

Walking -- Levels of Quality

A

B

C

D

E

F

Sidewalks

Exemplary

Excellent

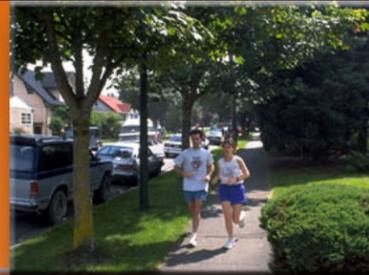
Good

Fair

Poor

Hall of Shame

Walkability increases with added width, buffers to the street, many eyes on the walk, attractive edges. Five-foot minimum widths are needed. Conditions improve as numbers of driveways are reduced, or set back. Non-mountable curbing is important.



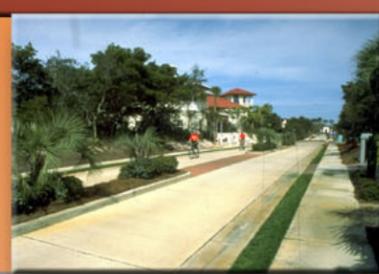
Main Streets

Main Street walks should be wide, attractive, with many shops and residential units watching over the street. Many activities are needed to keep sidewalks in use many hours a day. Good lighting and street furniture are essential. Maintenance is key.



Local Streets

Local streets should be narrow, well landscaped, with on-street parking to act as sidewalk buffers. Driving speeds of 15-20 mph are best, 20-25 are acceptable. Homes should be proximate to the street.



Avenue/Boulevard

Avenues and boulevard sidewalks should be 5-6 feet wide in most applications. Planter strips and bike lanes create essential separation from motorists. Trees, other landscaping, medians help slow motorists. Lanes can be as narrow as 10 feet.



Crossings

Crossings should be well marked, accentuated by curb extensions. On multi-lane boulevards it is essential to have exceptionally well marked crossings. In some cases signals are warranted.



Bicycling -- Levels of Quality

A

B

C

D

E

F

Wide Curb Lanes

Exemplary

Excellent

Good

Fair

Poor

Hall of Shame

Wide curb lanes increase comfort between motorists and bicyclists. Motorists desire to separate themselves 6.0 feet from bicyclists. Wide curb lanes give buses more space, and allow greater turning radii. Low speeds create greater comfort.



Bike Lanes

Bike lanes define and identify bicycling locations. Widths up to 6.0 feet are most comfortable. Colorization can help. Narrow widths next to parking are least comfortable. Speeds between 25-35 mph are most comfortable.



Paved Shoulders

Paved shoulders that are smooth and wide are most comfortable. Surfaces should be clean and smooth, with few driveways and other interruptions. Narrow shoulders can help, but are less comfortable.



Multi-Use Trails

Multi-use trails work well in paralleling high speed roads in access controlled environments. Trails can offer more scenic, quiet, and direct routes of travel. Widths can vary, but must be designed to accommodate many users and user types.



Crossings

Crossings with low volume streets, where there are frequent gaps, good sight distances, good lighting, and medians or refuge islands are best. In some cases signals are essential or other controls are essential.



Transit Station Links, Connections -- Visual Features

Local - Low Volume

Residential streets have low speeds (20-25 mph), well distributed volumes. Walking and bicycling are well supported. Streets are green and comfortable. Many people use these streets to access stores, parks schools and transit.



Lanes

Sidewalks



Parking



Intersections



Landscaping



Crossings



Local - Higher Volume

Streets support moderate speeds (25 mph). Emphasis is on quiet, courteous driver behaviors and actions. Parking is important to this street type. Wider walkways, trees, other landscaping, easy crossings-make walking enjoyable.



Avenues

Speeds are still moderate (30 mph). Even greater sidewalk width is enjoyed, along with bike lanes, enhanced green and on-street parking. Intersections are well designed, making crossings convenient.



Commercial

Commercial streets are full of people enjoying newly created public space. There are many eyes on the street from mixed use buildings. Parking is convenient. Speeds are low, making bicycling and walking inviting.



Trails

Trails form important links to neighborhoods and light rail, and form long pathways along the corridors. Direct links to nearby neighborhoods are supported. Convenient bike parking and rentals are provided at stations and retail.



