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Traffic Calming

The Institute of Transportation Engineers defines traffic calming as "the combination of mainly physical measures that reduce the negative effects of motor vehicle use, alter driver behavior, and improve conditions for nonmotorized street users" (Institute of Transportation Engineers, 1999).

Figure 9-1. *Half closures placed at intersections are a traffic calming technique intended to divert motorists off of residential streets by closing one-half the roadway and allowing one-way traffic. Half closures reduce crossing distances for pedestrians.*

Traffic calming utilizes design strategies to slow down cars and increase the visibility of pedestrians and bicyclists. The tools of traffic calming are small in scale and, as a result, are able to be tested, photographed, and evaluated easily. Traffic calming has proven to reduce traffic speeds and, consequently, reduce the number of pedestrian deaths. Traffic calming tools particularly complement areas that already have well-designed sidewalks. If adequate sidewalks are not provided and pedestrians are forced to travel in the street, traffic calming tools can be problematic for people with impairments. For example, vertical installations, such as speed humps, force

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pedestrians to negotiate an elevation change. Horizontal installations, such as neighborhood traffic circles, may cause pedestrians to be "squeezed" by vehicles. To best serve the needs of pedestrians, sidewalk facilities should be improved in conjunction with traffic calming projects.

The goals of traffic calming are to:

- Apply physical, engineered measures to compel drivers to slow down and to decrease traffic volumes;
- Implement self-enforcing rather than regulatory measures;
- Reduce cut-through traffic;
- Increase the safety of children, pedestrians, bicyclists, and motorists;
- Maximize street life and pedestrian activity;
- Prevent crime; and
- Enhance urban redevelopment.

In most localities, the immediate and long-term goals of traffic calming are directly related to the concerns of the residents. Parents and citizens are demanding that speeds be reduced and cut-through traffic eliminated, particularly on residential streets near schools and parks. In many communities, citizens have conveyed their traffic-related concerns to local leaders who, in turn, have sought direction from transportation experts to implement traffic calming measures.

Increased pedestrian awareness, slower moving traffic, and fewer vehicles on the road are the direct benefits of traffic calming. These benefits may allow people with disabilities to achieve greater access to roadways and pedestrian facilities. For example, the implementation of traffic calming techniques at pedestrian crossings to reduce crossing distances improves conditions for pedestrians, especially those with mobility, cognitive, and vision impairments. Pedestrians benefit from reduction in traffic speed and volume control measures, which can create entirely traffic-free sections of communities and urban areas.

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Although many traffic calming techniques benefit people with disabilities, some techniques can have a negative impact especially if their needs are not addressed during the planning process. For example, tools such as roundabouts and raised crosswalks can eliminate the crossing gap and sidewalk to street transition information for people with vision impairments. Other methods such as speed humps and textured pavement can be problematic for people with mobility impairments. Fortunately, many of these traffic calming tools can be designed and implemented with accessible modifications that should become the universal standard for constructing these devices.

The following sections briefly describe each device, discuss the impacts the device has on pedestrian access, and make recommendations for enhancing pedestrian accessibility.

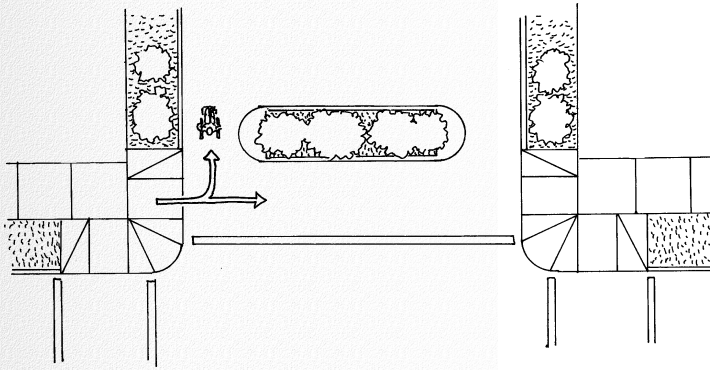

Figure 9-2. *Full closures eliminate cut-through traffic enabling pedestrians to travel in the street.*

9.1 Volume control measures

The primary purpose of volume control measures is to discourage or eliminate cut-through traffic. When a detour through a residential neighborhood allows motorists to avoid traffic, save time, or shorten their travel distance, they will use the residential cut-through as their normal route of travel. The traffic calming tools that have proven to be successful in diverting traffic and reducing cut-through traffic include:

- Full street closures;
- Half street closures;
- Median barriers; and
- Forced turn islands.

