

## Chapter 10. VEHICLE ACCOMMODATION AREAS

### 10.1 Purpose and Intent

Vehicle accommodation areas such as parking lots, loading areas and circulation drives are necessary elements in the urban environment. However, these areas are known to increase stormwater volume and velocity, increase the levels of surface pollutants, increase surface level heat and glare, reduce the efficiency of the connecting street system, and increase the number of potential conflict points with the surrounding pedestrian network. This chapter regulates the construction, expansion, and renovation of vehicle accommodation areas in a manner that seeks to minimize and mitigate these known impacts.

### 10.2 Applicability

The standards of this Chapter are applicable across all zoning districts, except as described in this section.

#### A. Town Center (TC) District

1. Developments which do not involve an increase of more than 25 percent (25%) in the building floor area are exempt from the standards of this Chapter;
2. Developments which involve only a change of use and which will not increase the number of parking spaces required under this chapter by more than 10 percent (10%) are exempt from the standards of this Chapter; and
3. Required loading areas must still be provided, but may be designated on-street and/or within public alleys.

- B. Old Town Area:** For uses located within the study area boundary of the *Old Town Knightdale Plan (January 2007)*, compliance with parking requirements may be achieved by making payments in accordance with the Town of Knightdale Fee Schedule adopted by the Town Council to the Fund 70 Capital Reserve account. The payment shall be based upon a dollar amount per parking space, and all parking payment moneys shall be used to acquire, maintain, administer, and/or improve public parking.

### 10.3 Off-Street Parking and Loading Area Requirements

#### A. Loading Areas

1. Off-street loading space available for the loading and unloading of vehicles shall be provided for all retail, wholesale and industrial uses, as well as for any expansion of such uses or change in use requiring the regular delivery or shipment of goods, merchandise or equipment to the site.
2. Loading areas may not otherwise be used for conducting the operations and activities of the permitted use, including, but not limited to, the display or storage of vehicles or materials.
3. Loading areas may not be included for meeting the requirements of section 10.3B, C or D.

#### B. Park & Ride/Transit Accommodations

1. Shopping centers which provide 100 or more motorized vehicle parking spaces shall designate at least five percent (5%) of the required spaces as "Park and Ride" spaces; however, no more than 100 spaces shall be required.

2. A sign or signs shall be used to designate that the spaces are reserved for park and ride use during non-holiday weekdays between 6AM and 6PM.
3. Park and ride spaces should be located adjacent to one another in a cohesive manner.
4. Bus shelters, transit easements, or other transit-oriented accommodations may be required to be installed by the developer in the vicinity of the Park and Ride area if the Administrator determines that Wake County Transportation and Rural Access (TRACS), Triangle Transit, or another publicly-sponsored transit provider would benefit from the improvements.

**C. Bicycle Parking**

1. Multi-family residential uses shall provide bicycle parking at a rate of one (1) bicycle parking space for every 20 motorized vehicle spaces; however, no more than 100 total bicycle parking spaces shall be required for any single development.
2. Nonresidential uses with off-street parking for motorized vehicles of at least 15 spaces and not more than 40 spaces shall provide a minimum of two (2) bicycle parking spaces.
3. Nonresidential uses with off-street parking for motorized vehicles of more than 40 spaces shall provide bicycle parking at a rate of one (1) bicycle parking space for every 10 motorized vehicle spaces; however, no more than 100 total bicycle parking spaces shall be required for any single development.

**D. Motorized Vehicle Parking:** Parking for motorized vehicles shall be provided according to the following table of ratios:

Use Type	Minimum Parking Spaces	Maximum Parking Spaces
<b>1. Residential</b>		
a. Dwelling-Single Family	1.0 per bedroom up to 2.0 per unit	n/a
b. Dwelling-Duplex	1.0 per bedroom up to 2.0 per unit	n/a
c. Dwelling-Multifamily 4 units/bldg or less	1.0 per bedroom up to 2.0 per unit	n/a
d. Dwelling-Multifamily more than 4 units/bldg	1.0 per bedroom up to 2.0 per unit	n/a
e. Dwelling-Secondary	1.0 per bedroom up to 2.0 per unit	n/a
f. Family Care Home (6 or Less residents)	1.0 per bedroom up to 2.0 per unit	n/a
g. Home Occupation	1.0 per bedroom up to 2.0 per unit	n/a
h. Housing Service for the Elderly	½ maximum	0.5 per unit
i. Live-Work Units	1.0 per bedroom up to 2.0 per unit, plus ½ max.	1.0 per bedroom or 2.0 per unit, plus 3.5 per ksf work space GFA
j. Manufactured Housing	1.0 per bedroom up to 2.0 per unit	n/a
<b>2. Lodging (all)</b>	½ maximum	1.25 per guest room + 10 per ksf restaurant/lounge + 25 per ksf conference room

