

May 3, 2002

TO: The County Board of Arlington, Virginia

FROM: Ron Carlee, County Manager

SUBJECT: Zoning Ordinance amendments to Section 33 Automobile Parking, Standing and Loading Spaces, Subsections A.3. and 7., Section 26 "C-TH" Commercial Town House, Subsection G.4., Section 27 "C-3" General Commercial Districts, Subsection D.2.e., and Section 27A. "C-R" Commercial Redevelopment Districts, Subsection G. of the Zoning Ordinance to change the definition and the permitted ratio of compact parking.

**RECOMMENDATION: Adopt the attached ordinance to amend Section 33., Subsections A.3. and 7., Section 26, Subsection G.4., Section 27, Subsection D.2.e., and Section 27A., Subsection G. of the Arlington County Zoning Ordinance, to change the dimensions for standard and compact parking spaces, to reduce the amount of compact parking spaces and to prohibit compact parking spaces on certain uses, and to refine parking space dimensions, and to prohibit encroachments into parking spaces. The proposed amendments would promote the health, safety and general welfare of the public, reduce or prevent congestion in the streets, and are supported for other reasons required by the public necessity, convenience and general welfare and good zoning practice.**

**DISCUSSION:** The proposed zoning ordinance amendment would modify the size of compact parking spaces, the permitted compact parking space ratios, and would restrict compact parking spaces for certain uses. In the past few years, the increase in popularity of sports utility vehicles (SUV), minivans, and trucks has led to an increase in the size and width of vehicles and to increased attention on how compact parking spaces are treated in the Zoning Ordinance. The increasing numbers of these vehicles has reduced the need for compact parking spaces such that parking facility functional design practices more accurately reflect current vehicle registration figures. Also,

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Reviewed by the County Attorney's Office: \_\_\_\_\_

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recently approved site plans have included hybrid parking spaces which are wider than the typical compact parking space, but not as wide as the zoning ordinance standard parking space.

In many cases, it is difficult to enforce whether vehicles are parked in standard or compact size spaces. Compact cars can park in full size spaces. However, larger vehicles and SUVs can not readily fit in compact parking spaces. In most cases, there is a lack of enforcement in how the spaces are used resulting in encroachment of vehicles into adjacent spaces. Compact spaces tend to be the last spaces used and when compact vehicle drivers park their vehicles in standard size spaces, it forces later arriving standard size vehicle drivers into inadequate and inconvenient compact parking spaces. From a practical standpoint, property owners, managers, and the county do not have the resources to enforce the proper use of compact parking spaces.

Recently approved site plan projects proposed parking space widths that are larger than the 7.5 foot-wide compact spaces but somewhat smaller than the standard 9 foot-wide size space. These "hybrid" parking spaces provide a one-size-fits-all dimension for the entire project and seem to address the changing market demand for larger vehicles and improved mobility in parking garages. Because the hybrid spaces must be counted as compact spaces, the percentage of compact spaces has increased which has caused some concern, and is also further reason to reexamine the current requirements. Most of the site plan projects either have not been completed or are under construction, so it is a little too soon to evaluate the hybrid spaces. However, developers who have proposed the hybrid spaces reported that the 8.5 wide spaces work successfully in Alexandria and Fairfax County.

The critical elements of parking space dimensions are the width of the parking space relative to the width of the vehicle and the ease of maneuvering the vehicle into and out of the parking space. The interrelationship between aisle and parking space width is such that, within reasonable limits, a wider aisle can permit a narrower parking space and vice versa and still offer the same degree of comfort in the turning movement. Therefore, aisle widths of 23 feet should be required for all parking areas.

In 1983, the Zoning Ordinance was amended to delete the standard 8.5-foot wide standard parking space. The dimension was increased to 9 feet wide for a standard space and a 7.5 foot wide compact parking space was introduced. Also, the percentage of compact parking spaces in certain lots was increased. At that time, it was estimated that 45% of the nation's auto fleet was composed of compact cars.

The "Draft" Parking Task Force Report of 2000 recommended that parking space dimensions be reconfirmed and the proportion of the compact parking spaces be adjusted accordingly. Given the approved compact parking ratios on recently approved site plan projects, the continued proposal for hybrid parking spaces on site plan projects, the increase in larger vehicles, the existing ratios should be changed.

Staff examined two possible options to address compact parking spaces. Proposed Zoning Ordinance language for each option was advertised.