9.1.1 Full closures

Full street closures are barriers placed across the entire width of the street. Consequently, through traffic is diverted from using the street, and the street is

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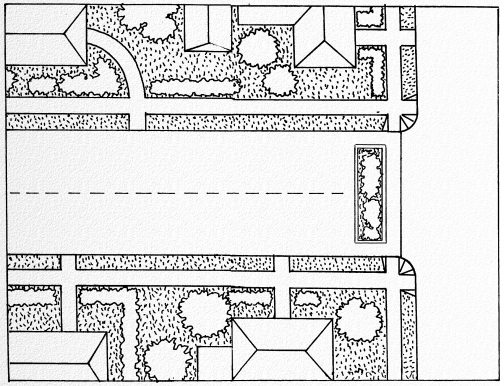

Figure 9-3. *Full closures divert traffic off the street, creating pedestrian and bicycle friendly areas.*

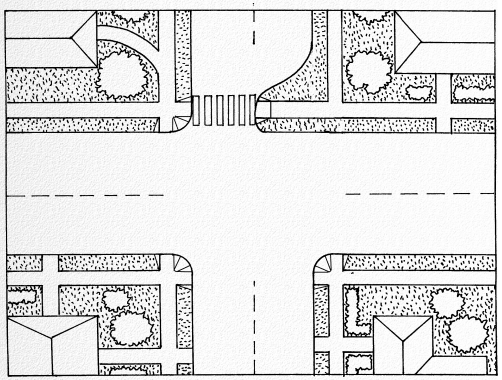

Figure 9-4. *Half closures, similar to full closures, are barricades located in the street and constructed of landscaped walls, gates, side-bollards, or other obstructions.*

only open to pedestrians, bicyclists, and the residents living on the street. A full closure functions similar to a cul-de-sac or dead-end because these designs include only one point of entry/exit minimizing cut-through traffic. Full closure barricades are usually landscaped walls, gates, side-by-side bollards, or other constructed obstructions. Full closures should be designed to allow access for bicyclists.

9.1.1.1 Impact on pedestrian access

Full closures do not have a specific impact on pedestrian access; however, they improve conditions for pedestrians in general by creating a street where only motor vehicles traveling on the street are owned by people living on the closed street.

9.1.1.2 Design recommendations for full closures

The following recommendations are intended to enhance access at a full closure:

- Provide pedestrian and bicycle pathways between the street closures to maintain an efficient network of walkways; and
- Design the constructed obstruction to permit pedestrian and bicycle access. For example, if the obstruction uses landscaping, the access routes through that landscaping should have a minimum clear width of 915 mm (36 in).

9.1.2 Half closures

Half street closures are similar to full closures and consist of constructed obstructions to block one side of the street. One direction of traffic is diverted to another route. Half closures are often called partial closures or one-way closures. They are constructed using the same materials and designs as full closures.

9.1.2.1 Impact on pedestrian access

Half closures generally benefit pedestrian access as follows:

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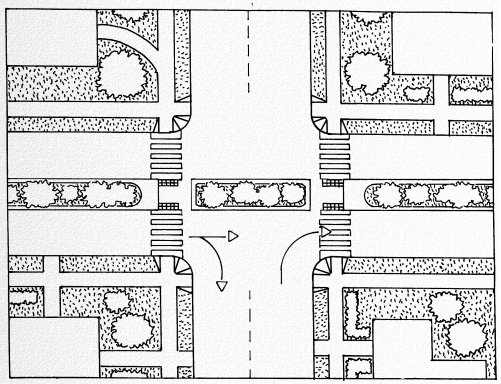

Figure 9-5. *Median barriers block cut-through movement at a cross street and divert traffic in one direction. There should be an open passageway for bicyclists.*

Positive impacts

- Half closures in the form of curb extensions reduce pedestrian crossing distances and enhance pedestrian visibility; and
- Pedestrians only have to be aware of motorists traveling in one direction.

9.1.2.2 Design recommendations for half closures

Half closures should always be designed as curb extensions to reduce pedestrian crossing distances.

9.1.3 Median barriers

Median barriers are raised islands located in the middle of a street and continuing through an intersection. Median barriers are implemented to block cut-through movement of motor vehicle traffic at a cross street. Median barriers can block left turning motorists, which can benefit pedestrians. They are also called median diverters or island diverters. For general information about medians, see Section 8.7.

9.1.3.1 Impact on pedestrian access

Median barriers generally benefit pedestrian access as follows:

Positive impacts

- People with mobility impairments benefit from divided and decreased crossing distances due to the presence of a pedestrian refuge in the center of the street; and
- Pedestrians with slower walking speeds are able to cross one leg of traffic and then wait on a pedestrian refuge before crossing a second leg of traffic.

9.1.3.2 Design recommendations for median barriers

The following recommendations are intended to enhance pedestrian access at median barriers:

- Raise medians to increase pedestrian visibility, to separate pedestrians and motorists, and to improve detectability for people with vision impairments; and

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- Design median barriers to include access for bicyclists and accessible features, such as cut-throughs with detectable warnings. Median barriers should have a minimum clear width of 915 mm (36 in).

