

FINAL ADOPTION OCTOBER 10, 2017

ARTICLE V  
SECTION 7 OFF-STREET PARKING, ACCESS, DRIVEWAY & LANDSCAPING REQUIREMENTS  
RECOMMENDED BY MPC  
AUGUST 10, 2017

- A. Applicability
- B. General Requirements
- C. Location and Setbacks
- D. Number of Vehicle Parking Spaces Required
- E. Dimensions of Spaces and Aisles
- F. Shared Parking
- G. Miscellaneous Requirements for Parking Facilities
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**Article II, Definitions**

*Accessible parking* - a designated parking space(s) reserved for people with disabilities, with adjacent striped access aisle(s), located on the shortest accessible route to the accessible entrance of the facility for which parking is designated.

*Administrative review committee* - The committee delegated with authority to review and make decisions regarding plans for certain developments in the City of Knoxville. The committee consists of a representative from the following entities: Civil Engineering; Fire Department; Knoxville Utility Board; Metropolitan Planning Commission; Plans Review and Inspection; Parks and Recreation; Public Services; Stormwater Engineering; and Traffic Engineering.

*Bicycle parking* - The accessory storage of non-motorized bicycles (which may include trailers or other customary accessories) in a secure manner that allows for quick and convenient access, storage, and removal of the bicycles by users who are making trips to or from an associated principal use.

*Bicycle rack* - A fixed-in-place stand, solidly anchored to the ground or other fixed object, which allows a bicycle to lean against it in an upright position with both wheels on a level surface.

*Caliper* - A standard trunk diameter measurement for nursery grown trees taken six (6) inches above the ground for up to and including four (4) inches in caliper size, and twelve (12) inches above the ground for larger sizes.

*Commercial parking lot* - A lot or portion thereof that is used as a commercial enterprise for the parking of motor vehicles, is not accessory to any other use on the same lot. This definition shall not include storage of vehicles awaiting repair, pending insurance, or legal action, awaiting demolition, or vehicles stored for stripping of parts.

*Congregate housing* - A living arrangement in which residents live in their own apartments and may take their meals in a common dining room, with various opportunities for socialization with other residents. Housekeeping and maintenance services are provided, but health maintenance services are scheduled independently by the residents.

*Driveway* - A private local access to one property or a small group of properties, and any structure(s) located thereon, which is owned and maintained by an individual or group.

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*Interior island* - A landscaped island located between terminal islands along a parking row, used to break up large expanses of parking surface.

*Parking row* - A single line of contiguous parking spaces.

*Parking lot* - An off-street facility typically consisting of four (4) or more parking spaces used to provide off-street parking, and typically including drive aisles, terminal islands, and interior islands.

*Drive aisle* - The vehicular driving surface directly adjacent to parking spaces or stalls used to access the parking spaces or stalls.

*Parking space* - An off-street space available for the parking of one motor vehicle, exclusive of passageways and driveways, and having direct access to a drive aisle, street, or alley. Also called parking stall.

*Perimeter screening area* - A planting area that is located between a parking lot, loading area, or vehicular use area and an adjacent right-of-way, property line, or easement.

*Planting area* - The area prepared for the purpose of accommodating the planting of trees, shrubs, and other plant material.

*Structured parking* - A building, often of several stories, that provides parking space.

*Terminal island* - An island located at the end of a parking row, serving to define aisles and travel ways, which is typically landscaped.

*Vehicle* - A machine, usually with wheels and an engine, used for transporting people or goods on land, especially on roads.

*Vehicular use area* - Any paved or graveled surface used for vehicle access and movement that would not be defined as a parking space, parking stall, or drive aisle.

Article V

**SECTION 7**  
**OFF-STREET PARKING, ACCESS, DRIVEWAY, & LANDSCAPING REQUIREMENTS**

**A. Applicability.**

1. *Generally.* These regulations are applicable in zoning districts without specific off-street parking requirements exclusive to the zoning district. If specifically provided, the requirements in Article IV shall prevail. Where an existing building, existing parking facility, or both is being renovated or redeveloped, the subsections A.2. and A.3. of this section shall apply; provided, however, that shopping centers and mixed-use multi-tenant structures, excluding residential, shall not be subject to A.2.b.
2. *Redevelopment of Existing Structures and Facilities.*
  - a. *Exceeding Fifty Percent of Value.* When an existing building(s) is redeveloped or renovated and such change exceeds fifty (50) percent of the assessed or appraised value of the lot and building(s) being renovated, whichever is the greater of the two (2), required parking shall be provided according to the parking standards within this section. If the recalculation of parking requirements under this section results in parking spaces that exceed the maximums set forth in this section, the excess parking spaces may continue to be used and are not required to comply with this section.
  - b. *Less Than Fifty Percent of Value.* When an existing building(s) is redeveloped or renovated, the property shall not be subject to the requirements of this section if the cost of the redevelopment or renovation is less than fifty (50) percent of the assessed or appraised value of the lot and building(s) being renovated, whichever is the greater of the two (2). In such instances, nonconforming parking areas may be continued and counted towards the total parking requirements for any new activity, addition, or extension placed on the property; provided, however, that the existing parking design shall not pose a threat to traffic safety, in the opinion of the Department of Engineering. The Department of Engineering may require redesign of such areas if a traffic safety hazard can be eased or eliminated. Loss of parking spaces resulting from the required redesign will be considered by the Department of Plans Review and Inspections in determining the minimum parking requirements.
3. *Redevelopment of Existing Parking Lots.* When existing parking is modified or altered, the modified or altered portions shall be designed and constructed in compliance with the standards set forth in this section.

**B. General Requirements**

1. Off-street parking facilities shall be surfaced with those materials included in the City Department of Engineering Land Development Manual, as updated April 2007 and any subsequent editions.
2. The storage of merchandise, the storage of automobiles or other motor vehicles for sale, or the repair of automobiles or other motor vehicles on required off-street parking facilities is prohibited.
3. Wherever parking is required by this section, no building permit shall be issued prior to approval of entrance to affected city streets and/or state highways by the appropriate city and/or state official.
4. The Department of Engineering may require minimum internal queuing and stacking space at driveways, drive through lanes, and other access points to prevent disruption of traffic flow on adjacent streets. The minimum width for drive through lanes shall be ten (10) feet.

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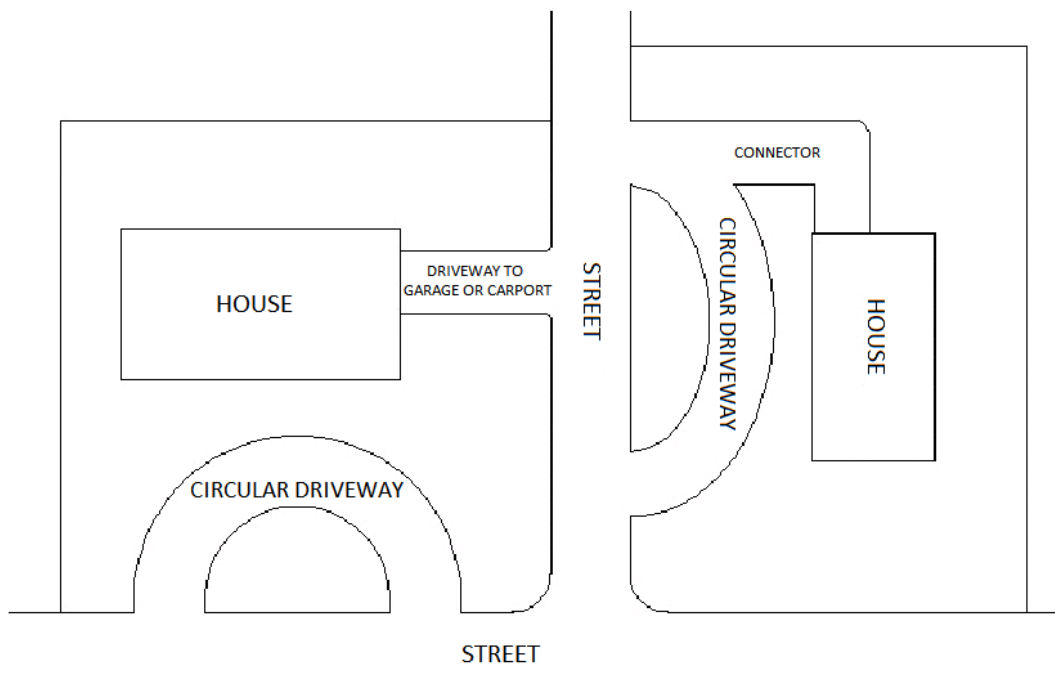
**C. Location and Setbacks**