*(table continued on next page)*

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<b>3. Office/Service</b>		
a. Animal Services	½ maximum	6.0 per ksf GFA
b. ATM	n/a	3.0 per machine
c. Banks, Credit Unions, Financial Services	½ maximum	5.5 per ksf GFA
d. Business Support Services	½ maximum	4.0 per ksf GFA
e. Child/Adult Day Care Home (Fewer than 6 people)	1.0 per bedroom up to 2.0 per unit	n/a
f. Child/Adult Day Care Center (6 or more people)	½ maximum	0.35 per person licensed cap.
g. Community Service Organization	½ maximum	4.0 per ksf GFA
h. Cremation Facilities	½ maximum	4.0 per ksf GFA
i. Drive Thru Service	½ maximum	4.0 per ksf GFA
j. Equipment Rental	½ maximum	2.0 per ksf GFA
k. Funeral Homes	½ maximum	0.25 per person permitted cap.
l. Government Services	*	*
m. Group Care Facility (More than 6 residents)	½ maximum	1.0 per room
n. Medical Services	½ maximum	5.5 per ksf GFA
o. Outdoor Animal Boarding/Equestrian Facilities	½ maximum	0.5 per run/stable
p. Personal Services	½ maximum	2.0 per station or 4.3 per ksf GFA whichever greater
q. Post Office	½ maximum	4.0 per ksf GFA
r. Professional Services	½ maximum	4.0 per ksf GFA
s. Studio – Art, dance, martial arts, music	½ maximum	4.0 per ksf GFA, plus
t. Vehicle Services – Maintenance/Body Work/Repair	½ maximum	2.7 per ksf GFA sales area, plus 2.0 per service bay, plus 1.5 per ksf balance of GFA
<b>4. Retail/Restaurants</b>		
a. Auto Parts Sales	½ maximum	2.7 per ksf GFA sales area, plus 2.0 per service bay, plus 1.5 per ksf balance of GFA
b. Bar/Tavern/Night Club	½ maximum	22.5 per ksf GFA
c. Drive-Thru Retail/Restaurants	½ maximum	15.0 per ksf GFA
d. Gas Station with Convenience Store	½ maximum	3.5 per ksf GFA
e. Neighborhood Retail/Restaurant – 2,000 sf or less	½ maximum	3.5 per ksf GFA retail; 16.0 per ksf GFA restaurant
f. General Retail – 10,000 sf or less	½ maximum	3.5 per ksf GFA
g. General Retail – 10,001 sf – 50,000 sf	½ maximum	6.0 per ksf GFA
h. General Retail – Greater than 50,000 sf	½ maximum	6.0 per ksf GFA
i. Restaurant	½ maximum	22.5 per ksf GFA
j. Shopping Center – Community Center	½ maximum	4.5 per ksf GLA
k. Shopping Center – Neighborhood Center	½ maximum	4.0 per ksf GLA
l. Sweepstakes Center	½ maximum	2.0 per machine
m. Vehicle/Heavy Equipment Sales	½ maximum	2.7 per ksf GFA sales area, plus 2.0 per service bay, plus 1.5 per ksf balance of GFA
<b>5. Entertainment/Recreation</b>		
a. Adult Establishment	½ maximum	1.0 per 3 persons permitted cap.
b. Amusements, Indoor – 5,000 sf or less	½ maximum	1.0 per 3 persons permitted cap.
c. Amusements, Indoor – 5,001 sf – 20,000 sf	½ maximum	1.0 per 3 persons permitted cap.
d. Amusements, Indoor – Greater than 20,000 sf	½ maximum	1.0 per 3 persons permitted cap.
e. Amusements, Outdoor	½ maximum	1.0 per 3 persons permitted cap.
f. Cultural or Community Facility	½ maximum	1.0 per 3 persons permitted cap.
g. Meeting Facilities	½ maximum	0.25 per person permitted cap.
h. Recreation Facilities, Indoor	½ maximum	1.0 per 3 persons permitted cap.
i. Recreation Facilities, Outdoor	½ maximum	1.0 per 3 persons permitted cap.
j. Theater, Live Performance	½ maximum	0.4 per seat
k. Theater, Movie	½ maximum	Single screen; 0.5 per seat, 2-5 screens: 0.33 per seat, 6 -10 screens: 0.3 per seat, Over 10 screens: 0.27 per seat

