

Shared Streets: Implementation

The transformation of a standard residential or commercial street into a shared street is a very site-specific project. A shared street project, whether residential or commercial, should include consideration of the context of the neighborhood around it. Shared streets are most successfully implemented when part of an integrated transportation and neighborhood sustainability policy and design.

Developing the vision is a collaborative exercise, which will involve the neighborhood residents and businesses, the city, emergency services, and local neighborhood social and environmental groups. The stakeholders must carefully define their needs and intentions for a shared streets project so that each proposed element is well understood and considered.



Ma May Street, a commercial shared street in Ha Noi City, Vietnam

Three important areas of design consideration

A shared street can serve a broader cross section of the community through design strategies that go beyond providing a route for vehicular traffic. Three types of design strategies are important considerations for a successful design. The first type includes the basic design strategies used to transform a traditionally designed street into one accessible to all users. The second type includes strategies that include the needs of hearing, sight and mobility-impaired residents and potential users. And the third design category incorporates water management strategies, taking advantage of the opportunities a shared street design can offer to effectively contribute to managing this resource. Examples of each are presented below.

Basic Shared Street Design: Assessment

Certain streets work better than others as shared streets. The following design considerations are important when assessing an existing street as a candidate to become a shared street:

- Assessment of existing traffic volume (recommended at 100 vehicles per hour or less)
- Length and width of the street or section of street to be incorporated (typically, a length of 600 meters is considered the maximum to reduce driver frustration, and the width will determine parking patterns and whether traffic can move in more than one direction)
- Number of on-street parking spaces required (are there existing driveways?)
- Design strategies for sight, hearing and mobility impaired users, and for those using hand carts and strollers
- Need for new street amenities (seating, playground equipment, space for gatherings or games)
- Rainwater retention requirements

Shared Streets are delineated through visual and physical indicators. Signage, bollards, plantings, sidewalk textures, etc. can be combined to create an environment that is simultaneously congenial for pedestrians, cyclists, and automobiles. Signage, trees, street paving and textures indicates the beginning and end of the shared street. The paving transition at the street entry curb is pedestrian-friendly. Bollards, light poles, plantings and street furniture all indicate this street is pedestrian-

dominated. Pedestrians, cyclists, and automobiles coexist and share the street. There are built in street indications for each mode of transport to control vehicular speed, access, right of way, etc. Street paving textures help delineate usage. Generally created with tile, stone, concrete, or brick pavers, textures intuitively reduce vehicular speed, without the need for signage. Note the street is continually curving which also helps to curtail automobile speeds. Bollards, light poles, and plantings create a buffer at the entrances to shops to keep them free of automobiles. Buffered walkways are provided through the placement of trees and plantings. Note the scale of the street and the spacing of the trees and plantings create a compact street-scape, helping keep automobile speeds down.

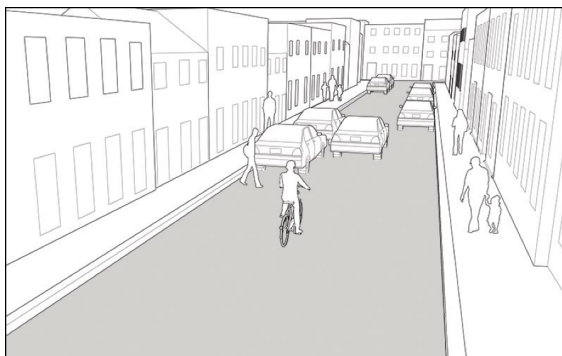


Entrance to Friedrichstraße, a shared street in Bonn, Germany.

Basic Shared Street Design: Recommended Design Elements

The following are typical recommended design elements of a shared street. They have proven successful, particularly for residential streets where ambience and safety are high priorities among users. These elements have been shown to catch vehicle drivers' attention, slow their driving speed and increase their awareness of the activity in the street:

- Clearly marked entry (sign or rise in pavement)
- Varied paving materials (to demarcate parking spaces and other special areas)
- No continuous curb--façade to façade paving at the same level
- Strategically placed parking spaces (patterns will depend on width of the street)
- Disperse direct sight lines through curves in pavement, placement of parking, planters, bollards and street furniture
- Trees and plantings for visual appeal, shade, storm water management and traffic calming
- Play equipment and seating areas



NACTO Shared Street Diagrams displaying how a typical street can be renovated into a shared street

Water management strategies incorporated into shared street design

A shared street design is the ideal opportunity to introduce water management strategies in an urban setting. Instead of allowing rainwater to wash runoff pollutants into sewage systems or nearby waterways, or to contribute to flooding conditions, a shared street design can capture excess rainwater and recycle it by watering street trees and vegetation. The following strategies are easily adapted to the design elements of a shared street. They are drawn from "A Conceptual Guide to Effective Green Streets Design Solutions, published by the U.S. Environmental Protection Agency.