Option 1 would modify the Zoning Ordinance dimensions of standard and compact parking spaces and would reduce the allowed ratios for compact parking spaces. Zoning Ordinance language would be modified to allow standard parking spaces to have a minimum size of 8.5 feet in width. Compact parking spaces would be required to be at least 8 feet wide. The permitted ratios of compact parking spaces would be reduced by one-half of the current allowed ratio. Currently the "C-3", "C-R" and "C-TH" districts permit up to 50% compact parking. Any parking area may include up to 30% compact parking. Office uses containing more than 100 spaces can contain up to 40% compact car spaces.

Option 2 would eliminate compact parking from the Zoning Ordinance and would establish a standard one-size dimension width of 8.5 feet for all parking spaces.

For comparison purposes, Alexandria permits up to 75% compact parking in non-retail uses if there are more than ten parking spaces. A compact parking space is 8 feet wide by 16 feet long. For retail uses in parking areas containing more than 10 spaces, 30% compact parking ratio is permitted. Standard parking space dimensions are 9 feet wide by 18.5 feet long. Fairfax County does not permit compact parking spaces. They have one universal parking space of 8.5 feet in width and 18 feet long. Montgomery County, Maryland permits compact parking spaces 7.5 feet wide and 16.5 feet long. The standard parking space size is 8.5 feet wide and 18 feet long. A maximum of 20% compact spaces is permitted for large retail projects such as regional shopping centers. All other development, office, residential, etc., is allowed a maximum of up to 10% compact parking.

**Staff Recommendation:** Staff has met and discussed the compact parking options with the Northern Virginia Building Industry Association (NVBIA) and the Zoning Ordinance Review Committee (ZORC).

A combination of the advertised options to address the widths of both standard and compact size parking spaces is recommended. The elimination of compact parking by establishing a one-size fits all parking space requirement was dismissed because of the inefficiencies created and the need to meet a number of other requirements, particularly in underground parking garages. For example, handicapped spaces, van pool spaces, access to elevator rooms and elevators, mechanical and code issues, and loading dock/trash room requirement have to be accommodated. In addition, the retention of some compact parking spaces allows for more flexibility in using the available space within a garage to meet the parking requirements and to satisfy code and other site plan requirements.

**Standard Parking Spaces should be 8.5 feet in width instead of 9 feet in width. The length of the standard parking spaces, 18 feet, should not change. The width of parallel standard size spaces is not recommended to be changed.**

- This six-inch reduction in the standard size parking space would still accommodate full size vehicles, including most SUVs.
- An average SUV (Ford Expedition, Ford Explorer, Ford Escalade, etc.) would occupy approximately 70% of the 8.5' x 18' parking space. (See Figure and Chart 1 attached).
- A standard passenger vehicle (Toyota Camry, Honda Accord, Ford Taurus, and Honda Civic) would occupy 60% of the 8.5' x 18' parking space. (See Figure and Chart 1 attached).
- The 8.5' wide space is consistent with many of the recently approved "hybrid" parking spaces in site plan projects.
- Figure 2 illustrates the dimensions and aisle widths for the proposed standard parking spaces.

**Compact Parking Spaces should be at least 8 feet in width instead of 7.5 feet in width. The length of spaces is not recommended to be changed. Aisle widths for two-way travel are proposed to be increased from 21 to 23 feet, similar to full size parking spaces. Also, the size of parallel compact parking spaces is recommended to be increased from 7.5 feet to 8 feet in width.**

- This change will provide more space for compact parking spaces.

- A standard size passenger vehicle would occupy 76% of the proposed 8 foot-wide compact parking space versus 81% of the 7.5 foot wide space.
- The overall efficiency of the garage will improve with better circulation, comfort of the drivers and a smaller risk factor for accidents and minor incidents.
- Wider aisle widths provide greater flexibility for vehicles entering and exiting spaces.
- Figure 3 illustrates the dimensions and aisle widths for the proposed compact parking spaces.

**The total number of compact parking spaces in a project is recommended to be reduced by one-half the current amount allowed.**

- The maximum amount of compact parking spaces would not exceed 20% for office uses containing more than 100 spaces.
- The maximum percent of compact spaces for other parking areas would be 15 percent.
- In other zoning districts, "C-TH", "C-3" and "C-R", where the current ordinance language allows up to 50 percent compact parking, the rate is recommended to be reduced to 25 percent of total parking spaces.
- This overall ratio more accurately reflects the current and expected trends in vehicle ownership.
- By retaining some percentage for compact parking spaces, the overall efficiency of the garage is improved. Remnants of spaces can be better utilized.
- This standard would still accommodate viable mixed-use, pedestrian- and transit-oriented developments, this is important given the land costs and limited sites in Arlington.

