



PARKING LAYOUT MAIN STREET IOWA TECHNOTES

Parking comes in many sizes, shapes and forms. On street parking, off street surface parking and parking structures. There is parallel parking, angle parking and head-in (or 90°) parking. One way aisles and two-way aisles. With all of the options, sometimes it's hard to know what design is right in each situation.

Off street parking (or parking lots) will vary from just a few stalls to hundreds of stalls. The design and layout for each individual lot will depend on its dimensions and available access from the street.

Regardless of the size, a few general rules will help make any layout as efficient as possible. First, use 90-degree parking whenever possible. This maximizes the number of spaces. Secondly, always try to put parking stalls around the edge of the site. This takes advantage of all circulation aisles. Thirdly, the parking bays should run with the longest dimension of the site.

Lot design should also consider ease of use. The layout should be

easy to understand and all stalls and aisles should be clearly marked. At all entrances and exits there should be clear sight lines for safety. The type of user the lot is intended to serve will also impact the design. Long term parking will often have a narrower stall width than short term parking.

Landscaping is also a key component to parking lot design. A well designed lot is a direct extension of streetscape improvements and amenities throughout the downtown district. The inclusion of trees to provide shade and other plantings to help screen the lot from adjacent buildings should be accommodated whenever possible. However, too much landscaping, especially if it is not maintained, can be a detriment and create negative perceptions of safety. Also, landscaping can be used to help direct pedestrian traffic by plant placement and selection. Adequate lighting needs to be provided for safety and security as well.

Parking facility design must also make accommodation for handi-

capped accessible parking stalls. Each facility up to 100 stalls must provide a MINIMUM of one stall for each 25 spaces. Lots up to 200 spaces must provide four for the first 100 stalls plus one for each 50 stalls between 100 and 200. Lots between 201 and 500 spaces need the 6 required for 200 stalls plus one more for each additional 100 stalls. Typical stall width for a handicapped parking stall is 12 feet.

Parking Dimensions:

90-degree parking is the most efficient in terms of layout and perception. Aisles are wide enough for two way traffic so it is easy to understand the lot design. Circulation is the most flexible and motorists do not need to worry about going the wrong direction down an aisle. However, many people are not comfortable with 90° parking and prefer angle parking. A 60-degree angle is one of the most commonly used angles. People are familiar with it and it is generally easy to use. Therefore, it is easy to use for high

Parking Lot Dimensions

Angle of Parking	Stall Width	Curb Length per car	Stall Depth	Minimum Driveway width	Lot Width 1 row + 1 driveway	Sq.ft. per car	Lot Width 2 row + 1 driveway	Sq.Ft. per car	Lot Width 3 rows + 2 driveways	Sq. Ft. per car	Lot width 4 rows + 2 driveways	Sq.Ft. per car
Along Curb = 0	9'	23'	9'	12'	21'	483	30'	345	51'	391	60'	345
	10'	23'	10'	12'	22'	506	32'	368	54'	414	64'	368
30°	9'	18'	17'4"	11'	28'4"	510	45'8"	411	66'2"	397	83'6"	376
	10'	20'	18'3"	11'	29'3"	585	47'6"	475	68'	453	86'2"	431
45°	9'	12'9"	19'10"	13'	32'10"	420	52'8"	336	79'	376	98'10"	315
	10'	14'2"	20'6"	13'	33'6"	490	54'	383	80'4"	379	100'10"	358
60°	9'	10'5"	21'	18'	39'	407	60'	313	95'	330	116'	305
	10'	11'6"	21'6"	18'	39'6"	455	61'	351	95'6"	366	116'16"	335
90°	9'	9'	19'	24'	43'	387	62'	279	105'	315	124'	279
	10'	10'	19'	24'	43'	430	62'	310	105'	350	124'	310

PARKING LAYOUT



turnover, short term parking areas. However, other angles can be used depending upon lot size and configuration.

One-way aisles with angle parking create a more efficient layout, over a two way lot. One way aisles create less conflict between motorists since all traffic flows the same direction. Stalls are also easier to access with one way aisles using angle parking.