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<b>6. Manufacturing/Wholesale/Storage</b>		
a. Agribusiness	½ maximum	4.0 per ksf GFA
b. Laboratory - medical, analytical, research & development	½ maximum	1.5 per ksf GFA
c. Laundry, dry cleaning plant	½ maximum	2.0 per ksf GFA
d. Manufacturing, Light	½ maximum	1.5 per ksf GFA
e. Manufacturing, Neighborhood	½ maximum	1.5 per ksf GFA
f. Manufacturing, Heavy	½ maximum	2.0 per ksf GFA
g. Media Production	½ maximum	1.5 per ksf GFA
h. Metal Products Fabrication, machine or welding shop	½ maximum	2.0 per ksf GFA
i. Mini-Warehouses	½ maximum	0.25 per ksf GFA
j. Quarrying and Stone Cutting	½ maximum	2.0 per ksf GFA
k. Research and Development	½ maximum	1.5 per ksf GFA
l. Storage - Outdoor storage yard as a primary use	½ maximum	4.0 per ksf GFA
m. Storage - Warehouse, indoor storage	½ maximum	0.7 per ksf GFA
n. Wholesaling and Distribution	½ maximum	2.0 per ksf GFA
<b>7. Civic/Institutional</b>		
a. Campground	1.0 per campsite	n/a
b. Cemeteries	½ maximum	4.0 per ksf GFA
c. Colleges/Universities	*	*
d. Hospital	*	*
e. Public Safety Facility	*	*
f. Religious Institutions	½ maximum	0.6 per seat
g. Schools – Elementary & Secondary	½ maximum	0.35 per student
h. Schools – Vocational/Technical	*	*
<b>8. Infrastructure</b>		
a. Airport	*	*
b. Transit, Road & Ground Passenger Services	½ maximum	4.0 per ksf GFA
c. Wireless Telecommunication Facility-Stealth	n/a	n/a
d. Wireless Telecommunication Facility-Tower	n/a	n/a
e. Utilities-Class 1 & 2	n/a	n/a
f. Utilities-Class 3	n/a	n/a

\* To be determined by a parking study specific to the use.

Note: ksf = 1000 square feet; GFA = Gross Floor Area; GLA = Gross Leasable Area.

**E. Adjustments to Motorized Vehicle Parking Ratios**

1. **Adjustments to Parking Ratio Minimums for Tree Preservation:** The minimum number of spaces required by Section 10.3D may be adjusted by the Administrator when it has been determined that the reductions are necessary to preserve a healthy tree or trees (with a 12 inch or greater DBH) from being damaged or removed, and where the site plan provides for the retention of said tree or trees.
2. **Exceeding Parking Ratio Maximums:** To minimize the impacts of stormwater runoff and urban heat created by excess parking surfaces, the stated parking ratio maximums in Section 10.3D may only be exceeded according to the following provisions:
  - a. If the stated maximum number of spaces is exceeded by no more than 15 percent, the exceeding spaces (those above the stated maximum in the preceding table) must be no more than 30 feet from the base of a large shade tree as opposed to the 60-foot requirement specified in Section 8.8C.
  - b. If the stated maximum number of spaces is exceeded by more than 15 percent, a development shall:

- i. Meet the tree requirement for the exceeding spaces as stated in the preceding subsection “a”; and either
- ii. Construct the exceeding spaces (those above the stated maximum in the preceding table) of a permeable material such as “pervious concrete”, “porous asphalt”, brick/stone pavers, engineered turf pavers or other permeable material approved by the TRC; or
- iii. Adjust the site’s stormwater retention system to provide a minimum 30 percent reduction in total nitrogen loading for the entire site (*see Section 6.4F(6)*).

**F. Additional Standards for Motorized Vehicle Parking**

- 1. **Disabled Parking:** Parking for the disabled shall be provided in accordance with the North Carolina State Accessibility Code.
- 2. **Use of Parking Areas:** Required parking areas shall be available for the parking of operable vehicles of residents, customers, and employees, and shall not be used for the storage of vehicles or materials, or for the parking of vehicles used for loading or unloading, or in conducting the use.

