Slow streets are designed to enhance safety and improve pedestrian and bicycle comfort by achieving low motorist speeds. Slow streets are frequently designed to minimize speed differentials between motorists and bicyclists to prioritize bicycle travel. The lower motorist speeds also promote increased yielding to pedestrians crossing the street. These streets are also known as bicycle boulevards, quietways, or neighborhood greenways.

Designers have conventionally designed low-speed, urban streets for speeds between 20–45 mi/h. Slow streets should be designed for a maximum speed of 20 to 25 mi/h with the majority of motorists going slower. Slow streets may require the use of traffic calming measures such as curb extensions, speed tables, gateway treatments, neighborhood traffic circles, textured pavement, and chicanes. For more information, refer to design topic on Traffic Calming and Design Speed.

The 2014 NACTO Urban Bikeway Design Guide addresses the design of bicycle boulevards, a type of slow street:

"Streets developed as bicycle boulevards should have 85th percentile speeds at 25 mph or less (20 mph preferred)."

NACTO Urban Bikeway Design Guide, p. 167

"Pedestrians are the lifeblood of our urban areas, especially in the downtown or other retail areas. In general, the most successful shopping sections are those that provide the most comfort and pleasure for pedestrians."

AASHTO Green Book 2011, p. 2-78

"Bicycle boulevards create favorable conditions for bicycling by taking advantage of local streets and their inherently bicycle-friendly characteristics: low traffic volumes and operating speeds."

AASHTO Bike Guide 2012, p. 4-33

"Speed Management measures for bicycle boulevards bring motor vehicle speeds closer to those of bicyclists...[and] is critical to creating a comfortable and effective bicycle boulevard."

NACTO Urban Bikeway Design Guide 2014, p. 167

"Bicycles are an important form of non-motorized travel for social, recreational, and work trips. Local streets often are ideal for bicyclists because of their relatively low traffic levels, relatively low traffic speeds and direct access to a large number of destinations."

Applying Design Flexibility

Design speeds for slow streets are typically at or below 20 mi/h. This design speed reduces the speed differential between roadway users, thus providing a higher level of comfort and safety. Good candidates for slow streets include neighborhood residential streets, school walking routes, bicycle routes, and shopping streets with a high level of pedestrian activity. Slow streets are also appropriate on streets running adjacent to, or through, parks and public plazas. Lower-speed streets with comfortable pedestrian crossings enhance adjacent public space, while streets designed for higher vehicle speeds and volumes, with difficult crossings, detract from it.

There are various types of slow streets, including (but not limited to):

- Bicycle boulevards
- Bicycle priority streets
- Neighborhood greenways
- Neighborhood slow streets
- Shared streets (also called “flush” streets) are a special type of slow street that are covered separately in the design topic on Shared Streets.

Strategies for Achieving Slow Speeds

The choice of surface materials can impact traffic safety and speeds, user comfort, and stormwater management. Bricks or pavers provide texture and can produce a traffic calming effect when used in the street, but may be difficult for some people to traverse in the pedestrian areas.

Slow streets often have a narrowed travel way (less than 18 feet in total width), in some cases requiring oncoming motor vehicle traffic to yield prior to passing. Alleys are an example of this strategy for slow street design.

In some cases, slow streets will include bollards, planters, and other vertical elements in close proximity to the travel way, therefore encouraging caution as drivers move along the street.

The removal of traffic controls at intersections, in conjunction with other features that reduce speed, is another strategy to produce cautious behavior for motorists (and therefore slower speeds).

Various other traffic calming measures can be used to slow motor vehicle speeds, provide comfortable places for vulnerable road users, and encourage motorist yielding. For more information, refer to the design topic on Traffic Calming and Design Speed.
Slow street strategies may be implemented in the short or long term. Effective traffic calming measures may be implemented as short-term retrofit project using paint and temporary materials only (e.g., epoxy, flexible delineator posts, planters, etc.). The use of these materials enables practitioners to tweak designs, if necessary, in response to community input and direct observations. It may be appropriate to pursue a retrofit project in the short term while planning and designing for long-term reconstruction. Some measures may require reconstruction of the street to realize full desired outcomes.

