



November 17, 2004

PROPOSED MINIMUM AND MAXIMUM PARKING REQUIREMENTS



Town of Chapel Hill, North Carolina



LSA
LSA ASSOCIATES, INC.



Recommended Minimum and Maximum Parking Requirements Town of Chapel Hill, North Carolina



The Chapel Hill Town Council has requested a parking analysis as an outgrowth of the Town's recent update to the Town's Land Use Management Ordinance. The unresolved issue associated with the Land Use Management Ordinance was parking, both the appropriateness of the existing minimum parking rates and also whether maximum parking rates should be included.

Historically, Chapel Hill has sought to avoid parking shortages by requiring developers to provide a minimum amount of parking as a condition of development approval. However, the current Land Use Management Ordinance does not address issues relating to an oversupply of parking. Only recently has the Town desired to address the problems that too much parking creates by limiting the number of parking spaces that developers can provide for their projects.

It has also been the Chapel Hill Town Council's interest to utilize local data for determining potential changes to the minimum parking standards as well as for defining maximum parking standards. To under take this effort, LSA Associates, Inc. (LSA) was retained to conduct parking supply and utilization surveys, and through local findings make recommendations to the Town Council.

The following analysis, therefore, addresses both a re-look at the minimum parking standards for various uses, as well as introduces recommendations for maximum parking requirements

Parking Supply and Utilization Surveys

Currently, the Town of Chapel Hill Land Use Management Ordinance has specific minimum parking requirements for 30 different land uses. To survey a representative sample of each of these uses was deemed cost prohibitive. Additionally, much of the data would be repetitive and excessive. It was therefore concluded that a parking survey could be targeted to a few critical and controversial land uses.

The following provides a list of uses and facilities in which Town of Chapel Hill parking occupancy and utilization were surveyed.

Banks

- Bank of America (Banks Dr)
- Bank of America (Willow Dr)
- Centura Bank Downtown (Rosemary St)
- Centura Bank (Willow Dr)
- First Citizens Bank (Estes Dr)
- NC State Employees Credit Union (Hamilton Rd)
- Wachovia Bank (Weaver Dairy Rd)

Restaurants

- Breadmen's
- El Rodeo
- La Hacienda
- Mama Dipp's
- McDonalds Downtown (Franklin St)
- McDonalds (Durham - Chapel Hill Blvd)
- Owen's 501 Diner
- Panera Bread
- Pizza Hut (Estes Dr)
- Squids

Places of Worship

- Amity United Methodist Church
- Chapel Hill Bible Church
- First Baptist Church

- St. Thomas Moore Catholic Church
- University Baptist Church

Retail "Super centers"

- Border's
- Lowe's

Mixed Use Center

- Chapel Hill North
- Timberlyne

Office

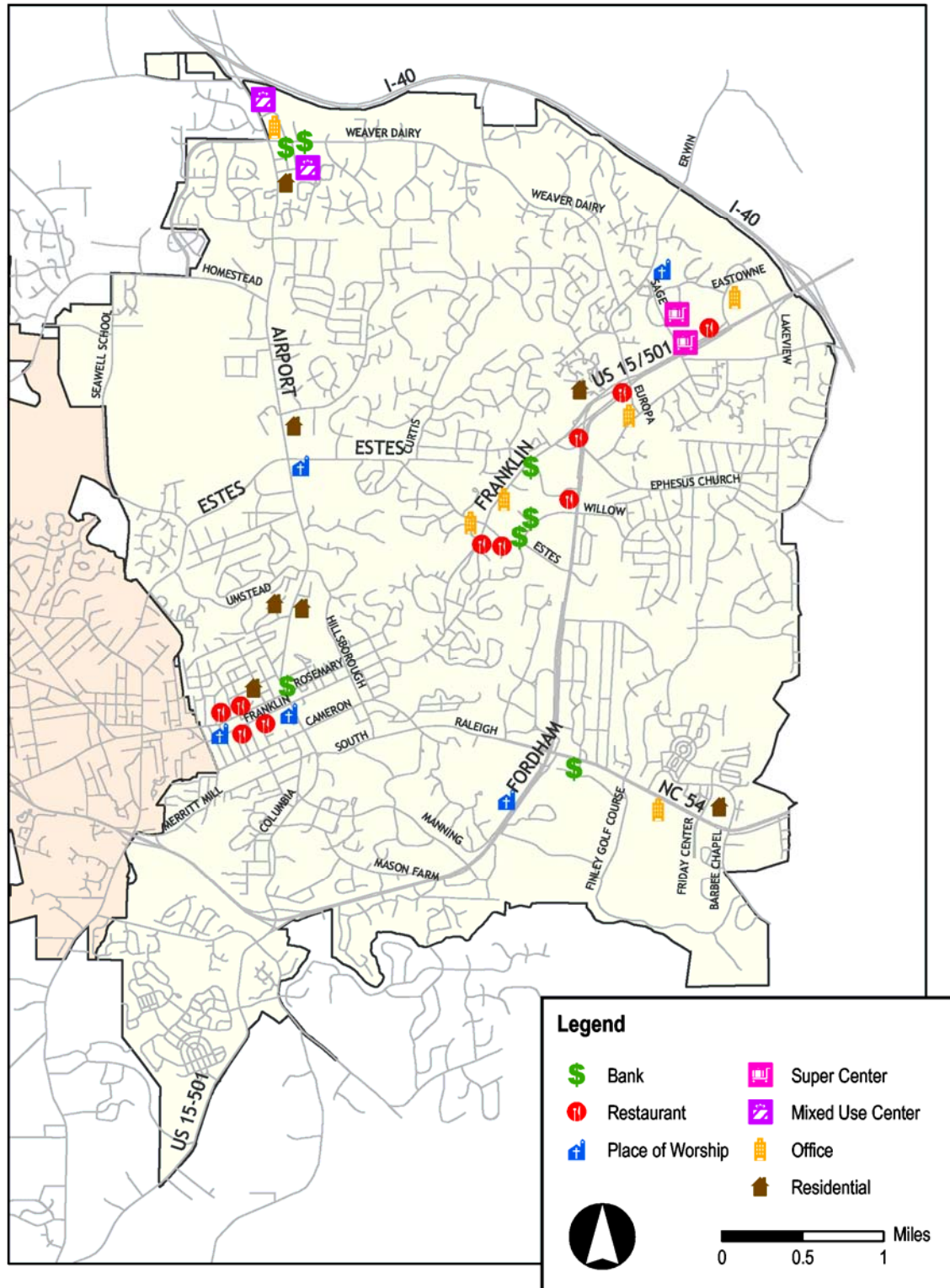
- Chapel Hill North Office Complex
- Collier Cobb Office Building
- Eastowne Office Complex
- Europa Office Building
- Franklin Park Square
- Meadowmont Office Complex

Multi-Family Residential

- Chancellor's Square
- Columbia Place
- Foxcroft
- Meadowmont Apartments
- Mill Creek
- Shadowwood
- Timberlyne Apartments

The parking survey was conducted over a two week period in October 2003. This proved to be an ideal time as the University of North Carolina was in session. Several sites were surveyed each day. For each site, the number of parking spaces occupied and unoccupied were identified. This survey was repeated throughout the day. In this manner, several sites were completed each day and a histogram of parking utilization was determined for each business or site. Each site was surveyed on at least two different days. Performing the surveys on multiple days also ensured the consistency of the data.

Survey Sites Map



The following provides a brief description of the survey methodology by use.