1. Off-street parking for uses other than residential uses may be provided on a lot other than that on which the principal use is located if the required number of parking spaces for any land use cannot be provided on the same lot on which the principal use is located, according to the requirements of subsection F.
2. Parking lots with common frontage in the same block with residentially zoned property and located on roads with less than four (4) existing travel lanes, shall be setback twenty five (25) feet from the street line, provided, however, that this setback shall not apply to multi-dwelling structure(s) or development(s).
3. Minimum depth of the setback of a parking lot, measured from the edge of the parking lot to all rights-of-way, shall be ten (10) feet, except where the parking lot is less than twenty thousand (20,000) square feet, the setback may be reduced to six (6) feet.
4. Minimum depth of a side or rear setback of a parking lot, measured from the edge of parking lot to the property line shall be setback as follows:
  - a. Industrial zoning districts abutting agricultural or residential zoning districts: twenty (20) feet;
  - b. Office or commercial zoning districts abutting agricultural or residential zoning districts: fifteen (15) feet;
  - c. Multi-dwelling structure(s) or development(s) abutting agricultural or single family residential zoning districts: ten (10) feet.
  - d. Non-residential uses in residential or agricultural zoning districts: ten (10) feet.
5. Perimeter screening area required by subsection J. of this section may be located within the required setback.
6. In R1, R1A, R1E, R2, and R3 zoning districts, parking is prohibited in the front yard of houses, duplexes, and attached houses except as follows:
  - a. On approved driveways and parking spaces
  - b. A maximum of two (2) vehicles with a current and properly displayed accessible/disabled parking license plate or placard/hang tag.
  - c. Temporary loading or unloading.
  - d. When construction, remodeling, maintenance, or repairs are being performed on the property, temporary front yard parking shall not exceed the period for which city permit is valid or as necessary to complete the work.
  - e. Parking for isolated, non-recurring gatherings, parties, or visitors. This exception is not intended to provide permanent or semi-permanent parking for extra cars.
  - f. Areas within a two-mile radius of Neyland Stadium during University of Tennessee-Knoxville home football games and areas within a one-mile radius of Chilhowee Park and Exposition Center during city-approved events.
7. In R1, R1A, R1E, R2, and R3 zoning districts, approved parking and driveway(s) in the front yard on any lot shall be limited to the following:

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- a. On lots with a carport or garage (Figure 1):
- 1) The driveway leading to a carport or enclosed garage, not to exceed the maximum width allowed, except for flares adequate to access the carport or garage, and/or
  - 2) A connector driveway may extend from a circular driveway to beyond the front wall of the principle structure. Connector driveways shall comply with driveway width requirements.

**Figure 1. Residential Lots with a Carport or a Garage**



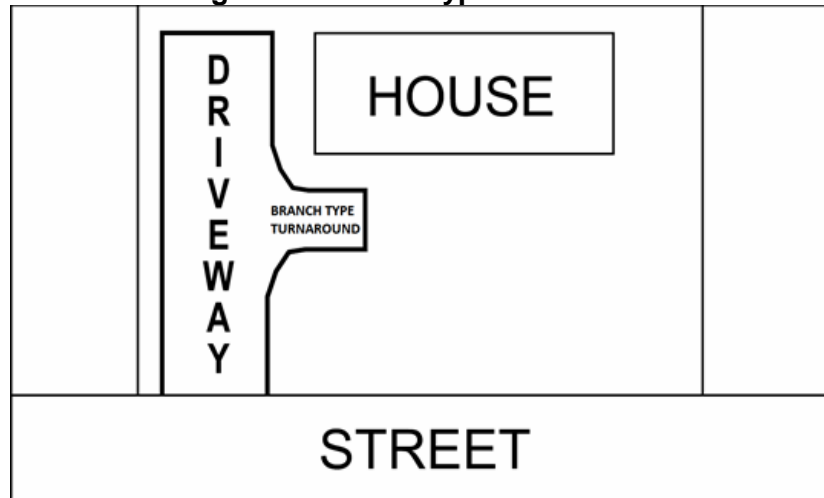
- b. On lots with no carport or garage:
- 1) Lot frontage of seventy-five (75) feet or less, the driveway shall be within ten (10) feet of the side lot line.
  - 2) No driveway, other than a circular driveway, shall be constructed in the area between the front wall of the principle structure and the front property line.
  - 3) A corner lot driveway cannot be built between the front wall of the principle structure and the front lot line as designated in the building permit.
  - 4) A connector driveway may extend from a circular driveway to beyond the front wall of the principle structure. Connector driveways shall comply with driveway width requirements.
- c. For a detached garage served by an alley, the minimum rear yard shall be:
- 1) Twelve (12) feet when garage doors are oriented to the alley; or
  - 2) Five (5) feet when garage doors are oriented to the side yard.
- d. In addition to any of the above, a branch type turnaround not to exceed two hundred (200) square feet is permitted on any lot where city engineering standards can be met (Figure 2). This

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subsection shall not apply to approved off-street parking (for residential uses) and driveways in existence as of January 16, 2009.

**Figure 2. Branch Type Turnaround**



- e. For the purpose of this section, lot frontage for any lot (except a small lot of record) that does not have seventy-five (75) feet or greater frontage on any street, joint permanent easement (private right-of-way), or access easement, shall be measured at the front building setback line.

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D. Number of Vehicle Parking Spaces Required

1. The minimum and maximum number of off-street vehicle parking spaces shall be determined in accordance with Table 1, unless otherwise specified in the applicable zoning district. In the C-2 zoning district, the minimum number of parking spaces noted below shall not apply; however, the maximum number shall apply.

