

This fact sheet introduces planning, engineering, and design practitioners to the Institute of Transportation Engineers' recommended practice (RP) *Designing Walkable Urban Thoroughfares: A Context Sensitive Approach* as a tool for designing urban streets that are compatible with and supportive of the surrounding context and community. This fact sheet previews some of the RP's guidance on designing commercial main streets. This fact sheet will help the practitioner understand some of the features of the surrounding context and the street itself that attract people to these highly walkable environments.

Main streets used to be the principal thoroughfares of American towns, where people could find all types of goods and services. They were the center of commercial, social, and civic activities. Main streets thrived up until the 1960s and '70s, when larger-scale, auto-oriented shopping centers became popular. Many communities are revitalizing their main streets to return to a traditional mercantile environment or are creating hybrids of traditional and contemporary commercial centers.

The value of today's main streets is summarized in the following quote from Portland Metro's *Main Street Handbook*: "Main streets flourish because they provide a variety of goods and services, a pleasant community environment and efficiency for those who frequent them. When people do their shopping at a main street, they simply accomplish more with less travel, and may find the experience more entertaining."

Creating Quality Main Streets

While main streets vary from community to community, there are some universal characteristics. Main streets may be located in any context zone but are most commonly found in suburban (C-3), general urban (C-4), and urban center (C-5) contexts. They are usually short segments of arterial or collector streets, often only a few blocks in length. They are within a grid or interconnected system of local streets serving the commercial center of town with short, walkable blocks with minimal or no driveway access and are often served by alleys.

Land uses on main streets are composed of compact, mixed-use development, usually with a strong retail and entertainment emphasis, but can be an equal mix of residential and commercial. The buildings are low-scale (generally one to three stories), have storefront facades that are oriented to the street without setback, and are attached or closely spaced as shown in **Figure 1**. Parking lots or garages are located behind or to the



Figure 1 Buildings on main streets can be one to three stories tall, close together, and built up to the streetside. *Source: Reid Ewing and Michael King.*

side of buildings. Public parking consists of on-street parking and may include strategically located public or private parking lots or garages that support a "park-once" environment.

The design of main streets includes wide streetsides (the area between the curb and property line) that support active uses such as street cafes, social interactions, strolling, and window shopping. Main streets, by tradition and design, are pedestrian friendly. They are typically no wider than two travel lanes, with on-street parking, and may have bicycle lanes. Transit, if it exists, consists of local service. The key ingredients for a successful main street include:

- The architecture of the buildings, unified urban design features, the appearance of the street frontage, and the provision of public spaces;
- The types and mix of uses, particularly those that generate pedestrian activity and create an active day and evening place;
- The design of the street to accommodate all users such as vehicular traffic, pedestrians, bicyclists, transit, mobility challenged individuals, and goods delivery; and
- A public parking strategy that encourages walking.

According to a visual preference survey conducted for the New Jersey Department of Transportation (*Scoring Formula for New Jersey's Main Streets*, Rutgers University, March 2003) the attributes that significantly affect how people view main streets include:

- The proportion of street frontage with active commercial uses;
- A low proportion of street frontage with dead space such as vacant lots, parking lots, and blank walls;
- The proportion of the street frontage with parked cars generating activity, providing a buffer between traffic and the streetside, and parking activity that slows traffic;
- The proportion of the street with a tree canopy;
- The number of travel lanes, where streets with more than two lanes are perceived as having higher speeds, more traffic, longer crossing distances, and being less attractive;
- The sidewalk width with wider facilities being perceived as having more public space and greater levels of activity (see **Figure 2**); and
- Visible curb extensions that provide space for plantings, street furniture, shorter crossing distances, and traffic calming.



Figure 2 Wide streetsides, created by articulating building fronts and extending curbs, provide width for cafes and public spaces. *Source: Kimley-Horn and Associates, Inc.*



Figure 3 Even a narrow frontage zone can provide seating, merchandise displays, landscaping, and other amenities.
Source: Arup.

Factors That Create Main Street Thoroughfares

The thoroughfare designer needs to consider a number of factors to create an appropriate main street environment, often requiring assessing tradeoffs such as balancing traffic throughput with economic development goals.

The traveled way: In designing the traveled way, there are three important factors to consider: speed, width, and parking. Because of the pedestrian-oriented nature of main streets, the target speed should be kept low (25–30 mph), even on principal arterials. This speed not only improves the user’s perception of the street but also creates a safer environment, accommodates frequent parking maneuvers, and is consistent with restricted sight distances encountered in urban places. Further, the visual interest that drivers experience on main streets requires lower speeds. The width of the traveled way affects user’s perceptions of the speed and volume of the street. Wide streets may be perceived as a barrier to crossing where frequent crossings are desired and encouraged. Typically, main streets are two lanes wide with parallel parking on both sides, resulting in a traveled way width of 38 to 40 feet, or 48 to 50 feet on streets with bicycle lanes. On-street parallel or angled parking is considered an important design element on main streets. It provides a source of short-term parking for adjacent retail and service uses, buffers pedestrians from traffic, and produces a higher level of street activity.

The streetside: Streetside design features include an appropriate width to accommodate anticipated levels of activity. Of all thoroughfare types, the provision of distinct streetside zones is most important on main streets. The clear pedestrian throughway should be wide enough, at a minimum, to allow two people to walk side by side. The frontage zone should allow for window shopping, seating, displays, and pedestrian activity at building entrances (see **Figure 3**). The furnishings zone needs to accommodate many things, including street trees and/or planting strips, street furniture, utilities, bicycle racks, transit facilities, and public art. If community objectives desire and regulations encourage restaurants, then the designer needs to

ensure that the furnishings zone can accommodate street cafes. Finally, the edge zone will need to accommodate frequent car door openings, parking meters, and signing.

Intersections: Main street intersection design emphasizes slow speeds and high visibility. Intersections should be as compact as possible with short crossing distances, using curb extensions where possible, to minimize crossing distance and increase visibility. Curb return radii should be minimized while accommodating the appropriate design and control vehicles. Crosswalks need to be allowed on all approaches of the intersection. Midblock crossings are usually not necessary due to short block lengths but may be considered where blocks are unusually long and there is a demonstrated demand to cross.

Main Street Design Parameters

General design parameters for commercial avenues and streets can be found on page 78 of the Recommended Practice.

Guidelines for Implementing Angled Parking on Main Streets

Angled parking is one strategy to maximize the public parking supply on main streets, particularly in areas where off-street parking is limited. On low-volume, low-speed collector avenues and streets where sufficient curb-to-curb width is available, angled parking may be appropriate. Angled parking can be implemented on both sides of the street or on one side of the street, with parallel parking on the other side (see **Figure 4**). On some main streets, angled and parallel parking are alternated in each block. Angled parking can create sight distance problems associated with cars backing out of parking spaces. The use of reverse (back-in) angled parking in some cities has overcome these sight distance concerns and is considered safer for bicyclists traveling adjacent to parking.



Figure 4 An example of alternating angled and parallel on-street parking on a main street. Source: Kimley-Horn and Associates, Inc.