While it is not ideal, a lot as narrow as 30 feet can accommodate one row of parking at 30 degrees and a one way aisle. A more desirable width is 40 feet that will allow for 60 degree parking. A 90 degree layout requires at least 43 feet, again for a single row of stalls and one driveway. A variety of parking lot dimensions and layouts are shown in the charts.

On-Street Parking:

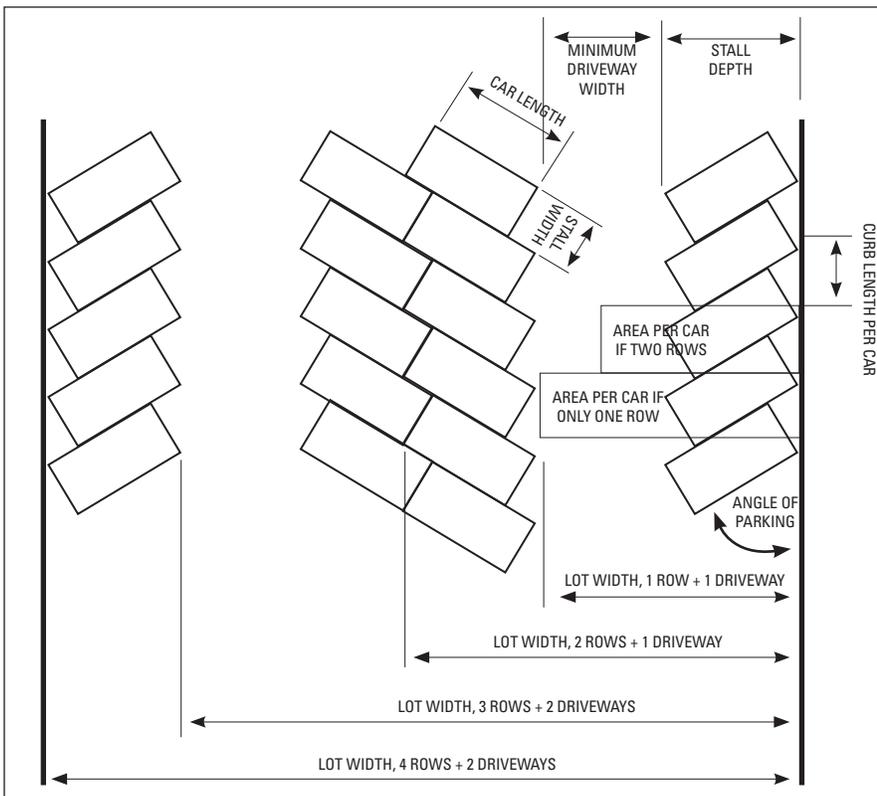
On-street parking does many important things in a downtown. The on-street parking is typically the easiest to access and its convenience and use by customers is critical for a viable downtown district. On street parking also acts as a buffer between the traffic and the pedestrian sidewalk. This helps create a safer more inviting pedestrian environment.

On street parking is quite often parallel. This is because angled parking has been shown to dramatically increase the rate of accidents. Especially on major arterials or highways, angle parking is commonly not allowed. This is not to say that angled parking cannot be used. Angled parking is more efficient than parallel parking and easier to use. Angled

parking can be effective if the street is a local street, especially with a strong pedestrian orientation. A street with high density of buildings built to the lot line, intense retail activity and street amenities like trees, bump out crosswalks, creates a strong pedestrian orientation. (Like most traditional downtowns!) Angle parking must also have a fairly wide street to accommodate the necessary depth for the stalls.

A newer type of angle parking gaining popularity is reverse angle parking. The driver backs into the stall to park. Then when leaving, backing into traffic is eliminated, making this a much safer parking option.

Well designed efficient parking will greatly improve the function and activity of downtown.



For More Information:

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Additional Reading:

*The Parking Handbook for Small Communities
John D. Edwards,
National Trust for Historic Preservation
and The Institute of Transportation Engineers. 1994*

*"Public Improvements on Main Street" -
a slide presentation and technical manual.
National Main Street Center.*

*Parking for Downtown's Spenders
Hyatt-Palma Publications. 1995*