Table 1. Minimum and Maximum Parking Space Requirements				
Use		Minimum	Maximum	
1	Multi dwelling structure	0 to 1 Bedroom	1 per dwelling unit + guest parking	1.25 per dwelling unit + guest parking
		2 Bedrooms	1.25 per dwelling unit + guest parking	1.75 per dwelling unit + guest parking
		3 Bedrooms	1.5 per dwelling unit + guest parking	2.25 per dwelling unit + guest parking
		4 or more Bedrooms	2 per dwelling unit + guest parking	2.5 per dwelling unit + guest parking
		Housing development renting by bedroom(s)	0.67 per bedroom	1.2 per bedroom
		<b>Guest Parking</b> (located in area(s) commonly accessible to all units)	0.2 per dwelling unit	0.25 per dwelling unit
2	Boarding house	0.75 per lodging unit	1 per lodging unit	
3	Duplex	2 per unit	No limitation	
4	House: attached	2 per unit + 0.25 per unit for guest parking	No limitation	
5	House: detached	2 per unit	No limitation	
6	Mobile home park	2 per unit + 0.25 per unit for guest parking	2 per unit + 0.25 per unit for guest parking	
7	Congregate Housing	0.5 per unit + 1 per employee on shift of greatest employment	0.67 per unit + 1 per employee on shift of greatest employment	
8	Nursing home	0.2 per bed + 1 per employee on shift of greatest employment	0.33 per bed + 1 per employee on shift of greatest employment	
9	Assisted living facility	0.2 per bed + 1 per employee on shift of greatest employment	0.33 per bed + 1 per employee on shift of greatest employment	
10	Continuing care retirement community (contains multiple elements of congregate housing, assisted living, and convalescent care in one campus/complex)	Sum of the minimum requirements of the individual components of the complex (specified in this table)	Sum of the maximum requirements of the individual components of the complex (specified in this table)	

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**Table 1. Minimum and Maximum Parking Space Requirements**

Use		Minimum	Maximum
11	Convalescent care	0.2 per bed + 1 per employee on shift of greatest employment	0.33 per bed + 1 per employee on shift of greatest employment
12	Dormitory, residence hall	0.5 per resident	0.67 per resident
13	Fraternity house, sorority house	0.33 per resident	0.5 per resident
14	Day care home, group day care home, child care center, adult day care facility	0.67 per employee on shift of greatest employment + 0.125 off-street loading space for every client	1.0 per employee on shift of greatest employment + 0.167 off-street loading space for every client
15	Appliance, carpeting, and furniture sales	2.5 per 1,000 SF gross sales area	3.5 per 1,000 SF gross sales area
16	Automobile, truck, manufactured home, boat, and outdoor equipment sales (including service area)	3.5 per 1,000 SF office sales area and waiting area	5 per 1,000 SF office sales area and waiting area
17	Automobile and truck services	2 per bay	4 per bay
18	Automobile car wash with employees	0.5 per employee	1 per employee
19	Bowling alley	3 per lane	5 per lane
20	Commercial recreation	4 per 1,000 SF GFA	5 per 1,000 SF GFA
21	Convenience store with gas	4 per 1,000 SF GFA	8 per 1,000 SF GFA
22	Funeral parlor	0.33 per person at design capacity	0.67 per person at design capacity
23	Hotel, motel, bed/breakfast	1 per lodging unit	1.25 per lodging unit
24	Kennel: without clinic	2 per 1,000 SF GFA	4 per 1,000 SF GFA
25	Laundry and dry cleaning establishment	0.5 per employee + 1 per 75 SF customer service area	0.5 per employee + 1 per 50 SF customer service area
26	Building material sales	1 per 1,000 SF GFA + 1 per 1,000 SF outdoor sales area	2 per 1,000 SF GFA + 2 per 1,000 SF outdoor sales area
27	Home improvement superstore	2.5 per 1,000 SF GFA	4 per 1,000 SF GFA
28	Movie theatre, indoor live entertainment	0.2 per seat	0.5 per seat
29	Retail sales, personal service establishment, shopping center	3 per 1,000 SF GFA	6 per 1,000 SF GFA
30	Hybrid convenience store with gas / quick serve restaurant with kitchen	4 per 1,000 SF GFA	10 per 1,000 SF GFA
31	Restaurant without drive-thru	8 per 1,000 SF GFA	16 per 1,000 SF GFA
32	Restaurant with drive-thru	6 per 1,000 SF GFA	12 per 1,000 SF GFA
33	Mixed use multi-tenant structure excluding residential	3 per 1,000 SF GFA	8 per 1,000 SF GFA



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**Table 1. Minimum and Maximum Parking Space Requirements**

Use		Minimum	Maximum
34	Bank	2.5 per 1,000 SF GFA	5 per 1,000 SF GFA
35	Call center	4.5 per 1,000 SF GFA	12 per 1,000 SF GFA
36	Medical, dental, or chiropractic office/clinic	4 per 1,000 SF GFA	10 per 1,000 SF GFA
37	Hospital	3.25 per bed	5.75 per bed
38	Office: general, governmental	3 per 1,000 SF GFA	8 per 1,000 SF GFA
39	Veterinary hospital, animal clinic	2.5 per 1,000 SF GFA + kennel minimum	3.5 per 1,000 SF GFA + kennel maximum
40	Self-storage facility: enclosed (All storage units accessible from interior hallways)	5 spaces adjacent to the office/entry + 0.02 per unit	7 spaces adjacent to the office/entry + 0.033 per unit
41	Self-storage facility: not enclosed (All storage units are individually accessible from drive aisles)	5 spaces adjacent to the office	7 spaces adjacent to the office
42	Industrial: light	0.9 per 1,000 SF GFA	6 per 1,000 SF GFA
43	Industrial: heavy	0.75 per employee at the largest shift	1 per employee at the largest shift
44	Warehouse and distribution facility: Wholesale	0.5 per 1,000 SF GFA	2 per 1,000 SF GFA
45	Demolition landfill, solid waste facility, sanitary landfill	3 per 1,000 SF office floor area	4 per 1,000 SF office floor area
46	Clubs, halls, lodges	5 per 1,000 SF GFA	6.5 per 1,000 SF GFA
47	Golf course (not counting other facilities)	3 per hole	6 per hole
48	Marina, boat livery (not counting other facilities)	0.5 per boat slip	1 per boat slip
49	Market garden	1 per employee on shift of greatest employment	2 per employee on shift of greatest employment
50	Park: active and passive	Determined by the Department of Engineering	Determined by the Department of Engineering
51	Place of assembly, auditorium, stadium, place of worship (with or without fixed seats)	0.25 per seat in the main assembly	0.5 per seat in the main assembly
52	Public cultural facility, gallery, museum, library	3 per 1,000 SF display floor area	4 per 1,000 SF display floor area
53	School: elementary and middle	1 per classroom	2 per classroom
54	School: high school	0.25 per student	0.5 per student
55	School: college, vocational, and trade	5 per 1,000 SF GFA	6.5 per 1,000 SF GFA
56	Swimming pool, tennis courts	0.33 per person per design capacity	0.5 per person per design capacity

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2. In any determination of parking requirements, as set forth in this section, where the resultant figure contains a fraction, any fraction less than one-half (0.5) may be eliminated from the count and any fraction one-half (0.5) or more shall be counted as one (1) parking space.
3. For uses not specifically mentioned herein, off-street parking requirements shall be interpreted by the Director of Plans Review and Inspections.
4. Off-street parking requirements for multi-family residential developments may be reduced up to twenty (20) percent from the minimum requirements set forth in Table 1 provided the development is located within one-fourth (0.25) of a mile of a transit route. A KAT approved shelter may be required on or within one-fourth (0.25) of a mile of the development site. Bicycle parking requirements may not be reduced.
5. Parking lots may exceed by up to twenty (20) percent the maximum number of spaces set forth in Table 1 provided that the spaces exceeding the maximum and the access aisles accessing those spaces are constructed of pervious materials approved by the Department of Engineering. Parking spaces exceeding the identified maximum by twenty (20) percent or more for the use(s) may be approved by the Department of Engineering upon submittal of a parking study justifying the need for additional spaces, and the approval of the parking study by City of Knoxville staff. All excess spaces and their access ways shall be constructed of pervious materials. Pervious paving materials may not be required for excess parking on sites with brownfield agreements upon approval by the Department of Engineering.
6. Upon approval by the Department of Engineering of a parking study for the proposed use(s), the minimum number of parking spaces set forth in Table 1 may be reduced.
7. Structured parking may exceed the maximum number of parking spaces set forth in Table 1 upon approval by the Department of Engineering.
8. All parking lot elements required by the Americans with Disabilities Act (ADA) must be accessible. All off-street parking lots shall have a number of accessible parking spaces as required by Table 2, or as amended by ADA:

<b>Table 2. Required Accessible Parking Spaces</b>		
<b>Total Parking Spaces Provided</b>	<b>Minimum Number of Accessible Parking Spaces Required</b>	
	<b>Van</b>	<b>Total (Van + Car)</b>
1 to 25	1	1
26 to 50	1	2
51 to 75	1	3
76 to 100	1	4
101 to 150	1	5
151 to 200	1	6
201 to 300	2	7
301 to 400	2	8
401 to 500	2	9
501 to 1000	1 for every 6 accessible spaces*	2% of total provided parking spaces*
1001 and over	1 for every 6 accessible spaces*	20, plus 1 for each 100, or fraction thereof, over 1000

\* When a fraction number of spaces is required, round up to the nearest whole number.

