

GEOMETRIC STREET FEATURES

SPEED MITIGATION – SPEED HUMPS



Speed humps are rounded raised areas placed across the roadway. They are generally 10 to 14 feet long (in the direction of travel), making them distinct from the shorter “speed **bumps**” found in many parking lots, and are 3 to 4 inches high. The profile of a speed hump can be circular, parabolic, or sinusoidal. They are often tapered as they reach the curb on each end to allow unimpeded drainage.

Advantages:

- Relatively inexpensive
- Easy for bicycles to cross if designed appropriately
- Effective in slowing travel speeds

Disadvantages:

- Cause a “rough ride” for all drivers, and can cause pain for people with certain skeletal disabilities
- Force large vehicles, such as emergency vehicles and those with rigid suspensions, to travel at slower speeds
- May increase noise and air pollution
- Can not be used on Emergency Response Routes

SPEED MITIGATION - SPEED TABLES



Speed tables are flat-topped speed humps often constructed with brick or other textured materials on the flat section. Speed tables are typically long enough for the entire wheelbase of a passenger car to rest on the flat section. Their long flat fields give speed tables higher design speeds than Speed Humps. The brick or other textured materials improve the appearance of speed tables, draw attention to them, and may enhance safety and speed-reduction.

Advantages:

- Smoother on large vehicles (such as fire trucks) than Speed Humps
- Effective in reducing speeds, though not to the extent of Speed Humps

Disadvantages:

- Textured materials, if used, can be expensive;
- May increase noise and air pollution.
- Can not be used on Emergency Response Routes
- Cause a “rough ride” for all drivers, and can cause pain for people with certain skeletal disabilities

Source: www.trafficcalming.org

SPEED MITIGATION – SPEED CUSHIONS



Speed cushions are flat-topped speed humps sections installed across the roadway, with sections of roadway exposed between them; resembling a separated speed hump. They are often constructed with either asphalt or installed using prefabricated rubber cushions. Speed cushions force cars to slow down as they ride with one or both wheels on the humps, but are typically spaced far apart to allow vehicles with wider axles, such as emergency vehicles can straddle them with minimal impact to speed.

Advantages:

- Smoother on large vehicles (such as fire trucks) than Speed Humps
- Effective in reducing speeds, though not to the extent of Speed Humps
- Relatively inexpensive

Disadvantages:

- Textured materials, if used, can be expensive;
- May increase noise and air pollution.
- Can not be used on Emergency Response Routes
- Cause a “rough ride” for all drivers, and can cause pain for people with certain skeletal disabilities

SPEED MITIGATION – ROUNDABOUTS



Roundabouts are raised landscaped islands that require traffic to circulate counterclockwise around a center island. Roundabouts are used on higher volume streets to allocate right-of-way between competing movements.

Advantages:

- Can moderate traffic speeds on an arterial
- Aesthetically pleasing if well landscaped
- Enhance safety compared to traffic signals
- Can minimize queuing at the approaches to the intersection
- Less expensive to operate than traffic signals

Disadvantages:

- May be difficult for large vehicles (such as fire trucks) to circumnavigate
- Design must not encroach on the crosswalks
- May require the elimination of some on-street parking
- Landscaping must be maintained

SPEED MITIGATION – CHICANES



Chicanes are curb extensions that alternate from one side of the street to the other, forming S-shaped curves. Chicanes can also be created by alternating on-street parking, either diagonal or parallel, between one side of the street and the other. Each parking bay can be created either by re-striping the roadway or by installing raised, landscaping islands at the ends of each parking bay.

Advantages:

- Discourage high speeds by forcing horizontal deflection
- Easily negotiable by large vehicles (such as fire trucks) except under heavy traffic conditions

Disadvantages:

- Must be designed carefully to discourage drivers from deviating out of the appropriate lane
- Curb realignment and landscaping can be costly, especially if there are drainage issues
- May require the elimination of some on-street parking

SPEED MITIGATION – BULB OUTS



Bulb Outs are curb extensions at intersections that reduce the roadway width from curb to curb. They “pedestrianize” intersections by shortening crossing distances for pedestrians and drawing attention to pedestrians via raised peninsulas. They also tighten the curb radii at the corners, reducing the speeds of turning vehicles.

Advantages:

- Improve pedestrian circulation and space
- Through and left-turn movements are easily negotiable by large vehicles
- Creates protected on-street parking bays
- Reduce speeds, especially for right-turning vehicles

Disadvantages:

- Effectiveness is limited by the absence of vertical or horizontal deflection
- May slow right-turning emergency vehicles
- May require the elimination of some on-street parking near the intersection
- May require bicyclists to briefly merge with vehicular traffic

SPEED MITIGATION - CENTER ISLANDS



A center island is a raised island located along the centerline of a street that narrow the travel lanes at that location. Center islands are often landscaped to provide a visual amenity. Placed at the entrance to a neighborhood, and often combined with textured pavement, they are often called “gateway islands.” Fitted with a gap to allow pedestrians to walk through at a crosswalk, they are often called “pedestrian refuges.”

Advantages:

- Increase pedestrian safety
- Can have positive aesthetic value
- Reduce traffic volumes

Disadvantages:

- Speed-reduction effect is somewhat limited by the absence of any vertical or horizontal deflection
- May require elimination of some on-street parking