**No compact parking spaces shall be permitted for uses that have a high-turn over of the parking spaces.**

- Parking areas and uses which have a high-turn over, retail uses, for example, grocery stores, medical and health care facilities and uses where there is likely to be a large number of elderly, should not have compact parking spaces.
- Unlike parking areas for office and residential uses which typically have assigned spaces and little turnover, high-turnover parking spaces mean more vehicles entering and exiting spaces which in turn means more opportunities for accidents, door dings, etc.

- People with packages, groceries, shopping carts, etc., need more space to enter vehicles.
- The elderly need more space for door openings and maneuvers.

### **Encroachment of Columns, Light Standards and other Appurtenances**

It is common in parking structures for columns to extend beyond the face of the bumper wall or parking space line and therefore into the parking space. Encroachments also occur in surface parking lots at light poles. Column encroachments into the width of a parking space are occasionally used on the theory that if the column is clear of the door swing zone, the parking space width is maintained. While the turning movement into the parking space is slightly constrained by the column the car can be entered and exited easily. Zoning staff has permitted up to a six (6) inch encroachment on any one side for compact parking spaces and up to an eight (8) inch encroachment on any one side for full size parking spaces. This permitted encroachment has included walls with no restriction on the percentage of the space that is encroached.

Staff is recommending that no encroachments be permitted with the new widths. Parking spaces should be provided that met the zoning ordinance requirements. Columns, exhaust fans, doors should not be allowed to encroach into a parking space. In addition to the Zoning Ordinance Section 33 parking space requirements, a parking space is also defined as having a vertical clearance of not less than seven (7) feet (Section 1. Definitions). This vertical clearance must also be maintained.

Special exception projects in certain zoning districts allow more flexibility in parking than that permitted "by-right" in a zoning district. Eligible site plan projects would continue to be able to request modifications to these parking requirements. Staff would evaluate these requests on a site plan case-by-case basis

**CONCLUSION:** It is recommended that the proposed Zoning Ordinance amendments to change the definition and the permitted ratio of compact parking, to prohibit compact parking spaces on certain uses and to prohibit encroachments into parking spaces be approved. The proposed amendments would reduce congestion in the streets and promote the health, safety and general welfare of the public and for other reasons required by the public necessity, convenience and general welfare and good zoning practice.

ORDINANCE TO AMEND, RECODIFY AND REENACT SECTION 33 AUTOMOBILE PARKING, STANDING AND LOADING SPACES, SUBSECTION A.3. AND 7., TO SECTION 26 "C-TH" COMMERCIAL TOWN HOUSE, SUBSECTION G.4., SECTION 27 "C-3" GENERAL COMMERCIAL DISTRICTS SUBSECTION D.2.e., AND SECTION 27A. "C-R" COMMERCIAL REDEVELOPMENT DISTRICTS, SUBSECTION G. OF THE ZONING ORDINANCE, TO MODIFY THE DEFINITION AND PERMITTED RATIOS FOR COMPACT PARKING.

Be it ordained by the County Board of Arlington County that Section 33., Subsection A.3. and 7., Section 26., Subsection G.4., Section 27., Subsection D.2.e., and Section 27A., Subsection G. of the Zoning Ordinance are hereby amended, recodified, and reenacted as follows to reduce or prevent congestion in the streets, to promote the health, safety and general welfare of the public and for other reasons required by the public necessity, convenience and general welfare, and good zoning practice.

SECTION 33. AUTOMOBILE PARKING, STANDING AND LOADING SPACES

\* \* \*

A. General Requirements

\* \* \*

- 3. *Minimum Dimensions for Off-street Parking Spaces and off-street Parking Aisles:* In calculating any required parking areas, other than for one- and two-family dwellings, the following minimum dimensions shall be required:

**TABLE I. FULL SIZE AUTOMOBILE SPACES**

Parking Angle	Stall Width (Feet)	Depth of Stalls Perpendicular to Aisle (Feet)	One-Way Aisle Width (Feet)	Two-Way Aisle Width (Feet)
45°	<u>8.5-9.0</u>	17.5	12.0	*
60°	<u>8.5-9.0</u>	19.0	16.0	*
90°	<u>8.5-9.0</u>	<del>17.0</del> <u>18.0</u>	23.0	23.0
Parallel	22.0	<u>8.05</u>	12.0	23.0