9.1.4 Forced turn islands

Forced turn islands are also called forced turn channelizations, pork chops, or right turn islands. They prevent traffic from certain movements when approaching an intersection. For general information about islands, see Section 8.8.

9.1.4.1 Impact on pedestrian access

Although forced turn islands have some benefits for people with mobility impairments, they are not as desirable as median barriers for diverting traffic because they complicate the intersection for people with vision impairments. Forced turn islands impact pedestrian access as follows:

Negative impacts

- The sound of traffic patterns is modified, and the required path of travel can be difficult for people with vision impairments to detect and analyze;
- Forced turn islands minimize the motorist's need to stop at an intersection, and therefore driver speeds through the crosswalk area are increased. In addition, motorists often fail to yield the right-of-way to pedestrians, particularly individuals with vision impairments, because of the lack of pedestrian to driver eye contact;
- Cars must yield to oncoming traffic in the path of pedestrian crossings;
- Motorists are positioned to look for traffic and not pedestrians entering the crosswalk; and
- Bicyclists will find it difficult to maintain a through traffic position.

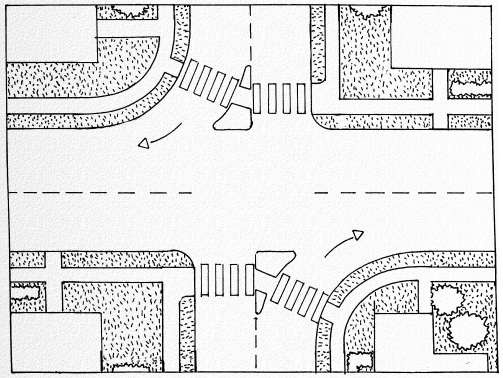

Figure 9-6. *Forced turn islands should be designed to include features that promote access such as cut-through medians with detectable warnings and a minimum width of 915 mm (36 in).*

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Positive impacts

- Pedestrians benefit from divided and decreased crossing distances due to the presence of a pedestrian refuge; and
- Pedestrians with slower walking speeds are able to cross one leg of traffic and then wait on a pedestrian refuge before crossing a second leg of traffic.

9.1.4.2 Design recommendations for forced turn islands

The following recommendations are intended to enhance pedestrian access at forced turn islands:

- Minimize lane widths to slow vehicle speeds;
- Minimize vehicle speeds by tightening the angle of deflection used for the forced turn island;
- Design islands to include accessible features, such as cut-throughs with detectable warnings and a minimum clear width of 915 mm (36 in); and
- Provide space for bicyclists to share the road with motorists.

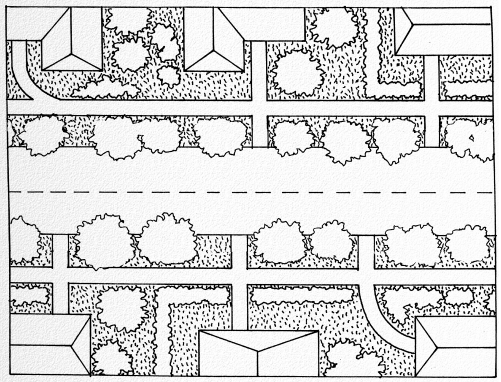

Figure 9-7. *Trees, when located on both sides of the street, create a sense of enclosure that discourages drivers from speeding.*

9.2 Speed Control Measures

Two types of traffic calming measures that control the speed of vehicles on streets and impact pedestrian access are (Institute of Transportation Engineers, 1999):

- Vertical measures, which rely on forces of vertical rise acceleration to discourage speeding; and
- Horizontal measures, which rely on forces of lateral shift acceleration to discourage speeding.

A third form of speed control is a narrowing measure, which relies on a psycho-perceptive sense of enclosure to discourage speeding. Installing a tree canopy to create a sense of enclosure is an example of a narrowing measure. This type of traffic calming does not impact

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pedestrian access if a sidewalk is provided. A 915 mm (36 in) clear space on both sides of the street allows for bicyclists to travel through. The general benefits of slower motorist speeds benefits all pedestrians.

Vertical speed control measures that will be evaluated in the following sections include:

- Speed humps;
- Speed tables;
- Raised crosswalks;
- Raised intersections; and
- Textured pavement.

Horizontal measures that will be evaluated in the following sections include:

- Roundabouts;
- Neighborhood traffic circles;
- Chicanes, lateral shifts, and chokers;
- Curb extensions; and,
- Center island narrowings.