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**E. Dimensions of Spaces and Aisles**

1. Off-street parking lots shall be laid out in accordance with the following regulations:
  - a. Accessible parking spaces shall be at least eight (8.0) feet wide with an adjacent pedestrian access aisle of at least five (5.0) feet wide.
  - b. Van accessible spaces shall be either:
    - 1) At least eleven (11.0) feet wide with an adjacent pedestrian access aisle of at least five (5.0) feet wide.
    - 2) At least eight (8.0) feet wide with an adjacent pedestrian access aisle of at least eight (8.0) feet wide.
  - c. Pedestrian access aisles shall be hatched and include a “No Parking” designation.
  - d. The dimensions for parking stalls and aisles shall be as specified in Table 3.

<b>Table 3. Parking Stall and Parking Lot Drive Aisle Dimensions</b>					
<b>Parking Angle</b>	<b>Depth to Wall (feet)</b>	<b>Depth to Curb (feet)</b>	<b>Depth to Interlock (feet)</b>	<b>Stall Width (feet)</b>	<b>Minimum Aisle Width (feet)</b>
45 degrees	16.5 - 20.5	15.0 - 19.0	14.5 - 18.5	9.0 - 13.0	15.0 One-way 26.0 Two-way
60 degrees	18.0 - 22.0	16.5 - 20.5	16.5 - 20.5	9.0 - 13.0	18.0 One-way 26.0 Two-way
75 degrees	18.5 - 22.5	17.5 - 21.5	17.5 - 21.5	9.0 - 13.0	22.0 One-way 26.0 Two-way
90 degrees	17.5 - 21.5	15.5 - 19.5	17.5 - 21.5	9.0 - 13.0	26.0 One-way 26.0 Two-way
<b>Parking Direction</b>	<b>Length to Wall (feet)</b>	<b>Length to Curb (feet)</b>	<b>Length to Interlock (feet)</b>	<b>Stall Width (feet)</b>	<b>Minimum Aisle Width (feet)</b>
Parallel	22.5 - 26.5	20.5 - 24.5	22.5 - 26.5	9.0 - 13.0	15.0 One-way 22.0 Two-way

Notes:

- Stall depth measured perpendicular to aisle.
- Stall lengths, stall depths, and aisle widths for parking angles, other than those indicated, shall be consistent with the above values and are subject to the approval of the Department of Engineering.
- See Figure 3 for typical parking dimensions and layout.

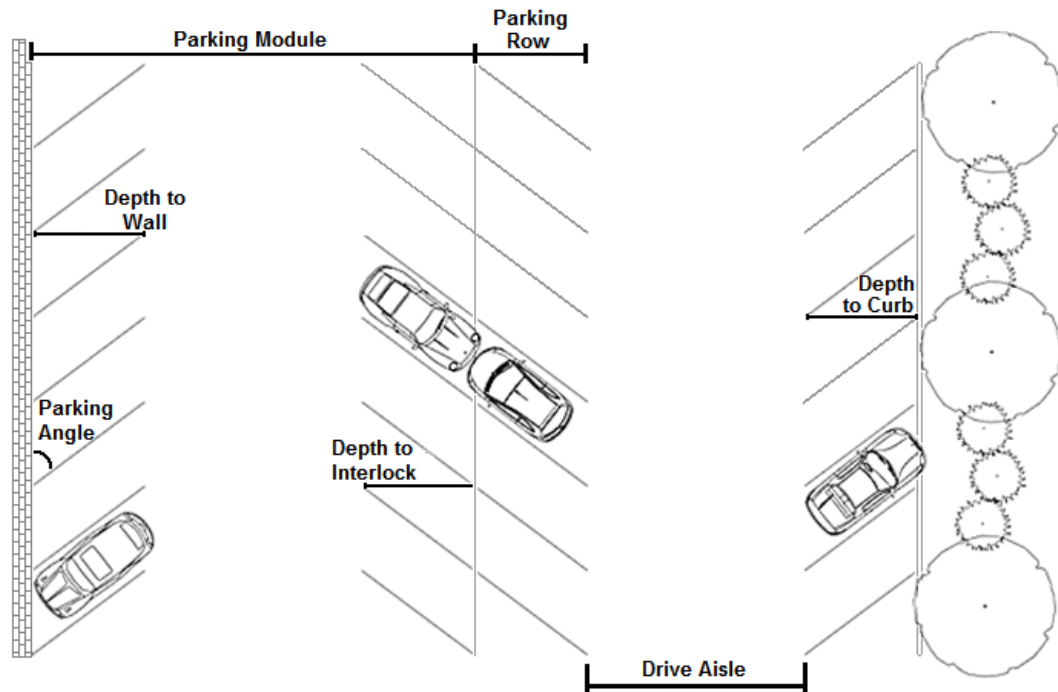
- e. Up to twenty (20) percent of the total number of parking spaces provided may be designed for compact vehicles. Where possible, these spaces shall be clustered together and shall be marked with signs restricting their use to compact vehicles. Compact spaces with a parking angle of ninety (90) degrees shall have the following minimum dimensions: eight (8.0) feet width, thirteen and one-half (13.5) feet depth to curb, and fifteen and one-half (15.5) feet depth to a wall or interlock.
- f. Columns, light poles, and/or other protrusions may encroach into a parking module up to a maximum of one (1.0) foot for modules with parking on one side or a maximum of two (2.0)

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feet for modules with parking on two sides, one (1.0) foot protrusion into each parking row. The protrusions cannot affect more that twenty-five (25) percent of the spaces.

**Figure 3. Typical Parking Space and Facility Layout Dimensions**



2. Structured parking shall comply with the following requirements:
  - a. The Department of Engineering may approve a reduction in parking dimensions when columns and light poles protrude into a parking module (see Figure 3) a combined maximum of two (2.0) feet as long as they do not affect more than twenty-five (25) percent of the stalls in that bay.
  - b. Stairways, elevators, or other provisions shall be made to separate vehicular and pedestrian movements between the various levels of parking structures.
  - c. The maximum approach, departure, and ramp angles shall be subject to the review and approval of the Department of Engineering.
  - d. A minimum of nine (9.0) feet clearance shall be maintained on all levels containing accessible spaces and on all levels providing ingress to and egress from the accessible spaces. A minimum of seven (7.0) foot clearance shall be maintained throughout the remainder of the structured parking.

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**F. Off-Site Parking**

The Director of the City of Knoxville Department of Plans Review and Inspections may consider and approve a shared parking plan for uses that are located near one another and that have different peak parking demands and operating hours. All off-site parking arrangements must comply with the following provisions, at a minimum. Additional requirements may be imposed by the Director of the City of Knoxville Department of Plans Review and Inspections, or the Director of the City of Knoxville Department of Plans Review and Inspections may deny the shared parking plan for good cause.