**TABLE II. COMPACT CAR SPACES**

Parking Angle	Stall Width (Feet)	Depth of Stalls Perpendicular to Aisle (Feet)	One-Way Aisle Width (Feet)	Two-Way Aisle Width (Feet)
45°	<del>7.5-8</del>	16.0	12.0	*
60°	<del>7.5-8</del>	16.7	15.0	*
90°	<del>7.5-8</del>	15.0	21.0	<del>21.0</del> 23.0
Parallel	20.0	<del>7.5-8-33</del>	10.0	20.0

\* \* \*

7. *Compact Car Spaces:* Any parking area may include up to ~~thirty (30)~~ fifteen (15) percent of the parking spaces for compact cars. In parking areas for office uses containing more than one-hundred (100) spaces, up to ~~forty (40)~~ twenty (20) percent of the spaces may be compact spaces. The spaces shall be grouped together and visibly marked for "compact cars only." Aisle size shall not be reduced unless an entire aisle is providing access and maneuvering space for only compact cars. No compact parking spaces are permitted for hospitals or hospital-related medical and health care facilities, medical offices, physician, surgeon or dentist offices, nursing homes, convalescent homes and intermediate care facilities, and related housing for the elderly. In addition, no compact parking spaces are permitted for retail uses.

13. *Encroachment into Parking Spaces:* No encroachment into parking spaces that reduces the parking spaces' width, length or height clearance shall be permitted unless otherwise allowed by the Zoning Administrator.

\* \* \*

SECTION 26. "C-TH" COMMERCIAL TOWN HOUSE DISTRICTS

\* \* \*

G. Parking Requirements

\* \* \*

4. Any parking area may include up to ~~fifty (50)~~ twenty-five (25) percent of the parking spaces for compact cars spaces.

\* \* \*

SECTION 27. "C-3" GENERAL COMMERCIAL

\* \* \*

D. Special Exceptions

\* \* \*

2. In areas designated "Medium Density Mixed Use" on the general land use plan, by site plan approval as specified in subsection 36.H., mixed use office, retail and residential development as permitted in "C-R" may vary from the requirements of subsection 27.B. above and subsection 27.E. below subject to the following regulations:

\* \* \*

- e. *Parking Requirements:* Except as set forth in (1), (2) and (3) below, one (1) parking space for each 500 hundred eighty (580) square feet of gross floor area and one (1) parking space for each dwelling unit. The ratio of compact to full size automobile spaces shall not exceed ~~fifty (50)~~ twenty-five (25) percent for each use.

\* \* \*

27.A. "C-R" COMMERCIAL REDEVELOPMENT DISTRICTS

G. Parking Requirements

One (1) parking space for each five hundred eighty (580) square feet of gross floor area. The ratio of compact to full size automobile spaces shall not exceed ~~fifty (50)~~ twenty-five (25) percent for each. One (1) parking space for each dwelling unit.

\* \* \*

**2002 PASSENGER  
 VEHICLES by CURB  
 WEIGHT & SIZE**

	<b>Curb Weight</b> (lbs)	<b>Height</b> (inches)	<b>Length</b> (inches)	<b>Width</b> (inches)	<b>Wheelbase</b> (inches)
<b>SUVs</b>					
Cadillac Escalade	5,560	76.5	198.9	78.9	116.0
Chevrolet Suburban 2500	5,760	76.9	219.3	79.8	130.0
Chevrolet Tahoe	5,050	76.3	196.9	78.9	116.0
Chevrolet Avalanche 2500	6,642	73.3	221.7	79.8	130.0
Dodge Durango	4,726	72.0	193.5	71.6	116.2
Ford Expedition	5,686	77.6	205.8	78.7	119.0
Ford Excursion	7,150	80.2	226.7	79.9	137.1
Ford Explorer	4,374	69.2	189.5	72.1	113.7
GMC Envoy	5,020	75.5	207.6	74.7	129.0
Lexus LX470	5,401	72.8	192.5	76.4	112.0
Lincoln Navigator	5,723	75.2	204.8	79.8	119.0
Mercury Mountaineer	4,433	69.6	190.7	72.1	113.7
Toyota Land Cruiser	5,115	73.2	192.5	76.4	112.2
<b>AVERAGE</b>	<b>5,434</b>	<b>74.5</b>	<b>203.1</b>	<b>76.9</b>	<b>120.3</b>
<b>4-DOOR SEDANS</b>					
Ford Taurus SEL	3,519	57.8	197.7	73.0	108.5
Honda Accord LX	3,142	56.9	189.4	70.3	106.9
Honda Civic LX	2,615	56.7	174.6	67.5	103.1
Toyota Camry	3,362	57.9	189.2	70.7	107.1
<b>AVERAGE</b>	<b>3,160</b>	<b>57.3</b>	<b>187.7</b>	<b>70.4</b>	<b>106.4</b>