Figure 9-8. *Speed humps are a common vertical measure for controlling the speed of motorists in residential neighborhoods.*

9.2.1 Speed humps

Speed humps are raised sections of pavement that are placed across the street to force motorists to travel at reduced speeds. Speed humps have a more gradual slope than traditional speed bumps, which

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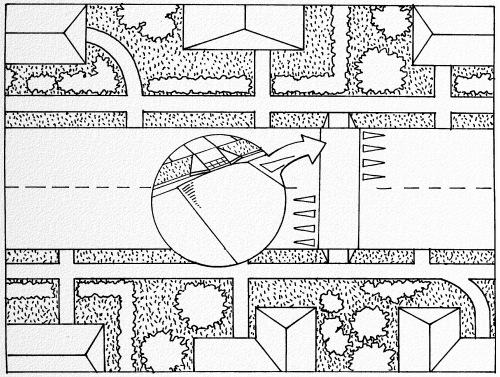

Figure 9-9. *A 3.66 m (12 ft) long speed hump with a 101 mm (4 in) vertical elevation change minimizes the jarring effect and potential vehicle damage experienced with traditionally designed speed bumps.*

are often found in parking lots. Speed humps are more effective at slowing traffic than speed bumps because the driver actually benefits from traveling at slower speeds. Speed bumps typically jar the motorist regardless of speed. The best speed hump designs employ a very gradual slope, such as a 3.66 m (12 ft) long speed hump with a 101 mm (4 in) vertical elevation change, to reduce jarring and potential vehicle damage. Speed humps are effective in reducing traffic speeds and are a low cost tool. However, speed humps may be controversial in some localities due to their appearance and jarring effects on vehicles and passengers.

9.2.1.1 Impact on pedestrian access

In general, speed humps effectively slow traffic and benefit all pedestrians including people with disabilities. However, people with mobility impairments may experience problems on speed humps. For example, people with back or neck problems may experience pain or discomfort caused by the jarring effect when traveling over speed humps in an automobile. This is further complicated if the person relies on para or public transit and does not have control over the speed of the vehicle.

9.2.1.2 Design recommendations speed humps

The following recommendations are intended to enhance pedestrian access at speed humps:

- Design speed humps with gradual slopes and minimal changes in elevation to limit jarring; and
- Do not install speed humps in the path of a pedestrian crossing or curb ramp.

9.2.2 Speed tables and raised crosswalks

Speed tables are similar to speed humps; however, they include a flat section on top. Oftentimes, the top of the speed table is constructed with a

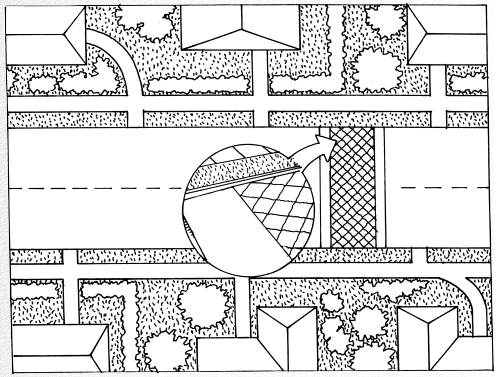

Figure 9-10. *Speed tables and raised crosswalks are flush with the curb and do not provide a clear distinction for people with vision impairments unless detectable warnings are installed.*

decorative surface material. When marked as a pedestrian crossing, speed tables are called raised crosswalks. The length of speed tables or raised crosswalks allow all four wheels of a vehicle to rest on the raised section at the same time. Combined with gently sloped ramps, speed tables permit slightly higher motorist speeds and smoother transitions than speed humps. Additional information about raised crosswalks is contained in Sections 6.3 and 8.5.

9.2.2.1 Impact on pedestrian access

Speed tables resolve some of the access problems for people with mobility impairments. However, they can be problematic for people with vision impairments if their needs are not considered. Speed tables impact pedestrian access as follows:

Negative impacts

- People with back and neck problems may experience pain or discomfort when traveling over speed tables in motor vehicles (though less jarring than traveling over speed humps); and
- When used as a crosswalk, unless detectable warnings are provided, there is no distinction between the sidewalk and the street for people with vision impairments.

Note: When used as a crosswalk, there is no negative impact on pedestrians with visual impairments when detectable warnings are installed.

Positive impacts

- Speed tables used as raised crosswalks increase pedestrian visibility; and
- Speed tables used as crosswalks eliminate the need for a curb ramp, which improves access for people with mobility impairments and increases the sidewalk area available to pedestrians waiting to cross the street.

9.2.2.2 *Design recommendations for speed tables*

The following recommendations are intended to enhance pedestrian access at speed tables and raised crosswalks:

- Install detectable warnings whenever speed tables are used as raised crosswalks to identify the transition between the sidewalk and the street; and
- Select colored asphalt rather than brick or other decorative surface materials to enhance rollibility for people with mobility impairments. Brick trim may be used in outlining the pedestrian travel path, but not in the pathway. (See Section 4.3.1.4).

9.2.3 Raised intersections

A raised intersection refers to a roadway intersection that is entirely elevated to the sidewalk level. Raised intersections are designed with ramps for the motorist and often include decorative surface materials on the flat raised section. Raised intersections are usually the same height as the sidewalk creating a pedestrian territory that includes the sidewalk and crosswalks.