1. The uses will not overlap in hours of operation or in demand for the shared spaces.
2. The person or entity requesting the shared parking must submit a shared parking study and site plan to the Department of Engineering for approval.
3. The lot upon which the shared or off-site parking is located shall be no greater than five hundred (500) feet walking distance as measured from the boundary of the property on which the principal use is located to the boundary of the property where the shared parking is located.
4. Any crossing of a roadway with a classification higher than local roadway shall be a marked pedestrian crossing.
5. The off-site parking shall be located on land owned by the owner(s) of the principal use it is intended to serve, or under lease or license to the owner(s) of the principal use it is intended to serve, in accordance with the following subsections.
  - a. If the shared parking accounts for 50% or less of the parking spaces required for the principal use that is unable to meet its requirements on-site, the shared parking agreement shall be a parking license with a minimum term of two (2) years. The shared parking license may be revocable and is not required to be recorded; however, a copy of the license must be provided to the City of Knoxville Department of Plans Review and Inspections after approval of parking plans and before issuance of building permit.
  - b. If the shared parking accounts for more than 50% of the parking spaces required by the principal use that is unable to meet its requirements on-site, the shared parking agreement shall be a lease agreement with a minimum term of five (5) years. Such lease agreement shall be subject to approval by the City of Knoxville Law Department. Where such a lease is involved, a memorandum of lease shall be recorded with the Register of Deeds of Knox County with copies furnished to the City of Knoxville City Law Director and City of Knoxville Department of Plans Review and Inspections after approval of parking plans and before issuance of building permit.
6. Off-site parking shall be in a zoning district that permits the principal use it will serve and off-site parking shall not be located in a residential zoning district.
7. The shared parking spaces shall be maintained as long as the uses they serve are in operation.
8. Accessible parking may not be shared.

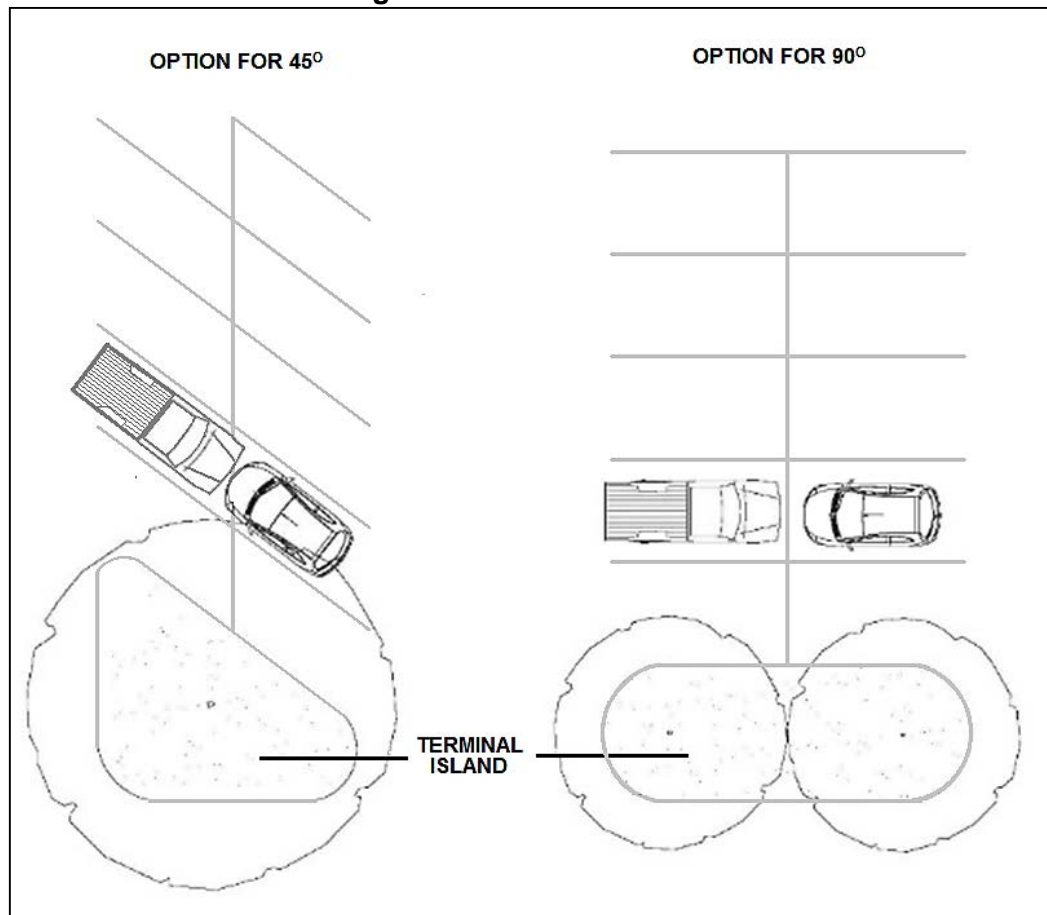
**G. Miscellaneous Requirements for Parking Facilities**

1. All areas devoted to off-street parking shall be so designed and be of such size that no vehicle is required to back into a public street or alley to obtain egress, except as follows:
  - a. Off-street residential parking for houses, duplexes, and attached houses when the lot is accessed from a local street.

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- b. Egress directly from parking spaces to alleys may be allowed when the aisle width, including the alley width, meets the minimum aisle width specified in Table 3.
2. The maximum grade in a parking lot shall be ten (10) percent.
3. Surface drainage shall be collected so as to preclude uncontrolled drainage onto the paved portion of street rights-of-way as determined by the Department of Engineering.
4. An accessible pathway shall be provided from the accessible parking space(s) to the destination that the parking space(s) are intended to serve. The accessible pathway shall be located along the shortest accessible route to the accessible door/entrance.
5. In an effort to reduce vehicle/pedestrian conflicts:
  - a. Parking lots serving a building and having more than one (1) parking row between the fronting street and the building's front entrance should have sidewalks or clearly defined and designated routes connecting the building's main entrance or a central location to the parking lot.
  - b. A clearly defined and designated accessible route shall connect a building's main entrance or central location to a sidewalk in the ROW where the cost of providing this route does not exceed twenty (20) percent of the parking lot improvement cost.
  - c. Landscaped islands and divider medians shall be arranged so as to channel traffic and minimize vehicular and pedestrian conflicts within parking areas. A divider median shall be provided at a minimum interval of one median per every six (6) parking rows to channel traffic and minimize vehicular and pedestrian conflicts within interior parking lots.
  - d. Parking rows shall be terminated at both ends with terminal islands of a minimum area of one hundred twenty (120.0) square feet for each parking row. Islands may be combined for double parking rows, resulting in a terminal island with a minimum area of two hundred forty (240.0) square feet (See Figure 4).

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**Figure 4. Terminal Islands**



6. Interior islands shall have a minimum area of one hundred twenty (120.0) square feet for each parking row that they interrupt. Islands may be combined for double parking rows, resulting in an interior island with a minimum area of two hundred forty (240.0) square feet.
7. In industrial (I) and C-2 zoning districts, terminal islands, interior islands, and divider medians shall not be required. This exemption shall not apply to parking in industrial zoning districts designated for employees and visitors where the principal building is over forty thousand (40,000) square feet.
8. Construction and Maintenance. All areas devoted to permanent off-street parking as required under this section shall be surfaced and maintained as to control dust, rutting, erosion as a result of continuous use, and migration of surface materials. Parking spaces must be clearly delineated.
9. Vehicular and pedestrian signs must be MUTCD compliant and approved by the City of Knoxville Department of Engineering.