**G. Alternatives to Provision of On-Site Parking**

In lieu of actual on-site construction of off-street parking spaces, all or any portion of the off-street parking required by sections 10.3C and 10.3D may be provided as follows:

**1. Remote Parking**

Remote parking (*a dedicated off-site satellite parking lot*) may be permitted, subject to certification by the Administrator that the following requirements have been met:

- a. The use being served by the remote parking shall be a permitted principal use, as established in Chapter 2, in the zoning districts within which the lot containing such parking is located;
- b. A safe, direct, paved, lighted and convenient pedestrian route shall exist or be provided between the remote parking and the use being served;
- c. At least one (1) parking space within each remote parking lot shall be within 660 feet (*1/8 mile*) of a public entrance to the structure housing the use being served (*or to the lot housing the use being served in cases where no structure exists*) as measured along the route provided in accordance with subsection (b); and
- d. The continued availability of remote parking spaces necessary to meet the requirements of this section shall be ensured by an appropriate condition that the continued validity of the zoning compliance or special use permit shall be dependent upon the permit holder's continued ability to provide the requisite number of parking spaces.

**2. Combined Parking**

Up to one-half ( $1/2$ ) of the parking spaces required for one (1) use may be used to satisfy the parking requirements for a second use on the same zoning lot, subject to certification by the Administrator that such joint usage of the combined parking complies with either:

- a. The peak usage of the parking facility by one use will be at night or on Sundays (such as with theaters, assembly halls, or churches), and the peak usage of the parking facility by the second use will be at other times; or
- b. The second use is an accessory use to the first use, such as restaurants and meeting rooms to hotels and motels.

**3. Shared Parking**

Up to one-half (1/2) of the parking spaces required for one (1) use may be used to satisfy the parking requirements for a second use on an adjacent lot, subject to certification by the Administrator that such joint usage of the shared parking complies with both:

- a. The peak usage of the parking facility by one (1) use will be at night or on Sundays (such as with theaters, assembly halls, or churches), and the peak usage of the parking facility by the second use will be at other times; and
- b. The joint use of shared off-street parking between two (2) uses is made by contract between two (2) or more adjacent property owners.

- 4. On-Street Parking:** Where parking on-street is permitted, a use may count the marked spaces directly along the parcels frontage toward the parking requirement.

**10.4 General Off-Street Vehicle Accommodation Design Standards**

- A. Location:** No off-street vehicle accommodation area is permitted within any required setback, except that driveways providing access to the area may be installed across said setback. It is the intent that these driveways be as nearly perpendicular to the street right-of-way as possible.
- B. Surfacing and Curbing:** All vehicle accommodation area surfacing shall be constructed in accordance with the *Knightdale Standard Specifications & Construction Details*.
  - 1. Exemptions:** The following situations are exempted from the prepared hard pavement surfacing and curbing requirements of this section, except that they must comply with the requirements of Section 10.4B(4) for un-surfaced areas:
    - a. Single family dwellings in the RR1 District.
    - b. A parking lot used only for occasional use (*Use that occurs on two [2] or fewer days per week*) or is temporary in nature (*not exceeding 24 months*); and
    - c. Whenever a proposed development involves only one (1) of the following:
      - i. An accessory structure; or
      - ii. A change in use which will not increase the number of required parking spaces by more than 10 percent (10%) and the existing parking lot does not comply with the requirements of Section 10.4B(1).
    - d. The Administrator may exempt up to 75 percent (75%) of the required employee parking spaces in the MI District from the paving requirements of the Section. To qualify for the exemption, the parking spaces may not be visible, either by effective buffer screening or because of the grade of the site, from any public right-of-way or a residentially or commercially zoned property.

2. **Prepared Hard Surfacing Required**

- a. **Materials:** All vehicle accommodation areas including drives connecting such areas with the public street rights-of-way shall be surfaced with a prepared hard surface treatment including, but not limited to: asphalt, concrete or unit pavers. Prepared hard surfaces do not include those finished with gravel, dirt or mulch.
- b. **Permeable Hard Surface Permitted:** The Administrator may permit and/or require that permeable hard surface materials such as pervious concrete, porous asphalt, brick/stone pavers or engineered turf pavers be used in some portion of a vehicle accommodation area where it finds it is necessary to protect the root system of an existing tree or trees from damage or reduce the amount of impervious surface.

