Planning for Parking

The provision of parking is an essential part of planning and site design. However, parking is often associated with negative impacts that are environmental, aesthetic, and financial in nature. These adverse impacts can be largely mitigated through increased attention to management and design. This document serves as a guide to best practices that communities can implement to ensure an adequate parking supply while creating an aesthetically pleasing public realm that is both financially and environmentally sustainable.

Parking Management

In most communities, perceived parking supply issues are actually a result of poor parking management. These perceived parking supply problems can often be addressed through parking management strategies. These strategies include:

Shared Parking

Shared parking means that two or more land uses share one parking supply. Shared parking reduces the number of parking spaces built and is particularly successful when the lot is shared by developments that need parking at different times of day, such as an office and a movie theater. Shared parking encourages a “park once” mentality and increases walking, rather than driving, between destinations. In Greater Des Moines, where every development has its own parking lot, shared parking for different land uses has major potential to accommodate growth without requiring a significant number of new parking lots. In mixed-use nodes, shared parking ratios can be set to make sure that parking does not dominate the land use of the area.

In mixed-use situations, parking requirements can be reduced using a shared parking factor. For example, in a situation where a development includes residential and office use, the residential portion may require 15 spaces while the office may require 25 spaces. Taken individually the site would need to provide 40 spaces. However, dividing that number by using the shared parking factor reduces the number of required spaces to 29 spaces.

Requiring large amounts of parking for each building can lead to urban and suburban communities being dominated by surface parking lots such as in Rochester, NY (Right).
Eliminate Parking Minimum Requirements

An oversupply of parking results in part from minimum parking requirements. Studies of suburban business parks have found that, while the zoning codes often demand 3-4 parking spaces per 1,000 square feet of development or one space per employee, the actual average parking utilization rate is 2.2 spaces per 1,000 square feet. This equates to a 26 percent oversupply. Removing minimums would not ban new parking from being built; it would simply allow market forces to determine the necessary amount of parking, while saving businesses and developers money.

Parking Maximums

Parking maximums place an upper limit on the number of parking spaces supplied, either on an individual site or as a parking cap on an area-wide basis. Parking maximums should replace minimum parking requirements whenever possible.

Increasing Capacity at Existing Locations

Maximizing the capacity at existing parking locations provides a way to increase parking without using more land. This can be achieved in a number of ways including:

- Underutilized space at corners and edges can be used for smaller car spaces;
- Parallel parking can be replaced with angled on-street parking where there is adequate space on the street;
- Change curb lanes to parking lanes where there is an excess of capacity; and,
- Reduce the size of existing parking spaces.

In places that already have parking, capacity can be increased through more efficient layouts and design. This represents a much less expensive option without sacrificing more land to parking needs (Above).
Parking Pricing

Pricing parking is a way for motorists to pay for parking facilities directly. Parking rates should be based on performance-based pricing, which optimizes the amount of parking available at any time to around 15 percent of total parking spaces. Communities that wish to use performance-based pricing should invest in electronic payment systems that charge only for the amount of time a car is parked, accommodate various payment methods, and automatically vary rates based on time of day and day of week. These systems track use and turnover which can improve parking planning and administration.

Unbundle Parking

It is a common practice to include parking in the price to rent a building or apartment space. Unbundling parking means that parking is rented or sold separately from the building or housing unit. This allows occupants to pay only for parking they are going to use. Parking can be unbundled in a number of ways. Facility managers and developers can unbundle parking when renting or selling building space. Facility managers could also offer a discount to renters that use fewer space than what is included in the rental price. Unbundling parking allows building occupants to better understand parking cost and determine how they can reduce their need for parking.

Parking Tax Reform

Parking tax reforms include commercial parking taxes and per-space parking levies. Commercial parking taxes are taxes placed on parking rental transactions. Per-space parking levies are special property taxes placed on parking facilities. Placing a tax on parking helps recapture property tax revenue that is lost due to the low assessed value of parking lots, while creating an incentive to practice more efficient parking management. This strategy would require some amendments to Iowa Code to allow communities to impose a levy on parking spaces.

Residential Parking Design

There are a variety of ways to address parking needs in residential areas while maintaining a quality pedestrian environment. These can include:

Alleys/Lanes

Whenever possible, residential developments should have alleys or lanes that accommodate rear loaded parking. Alleys/lanes provide the following benefits:

- Reduces the number of curb cuts on the streets by eliminating the need for front loaded driveways. This improves the pedestrian experience along the street and allows for more on-street parking;
- Allows utilities and trash collection to be located in the rear of the lot improving street aesthetics and increasing property values;
- Allows for more consistent street tree planting in parkway creating an urban tree canopy that increases property values, reduces stormwater runoff, reduced energy bills, and prolongs pavement life;
- Allows for narrower lot widths which can be more profitable for developers while increasing the tax base for local government; and,
- Allows communities to accommodate accessory dwelling units that support aging in place and affordable housing provision.
On-Street Parking

Residential streets should be designed with on-street parking in mind. Depending on the width of the street, parking can be located on one or both sides of the street. On-street parking should count toward parking requirements.