**H. Access and Driveway Requirements.**

These regulations are applicable in zoning districts without specific access and driveway requirements exclusive to the zoning district. If specifically provided, the requirements in Article IV shall prevail. The Department of Engineering is authorized to develop and implement such policies and procedures as may be necessary and desirable to control the design and construction of driveways which are consistent with this ordinance.

1. The number of driveways on a given street, joint permanent easement, or access easement shall be based on the following:

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- a. Typical developments – Table 4

<b>Table 4. Maximum Number of Driveways for Lot Frontages</b>	
<b>Lot Frontage</b>	<b>Maximum Number of Driveways</b>
Less than 150 feet	1*
150 feet – 450 feet	2
Greater than 450 feet – 600 feet	3
Greater than 600 feet – 750 feet	4
Greater than 750 feet	Determined by Dept. of Engineering

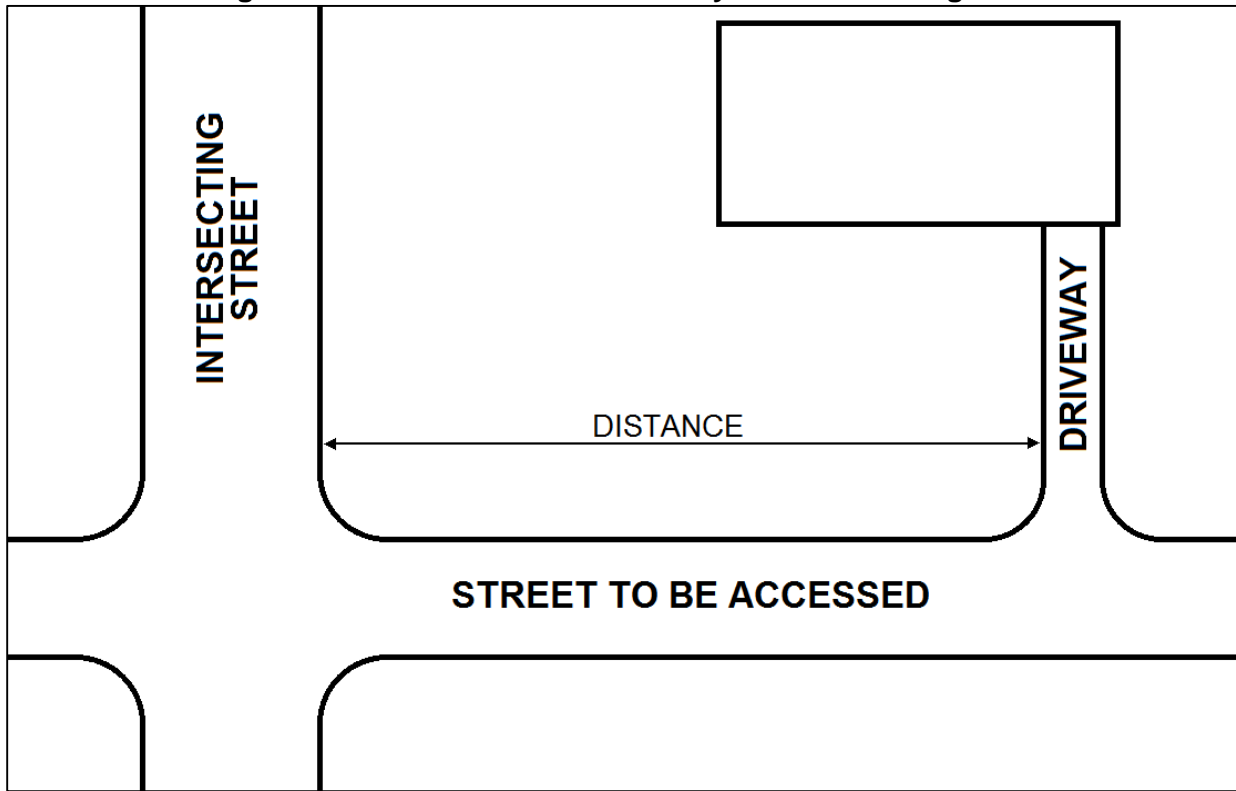
\* For single family residences with lot frontages of 100 feet or more, a circular driveway is permissible.

- b. Gas stations and establishments where services are normally provided to customers without leaving their vehicles may have two (2) driveways.
- c. Projects required to prepare a Traffic Impact Study shall be considered individually based on the recommendation of the study and the approval of the Department of Engineering.
- d. Boulevard driveways (with raised median separation) and right-in/right-out driveway pairs will be considered as one (1) driveway
- e. The Department of Engineering may impose other access and driveways requirements as necessary based on specific site conditions.
2. All driveways shall be located subject to the following controls:
- a. On a corner lot, the minimum distance between a driveway and the intersecting street is described in Table 5. (See also, Figure 5).

<b>Table 5. Corner Clearance Requirements</b>			
<b>Classification of Intersecting Street</b>	<b>Classification of Street to be Accessed</b>		
	<b>Arterial</b>	<b>Collector</b>	<b>Local</b>
Arterial	200 ft	150 ft	100 ft
Collector	150 ft	100 ft	50 ft
Local	100 ft	50 ft	50 ft



Figure 5. Distance Between Driveway and Intersecting Street



- b. If the required distance cannot be met due to lot size, the driveway shall be located as far as possible from the intersecting street.
  - c. All driveways in a development must be separated by a minimum distance equal to the width of the wider driveway.
  - d. No curb cut may encroach on the frontage of adjacent property without the written consent of the owner for such encroachment, except where a joint use driveway with the adjacent property is established at the request of both owners.
3. The width of all driveways shall be within the minimum and maximum limits specified as follows:
- a. Houses, attached houses and duplexes – Table 6

<b>Table 6. Driveway Width and Curb Cut Length Standards for Houses, Attached Houses, and Duplexes</b>				
<b>Lot Frontage (feet)</b>	<b>Driveway Dimensions</b>		<b>Length of Curb Cut</b>	
	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)
50 feet or less	10	18	15	24
> 50 - 74	10	20	15	26
Greater than 74	10	25	15	32

- b. A circular driveway shall be no wider than eighteen (18) feet.
- c. All other development – Table 7

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**Table 7. Driveway and Curb Cut Length Standards for  
All Other Development**

Land Use	Driveway Dimensions		Length of Curb Cut	
	Min. (feet)	Max. (feet)	Min. (feet)	Max. (feet)
Uses serving a substantial number of large trucks (5/day or 25/week)	20	40	60	90
All other	20	30	25	60

- d. Gas stations may have driveways up to forty (40) feet wide.
  - e. Boulevard driveways (with raised median separation) and right-in/right-out driveway pairs are not subject to Table 4 and will be reviewed on a case by case basis by the Department of Engineering.
  - f. For driveways required to be built to the Department of Engineering's Utility Driveway Standard (Access to cell towers, electrical substations, pump stations, etc.), as set forth in the City of Knoxville's Land Development Manual, the minimum driveway width may be reduced to sixteen (16) feet.
  - g. Major traffic generators will be considered as individual cases and are not subject to Table 7. A major traffic generator is defined as any facility which is required by this section to provide four hundred (400) or more parking spaces.
4. When a change in use, redevelopment, or alteration of any land or building makes any or all of the driveways unnecessary or noncompliant, the owner of the property shall, at their expense, replace all necessary curbs, gutters, sidewalks, and landscape to a condition consistent with current City of Knoxville standards.

**I. Bicycle Parking Provisions**

- 1. Bicycle parking shall be provided for all uses for which vehicular off-street parking is required and/or provided, with the exception of single family homes and duplexes. For newly provided off street vehicular parking, bicycle parking shall be provided for uses in the amount indicated in Table 8.