- **Banks:** Seven branch banks with similar services, including drive-through facilities were selected from different areas around town. For each site, statistical information for the facility was collected including square feet and total number of on site parking spaces. Seven parking utilization surveys were conducted for each site (mid-morning, late morning, noon, early afternoon, mid afternoon, late afternoon, and the 5:00 hour on Friday). Utilizing these data, average parking occupancy, supply per 1,000 square feet, and parking utilization was collected and calculated.
- **Restaurants:** A total of eleven restaurants were selected for parking inventory and utilization survey. Parking utilization surveys were conducted over multiple days, throughout the day and into the evenings. Restaurant parking data were also collected on the weekends, as well as the weekdays.
- **Place of Worship:** Five churches were identified for collecting place of worship parking data. For each church, the number of seats in their main sanctuary was collected for determining parking space requirements per seat. Each church was surveyed during multiple times, based on their service schedule.
- **Retail “Supercenters”:** Two retail supercenters were surveyed, Lowe’s and Border’s. Parking surveys were conducted throughout the day for multiple weekdays as well as weekends.
- **Mixed-Use Center:** Two mixed use centers were selected, Chapel Hill North and Timberlyne. The purpose of these surveys was to determine the effect of the synergy of uses and provide a local basis for development of a retail mixed-use center parking generation model.
- **Multi-Family Residential:** Seven multi-family residential projects were surveyed. Data were collected for four different unit sizes: Efficiency and One-Bedroom, Two-Bedroom, Three-Bedroom and Four or More Bedrooms. In addition to surface parking areas, garages provided part of the parking supply at two locations, Columbia Place and Meadowmont. Because it was not possible to tell which garage was occupied, an assumption was made that 75 percent of all enclosed garages were occupied. It should further be noted that in all cases, only parking spaces within the project site were counted except for Columbia Place where on-street parking was included in the occupied survey count.

Appendix A of this report provides a summary of surveyed facility statistics and an aerial photo for each site. This surveyed facility statistics Appendix includes information regarding land use, facility name, building size, parking supply, parking supply per unit (floor area, dwelling unit, or number of seats), percent maximum parking utilization, and maximum parking utilization per unit.

Appendix B provides for a composite assessment of parking supply and demand and utilization for all sites contained within a given category. This information is presented in both tabular and graphic form. Information on this table includes the average parking utilization per time period over multiple days, maximum parking occupancy/utilization, the mean of the sites surveyed, and the standard deviation from the mean.

In addition to the residential and non-residential parking surveys for selected uses, a focused survey of Chapel Hill's current downtown conditions was made. This effort included a parking inventory, parking occupancy survey, and parking utilization calculation. The survey results and analysis of this work effort are included in Appendix C.

Recommended Parking Requirements

The recommended parking requirements for all land use categories included in the Chapel Hill, North Carolina Land Use Management Ordinance are contained in the table on the following page. The proposed recommendations continue to separate parking requirements for the two areas, Town Center and Non-Town Center. For comparative purposes, the existing parking requirements are included in the table. In order to step through the various recommended parking requirements by source of data, land use, location, and minimum/maximum, the table has been color coded for ease in explanation.

Town Center/Non-Town Center

The Chapel Hill Land Use Management Ordinance currently has two sets of parking requirements. One is defined for land uses within the Town Center and the other category is for uses outside the Town Center. Whereas there is logic in having different parking requirements for the two areas, given the Town Center's mixed uses and multimodal transportation infrastructure, the question was to what extent do the two parking rates differ and do these differences occur for all land uses.

One source of data to establish this difference between parking requirements within the Town Center versus outside the Town Center was the U.S. Census. Based on a review of the 2000 block group data, it was found that the Town Center currently experiences approximately 50 percent more alternative mode travel than the rest of the Town (excluding the UNC campus). Given that one of the objectives of the Town's Comprehensive Plan is to promote alternative mode use and a high-degree of investment in alternative mode infrastructure is provided within and to the Town Center, then recognizing the current proportion of multimodal travel between the Town Center and outside the Town Center has some basis. Therefore, parking rates for land uses within the Town Center were established at about two-thirds the conventional parking requirements for land uses outside the Town Center. It should be noted that although this two-thirds factor was generally applied to all uses, some intervention was made for uses where supplemental data were available or for land uses where location was not a factor.

Minimum/Maximum Parking Requirements

The current Town of Chapel Hill parking requirements are only for establishing the minimum number of parking spaces. One of the primary objectives of this work effort was to make recommendations for minimum parking requirement standards, as currently required in the Town's Land Use Management Ordinance, but also to make recommendations on maximum parking requirements. The purpose of maximum parking ordinances is to both limit the expanse and visual impact of parking on the environment, and to promote increased opportunities for multimodal transportation.

Sources of Data

The primary source of parking data used in developing the recommended Town of Chapel Hill parking requirements was from the parking surveys specifically conducted in the Town. These included banks, restaurants, retail, place of worship, office, and multi-family residential. This survey information was extremely valuable in that in addition to being locally significant, the raw data were used to determine both average rates and 95% probability rates, used for establishing minimum and maximum parking recommendations.

A second source of data was the 3rd Edition of the Institute of Transportation Engineers Parking Generation Manual. This most recent edition was released in November of 2004 and updates the previous 2nd Edition from 1985. The Parking Generation Manual contains a wealth of information including average rates (used for some land uses for minimum requirements) and 85th percentile rates (used for some land uses for maximum requirements). The Manual also provides useful information on a number of studies from which the data were derived and statistical information including standard deviation and coefficient of variation.

A third source of data was focused internet research. This research included examination of specific uses where available information from other sources was limited. This internet research to the extent available focused on peer communities similar to the Town of Chapel Hill, which were college communities with progressive objectives for multimodal transportation. This internet research also identified other progressive ideas, such as bicycle parking requirements to complement automobile parking requirements.

The fourth and final source of data was the current Town of Chapel Hill Land Use Management Ordinance. If supplemental sources of information were found to not be available or the source was limited in methodology of data collection or application, the current Town of Chapel Hill requirements were used. These current requirements were also beneficial to compare with other sources and used as a guide if the detailed calculation of proposed rate change was very similar or identical to the current rate.

Findings and Conclusions

Based on the overall parking analysis, the majority of the recommended minimum rates remained generally equal to the current Chapel Hill Land Use Management Ordinance rates. Lower minimum rates are suggested for seven land use categories. For only two uses, banks and retail, was a higher parking requirement recommended. The following section highlights key uses and recommendations for change.

It should be noted that the following discussion primarily focuses on the uses outside the Town Center. Recommended rates within the Town Center are approximately at the two-thirds rate unless otherwise noted.

- **Bank:** The Chapel Hill Land Use Management Ordinance currently requires one space per 350 square feet of floor area. The parking survey identified the mean peak parking utilization for the seven banks at one space per 250 square feet of floor area. It is therefore recommended that the minimum parking requirements for banks should be changed to the surveyed rate of one space per 250 square feet of floor area. Based on the parking survey, the maximum parking recommendation for office use is one space per 150 feet.
- **Business, Convenience Restaurant:** The current minimum parking requirement for restaurants is one space per four seats. This method of administering the parking requirements can become problematic as restaurants can add or delete seats over time. Therefore, it is recommended that the restaurant parking requirement be converted to parking spaces per square foot of floor area. Based on square feet and number of seats of the surveyed restaurants, the current equivalent is approximately one space per 135 square feet of floor area.

In conducting the survey, it was found that there are different peak parking demands by type of restaurant, such as fast food, high turnover sit down or quality restaurant. It was further recognized that differentiating these types of restaurants could be problematic. Therefore, a single minimum and maximum parking rate for all restaurants is proposed. Based on the survey, the minimum parking requirement for restaurants is one space per 110 square feet of floor area and the maximum is one space per 75 square feet of floor area.

- **Business, General (Retail):** The current minimum parking rate for mixed use commercial centers is one parking space per 350 square feet. Based on the parking survey of the Chapel Hill North and the Timberlyne mixed use centers, the recommended minimum parking rate should be increased to one space per 300 square feet. The maximum recommended parking rate is one space per 200 square feet.

It should also be noted that two super centers were surveyed which included the Lowe's home improvement center and the Border's book store. These centers averaged a much lower one space per 500 square feet. Based on current zoning and available land, additional super centers are not likely to occur in Chapel Hill, however, if they were to occur, a lower parking requirement than required per the Chapel Hill Land Use Management Ordinance might be considered.