Traffic Calming -- Intersection Tools

Tool Description

Added Benefits

Cost / Other

Plan View

Curb Extensions

Curb extensions are great tools for slowing speeds at intersections and midblock locations. They are often used in combination with other tools, such as refuge islands, or part of a modified intersection. They are very helpful to inset parking, meet ADA requirements and reduce pedestrian crossing times and distances.

Main Street



Helps protect and preserve sight lines, eliminates illegal parking, helps assure emergency responder access to critical streets. Can be used for emergency responder operations area. Use to create chokers, chicanes, neckdowns.

Neighborhood



Costs range from \$5-30,000 per corner. Costs are reduced if drainage is left open. This can increase maintenance costs, so these details must be worked out by a city/county team.



Refuge Islands

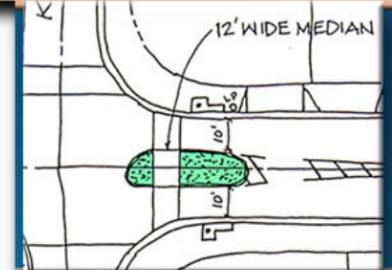
Refuge islands slow traffic in three ways. They visually tighten the road, slow turning speeds, and help create narrow channels. They separate conflicts, create 10' wide driving lane channels (when used with curb extensions), minimize pedestrian crossing conflict speeds.



Minimum preferred width 8.0 feet. Best when landscaping is used to help motorist see treatment in advance. Keep ADA ramps at grade or with light crown for drainage. Use full width ADA ramps, and create 45 degree bend, if midblock.



One of the most affordable tools. Does not affect drainage. Can be landscaped at added cost with or without irrigation. Used effectively in high pedestrian areas, such as schools, parks, stores.



Modified Intersections

Modified intersections take back unwarranted asphalt, returning it as green space. Often motorists turn too fast when curb radii were made too wide for safety. Some intersections can be turned into small parks, greatly increasing safety, beauty and a gateway appearance.



Vastly improves sight distances. Helps many motorists get into difficult or unsafe intersections. Can serve as a small neighborhood park or gathering place, thus increasing association and security of the neighborhood.



Very popular as a gateway to a neighborhood, or any place where excessive asphalt exists. Very high return on investment, especially where pedestrian crossings are risky. Avoid ugly temporary treatments.



Raised Intersections

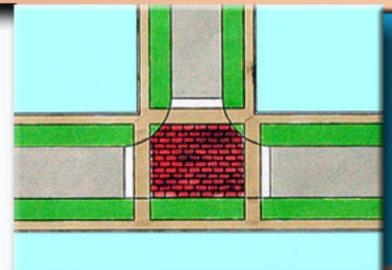
Raised intersections provide a colorful vertical intersection effect. They slow traffic in three ways. First they create an attractive, distinct shape. Second, they create a vertical deflection forcing a low speed approach. Third, they highlight the area as a pedestrian space.



Can be used with very tight and narrow intersections. Used where roundabouts cannot fit. Highly attractive. Requires good coordination with engineering, landscaping and architectural specialists.



Very popular as a gateway to a neighborhood, or any place where excessive asphalt exists. Very high return on investment, especially where pedestrian crossings are risky.



Roundabouts, Mini- Roundabouts

Roundabouts and mini-roundabouts are the most effective and popular traffic calming feature. These horizontal deflection tools lower speeds to 15-20 mph, shorten pedestrian crossings to 12-14 feet at a time, decrease injury crashes about 90%, reduce noise and pollution, and increase area property values.



Roundabouts are excellent for entrances, intersections near schools, parks, gateways to downtowns, and many other locations. Always consider any time a signalized intersection is being funded.



Great range in costs. Mini-roundabouts can be \$10-50,000, while roundabouts can be \$50-500,000 for many sizes. Greatest safety benefit of all traffic calming tools.



Traffic Calming -- Mid Block Tools

Tool Description

Speed Tables (Flat Top Tables)

Speed Tables slow traffic through vertical deflection. They are a best tool for pedestrian and bicyclist crossings. Although they are not desired where volumes are high (above 10,000), on bus routes or prime emergency response routes, they have great utility. Their most common placements are at schools, parks, many local streets, and on some moderate volume roads.



Major Street

Added Benefits

Speed tables are highly effective on narrow streets where parking must be maximized, and where other tools take away valuable land or parking. They can be colored, enhanced with advance markings and made of asphalt or concrete.