**Table 8. Required Bicycle Parking**

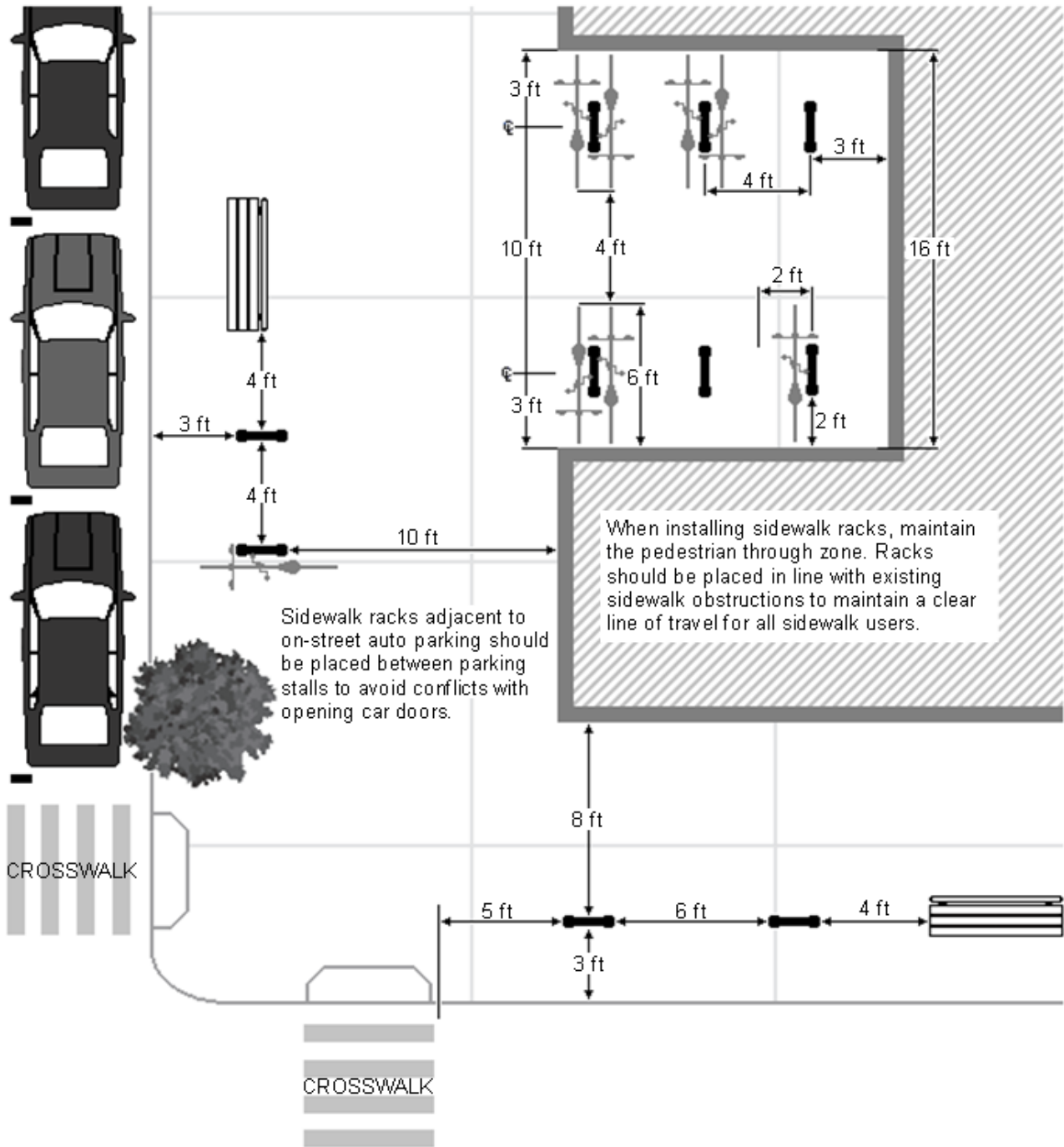
Land Use Category	Total Required Motor Vehicle Parking Spaces (minimum)	Required Number of Bicycle Parking Spaces
Non-Residential*	Less than 50	4
	51 - 100	8
	101 - 500	12
	501 – 1,000	16
	1,001 or more	16 for the first 1001 + 8 for every 500 thereafter of vehicle parking spaces over 1,000
Residential	Detached one or two family dwellings	0
	Multi-Family	0.25 per unit, or none if interior storage space is provided for each unit

\*Shopping centers and mixed-use multi-tenant structures are to be considered as a whole, not as individual tenants. Bike racks shall be spaced throughout the shopping center.

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2. In the C-2 zoning district, bicycle parking is required. The number of bicycle parking spaces required shall be based on the minimum number of vehicle parking spaces that the proposed use(s) would be required based on Table 1.
3. In any determination of parking requirements as set forth in this section, where the resultant figure contains a fraction, any fraction less than one-half (0.5) may be eliminated from the count and any fraction one-half (0.5) or more shall be counted as one (1) parking space.
4. One required vehicle parking space may be used as a space for providing required bicycle parking.
5. The required bicycle parking spaces shall be located in a convenient and visible area within fifty (50) feet of a principal entrance or other location approved by the Department of Engineering.
6. Bicycle parking facilities shall be sufficiently separated from motor vehicle parking areas to protect parked bicycles from damage by motor vehicles. The separation may be accomplished through grade separation, distance or physical barrier, such as curbs, wheel stops, poles or other similar features.
7. Users shall not be required to climb or descend stairs in order to access the bicycle parking facility unless there is a bicycle wheel trough parallel to the stairs.
8. Connections to bicycle networks may be required by the Department of Engineering.
9. Bicycle parking shall not impede pedestrian or accessible routes.
10. Bicycle parking spaces shall include a rack which permits the locking of the bicycle frame and one wheel to a rack or fixture and shall support a bicycle in a stable position without damage to the wheels, frame or components. Racks must be securely anchored to prevent the racks from being removed from the location.
11. Bicycle racks shall be installed according to the following minimum standards (See Figure 6):
  - a. Three (3.0) feet from the side of the rack to any obstruction
  - b. Three (3.0) feet forwards or backwards from the centerline of the rack to any obstruction
  - c. Four (4.0) feet from the side of the rack to another bike rack
  - d. Ten (10.0) feet forwards or backwards from the centerline of the rack to the centerline of another bike rack
  - e. Alternatives to these standards may be approved by the Department of Engineering.
12. Bicycle parking and access to bicycle parking shall be constructed in accordance to subsection G.8. of this section.

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**Figure 6. Typical Bicycle Parking Rack and Spacing**



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**J. Parking Lot Landscaping**

The purposes of this subsection are to foster pedestrian and vehicular safety by directing traffic flow, to promote stormwater drainage, and to lessen negative visual and environmental effects that parking lots can have on the community. To those ends, this subsection establishes the minimum landscaping standards by which parking lots will be screened from adjacent public streets or from adjacent properties.