3. **Curbing Required:** All vehicle accommodation areas shall be curbed using standard curb and gutter with a minimum width of one-and-a-half (1½) feet. Landscape islands, aisles and areas shall be similarly curbed to protect vegetation.

4. **Un-surfaced Areas:**

- a. Except for single family dwellings in the RR1 District, landscape aisles or spatial separations shall be provided to ensure that the parking spaces will be readily identifiable to the users;
- b. Except for single family dwellings in the RR1 District, the area must be dust-free, and covered with a maintained pervious ground cover such as grass or mulch (*no bare earth*); and
- c. Except for single family dwellings in the RR1 District, the perimeter of the vehicle accommodation area encompassing the parking spaces and the side of any un-surfaced drive or aisle leading to said spaces shall be edged with one (1) of the following materials, including but not limited to: brick, pressure treated timbers, or cast in place concrete. All such edge treatments shall be anchored into place and be a minimum dimension of six (6) inches square.

C. **Screening:** Vehicle accommodation areas shall be screened in accordance with Section 8.7A.

D. **Containment:** Off-street vehicle accommodation areas shall be designed so that parked vehicles do not encroach upon or extend onto public rights-of-way, sidewalks or strike against or damage any wall, vegetation, utility or other structure.

E. **Pedestrian Walkways:** Vehicle accommodation areas shall be designed to allow pedestrians to safely move from their vehicles to the building. For lots of 36 parking spaces or greater, sidewalk corridors shall be provided within the parking lot or along the perimeter to provide safe access to buildings for pedestrians.

10.5 **Specific Circulation Drive Design Standards:**

- A. **Location:** A circulation drive may be permitted around the front of the building but may not encroach into the front setback or any required landscape area.
- B. **Width:** Circulation drives shall not exceed 10 feet in width, except that they may be up to 20 feet wide when adjacent to an arterial **and** located in an MI or HB district.

- C. **Paving Treatments:** Circulation drives shall be enhanced with alternative paving treatments such as unit pavers, stamped concrete or stamped asphalt. At a minimum, two (2) 10-foot long treatments must be included at the beginning and the terminus of the drive as an indicator to the driver that they are entering and leaving a pedestrian area. Additional treatment locations will be required if and where pedestrian crossings of the circulation drive are anticipated.

### 10.6 Specific Motorized Vehicle Parking Area Design Standards

- A. **Location:** Parking areas are prohibited from being located in the front yard of a lot as well as from in front of a building's primary façade. The following uses are exempt from this provision:
  - 1. Single-family dwellings (*detached only*) in any District; and
  - 2. All uses in the MI District.
- B. **Landscaping:** Parking lots are to be treated as enclosures; therefore, parking lot landscaping (*Section 8.8*) and screening (*Section 8.7A(1)*) shall be placed in a manner that breaks the lot into parking modules of not more than 36 spaces.
- C. **Connectivity:** Each parking lot that features cross access with a parking lot on an adjacent property per the provisions of Section 9.4F may reduce their minimum parking requirement by five percent (5%).
- D. **Parking Space Dimensions:** Parking spaces should be dimensioned in accordance with *Architectural Graphics Standards*, latest edition.
- E. **Special Event Parking:** Off-street areas used for special event parking (*to accommodate occasional overflow volumes*) may be constructed of a dust-free, compacted, pervious ground cover such as grass or mulch. The owner of the property shall be responsible for the maintenance of such parking in a clean and dust-free condition.
- F. **Structured Parking:** When above-ground structured parking is located at the perimeter of a building, it should be screened in such a way that cars are not visible from the street. Locating structured parking at the interior of the block, surrounded by buildings, is the preferred method of screening.

### 10.7 Specific Bicycle Parking Design Standards

- A. **Location**
  - 1. Bicycle parking shall be made available within 50 feet of a building's main entrance(s).
  - 2. Where there is more than one building on the site, or parking is shared with an adjacent site, bicycle parking must be distributed equally to serve all buildings and main entrances.
- B. **Conversion from Motorized Spaces:** During the site plan approval process, the TRC may allow a new or a pre-existing development to convert up to five percent (5%) of its motorized vehicle spaces to non-required additional bicycle parking, as long as the spaces are conveniently located near a building entrance. Converted parking spaces shall yield at least four (4) bicycle parking spaces per motorized vehicle space.