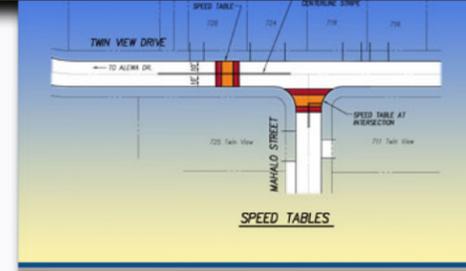


Neighborhood

Cost / Other

Costs range from \$4-15,000. Costs are reduced if drainage is left open. This can increase maintenance costs, so these details must be worked out by a city/county team. They can be stamped or patterned for added attractiveness.

Plan View



Chokers

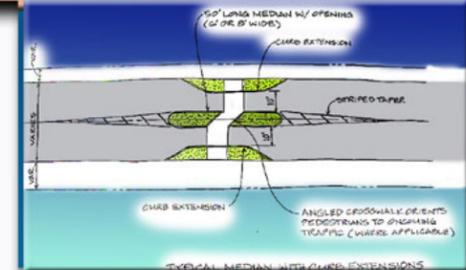
Chokers reduce speeding by narrowing passageways at appropriate points. They are highly effective when set at 10' width. Sometimes additional visual narrowing is applied. Chokers demand landscaping, so that they can be seen from a distance. Low, slow growth ground cover and tall trees are useful.



Chokers take up only moderate space, keeping parking toward a maximum. Chokers require low ground cover and tall trees for maximum safety and benefit. They are very attractive enhancements to neighborhoods, and quite popular.



Costs range from \$4-15,000. Costs are reduced if drainage is left open. This can increase maintenance costs, so these details must be worked out by a city/county team. They can be stamped or patterned for added attractiveness.



Chicanes

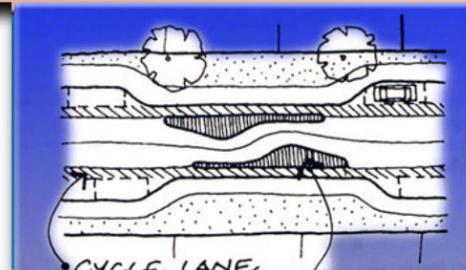
Chicanes divert traffic from its intended course. Deflection speeds are held to 15-20 mph. These tools are highly effective and can be made very attractive. These tools work for all size vehicles. On low volume streets no treatments are needed for bicycles, but on higher volume Avenues it may be appropriate to channel bikes along their own independent course.



Chicanes take up longer sections of roads than most tools and must be carefully set between driveways. Meanwhile, they are very popular since they can create attractive mini-parks. Landscaping greatly enhances their performance.



Costs range from \$12 -35,000. Costs are reduced if drainage is left open. This can increase maintenance costs, so these details must be worked out by a city/county team. They can be stamped or patterned for added attractiveness.



Medians

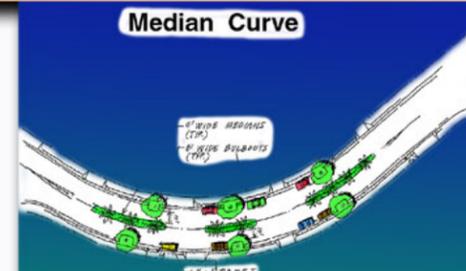
Raised medians are especially useful around curves and on any overly wide street. Medians are the most attractive and least intrusive treatment. Their benefit to pedestrians is noteworthy. Medians can have openings for driveways, and so fit in many tight locations. Use care to keep medians in plain view, especially around curves and on hills.



Medians may restrict parking, especially on narrower roads. Medians can add significant beauty to neighborhoods. A variety of materials can be used. Concrete curbs are essential to their success.



Costs range from \$4-15,000. Costs are low, since they do not impact drainage. Using xeriscaping or other alternative landscaping materials can keep maintenance costs low. Light crowning aids detection and beauty.



Short Medians

Short medians are best described as a pregnant median, or a mis-located roundabout. They are highly effective tools, slowing traffic to about 15-20 mph. Short medians are very attractive. However, they remove parking, and often appear to take land away from adjacent properties. Best for local streets.



Short medians can be neighborhood focal points or mini-parks. When parking, driveway placement and other land issues are not an issue they are exceptionally well liked by the entire neighborhood. Tall trees should be planted.



Costs range from \$10-25,000. They are often free if added as part of normal street construction. They rarely have impact on drainage. Often short medians are used to preserve a historic tree, cactus, boulder or other feature.