- **Office:** The current minimum parking requirement is one space per 350 square feet. Based on the peak of all surveyed parking, the minimum parking requirement could be reduced to one parking space for every 500 square feet. However, based on the possibility that the surveyed sites had higher vacancies than might normally occur and compelling national consistency for minimum office parking rates as high as one space per 250 feet, it is recommended that the one space per 350 square feet remain as a minimum requirement. A maximum parking rate of one parking space per 250 square feet of floor area is recommended.
- **Dwelling, Two-Family or Multi-Family:** The current Land Use Management Ordinance identifies three multi-family residential categories: 1) Efficiency, 2) one and two bedroom dwelling units, and 3) three or more dwelling units. In review of the surveyed sites, coupled with how parking is generated, it is recommended that the categories be slightly modified and expanded to four categories as follows:
 1. Efficiency and One-Bedroom
 2. Two-Bedrooms
 3. Three-Bedrooms
 4. Four and More Bedrooms

Based on the Chapel Hill residential parking survey, a revised set of minimum multi-family residential parking standards are recommended. These resulting rates are presented in the following table:

Recommended Parking Standards Per Dwelling Unit by Number of Bedrooms	Efficiency & 1	2	3	4 or more
Minimum Per DU	1	1.4	1.75	2
Maximum Per DU	1.25	1.75	2.25	2.50

In review of dwelling unit parking demand for facilities within the Town Center which included Mill Creek, Columbia Place, and the Chancellor's Square, the parking rate was lower than the more outlying multi-family developments which included Meadowmont Apartments, Shadowwood, and Timberlyne Apartments. These lower parking demand rates might be attributable to being within close proximity to the Town Center and higher percentages of UNC students without automobile ownership. Therefore, reduced multi-family parking standards are recommended for the Town

Center which is within close proximity to UNC, shops and places of employment, and where public transportation is most accessible.

It should also be noted that as part of the field review, it became evident that some multi-family housing sites did not provide visitor spaces. Instead, all spaces were assigned to individual units or signs were posted that prohibited visitor parking. This resulted in visitors tending to have more problems than residents in finding available parking. It is therefore recommended that at a minimum, $\frac{1}{4}$ parking space per dwelling unit should be assigned and designated for visitor parking.

- **Movie Theatre:** One use that is not included in the current Town of Chapel Hill Land Use Management Ordinance is Movie Theatres. This use has changed significantly over the past twenty years with the introduction of multiplex theaters. Whereas the more traditional large seating area for a single screen could experience major peaking for a blockbuster movie, this peaking is minimized as one or two blockbuster screens might be averaged with other screens with less popular attractions. Based on the ITE Parking Generation report, a minimum parking requirement of one space per five seats and a maximum parking requirement of one space per four seats is recommended for inclusion in the Town of Chapel Hill's Land Use Management Ordinance.
- **Place of Worship:** The current requirement for place of worship parking is one space per four seats. Based on the observed peak parking accumulation of the five churches surveyed, it is recommended that the minimum parking space per seat be reduced to one space per five seats. Based on the differences, a maximum parking standard is proposed at one space per two seats. It should be noted, however, that this use does experience significant differences between the average use and peak use, such as Christmas and Easter. Therefore, an additional buffer might be appropriate for the maximum parking standard.

Bicycle Parking Requirements

The scope of this study did not include examination of minimum bicycle parking requirements. We note that Section 5.9.7 of the Land Use Management Ordinance specifies bicycle parking requirements as follows:

The following minimum bicycle parking requirements shall apply for the appropriate use and zoning district. Bicycle parking requirements shall not apply for uses located within the Office/Institutional-3 or Office/Institutional-4 Districts.

Use	Minimum Number of Bicycle Spaces
Industrial and Office	10% of auto parking spaces
Commercial/Retail	10% of auto parking spaces
Multi-Family Residential	1 space per dwelling unit, plus 10% of auto parking spaces
Recreation	25% of auto parking spaces
School	1 space per 3 students, plus 1 space per 10 faculty/staff
Park/Ride, Transit Center	10% of auto parking spaces

Internet research of many similar type college communities that desire increased use of alternative modes also had minimum parking requirements for bicycles. Based on this research, bicycle parking requirements tend to be between 5 and 10 percent of the required automobile parking. Based on this information, we believe that Chapel Hill's existing bicycle parking requirements are reasonable and workable. We have also included in this study, for the Town's consideration, an alternate approach to requiring bicycle parking. This recommendation appears as the last column in the summary table that follows.

Town Center Parking

Developments in the Chapel Hill Town Center are required to provide on-site parking based on minimum parking rates per the Chapel Hill Land Use Management Ordinance. Given the small lot configurations and the fact that structured parking can cost well over \$10,000 per space, the Town of Chapel Hill permits the developer to provide the parking on site, near the site, or pay the Town an in-lieu parking fee of \$3,600 per space. The Town utilizes these fees to identify, construct and operate parking which is shared by all users of the Town Center. Spaces used by the Town Center's daytime activities can be shared with evening and weekday users. We recommend that the payment-in-lieu provision be retained.

The Town should also pursue partnering with existing private businesses that have residual parking which could serve other uses or with a developer that proposes to provide parking in excess of the maximum permitted per the Land Use Management Ordinance. This partnering might have the Town leasing spaces from the private property owner or developer for general public use. This effort might also require the Town to take on the responsibility of liability and maintenance of the parking area. It is further recommended that a minimum number of parking spaces be required for Town operation to be considered. A minimum number of 20 spaces might be suggested although the actual number might depend on the specifics of the block or area.

The provision for off-site parking should give customers and visitors priority over commuters. Customer and visitor parking should be within 500 feet of their ultimate destination, whereas employee parking can be beyond the 500 feet area along the periphery of the Town Center.

Summary of Recommended Parking Requirements

The table on the following page shows Chapel Hill's existing parking requirements, along with recommendations for adjusting those requirements based on the results of this study.

Following the table are Appendices with the detailed information gathered during this study.