9.2.3.1 *Impact on pedestrian access*

Raised intersections have benefits and drawbacks that are similar to raised crosswalks. For example:

Negative impacts

- People with back and neck problems can experience additional pain or discomfort caused by the jarring effect when traveling over raised intersections in motor vehicles (though less jarring than traveling over raised crosswalks or speed humps); and
- If detectable warnings are not included, people with vision impairments are not able to make the distinction between the sidewalk and the street.

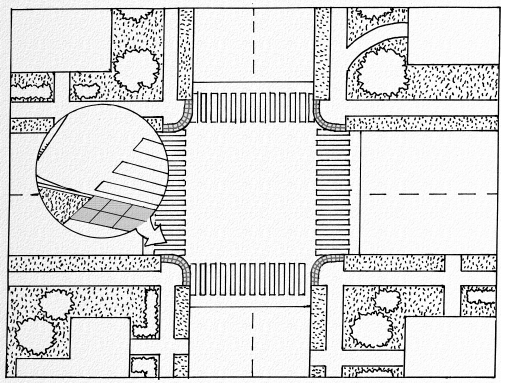

Figure 9-11. *When raised intersections are installed, detectable warnings should be included at the edge of the curb so people with vision impairments can identify the transition between the sidewalk and the street.*

Positive impacts

- Raised intersections increase pedestrian visibility;
- Raised intersections eliminate the need for a curb ramp at an intersection, which improves access for people with mobility impairments and increases the sidewalk area available to pedestrians waiting to cross the street; and
- Raised intersections can provide accessibility solutions for narrow sidewalks.

9.2.3.2 Design recommendations for raised intersections

The following recommendations are intended to enhance pedestrian access at raised intersections:

- Install detectable warnings to identify the transition between the sidewalk and the street; and
- Select a smooth surface, such as colored asphalt, rather than brick or other decorative surface materials to enhance access for people with mobility impairments (See Section 4.3.1.4).

9.2.4 Textured pavement

Textured pavement is a surface material on the roadway, such as brick, concrete pavers, and stamped asphalt, which is installed to produce small, constant changes in vertical alignment.

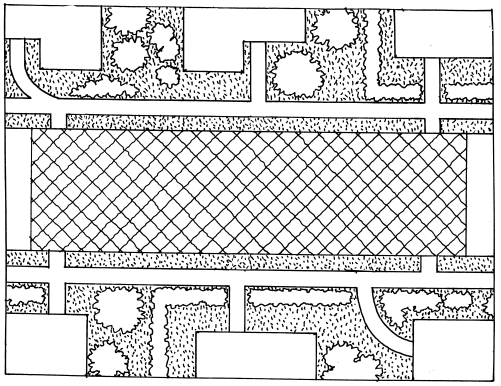

Figure 9-12. *When textured pavements are used, wheelchair users experience discomfort during travel and people with vision impairments have difficulty identifying detectable warnings.*

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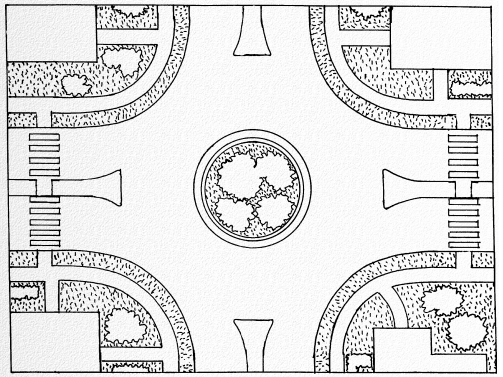

Figure 9-13. *A modern roundabout should have set back crosswalks and splitter islands to better accommodate pedestrians. However, even with these design improvements, people with visual impairments experience difficulty negotiating roundabouts.*

Textured pavements do reduce travel speeds; however, they are difficult for bicyclists and some pedestrians to negotiate (see Section 4.3.1.4).

9.2.4.1 Impact on pedestrian access

Textured pavement is problematic for people with disabilities. For example:

Negative impacts

- Amount of work is increased for people with mobility impairments to travel over textured pavements.
- Wheelchair users experience a bumpy ride and there is a potential for wheelchair casters to catch and swivel in grooves.
- Decorative materials often lift, settle, and buckle over time which creates a tripping hazard for all people, especially people with low vision.
- Decorative surface materials may make it more difficult for pedestrians with vision impairments to identify detectable warnings which provide critical information about the transition from the sidewalk to the street.

9.2.4.2 Design recommendations for textured pavement

Due to negative impacts on pedestrians and access, the installation of large areas with textured pavement at intersections and midblock crossings should be avoided as a traffic calming tool.

