

# SHARED STREETS



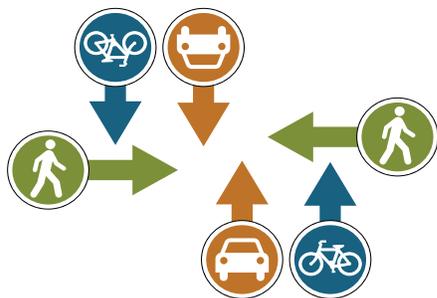
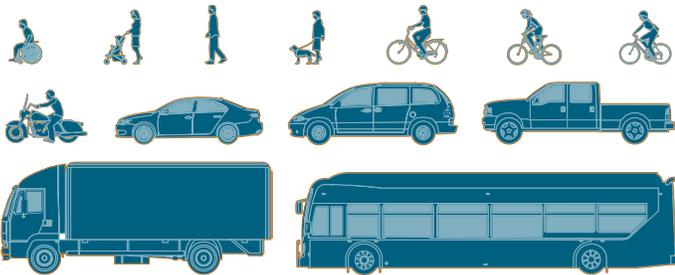
Source: Payton Chung (Creative Commons)

Shared streets, also called flush streets or woonerfs, prioritize pedestrian and bicycle movement by slowing vehicular speeds and communicating clearly through design features that motorists must yield to all other users. Shared streets use various design elements to blur the boundary between pedestrian and motor vehicle space. The design should create conditions where pedestrians and bicyclists can walk or ride on the street and cross at any location, as opposed to at designated locations. This encourages cautious behavior on the part of all users, which in turn reinforces slower speeds and comfortable walking and bicycling conditions.

By slowing the travel speed of all modes, shared streets encourage social interaction and lingering. They support a variety of adjacent land uses including commercial and retail, entertainment venues, restaurants, offices, and residences, while still accommodating commercial loading and transit operations. Shared streets have also been shown to increase economic vitality and vibrancy.

FHWA encourages additional research and best practice review for shared streets, specifically relating to accessibility. Potential topics include existing European planning and guidance, design techniques to distinguish pedestrian-only and shared space, effects of surface materials (e.g., pavers, cobblestones, etc.), interpretation of hard versus soft edges, and impacts of grates, slopes, and crossing treatments.

## COMMON USERS IN CONFLICT AND TYPICAL CRASH TYPES



Poor communication to all users on shared streets can contribute to crashes.

## GUIDING PRINCIPLES TO REDUCE CONFLICTS

### SAFETY

The design, operations, and maintenance of shared streets should encourage lower vehicle speeds, reducing the likelihood and severity of crashes.

### ACCOMMODATION AND COMFORT

Shared streets should communicate clearly that motorists are guests on the street and must proceed slowly and cautiously.

### COHERENCE

Design details should communicate clearly that the shared street is a multimodal environment where pedestrians are given priority.

### PREDICTABILITY

On shared streets, the lack of predictability of all users heightens awareness, thereby creating lower vehicle speeds and reducing conflicts.

### CONTEXT-SENSITIVITY

The shared street should support adjacent land uses and support economic and livability goals.

### EXPERIMENTATION

Shared street design should use creative means to delineate space for pedestrians with vision disabilities.

## DESIGN STRATEGIES

### DESIGN SPEED

Shared streets are considered self-enforcing roads, designed and operated primarily for pedestrian traffic. Designs for shared streets should lead to slow vehicular speeds. The maximum design speed should not exceed 20 mi/h. However, the preferred design speed is between 10 and 15 mi/h. For more information, refer to the design topics on [Traffic Calming and Design Speed](#) and [Slow Streets](#).

### VOLUME CONSIDERATIONS

Local access streets with relatively high pedestrian demands tend to be good candidates for shared street treatments. Shared streets should have no more than 100 vehicles during the peak hour for pedestrians to feel comfortable sharing the road with motorists ([FHWA Pedestrian Safety Guide and Countermeasure Selection System 2013](#)). If volumes exceed this threshold, designers can consider restricting access for specific vehicle types to reduce volumes. If vehicular volumes are too high, pedestrians will avoid the middle part of the street. Depending on the role of the shared street in the transportation network, personal vehicles may be directed to alternative routes; while taxis and freight and transit vehicles are allowed. Emergency access should be maintained on shared streets.

### INTERSECTION CONSIDERATIONS

At intersections, designers should consider traditional marked crosswalks and detectable warning surfaces in order to alert pedestrians of potential vehicular conflicts. Consider alerting drivers entering the shared street of the intended use of the space and the appropriate speed by using gateway features such as signs, raised crossings **1**, raised intersections, or curb extensions. For more information, refer to the design topic on [Intersection Geometry](#). Signs should be warning signs with the wording such as SHARED STREET. **2** An advisory speed plaque can supplement the warning sign. Signs should comply with the [MUTCD](#).