Summary of Recommended Parking Requirements

Use		Town Center			Non Town Center			Source	Bicycle Parking Requirements
		Existing	Recommended		Existing	Recommended			
		Minimum Number of Parking Spaces	Minimum Number of Parking Spaces	Maximum Number of Parking Spaces	Minimum Number of Parking Spaces	Minimum Number of Parking Spaces	Maximum Number of Parking Spaces		
Automobile, trailer, and farm implement sales or rental		1 per 500 sq. ft. of enclosed exhibit area	1 per 500 sq. ft. of enclosed exhibit area	1 per 350 sq. ft. of enclosed exhibit area	1 per 500 sq. ft. of enclosed exhibit area	1 per 500 sq. ft. of enclosed exhibit area	1 per 350 sq. ft. of enclosed exhibit area	Current Standard/Derived Maximum Standard	N/A
Bank		1 per 400 sq. ft. of floor area	1 per 400 sq. ft. of floor area	1 per 350 sq. ft. of floor area	1 per 350 sq. ft. of floor area	1 per 250 sq. ft. of floor area	1 per 150 sq. ft. of floor area	Chapel Hill Non-Residential Parking Survey	1 per 2,500 sq. ft. of floor area
Business, Convenience Restaurant		1 per 400 sq. ft. of floor area	1 per 175 sq. ft. of floor area	1 per 110 sq. ft. of floor area	1 per 4 seats (equivalent 1 space per 135 sq. ft. of floor area)	1 per 110 sq. ft. of floor area	1 per 75 sq. ft of floor area	Chapel Hill Non-Residential Parking Survey	1 per 1,000 sq. ft. of floor area
Other convenience business		1 per 400 sq. ft. of floor area	1 per 400 sq. ft. of floor area	1 per 250 sq. ft. of floor area	1 per 250 sq. ft. of floor area	1 per 250 sq. ft. of floor area	1 per 375 sq. ft. of floor area	Current Standard/Derived Maximum Standard	1 per 2,500 sq. ft. of floor area
Business, general (retail)		1 per 400 sq. ft. of floor area	1 per 450 sq. ft. of floor area	1 per 300 sq. ft. of floor area	1 per 250 sq. ft. of floor area	1 per 300 sq. ft. of floor area	1 per 200 sq. ft. of floor area	Chapel Hill Non-Residential Parking Survey	1 per 2,500 sq. ft. of floor area
Business, office-type		1 per 400 sq. ft. of floor area	1 per 500 sq. ft. of floor area	1 per 375 sq. ft. of floor area	1 per 350 sq. ft. of floor area	1 per 350 sq. ft. of floor area	1 per 250 sq. ft. of floor area	Chapel Hill Non-Residential Parking Survey	1 per 2,500 sq. ft. of floor area
Clinic		1 per 400 sq. ft. of floor area	1 per 350 sq. ft. of floor area	1 per 300 sq. ft. of floor area	1 per 250 sq. ft. of floor area	1 per 225 sq. ft. of floor area	1 per 200 sq. ft. of floor area	ITE Parking Generation 3rd Edition 2004	1 per 2,500 sq. ft. of floor area
Dwelling, single-family		1 per dwelling unit	1 per dwelling unit	2 per dwelling unit	2 per dwelling unit	2 per dwelling unit	3 per dwelling unit	ITE Parking Generation 3rd Edition 2004	N/A
Dwelling, two-family or multi-family.	Efficiency	1 per dwelling unit	2/3 per dwelling unit	1 per dwelling unit	1 per dwelling unit	1 per dwelling unit	1.25 per dwelling unit	Chapel Hill Non-Residential Parking Survey	1 per 6 dwelling units
	1 bedrooms	1 per dwelling unit			1.5 per dwelling unit				
	2 bedrooms		1 per dwelling unit	1.25 per dwelling unit		1.4 per dwelling unit	1.75 per dwelling unit	Chapel Hill Residential Parking Survey	
	3 (or more bedrooms)	1 per dwelling unit	1.25 per dwelling unit	1.5 per dwelling unit	2 per dwelling unit	1.75 per dwelling unit	2.25 per dwelling unit	Chapel Hill Residential Parking Survey	
	4 or more bedrooms	N/A	1.33 per dwelling unit	1.67 per dwelling unit	N/A	2 per dwelling unit	2.5 per dwelling unit	Chapel Hill Residential Parking Survey	
Fraternity or sorority house		1 per resident	1 per 2 residents	1 per 1.25 residents	1 per resident	1 per 3 residents	1 per 2 residents	Internet Research: Comparable Rates	1 per 3 residents
Group Care Facility		1 per 2 beds	1 per 4 beds	1 per 2 beds	1 per 2 beds	1 per 4 beds	1 per 2 beds	ITE Parking Generation 3rd Edition 2004	1 per 10 automobile spaces
Hospital		1.5 per bed	1 per 1.5 beds	1 per 1 beds	1.5 per bed	1 per 1.5 beds	1 per 1 beds	Internet Research: Comparable Rates	1 per 10 automobile spaces
Hotel or motel		1 per lodging unit	0.6 per lodging unit	0.9 per lodging unit	1 per lodging unit	0.9 per lodging unit	1.25 per lodging unit	ITE Parking Generation 3rd Edition 2004	1 per 15 lodging units
Maintenance and/or storage facility		N/A	N/A	N/A	1 per 2 employees if 2 largest shifts combined	1 per 2,500 sq. ft.	1 per 1,500 sq. ft.	ITE Parking Generation 3rd Edition 2004	N/A
Manufacturing, light		N/A	N/A	N/A		1 per 1,250 sq. ft.	1 per 900 sq. ft.	ITE Parking Generation 3rd Edition 2004	N/A
Mobile home park		N/A	N/A	N/A	1 per unit	1 per unit	2 per unit	Internet Research: Comparable Rates	N/A
Movie Theatre (New Category)		-	1 per 5 seats	1 per 4 seats	-	1 per 5 seats	1 per 4 seats	ITE Parking Generation 3rd Edition 2004	1 per 10 automobile spaces
Personal services		1 per 400 sq. ft. of floor area	1 per 400 sq. ft. of floor area	1 per 250 sq. ft. of floor area	1 per 250 sq. ft. of floor area	1 per 250 sq. ft. of floor area	1 per 375 sq. ft. of floor area	Current Standard/Derived Maximum Standard	1 per 2,500 sq. ft. of floor area
Place of assembly		1 per 4 persons the use is designed to accommodate	1 per 6 persons the use is designated to accommodate	1 per 4 persons the use is designated to accommodate	1 per 4 persons the use is designed to accommodate	1 per 4 persons the use is designated to accommodate	1 per 2.5 persons the use is designated to accommodate	ITE Parking Generation 3rd Edition 2004	1 per 10 automobile spaces
Place of worship		N/A: exempted from parking requirements	N/A: exempted from parking requirements	N/A: exempted from parking requirements	1 per 4 seats in the sanctuary	1 per 5 seats	1 per 2 seats	Chapel Hill Non-Residential Parking Survey	1 per 10 automobile spaces
Public cultural facility		1 per 500 sq. ft. of floor area	1 per 500 sq. ft. of floor area	1 per 350 sq. ft. of floor area	1 per 500 sq. ft. of floor area	1 per 500 sq. ft. of floor area	1 per 350 sq. ft. of floor area	Current Standard/Derived Maximum Standard	1 per 10 automobile spaces
Public use facility		1 per 400 sq. ft. of floor area	1 per 400 sq. ft. of floor area	1 per 250 sq. ft. of floor area	1 per 350 sq. ft. of floor area	1 per 350 sq. ft. of floor area	1 per 225 sq. ft. of floor area	Current Standard/Derived Maximum Standard	1 per 10 automobile spaces
Research activities		1 per 400 sq. ft. of floor area	1 per 400 sq. ft. of floor area	1 per 250 sq. ft. of floor area	1 per 350 sq. ft. of floor area	1 per 350 sq. ft. of floor area	1 per 225 sq. ft. of floor area	Current Standard/Derived Maximum Standard	1 per 10 automobile spaces
Residence hall		1 per 2 residents	1 per 2 residents	1 per 1.5 residents	1 per 2 residents	1 per 2 residents	1 per 1.5 residents	Current Standard/Derived Maximum Standard	1 per 10 automobile spaces
Residential support facility		1 per 500 sq. ft. of floor area	1 per 500 sq. ft. of floor area	1 per 350 sq. ft. of floor area	1 per 500 sq. ft. of floor area	1 per 500 sq. ft. of floor area	1 per 350 sq. ft. of floor area	Current Standard/Derived Maximum Standard	1 per 10 automobile spaces
Rooming house		1 per lodging unit	0.5 per lodging unit	0.75 per lodging unit	1 per lodging unit	0.75 per lodging unit	1 per lodging unit	Internet Research: Comparable Rates	1 per 3 lodging units
School, elementary, middle		1 per staff member	1 per staff member	1 per 1.25 staff member	1 per staff member	1 per staff member	1 per 1.25 staff member	Current Standard/Derived Maximum Standard	1 per 10 students
School, secondary, high school 9-12		1 per 4 students	1 per 4 students	1 per 3 students	1 per 4 students	1 per 4 students	1 per 3 students	ITE Parking Generation 3rd Edition 2004	1 per 10 students
Shelter		1 per 1,000 sq. ft. of floor area	1 per 1,000 sq. ft. of floor area	1 per 650 sq. ft. of floor area	1 per 1,000 sq. ft. of floor area	1 per 1,000 sq. ft. of floor area	1 per 650 sq. ft. of floor area	Current Standard/Derived Maximum Standard	1 per 10 employees
Tourist home		1 per lodging unit	0.9 per lodging unit	1.25 per lodging unit	1 per lodging unit	0.9 per lodging unit	1.25 per lodging unit	ITE Parking Generation 3rd Edition 2004 (hotel/motel rate)	1 per 3 lodging units

- Rates based on non-residential and residential parking surveys conducted in Town of Chapel Hill
- Rates for downtown prorated from historic travel mode of 75% auto for Town outside downtown and 50% for auto travel within the downtown (50/75=2/3 rate)
- Rates based on ITE Parking Generation 3rd Edition, 2004: Minimum rate = average of all studies, Maximum rate based on 85th percentile of all studies
- Current Minimum Parking Requirement/Derived Maximum Parking Requirement

Appendix A - Parking Survey

Town of Chapel Hill, North Carolina



Surveyed Facility Statistics

Banks

- Bank of America - Timberlyne
- Bank of America - Willow
- Centura Bank Downtown
- Centura Bank on Willow Drive
- First Citizens Bank
- NC State Employees Credit Union
- Wachovia Bank

Restaurants

- Breadman's
- El Rodeo
- La Hacienda
- Mama Dipps
- McDonalds Downtown
- McDonalds on the Chapel Hill-Durham Boulevard
- Owens 501 Diner
- Panera Bread
- Pizza Hut on Estes Drive
- Squids