9.2.5 Roundabouts

Roundabouts require vehicles to circulate counterclockwise around a center island. Roundabouts may eliminate the need for traffic signals for motorists. Unlike many other forms of traffic calming, roundabout benefits are aimed primarily at motorists. The installation of roundabouts prioritizes improving traffic flow, maximizing vehicular capacity, and eliminating the need for stop signs and

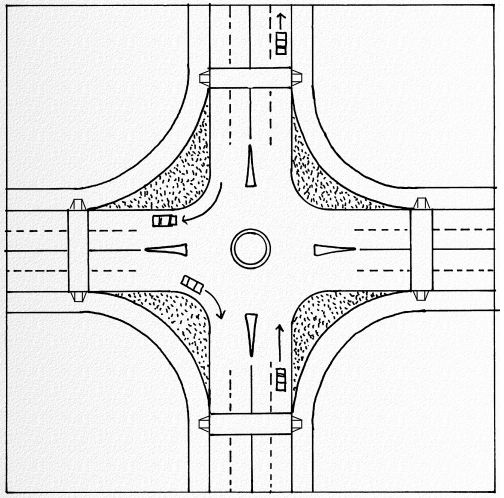

Figure 9-14. *This drawing illustrates a common roundabout design found in Sweden that includes large grass buffers that separate pedestrians and motorists at exit and entry points. The crosswalks are set back about four car lengths to reduce pedestrian and motorist conflicts.*

traffic signals. When designed correctly, roundabouts include raised splitter islands to channel incoming traffic approaching from the right. Although roundabouts are gaining popularity in the United States, they can be problematic in pedestrian areas until designs can include cues needed by pedestrians with vision impairments and cognitive disabilities.

9.2.5.1 Impact on pedestrian access

Roundabouts significantly complicate travel for people with vision and cognitive impairments. For example:

Negative impacts

- Motorists exiting the roundabout are often not required to yield to pedestrians. This is a particular problem at designs where exiting design speed is increased;
- If properly designed, the crosswalk locations are set back from the intersection, to enhance pedestrian visibility and to prevent drivers from stopping at the entrance of the roundabout. This design has safety benefits for most pedestrians at the entering leg because vehicles are required to yield to vehicles in the roundabout. Pedestrians crossing the existing leg may be at a greater disadvantage because exiting speeds are usually increased. Setback crosswalks are difficult for people with vision impairments to identify because they are not at the roundabout itself;
- Busy roundabouts provide very few gaps long enough to cross. This can be especially problematic and unsafe for pedestrians such as children, elderly with mobility and cognitive impairments, and people with vision impairments;
- Pedestrians with vision impairments experience difficulty seizing the right-of-way from exiting drivers due to the lack of pedestrian to driver eye contact;

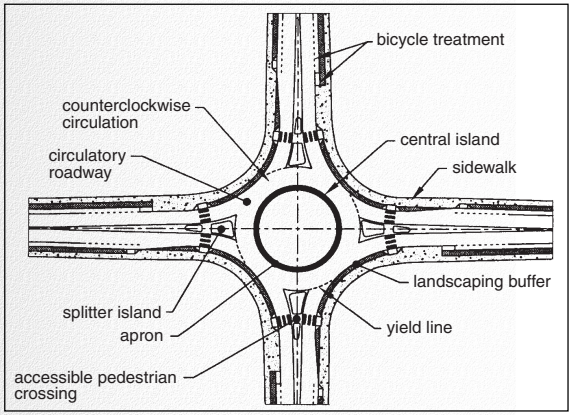

Figure 9-15. *Urban single lane roundabout with splitter island for pedestrian refuge. Truncated domes need to be placed at the curb ramps and splitter island. Landscape barrier, guidance cue at curb ramps, and APS are needed for crossing information, safety, and accessibility.*

- For persons with vision impairments, vehicles exiting the circle sound the same as motorists continuing around the circle;
- Due to the wide turning radii at the corner, pedestrians with vision impairments may fail to identify the intersection;
- Roundabouts are confusing for people with cognitive impairments due to the irregular design of the intersection. People with cognitive impairments may not be able to travel independently if these intersections exist in routes that are traveled in order to conduct daily functions and activities; and
- When a crosswalk is setback from the intersection, pedestrians have to walk longer distances out of their way to cross the street. Some pedestrians will use the most direct route regardless of the crosswalk placement.

9.2.5.2 Design recommendations for roundabouts

Designing roundabouts for people with vision impairments is a topic that warrants significant future research. Some smaller roundabouts may prove to pose few problems for people with vision impairments, but that depends on how busy or quiet it is. Some smaller roundabouts in quiet or isolated environments may prove to pose fewer problems for people with vision impairments. However, other roundabouts, in busy and noisy environments, may be identified as unusable by people with vision impairments regardless of the additional treatments used. The following recommendations could potentially improve conditions for pedestrians at roundabouts:

- Install setback, highly-visible crosswalks with detectable warnings and tactile indicators to identify the crossing for pedestrians with vision impairments and accessible pedestrian signals (including locator tones) to enable pedestrians to