Platting and Parking

When platting or re-platting land in an area that is intended to be compact and walkable, lot widths should be set at increments of six feet (referred to as a rod). This will generate lot sizes that are compatible with standard parking stall sizes of 9 to 12 feet. The minimum lot width should be 18 feet, accommodating two rear loaded parking spaces and one on-street space. Platting in this manner allows developers to maximize the efficiency of their development while meeting parking requirements. Additional lot widths that maximize the efficiency of land are 24, 30, 36, 54, 72, and 144 feet. These lot sizes should be built into comprehensive plans and should be allowed by right in development codes.

<table>
<thead>
<tr>
<th>LOT WIDTH</th>
<th>3 rods</th>
<th>4 rods</th>
<th>6 rods</th>
<th>9 rods</th>
<th>12 rods</th>
<th>24 rods</th>
</tr>
</thead>
<tbody>
<tr>
<td>LOT DEPTH</td>
<td>18 ft</td>
<td>24 ft</td>
<td>36 ft</td>
<td>54 ft</td>
<td>72 ft</td>
<td>144 ft</td>
</tr>
<tr>
<td>LOT AREA</td>
<td>1800 sq. ft</td>
<td>2400 sq. ft</td>
<td>3600 sq. ft</td>
<td>5400 sq. ft</td>
<td>7200 sq. ft</td>
<td>14400 sq. ft</td>
</tr>
</tbody>
</table>

Platting in six foot increments allows developers to maximize the density on their development site while still meeting conventional parking standards (Above).

Commercial Parking Design

There are a variety of ways to address parking needs in commercial areas while maintaining a quality pedestrian environment. These can include:

On-Street Parking

Commercial streets should be designed with on-street parking in mind. On-street parking should provide direct access to shop fronts, and should count toward parking requirements.

Parking Location

In commercial areas, off-street parking should be located behind buildings and ideally should be located internally as parking courts. This means that the outer perimeter of the block is lined with buildings and the parking is located the courtyard area behind the buildings.

Putting parking behind buildings creates more walkable streets and active store fronts (Above).
**Shared Access Points**

Efforts should be made to minimize the number of access points to parking lots along streets. Allowing for shared access points helps to reduce the number of conflict points along the street, while still allowing for direct access to businesses.

**Structured Parking**

Structure parking can be handled in a number of ways while maintaining a quality pedestrian environment. Ideally, the structure should be located in the courtyard area at the center of the block. If the structure is designed to take up the entire block, at a minimum the structure should be lined with active uses on the ground floor so that the block creates a quality pedestrian environment at street level. Parking structures should be designed with flat decks. This provides the option to convert parking structures into office or housing uses in the future.

**Surface Parking**

In places were surface parking is necessary, it should be screened from the main street with some type of urban edge. This could be achieved through landscaping or with high quality fencing materials like brick, stone, or cast iron. Surface parking lots should be designed to maximize the safety of the pedestrian. This should include strong connections to nearby sidewalk, crosswalks, and pedestrian walkways between the parking stalls.

**Bicycle Parking**

Good bicycle parking pays attention to site planning, intended duration, installation and placement. A rule of thumb is to consider users parking longer than two hours as long-term. Short- and long-term strategies include:

**Short-Term**

Make it visible, well-lit and less than 50' from the building entrance. Weather-protected parking will reduce the number of people bringing wet bicycles inside. Bike corrals in-street can provide safe, visible and ample bicycle parking in front of businesses without obstructing the sidewalk.

**Long-Term**

Long-term users may trade convenience for weather protection and security. Use signage to direct new users and ensure security through lighting, access control, and other options. Long-term is especially useful for employers, schools and institutions.
Parking Design and the Environment

There are a number of strategies that can help reduce the environmental impacts of parking. These strategies include:

**Surface Materials**

Permeable pavement and brick pavers can be used to help reduce the amount of stormwater runoff caused by large surface parking lots. These surface materials can be applied to the entire surface of the lot or just on the parking stalls.

**Landscaping**

Landscaping can be used to soften the visual impact of surface parking lots. Planting large trees periodically within the lot can contribute to a decrease in stormwater runoff, and a reduction in the heat island effect caused by large expanses of pavement.

**Reducing Parking**

In general, reducing the amount of surface parking required can have significant environmental benefits. This can be achieved using a variety of the parking management and design strategies outlined in this document.