Place of Worship

- Amity United Methodist Church
- Chapel Hill Bible Church
- First Baptist Church
- St. Thomas Moore Catholic Church
- University Baptist Church

Retail "Superstores"

- Borders
- Lowes

Mixed Use Center

- Chapel Hill North
- Timberlyne

Office

- Chapel Hill North Office Complex
- Collier Cobb Office Building
- Eastowne Office Building
- Europa Office Building
- Franklin Square
- Meadowmont Office Complex

Multi-Family Residential

- Chancellor's Square
- Columbia Place
- Foxcroft Apartments
- Meadowmont Apartments
- Mill Creek
- Shadowood
- Timberlyne Apartments

Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Banks

Facility Name: Bank of America - Timberlyne

Building Size per Square Feet: 4,172

Total Surveyed Parking Spaces: 54

Parking Spaces per 1,000 Square Feet: 12.9

Date(s) of Survey (October 10-17, 2003): 13(M), 15(W), 17(F)

Maximum Parking Occupancy: 38

Maximum Parking Utilization: 70%

Maximum Parking Utilization per 1,000 Square Feet: 9.11

Square Feet of Buildings per Maximum Occupied Space: 110



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Banks

Facility Name: Bank of America - Willow

Building Size per Square Feet: 2,641

Total Surveyed Parking Spaces: 26

Parking Spaces per 1,000 Square Feet: 9.8

Date(s) of Survey (October 10-17, 2003): 14(T), 17(F)

Maximum Parking Occupancy: 17

Maximum Parking Utilization: 65%

Maximum Parking Utilization per 1,000 Square Feet: 6.44

Square Feet of Buildings per Maximum Occupied Space: 155



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Banks

Facility Name: Centura Bank Downtown

Building Size per Square Feet: 8,784

Total Surveyed Parking Spaces: 10

Parking Spaces per 1,000 Square Feet: 1.1

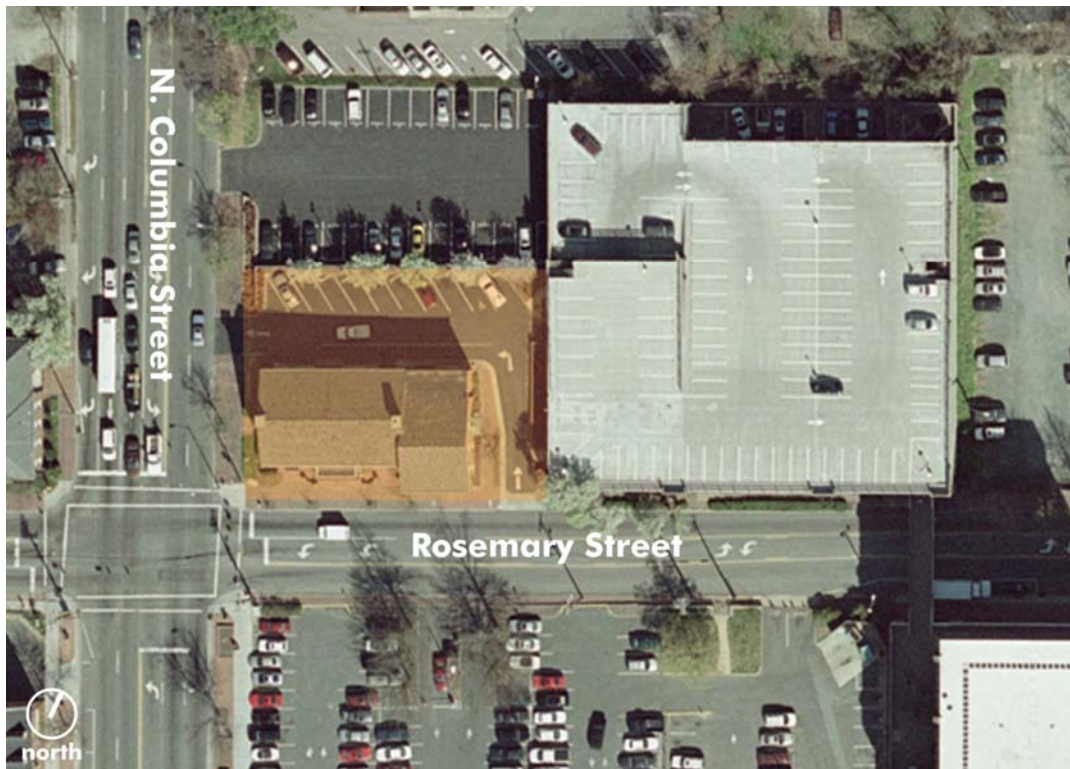
Date(s) of Survey (October 10-17, 2003): 16(Th), 17(F)

Maximum Parking Occupancy: 5

Maximum Parking Utilization: 50%

Maximum Parking Utilization per 1,000 Square Feet: 0.57

Square Feet of Buildings per Maximum Occupied Space: 1,754



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Banks

Facility Name: Centura Bank on Willow Drive

Building Size per Square Feet: 2,660

Total Surveyed Parking Spaces: 11

Parking Spaces per 1,000 Square Feet: 4.1

Date(s) of Survey (October 10-17, 2003): 14(T), 17(F)

Maximum Parking Occupancy: 9

Maximum Parking Utilization: 82%

Maximum Parking Utilization per 1,000 Square Feet: 3.38

Square Feet of Buildings per Maximum Occupied Space: 296



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Banks

Facility Name: First Citizens Bank

Building Size per Square Feet: 5,265

Total Surveyed Parking Spaces: 19

Parking Spaces per 1,000 Square Feet: 3.6

Date(s) of Survey (October 10-17, 2003): 14(T), 17(F)

Maximum Parking Occupancy: 9

Maximum Parking Utilization: 47%

Maximum Parking Utilization per 1,000 Square Feet: 1.71

Square Feet of Buildings per Maximum Occupied Space: 585



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Banks

Facility Name: NC State Employees Credit Union

Building Size per Square Feet: 6,075

Total Surveyed Parking Spaces: 45

Parking Spaces per 1,000 Square Feet: 7.4

Date(s) of Survey (October 10-17, 2003): 16(Th), 17(F)

Maximum Parking Occupancy: 35

Maximum Parking Utilization: 78%

Maximum Parking Utilization per 1,000 Square Feet: 5.76

Square Feet of Buildings per Maximum Occupied Space: 174



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Banks

Facility Name: Wachovia Bank

Building Size per Square Feet: 3,500

Total Surveyed Parking Spaces: 36

Parking Spaces per 1,000 Square Feet: 10.3

Date(s) of Survey (October 10-17, 2003): 13(M), 15(W), 17(F)

