection of Strong and Blodgett in the Old North End.

Neighborhood traffic circles have resulted in an average reduction of speed by 11% (from 34.1 to 30.2 miles per hour) and a 70% reduction in intersection collisions - a 28% reduction in collisions overall.

Chicanes

Chicanes are curb extensions that intrude into the street space and alternate from one side of the street to another. Chicanes can also be created by alternating on-street parking from one side of the street to another. Chicanes are applied in mid-block locations.



Chicanes must be designed carefully to ensure that drivers cannot cut a speed path through the center of the road. On a typical residential street chicanes will have an impact on on-street parking and driveways.

Data on chicanes' effectiveness in reducing speed and collisions is limited. Experience in the City of Seattle has found chicanes to be effective in reducing speeds from 18 to 35% overall.

HORIZONTAL NARROWINGS

Pedestrian Refuges or Center Islands

Pedestrian refuges or center islands are raised medians at the center of the road that narrow travel lanes at a particular location and provide a place for pedestrians to seek refuge from traffic as they cross a street. If they are not part of a pedestrian crossing they can be a visual amenity or gateway that narrows travel lanes and slows traffic at a specific location.



Islands without any vertical deflection result in an average speed reduction of 7%, or from an average of 34.9 to 32.3 mph.

Curb Extensions or Chokers

Curb extensions are areas of sidewalk or landscape islands that extend into the intersection or roadway. At intersections, curb extensions have several benefits for pedestrians including greater visibility, shortened crossing distances, and slower vehicle turning speeds.

Curb extensions without vertical or horizontal deflection have been effective in reducing speeds 7% (from 34.9 to 32.3 miles per hour).