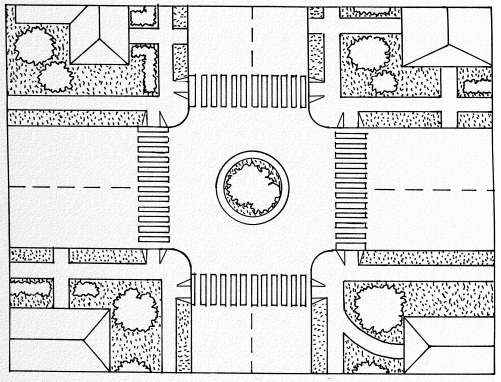

Figure 9-16. *Access at neighborhood traffic circles can be improved by installing highly visible and/or raised crosswalks.*

have sufficient crossing time. An accessible pedestrian signal can be provided to initiate the crossing phase;

- Install single lane roundabouts with single entry lanes, rather than multi-lane roundabouts, to shorten the crossing distance and enhance pedestrian visibility at the entry and exiting lanes;
- Add accessible medians and splitter islands to reduce crossing distances and allow pedestrians to negotiate one direction of traffic at a time; and
- Add rumble strips or some other noise-generating device to increase the sound of cars making them more detectable and reduce the speed of cars as they exit the roundabout. Use slip resistant material for bicyclists.

Figure 9-17. *Neighborhood traffic circles are a common horizontal measure for controlling the speed of motorists at a low volume intersection.*

9.2.6 Neighborhood traffic circles

Neighborhood traffic circles are similar to roundabouts in that traffic is required to circle around a center island counterclockwise. Neighborhood traffic circles are typically controlled by YIELD signs but may be controlled by STOP signs. Traffic circles are often located on lower volume residential streets. Traffic circles are the most common horizontal measure of traffic calming.

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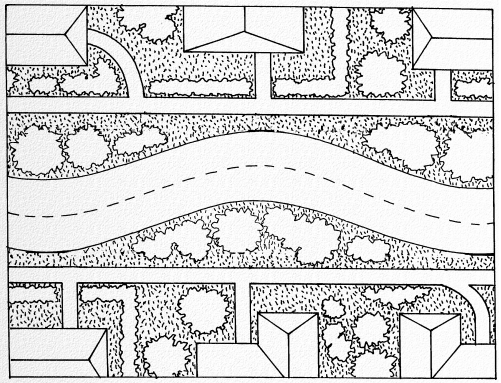

Figure 9-18. *Chicanes have lateral shifts that alternate on both sides of the street creating an S-shaped path of travel.*

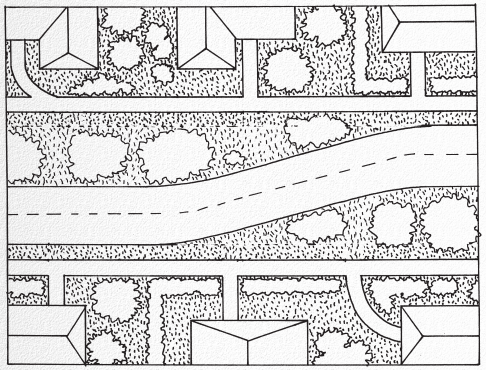

Figure 9-19. *Lateral shifts break up long sections of roadway. When motorists cannot see what is ahead, they tend to travel at slower speeds.*

9.2.6.1 Impact on pedestrian access

Although they are not as problematic as roundabouts, neighborhood traffic circles still have a negative impact on pedestrian access:

Negative impacts

- Motorists exiting the traffic circle often fail or are not required to yield to pedestrians;
- If the angle of deflection is significant, the motorists' path of travel will extend into the pedestrian crosswalk;
- People with vision impairments use the sound of parallel traffic to align themselves, which becomes a challenge at roundabouts because of the unusual configuration; and
- At intersections where motorists yield and stop, pedestrians with vision impairments experience difficulty assessing whether they have the right-of-way from drivers due to the lack of pedestrian and driver eye contact.

9.2.6.2 Design recommendations for neighborhood traffic circles

The following recommendations are intended to enhance pedestrian access at neighborhood traffic circles:

- Set back crosswalks slightly to accommodate for the motorists extended path of travel; and
- Install highly visible or raised crosswalks to make the pedestrian more visible and to further slow motorists.