Maximum Parking Occupancy: 20

Maximum Parking Utilization: 56%

Maximum Parking Utilization per 1,000 Square Feet: 5.71

Square Feet of Buildings per Maximum Occupied Space: 175



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Restaurants

Facility Name: Breadman's

Building Size per Square Feet: 11,350

Total Surveyed Parking Spaces: 62

Parking Spaces per 1,000 Square Feet: 5.5

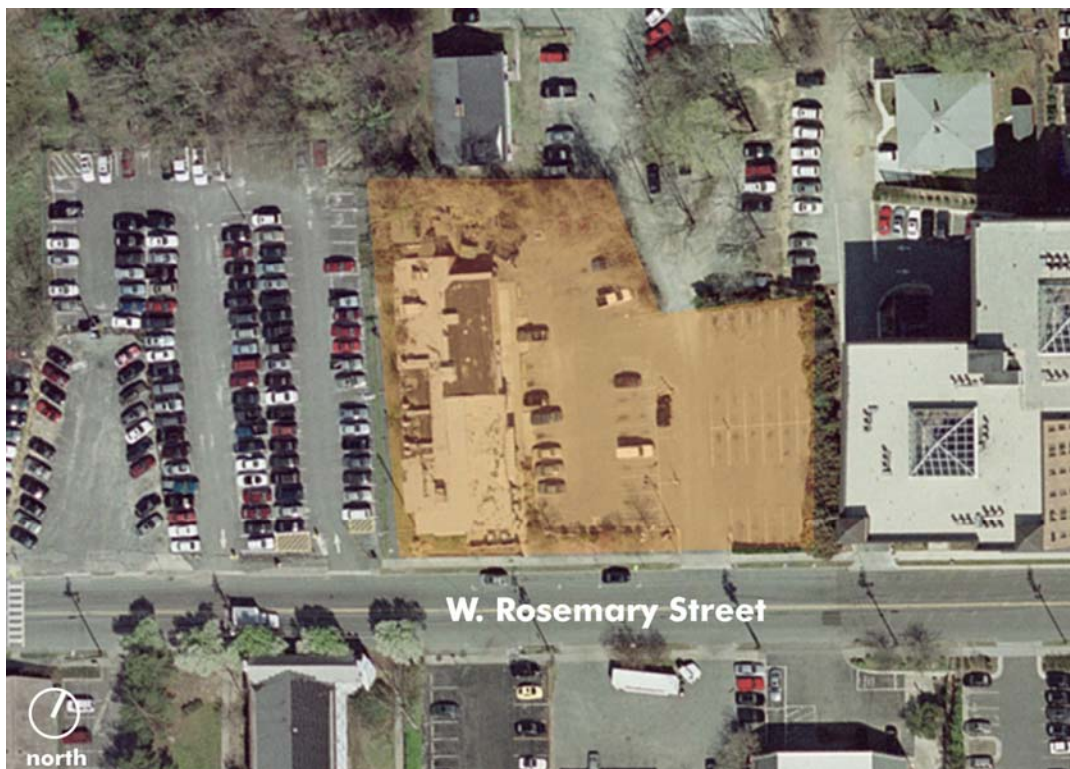
Date(s) of Survey (October 10-17, 2003): 10(F), 11(Sat), 12(Sun), 14(T), 16(Th), 17(F)

Maximum Parking Occupancy: 60

Maximum Parking Utilization: 97%

Maximum Parking Utilization per 1,000 Square Feet: 5.29

Square Feet of Buildings per Maximum Occupied Space: 189



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Restaurants

Facility Name: El Rodeo

Building Size per Square Feet: 2,640

Total Surveyed Parking Spaces: 49

Parking Spaces per 1,000 Square Feet: 18.6

Date(s) of Survey (October 10-17, 2003): 10(F), 11(Sat), 14(T), 16(Th), 17(F)

Maximum Parking Occupancy: 48

Maximum Parking Utilization: 98%

Maximum Parking Utilization per 1,000 Square Feet: 18.18

Square Feet of Buildings per Maximum Occupied Space: 55



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Restaurants

Facility Name: La Hacienda

Building Size per Square Feet: 5,916

Total Surveyed Parking Spaces: 40

Parking Spaces per 1,000 Square Feet: 6.8

Date(s) of Survey (October 10-17, 2003): 10(F), 11(Sat), 13(M), 15(W), 16(Th), 17(F)

Maximum Parking Occupancy: 36

Maximum Parking Utilization: 90%

Maximum Parking Utilization per 1,000 Square Feet: 6.09

Square Feet of Buildings per Maximum Occupied Space: 164



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Restaurants

Facility Name: Mama Dipps

Building Size per Square Feet: 4,041

Total Surveyed Parking Spaces: 37

Parking Spaces per 1,000 Square Feet: 9.2

Date(s) of Survey (October 10-17, 2003): 10(F), 11(Sat), 12(Sun), 14(T), 16(Th), 17(F)

Maximum Parking Occupancy: 38

Maximum Parking Utilization: 100%

Maximum Parking Utilization per 1,000 Square Feet: 9.40

Square Feet of Buildings per Maximum Occupied Space: 106



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Restaurants

Facility Name: McDonalds Downtown

Building Size per Square Feet: 3,303

Total Surveyed Parking Spaces: 39

Parking Spaces per 1,000 Square Feet: 11.8

Date(s) of Survey (October 10-17, 2003): 10(F), 11(Sat), 14(W), 16(Th), 17(F)

Maximum Parking Occupancy: 33

Maximum Parking Utilization: 85%

Maximum Parking Utilization per 1,000 Square Feet: 9.99

Square Feet of Buildings per Maximum Occupied Space: 100



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Restaurants

Facility Name: McDonalds on the Chapel Hill-Durham Boulevard

Building Size per Square Feet: 5,213

Total Surveyed Parking Spaces: 41

Parking Spaces per 1,000 Square Feet: 7.9

Date(s) of Survey (October 10-17, 2003): 10(F), 11(Sat), 13(M), 15(W), 16(Th), 17(F)

Maximum Parking Occupancy: 26

Maximum Parking Utilization: 63%

Maximum Parking Utilization per 1,000 Square Feet: 4.99

Square Feet of Buildings per Maximum Occupied Space: 200



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Restaurants

Facility Name: Owens 501 Diner

Building Size per Square Feet: 2,817

Total Surveyed Parking Spaces: 27

Parking Spaces per 1,000 Square Feet: 9.6

Date(s) of Survey (October 10-17, 2003): 10(F), 11(Sat), 12(Sun), 14(T), 16(Th), 17(F)

Maximum Parking Occupancy: 24

Maximum Parking Utilization: 89%

Maximum Parking Utilization per 1,000 Square Feet: 8.52

Square Feet of Buildings per Maximum Occupied Space: 117



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Restaurants

Facility Name: Panera Bread

Building Size per Square Feet: 3,702

Total Surveyed Parking Spaces: 36

Parking Spaces per 1,000 Square Feet: 9.7

Date(s) of Survey (October 10-17, 2003): 10(F), 11(Sat), 14(T), 16(Th), 17(F)

Maximum Parking Occupancy: 43

Maximum Parking Utilization: 100%

Maximum Parking Utilization per 1,000 Square Feet: 11.62

Square Feet of Buildings per Maximum Occupied Space: 86



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Restaurants

Facility Name: Pizza Hut on Estes Drive

Building Size per Square Feet: 2,272

Total Surveyed Parking Spaces: 47

Parking Spaces per 1,000 Square Feet: 20.7

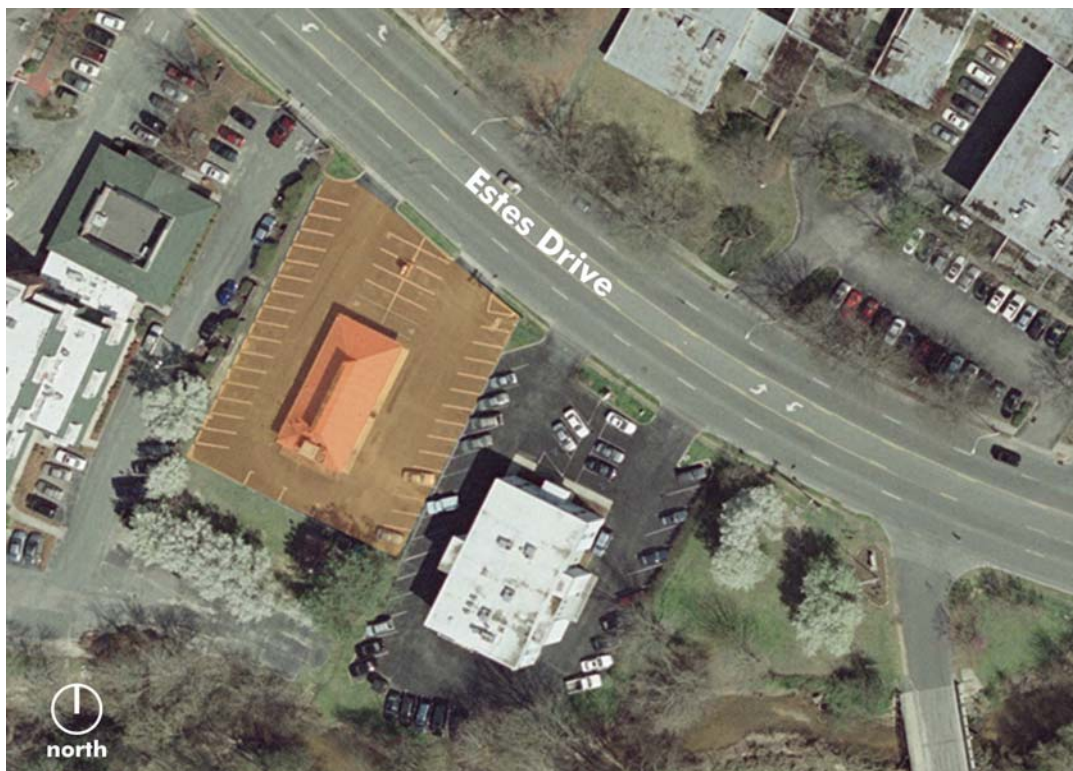
Date(s) of Survey (October 10-17, 2003): 10(F), 11(Sat), 13(M), 15(W), 16(Th)