Source: Kelley Blue Book  
 2002

SPACE UTILIZATION STANDARD PARKING SPACE

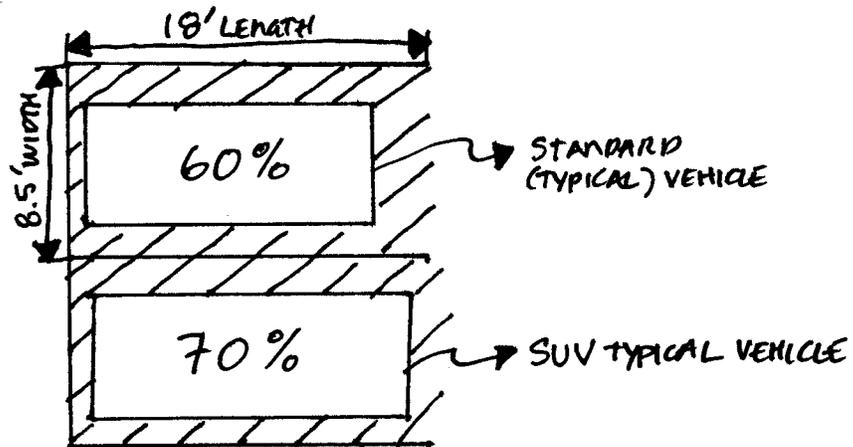


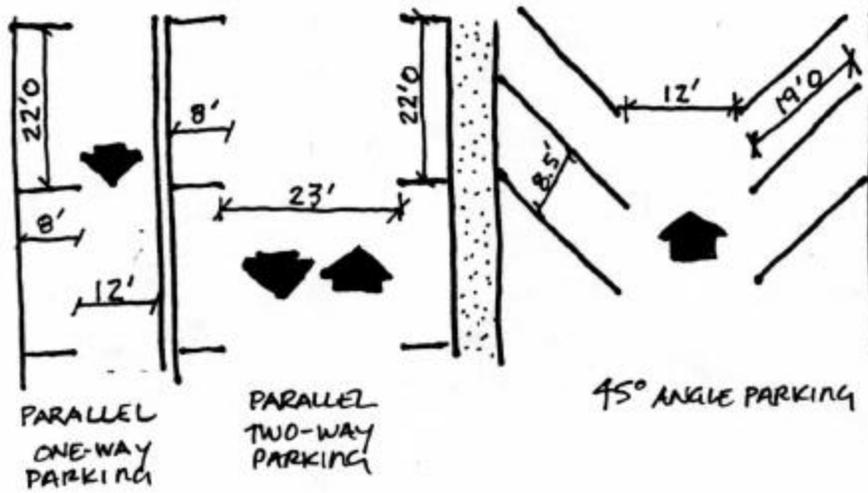
FIGURE 1

AVERAGE DIMENSIONS 2002

	CURB WEIGHT (lbs)	HEIGHT (in)	LENGTH (in)	WIDTH (in)	Wheelbase (in)
TYPICAL SUV VEHICLE	5,434	74.5	203.1	76.9	120.3
TYPICAL PASSENGER VEH.	3,160	57.3	187.7	70.4	106.4
SOURCE: KELLEY BLUE BOOK 2002					

CHART 1

FIGURE 2  
 PARKING SPACE & AISLE DIMENSION  
 FULL SIZE



FULL SIZE CAR				
ANGLE	PARALLEL	45°	60°	90°
WIDTH	8'	8.5'	8.5'	8.5'
LENGTH	22'	19'	19'	18'
AISE WIDTH	12-23'	12'	16'	23'