### ALLEYWAYS

Alleyways are typically narrow streets behind buildings providing service access. They feature relatively low vehicular volumes and may operate unofficially as shared streets. Shared alleyways make the space more accessible for all users. Removing curbs and adding gateway treatments can help alert users of the shared space. Designers can also use paving treatments such as permeable pavements to assist with stormwater management. All paving surfaces must meet pedestrian accessibility requirements. **3**

### MULTIPURPOSE SHARED STREETS

Shared streets offer a great deal of flexibility in how the space is designed and used. Without vertical curbs, the street can be closed to offer space for events, or more comfortably provide outdoor seating space for cafés and restaurants. Designers have several options for drainage design and the delineation of space. Through the thoughtful use of urban design principles, these streets can enhance the sense of place and emphasize the pedestrian and bicycle priority of the street.

A multipurpose shared street allows different uses of the space on different days of the week, times of day, or seasons, extending the public space at times of celebration, special events, or festivals. Sidewalks, parking, and vehicle travel lanes can be available at various times. Movable planters, metal barricades, or signs can regulate the use of the space on a temporary or regularly scheduled basis. **4**

### REMOVING VERTICAL CURBS

Typically, shared streets do not use vertical curbs—the entire street surface is flush, with minimal separation between sidewalks and the travel way. While vertical curbs discourage motor vehicle encroachment, they have limited ability to prevent a vehicle from driving onto the sidewalk. There are several techniques available to designers to control drainage and help delineate the roadway edge, which are typical uses of curbs.

### CONSIDERATIONS

- Surface or pavement materials of varying textures, patterns, and colors provide visual cues for each mode. Trench grates can provide a visual and tactile distinction between pedestrian-only space and space where motorists may be present. Vertical elements such as lighting, bollards, street trees, planters, and furnishings can also delineate the space.
- Stormwater can be captured without vertical curbs through proper grading and drainage techniques. A valley gutter can be provided along a flush curb, such as between parking and the travel way. Valley gutters can convey stormwater to inlets or to green infrastructure such as tree pits or rain gardens that may also provide shade and vegetation.





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3 ALLEYWAY



1

4 MULTIPURPOSE STREET

## ACCESSIBILITY

Shared streets should be designed carefully for people with disabilities. This can be done by providing a frontage zone along buildings where a traditional sidewalk is located. The frontage zone can be delineated with different paving treatments, drainage infrastructure, trees, street furniture, art, or parking. Paving textures in the frontage zone should be smooth and vibration free, with a minimum of 5 feet clear space. For more information, refer to the design topic on **Accessibility**.



## CASE STUDIES

### WINTHROP STREET CAMBRIDGE, MA

Many streets in Cambridge were first constructed centuries ago in constrained rights-of-way with narrow sidewalks that do not meet accessibility standards. As a result, pedestrians tend to walk within the roadway on these streets. The City's regulations allow for shared streets in which vehicular traffic mixes with bicyclists, pedestrians, and loading activity. These streets are designed for motorists to yield to pedestrians, use caution, and travel slowly. Winthrop Street is designed so that the sidewalk and roadway are flush. Pedestrian-only space is delineated from space where vehicles are permitted by different-colored pavers, flush curbing, bollards, and planters. Movable planters are also used to close the street to vehicular traffic at certain times of day.



### FIRST STREET NORTH JACKSONVILLE BEACH, FL

First Street is a beachfront destination, running parallel to the Atlantic Ocean and providing access to Jacksonville Beach, residences, restaurants, shops, and hotels. The City of Jacksonville Beach decided to implement the shared street concept by removing road markings and putting vehicles at the same plane as pedestrians. The street has pedestrians, vehicles, and bicyclists on even footing, with equal rights to the street. This causes drivers to slow and give way to other users.

As an additional benefit of the flush condition, the street creates universal access without the need for designated curb ramps. The City felt this was an important feature for accessibility as well as for those visiting the beach with coolers, chairs, and strollers.



## FOR MORE INFORMATION

American Association of State Highway and Transportation Officials. *A Policy on the Geometric Design of Highways and Streets*. 2011.

American Association of State Highway and Transportation Officials. *Guide for the Planning, Design, and Operation of Pedestrian Facilities*. 2004.

Federal Highway Administration. *Manual on Uniform Traffic Control Devices*. 2009.

Federal Highway Administration. "Pedestrian Safety Guide and Countermeasure Selection System: Shared Streets." Last modified August 2013. [http://pedbikesafe.org/PEDSAFE/countermeasures\\_detail.cfm?CM\\_NUM=67](http://pedbikesafe.org/PEDSAFE/countermeasures_detail.cfm?CM_NUM=67).

National Association of City Transportation Officials. *Urban Street Design Guide*. 2013.

United States Access Board. *Proposed Guidelines for Pedestrian Facilities in the Public Right-of-Way*. 2011.