Maximum Parking Occupancy: 22

Maximum Parking Utilization: 47%

Maximum Parking Utilization per 1,000 Square Feet: 9.68

Square Feet of Buildings per Maximum Occupied Space: 103



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Restaurants

Facility Name: Squids

Building Size per Square Feet: 4,929

Total Surveyed Parking Spaces: 71

Parking Spaces per 1,000 Square Feet: 14

Date(s) of Survey (October 10-17, 2003): 10(F), 11(Sat), 13(M), 15(W), 16(Th)

Maximum Parking Occupancy: 99

Maximum Parking Utilization: 100%

Maximum Parking Utilization per 1,000 Square Feet: 20.09

Square Feet of Buildings per Maximum Occupied Space: 50



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Place of Worship

Facility Name: Amity United Methodist Church

Building Size per Square Feet: 240

Total Surveyed Parking Spaces: 102

Parking Spaces per Seat: 0.43

Date(s) of Survey (October 10-17, 2003): 12(Sun), 15(W), 17(F)

Maximum Parking Occupancy: 36

Maximum Parking Utilization: 35%

Maximum Parking Utilization per Seat: 0.15

Seats per Maximum Occupied Space: 6.7



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Place of Worship

Facility Name: Chapel Hill Bible Church

Building Size per Square Feet: 2,400

Total Surveyed Parking Spaces: 473

Parking Spaces per Seat: 0.20

Date(s) of Survey (October 10-17, 2003): 12(Sun), 15(W), 17(F)

Maximum Parking Occupancy: 471

Maximum Parking Utilization: 99%

Maximum Parking Utilization per Seat: 0.20

Seats per Maximum Occupied Space: 5



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Place of Worship

Facility Name: First Baptist Church

Building Size per Square Feet: 300

Total Surveyed Parking Spaces: 35

Parking Spaces per Seat: 0.12

Date(s) of Survey (October 10-17, 2003): 12(Sun), 15(W)

Maximum Parking Occupancy: 28

Maximum Parking Utilization: 80%

Maximum Parking Utilization per Seat: 0.09

Seats per Maximum Occupied Space: 11.1



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Place of Worship

Facility Name: St. Thomas Moore Catholic Church

Building Size per Square Feet: 1,000

Total Surveyed Parking Spaces: 261

Parking Spaces per Seat: 0.26

Date(s) of Survey (October 10-17, 2003): 12(Sun), 15(W), 17(F)

Maximum Parking Occupancy: 421

Maximum Parking Utilization: 160%

Maximum Parking Utilization per Seat: 0.42

Seats per Maximum Occupied Space: 2.4



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Place of Worship

Facility Name: University Baptist Church

Building Size per Square Feet: 750

Total Surveyed Parking Spaces: 102

Parking Spaces per Seat: 0.14

Date(s) of Survey (October 10-17, 2003): 12(Sun), 15(W)

Maximum Parking Occupancy: 97

Maximum Parking Utilization: 95%

Maximum Parking Utilization per Seat: 0.13

Seats per Maximum Occupied Space: 7.7



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Retail "Superstore"

Facility Name: Borders

Building Size per Square Feet: 26,490

Total Surveyed Parking Spaces: 184

Parking Spaces per 1,000 Square Feet: 6.9

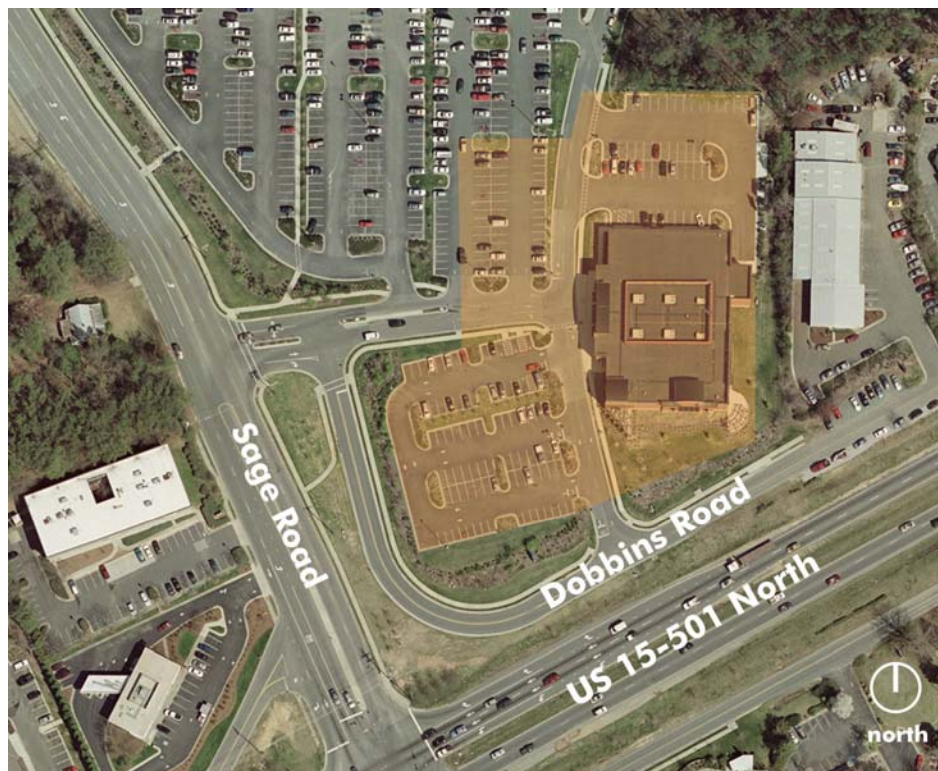
Date(s) of Survey (October 10-17, 2003): 11(Sat), 12(Sun), 13(M), 14(T), 16(Th)

Maximum Parking Occupancy: 120

Maximum Parking Utilization: 65%

Maximum Parking Utilization per 1,000 Square Feet: 4.53

Square Feet of Buildings per Maximum Occupied Space: 221



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Retail "Superstore"

Facility Name: Lowes

Building Size per Square Feet: 198,867

Total Surveyed Parking Spaces: 900

Parking Spaces per 1,000 Square Feet: 4.5

Date(s) of Survey (October 10-17, 2003): 11(Sat), 12(Sun), 13(M), 14(T), 16(Th)

Maximum Parking Occupancy: 255

Maximum Parking Utilization: 28%

Maximum Parking Utilization per 1,000 Square Feet: 1.28

Square Feet of Buildings per Maximum Occupied Space: 781



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Mixed Use Center

Facility Name: Chapel Hill North

Building Size per Square Feet: 96,500

Total Surveyed Parking Spaces: 429

Parking Spaces per 1,000 Square Feet: 4.4

Date(s) of Survey (October 10-17, 2003): 11(Sat), 13(M), 15(W), 17(F)

Maximum Parking Occupancy: 251

Maximum Parking Utilization: 59%

Maximum Parking Utilization per 1,000 Square Feet: 2.60

Square Feet of Buildings per Maximum Occupied Space: 385



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Mixed Use Center

Facility Name: Timberlyne

Building Size per Square Feet: 111,570

Total Surveyed Parking Spaces: 584

Parking Spaces per 1,000 Square Feet: 5.2

Date(s) of Survey (October 10-17, 2003): 11(Sat), 13(M), 15(W), 17(F)