1. These standards shall apply to newly constructed parking lots, including vehicular use areas, of ten thousand (10,000.0) square feet or larger; provided, however, that newly constructed parking lots with less than twenty thousand (20,000) square feet of vehicular use area are exempt from the interior landscaping requirements in subsection J.3. of this section and the perimeter screening requirements in subsection J.2.c.3 of this section. When an existing parking area is expanded, only the area of expansion shall be required to comply with these landscaping standards. Structured parking shall be exempt from the landscaping requirements of this section.
2. Perimeter Landscaping.
  - a. Perimeter screening areas shall be provided between parking lots and/or vehicular use areas and adjacent properties and/or streets.
  - b. Breaks may be provided in the perimeter screening area for pedestrian walkways, driveway access, signs, and utilities. Encroachments should minimize impact on landscaping.
  - c. The perimeter screening area shall be as follows:
    - 1) Between Parking Lots and Residential Zones: A perimeter screening area at least ten (10.0) feet wide, measured from the edge of the parking lot to the property line shall be provided between the parking lot and any adjacent residential zoning district. Such perimeter screening area shall be planted with a minimum of four (4) evergreen trees, three (3) deciduous trees, and fourteen (14) shrubs for every one hundred (100.0) linear feet. A minimum of fifty (50) percent of the shrubs shall be evergreen.
    - 2) Between Parking Lots and Rights-of-Way: A perimeter screening area at least ten (10.0) feet wide, measured from the edge of the parking lot to the right-of-way, shall be provided between the parking area and the right-of-way of all adjoining streets. Such perimeter screening area shall be planted with a minimum of three (3) deciduous and/or evergreen trees and ten (10) shrubs for every one hundred (100.0) linear feet. A minimum of fifty (50) percent of the shrubs shall be evergreen. For parking lots, including vehicular use areas, of less than twenty thousand (20,000) square feet, the width of the perimeter screening area may be reduced to six (6) feet.
    - 3) Between Parking Lots and Mixed Use or Non-Residential Zones: Perimeter screening areas no less than five (5.0) feet wide, measured from the edge of the parking lot to the property line, shall be provided between the parking lot and any property zoned for mixed use or non-residential purposes, including parking lots on adjacent property. Such perimeter screening areas shall be planted so as to be continuous when plants reach maturity. A minimum of fifty (50) percent of the shrubs shall be evergreen.
  - d. Parking lots located on properties developed under a common or unified development plan and/or which have a shared access agreement shall not be required to provide the perimeter screening area along common property lines where parking areas abut. All interior plantings shall be provided, as well as perimeter screening areas adjacent to properties not developed under the common or unified development plan.

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3. Interior Landscaping.
  - a. Landscaped islands shall be pervious and planted, at a minimum, as follows:
    - 1) One (1) deciduous tree, such tree shall be no less than two (2) inches caliper, and no less than eight (8) feet tall at the time of planting (height measured from ground to top of tree when planted).
    - 2) Landscaped areas shall be planted with natural plant materials (vines, shrubs, ground covers, or grass).
  - b. In parking rows, runs of more than fifteen (15) parking spaces shall be broken by an interior island.
4. Landscaped areas may be recessed if flush curbs are utilized. If recessed, the landscaped areas must be designed for stormwater management and to prevent erosion and tracking.
5. Landscaped areas shall be protected from encroachment of vehicles through use of curbs or wheel stops where necessary.
6. At intersections of streets, drives, and other travel ways, sight distance shall be maintained. To maintain sight distance, the maximum combined height of shrubs, groundcover, berms, walls, and fences shall be thirty (30.0) inches, using plant heights at maturity. Trees obstructing sight distance shall be trimmed whereby the lowest branches are ten (10.0) feet above the ground.
7. In C-2 zoning districts, the perimeter landscaping standards shall not apply; however, the total landscaped area provided shall be at least four (4) percent of the total area of the parking lot.
8. Species should be selected based on those that will survive and thrive in East Tennessee. Noxious and invasive species shall not be used for landscaping. Trees should be selected from the City of Knoxville's Tree List maintained by the City of Knoxville.
9. Landscaping plan submittals shall not conflict with existing overhead and underground utility infrastructure and maintenance zones. Plans shall reference the City of Knoxville's Tree List for appropriate species and their respective planting distances from adjacent utility infrastructure. No landscaping shall be permitted, which at maturity will grow into conflict with the utility maintenance zone. As stated in subsection J.11., Alternative Landscaping Plans may be considered when an applicant cannot meet any of the specific requirements of subsection J. because of the utility maintenance zones.
  - a. Overhead utilities: At maturity, landscaping shall not grow within ten (10) feet of primary distribution lines and twenty five (25) feet within 69kv sub-transmission lines.
  - b. Utility poles: Trees shall not be planted within ten (10) feet of primary distribution poles and twenty five (25) feet within 69kV sub-transmission poles.
  - c. Support wires: Trees shall not be planted within five (5) feet of supporting guy wires.
  - d. Underground utility lines: The minimum distance of tree planting from the utility center line shall not be less than ten (10) feet. Shrubs and other landscaping vegetation are permitted in this area.
  - e. Pad mount transformers: Landscaping shall be planted a minimum of six (6) feet away from the side with doors and three (3) feet away from the other sides.
10. The owner of any property where parking lot landscaping is required shall be responsible for the maintenance of all required plant material and the replacement of any dead and/or missing plant material.

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11. Alternative Landscape Compliance:

a. The landscape requirements are intended to set minimum standards for quality development and environmental protection; site conditions or other reasons may justify the need to request an alternate method of compliance. Alternative Landscaping Plans may be considered when an applicant cannot meet any of the specific requirements of subsection J. because:

- 1) Strict application of the landscaping requirements would require unreasonable or unnecessary compliance. Such situations could include water features, topography, lot configurations, utility maintenance zones, or unusual site conditions; or
- 2) The applicant envisions a more creative means to meet the spirit and intent of these requirements; or
- 3) A comprehensive landscaping plan involving several properties is proposed.

b. Administration of Alternative Landscaping Plans: The applicant shall submit an Alternative Landscaping Plan indicating proposed landscaping, and will include a list of landscaping requirements not met, a description of the alternatives proposed, and a written explanation of how the proposed plan fulfills the spirit and intent of the landscaping requirements. The Alternative Landscape Plan shall be submitted to and approved by the Administrative Review Committee subject to Administrative Review Committee administration. In approving the alternative landscape plan, the Administrative Review Committee shall find that:

- 1) The proposed alternative will not present a safety hazard.
- 2) That proposed alternative will, upon maturity, provide landscaping that is equal to or better than the standards requirements.
- 3) The proposed alternative is designed to address plant health and vigor.
- 4) The proposed alternative is reasonably compatible with the natural and topographic features of the site.
- 5) The proposed alternative supports the purpose statement noted in subsection J. of this section.

12. Conservation of Existing Trees: Existing healthy trees shall be conserved when possible and shall be credited toward landscaping requirements, when they are comparable in terms of species to new trees that would be permitted in the proposed location.

a. Credit for conserving existing, healthy trees shall be subject to approval by the City of Knoxville Director of Plans Review and Inspections or designee. The credit approved for each conserved tree shall be based on a tree's diameter, measured four and one-half (4.5) feet above the ground and may be up to the amount indicated below:

- 1) Four (4.0) to eight (8.0) inches: two (2) trees credited;
- 2) Eight (8.0) to twelve (12.0) inches: three (3) trees credited,
- 3) Twelve (12.0) to eighteen (18.0) inches: four (4) trees credited, and
- 4) Eighteen (18.0) inches or greater: five (5) trees credited.

b. Existing trees may be used to fulfill some of the perimeter screening requirements, subject to approval by the Director of Plans Review and Inspections or designee. Existing trees shall be credited as set forth in subsection J.12.a of this section. Trees to be conserved shall be identified

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on the required landscaping plan. Conserved trees shall comprise no more than fifty (50) percent of the perimeter screening requirements and shall be supplemented with new landscaping materials as required to create an effective screen. If existing trees are being used as credit toward meeting the tree planting standards, a grading permit shall not be issued until suitable protective barriers are placed around the Critical Root Zone (CRZ) of the tree(s) to be conserved. Conserved trees shall be subject to the maintenance and replacement requirements set forth in subsection J.10. of this ordinance.