- **Stormwater curb extensions.** Curb extensions are used to slow traffic by narrowing street entrances. Incorporating a rain garden into the expanded curb area, and sloping pavement to direct water flow into the gardens.
- **Permeable paving.** Specially designed pavers or porous asphalt allows water to penetrate and be absorbed before it runs off the street. These can be used in a number of locations depending on the level of rainwater that collects. Permeable paving has been used around street trees, or along the edges of a street where water gathers. Permeable pavers can serve double duty as an alternative surface texture.
- **Vegetated swales.** Where there is heavier flow of rainwater such as on sloped streets, vegetated swales offer long, shallow depressions planted with vegetation that will slow the flow of water and absorb it before it becomes runoff.
- **Stormwater planters.** These are planted areas open to the soil underneath, and can hold and absorb more runoff. Like the other strategies, the design should slope surrounding pavement to direct the water into the planters.

Design Suggestions for Meeting the Needs of Those with Disabilities:

For a shared street to provide all its potential benefits to the neighborhood, it must be easily accessible to all. As shared streets become more popular, inclusive accessibility has become an important topic of concern. A British survey among hearing, sight and mobility-impaired pedestrians revealed a general level of reluctance to use shared streets because they are regarded as unsafe. The major contributing factor is that the typical shared street design eliminates the curbs, signage and other traditional, physical street attributes that impaired people have come to expect will assist them in their travel.



Although pedestrians have full access to the street, protected walkways are also provided.

When a shared street still serves a transportation function as a thru street and might be used daily by a broad cross section of the public, it is potentially necessary to bend the shared streets conventions to maintain some traditional street design protocols such as curbs and traditional crossings to accommodate those with impairments. Where a shared street is a cul-du-sac or only maintains very local, residential traffic, and traffic speed is naturally reduced, design protocols for impaired users might be less aggressive. The balance of these elements should be central in the design planning stage, which should include input from as many potential users as possible.

In the British study, a distinction was made between "shared space" and "shared surface," suggesting that when the street surface is one level from façade to façade, there is not enough information for the physically impaired to identify a safe path. Study participants did not dismiss the shared space concept out of hand, but rather made suggestions to incorporate design elements that would provide the missing cues. Among these were use of raised curbs and crosswalk curb cuts, designated bikeways, use of bright colors or different textures in the pavement, and incorporation of easily perceived safe areas out of the traffic flow where people could stop and relax.

- For the visually impaired, a distinct, separate walkway for pedestrians that can be traversed by those using canes or guide dogs—clear of obstacles or vehicles
- Disabled parking spaces located where they can be easily accessed and where other street uses do not interfere with van lifts or wheel chair access
- Use of bright pavement colors or distinctive pavement texture to create separate pathways or crossing points for pedestrians
- Creating safe havens where no traffic is allowed, and providing seating to allow hearing, sight and mobility-impaired

State Street, Madison, Wisconsin: A Commercial Shared Street



During the 1950's State Street was a busy two way street with parking, left. After its transition into a shared street, it remains busy with pedestrian traffic, right.

State Street in Madison, WI, which runs between the State Capitol and the heart of the University of Wisconsin-Madison campus, is a well-known and highly successful commercial shared street. Transformed in 1974 from a busy, 2-way street, it illustrates well that site-specific and community requirements often bend the design rules for shared streets: it is longer than normally recommended--about six blocks in length, and nothing was added to reduce the direct sight line from one end to the other. It was created from an existing downtown transportation corridor, and most of its length uses continuous curbs, although installation included widening sidewalks and narrowing traffic lanes. Also, motorized traffic access is limited to buses, and police, emergency and delivery vehicles. State Street provides low-stress pedestrian and public transportation access to downtown shops and restaurants to the over 43,000 students at the university and countless downtown workers and tourists, seven days a week.

Additional Information

- Eubank-Ahrens, Brenda, A Closer Look at the Users of Woonerven, from Public Streets for Public Use, 1991, edited by Anne Vemez Moudon, Columbia University Press.
- Joint Committee on Mobility of Blind and Partially Sighted People, Shared Space in the Public Realm: Policy Statement
- U.S. EPA, Green Streets: A Conceptual Guide to Effective Green Streets Design Solutions
- Alta Planning + Design, Shared Streets and Alleyways—White Paper, for City of Ashland, Ashland Transportation System Plan, February 2011
- A Conceptual Guide to Effective Green Streets, Design Solutions
- Shared Streets and Alleyways –White Paper. City of Ashland, Ashland Transportation System Plan
- NACTO Urban Street Design Guide
- NACTO Residential Shared Street Graphics
- Shared space- creative places or exclusive by design?