GATEWAY TREATMENTS

For a slow street to be successful, drivers must feel that they are entering a new and different environment. This is typically accomplished by locating gateway treatments at the transition point to a slow street (NACTO Street Urban Design Guide 2013, p. 47). Gateway treatments are strategically located curb extensions that can feature additional elements, such as raised crossings, landscaping, signs, stormwater management, etc. Cambridge, MA, Boulder, CO, Portland, OR, Seattle, WA, and New York City are examples of municipalities that implement gateway treatments.

BICYCLE BOULEVARDS (OR BICYCLE PRIORITY STREETS)

Bicycle boulevards are streets with lower motor vehicle speeds that are designed to allow bicyclists to travel comfortably in a low-stress environment. Bicycle boulevards typically give priority to bicycle use and discourage through-traffic by motor vehicles. They are designed to minimize the number of stops that a bicyclist must make along the route. There is a great deal of flexibility when designing bicycle boulevards. Different types of design treatments can be used. They are easier to implement in areas with a grid street network because drivers have the option to choose an alternate route. Bicycle boulevards are typically designated with special signs or pavement markings. More information on bicycle boulevard design can be found in the 2012 AASHTO Bike Guide and the 2014 NACTO Urban Bikeway Design Guide.

ACCESSIBILITY

Slow streets are inherently beneficial to pedestrians of all abilities, because they produce slower and more cautious behavior on the part of motorists. Design elements of slow streets must meet current accessibility standards. For example, all surfaces within pedestrian areas must be designed and maintained to be stable, firm, and slip resistant. For more information, refer to the the design topics on Accessibility and Shared Streets.
CASE STUDIES

HERITAGE SQUARE
SULPHUR SPRINGS, TX

The City of Sulphur Springs reconstructed Heritage Square to revitalize its downtown and create a welcoming public space next to the historic Hopkins County Courthouse. Four two-lane, one-way streets surrounding the square were narrowed, converted to two-way operation, and reconstructed with a brick surface. The result was a slow-speed street that doubles as festival space during downtown community events, which are now common. The City replaced a parking lot in the center of the square with landscaping, trees, memorials, places to sit, a splash fountain, two public restrooms, and on-street parking.

5TH STREET NE BICYCLE BOULEVARD
MINNEAPOLIS, MN

In 2011, the City of Minneapolis installed the 5th Street NE Bicycle Boulevard to provide a low-stress bicycling route. 5th Street NE is a quiet, residential street with a 20–25 mi/h design speed. Yield-controlled, landscaped traffic circles replaced stop signs at two locations. The City rebuilt two traffic diverters to allow bicycle-only traffic and installed the city’s first bicycle signal to facilitate the crossing of Broadway Street, which carries 20,000 vehicles/day. Today the boulevard connects University of Minnesota students with residential neighborhoods and serves about 700 bicyclists on a typical day.

NEIGHBORHOOD GREENWAY PROGRAM
PORTLAND, OR

Portland’s Neighborhood Greenways program (formerly Bicycle Boulevards) increases the safety, comfort, and convenience of the walking and bicycling environment on residential streets. Neighborhood Greenways provide comfortable bicycle and pedestrian crossing opportunities and are designed to limit motor vehicle operating speeds to no more than 20 mi/h and volumes to approximately 1,500 vehicles per day. These outcomes are achieved through the use of speed humps and traffic diverters to discourage cut-through motor vehicle traffic. As a result, Neighborhood Greenways form the backbone of the City’s low-stress bicycling network. The City has installed more than 70 miles of Neighborhood Greenways as of 2016 and continues to expand the program.

Source: Portland Bureau of Transportation