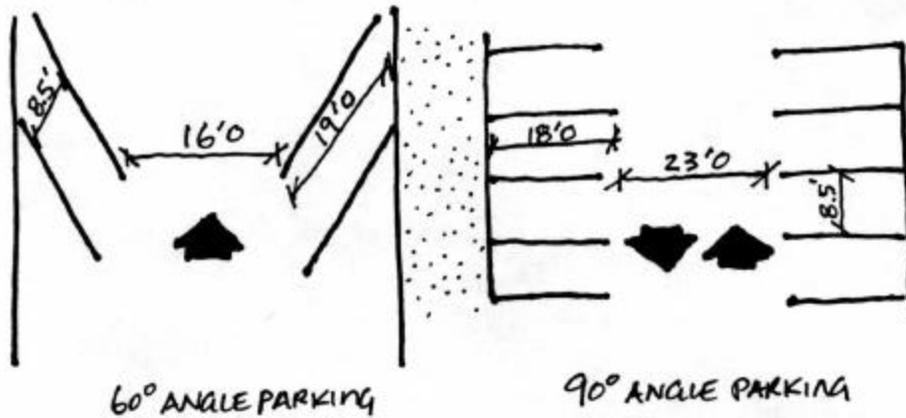
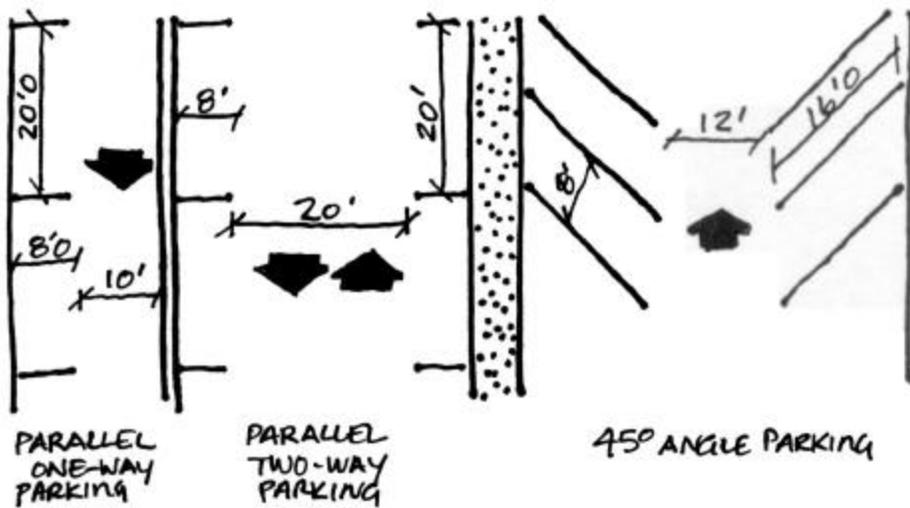
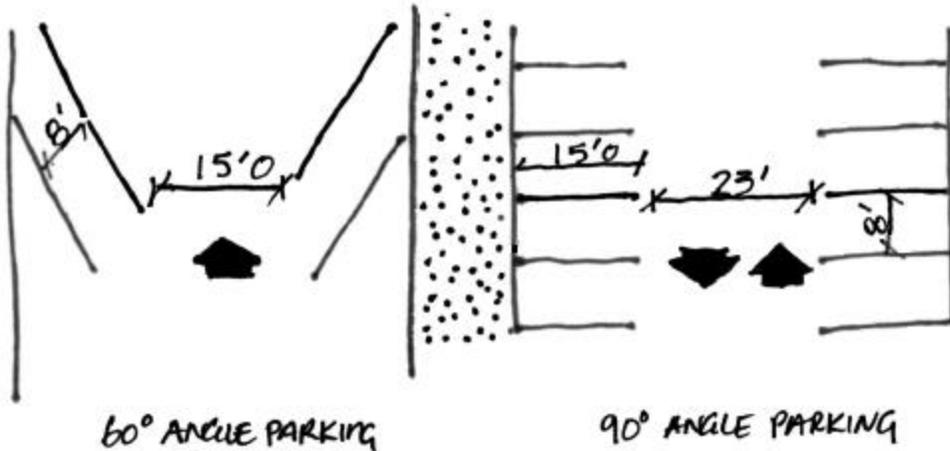


FIGURE 3  
 PARKING SPACE ÷ AISLE DIMENSION  
 COMPACT



COMPACT SIZE CAR				
ANGLE	PARALLEL	45°	60°	90°
WIDTH	8'	8'	8'	8'
LENGTH	20'	16'	16.7'	15'
AISE WIDTH	10-20'	12'	15'	21-23'





**Column Encroachment on Parking Space**



**Left-over area used for compact parking space.**



Encroachment of parking space



Column encroachment of parking space



SUV in a compact parking space



Handicapped space encroachment



**Inappropriate spacing**



**Encroachment**