9.2.7 Chicanes, lateral shifts, and chokers

Chicanes, lateral shifts, and chokers are all curb extensions installed away from an intersection to create a narrow two-lane gap or a single lane. Chicanes shift traffic alternately from side to side of the street to create an S-shaped path of travel. Lateral shifts are curb extensions that cause travel lanes to bend one way and then back the other way. Chokers are midblock curb

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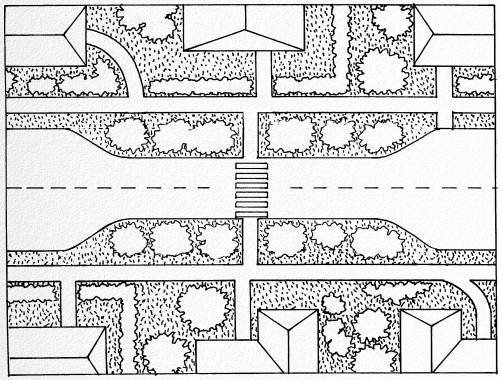

Figure 9-20. *Chokers reduce pedestrian crossing distances and enhance pedestrian visibility at a midblock crossing.*

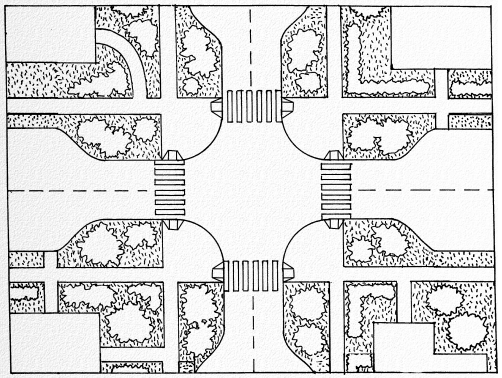

Figure 9-21. *Curb extensions at medians should include low landscaping to clarify the path of travel for pedestrians with vision impairments. High landscaping would block sight lines for motorists and pedestrians.*

extensions that narrow the street by expanding the sidewalk or adding a planting strip and often are installed at midblock crossings.

9.2.7.1 Impact on pedestrian access

In general, chicanes, lateral shifts, and chokers have positive impacts on pedestrian access. When designed as curb extensions, chokers reduce pedestrian crossing distances and enhance pedestrian visibility when installed at midblock crossings.

9.2.7.2 Design recommendations for chicanes, lateral shifts, and chokers

The following recommendations are intended to enhance access at chicanes, lateral shifts, and chokers:

- Install sidewalks that continue in a straight path rather than following the path of the chicane, lateral shift, or choker; and
- Design chokers to include curb extensions with landscaping when designed at midblock crossings.

9.2.8 Curb extensions at intersections

Curb extensions at intersections are installed to reduce the roadway width from curb to curb at an intersection. Other names for curb extensions include neckdowns and bulbouts.

9.2.8.1 Impact on pedestrian access

Curb extensions at intersections are the most common type of street narrowing and are primarily used to make intersections more pedestrian friendly. Curb extensions benefit pedestrians by creating shorter crossing distances, increased pedestrian visibility, and tighter curb radii that reduce the speeds of turning vehicles. On existing narrow sidewalks, curb extensions can provide an area necessary for curb ramps.

9.2.8.2 *Design recommendations for curb extensions*

The following recommendations are intended to enhance access at curb extensions:

- Design curb extensions so that they do not extend past the parking lane;
- Include a narrow passage for bicyclists to prevent vehicle conflicts;
- Design all curb extensions to include features such as well-designed curb ramps with detectable warnings; and
- Include landscaping on the curb extension to distinguish the path of travel for pedestrians with vision impairments.

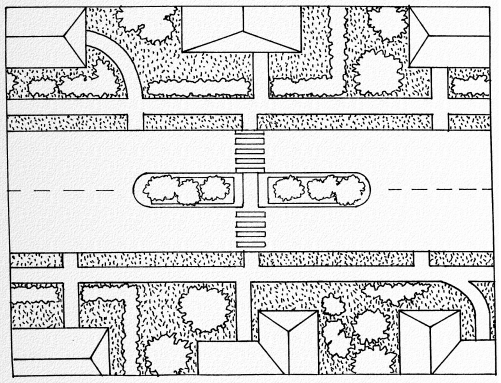

Figure 9-22. *Center island narrowings provide pedestrians with reduced crossing distances due to the presence of a pedestrian refuge area.*

9.2.9 Center island narrowings

Center island narrowings are raised islands located at the centerline of a street. Other names for center island narrowings include midblock medians, median slow points, or median chokers. Travel speeds are reduced due to the narrow path of travel at that location and are particularly effective on curves. Center islands also act as effective pedestrian refuge locations.

9.2.9.1 *Impact on pedestrian access*

Center island narrowings have the following positive impacts on access:

Positive impacts

- People with disabilities benefit from decreased crossing distances; and
- Pedestrians with slower walking speeds are able to cross one leg of traffic and then wait on a pedestrian refuge before crossing a second leg of traffic.

9.2.9.2 *Design recommendations for center island narrowings*

The following recommendations are intended to enhance access at center island narrowings:

- Raise medians to better separate pedestrians and motorists;
- Design median barriers to include accessible features such as cut-throughs with detectable warnings for people with vision impairments and a minimum clear width of 915 mm (36 in);
- Center island narrowing can narrow lanes to lower vehicle speed which enhances the safety of roadway crossings for pedestrians; and
- Consider bicycle travel when reducing lane width and provide a way for bicyclists to share the road with motorists.