Maximum Parking Occupancy: 450

Maximum Parking Utilization: 77%

Maximum Parking Utilization per 1,000 Square Feet: 4.03

Square Feet of Buildings per Maximum Occupied Space: 248



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Office

Facility Name: Chapel Hill North Office Complex

Building Size per Square Feet: 81,400

Total Surveyed Parking Spaces: 312

Parking Spaces per 1,000 Square Feet: 3.8

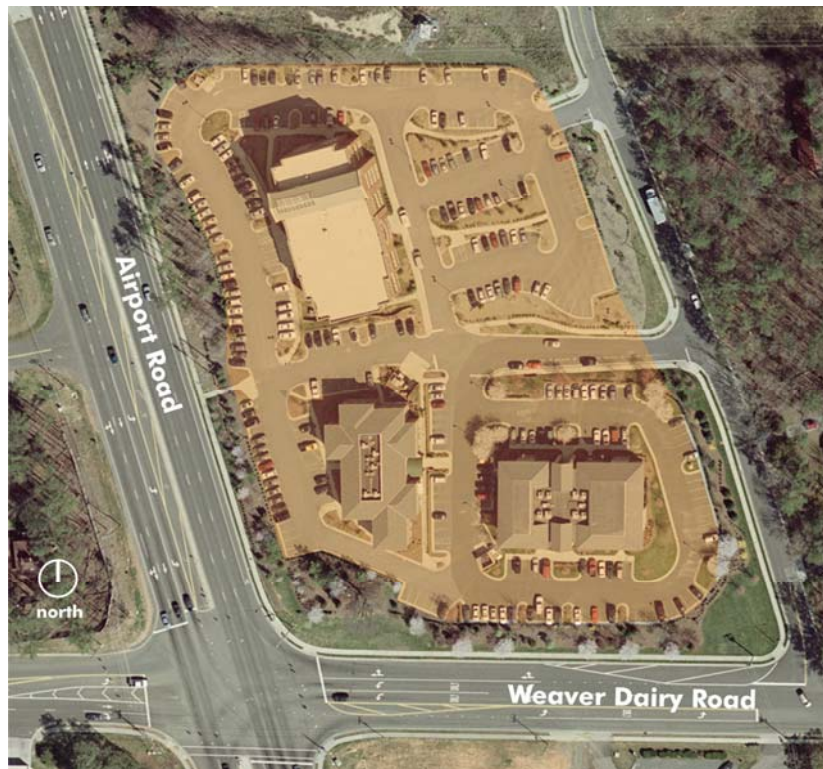
Date(s) of Survey (October 10-17, 2003): 13(M), 15(W)

Maximum Parking Occupancy: 187

Maximum Parking Utilization: 60%

Maximum Parking Utilization per 1,000 Square Feet: 2.3

Square Feet of Buildings per Maximum Occupied Space: 435



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Office

Facility Name: Collier Cobb Office Building

Building Size per Square Feet: 9,248

Total Surveyed Parking Spaces: 51

Parking Spaces per 1,000 Square Feet: 5.5

Date(s) of Survey (October 10-17, 2003): 14(T), 16(Th)

Maximum Parking Occupancy: 22

Maximum Parking Utilization: 43%

Maximum Parking Utilization per 1,000 Square Feet: 2.38

Square Feet of Buildings per Maximum Occupied Space: 420



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Office

Facility Name: Eastowne Office Building

Building Size per Square Feet: 385,688

Total Surveyed Parking Spaces: 890

Parking Spaces per 1,000 Square Feet: 2.3

Date(s) of Survey (October 10-17, 2003): 13(M), 15(W)

Maximum Parking Occupancy: 683

Maximum Parking Utilization: 77%

Maximum Parking Utilization per 1,000 Square Feet: 1.77

Square Feet of Buildings per Maximum Occupied Space: 565



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Office

Facility Name: Europa Office Building

Building Size per Square Feet: 198,820

Total Surveyed Parking Spaces: 615

Parking Spaces per 1,000 Square Feet: 3.1

Date(s) of Survey (October 10-17, 2003): 14(T), 16(Th)

Maximum Parking Occupancy: 257

Maximum Parking Utilization: 42%

Maximum Parking Utilization per 1,000 Square Feet: 1.29

Square Feet of Buildings per Maximum Occupied Space: 775



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Office

Facility Name: Franklin Park Square

Building Size per Square Feet: 70,886

Total Surveyed Parking Spaces: 196

Parking Spaces per 1,000 Square Feet: 2.8

Date(s) of Survey (October 10-17, 2003): 14(T), 16(Th)

Maximum Parking Occupancy: 94

Maximum Parking Utilization: 48%

Maximum Parking Utilization per 1,000 Square Feet: 1.33

Square Feet of Buildings per Maximum Occupied Space: 752



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Office

Facility Name: Meadowmont Office Complex

Building Size per Square Feet: 202,357

Total Surveyed Parking Spaces: 750

Parking Spaces per 1,000 Square Feet: 3.7

Date(s) of Survey (October 10-17, 2003): 14(T), 16(Th)

Maximum Parking Occupancy: 362

Maximum Parking Utilization: 48%

Maximum Parking Utilization per 1,000 Square Feet: 1.79

Square Feet of Buildings per Maximum Occupied Space: 559



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Residential (Multi-family)

Facility Name: Chancellor's Square

Building Size

Number of Units: 51

Number of Bedrooms: 102 (all units are 2-bedroom units)

Total Surveyed Parking Spaces 60

Parking Spaces per bedroom: 0.59

Date(s) of Survey (October 10-17, 2003): 13(M), 15(W)

Maximum Parking Occupancy: 60

Maximum Parking Utilization: 100%

Maximum Parking Utilization per bedroom: 0.59

Number of Bedrooms per Maximum Occupied Space: 1.69



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Residential (Multi-family)

Facility Name: Columbia Place

Building Size

Number of Units: 64

Number of Bedrooms: 192 (all units assumed to be 3-bedroom units)

Total Surveyed Parking Spaces 64 (64 garages + driveway space + on-street parking)

Parking Spaces per bedroom: 0.33

Date(s) of Survey (October 10-17, 2003): 14(T), 15(W)

Maximum Parking Occupancy: 99 (28 on-street, 23 in driveways, assumed 48 in garages)

Maximum Parking Utilization: 155%

Maximum Parking Utilization per bedroom: 0.52

Number of Bedrooms per Maximum Occupied Space: 1.92



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Residential (Multi-family)

Facility Name: Foxcroft

Building Size

Number of Units: 248

Number of Bedrooms: 466 (48 1-bedroom, 182 2-bedroom, 18 3-bedroom)

Total Surveyed Parking Spaces 491

Parking Spaces per bedroom: 1.05

Date(s) of Survey (October 10-17, 2003): 14(T), 15(W)

Maximum Parking Occupancy: 231

Maximum Parking Utilization: 50%

Maximum Parking Utilization per bedroom: 0.50

Number of Bedrooms per Maximum Occupied Space: 2.00



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Residential (Multi-family)

Facility Name: Meadowmont Apartments

Building Size

Number of Units: 258

Number of Bedrooms: 441 (110 1-bedroom, 120 2-bedroom,
assumed 21 3-bedroom and 7 4-bedroom)

Total Surveyed Parking Spaces 491 (369 general spaces, 126 garages + 28 driveway space)

Parking Spaces per bedroom: 1.11

Date(s) of Survey (October 10-17, 2003): 13(M), 15(W)

Maximum Parking Occupancy: 396

Maximum Parking Utilization: 80%

Maximum Parking Utilization per bedroom: 0.90

Number of Bedrooms per Maximum Occupied Space: 1.11



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Residential (Multi-family)

Facility Name: Mill Creek

Building Size

Number of Units: 182

Number of Bedrooms: 454 (assumed 137 2-bedroom and 45 4-bedroom)

Total Surveyed Parking Spaces 193

Parking Spaces per bedroom: 0.43

Date(s) of Survey (October 10-17, 2003): 14(T), 15(W)

Maximum Parking Occupancy: 181

Maximum Parking Utilization: 94%

Maximum Parking Utilization per bedroom: 0.40

Number of Bedrooms per Maximum Occupied Space: 2.50



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Residential (Multi-family)

Facility Name: Shadowood

Building Size

Number of Units: 336

Number of Bedrooms: 504 (168 1-bedroom, 168 2-bedroom)

Total Surveyed Parking Spaces 474

Parking Spaces per bedroom: 0.94

Date(s) of Survey (October 10-17, 2003): 14(T), 15(W)

Maximum Parking Occupancy: 369

Maximum Parking Utilization: 78%

Maximum Parking Utilization per bedroom: 0.73

Number of Bedrooms per Maximum Occupied Space: 1.37



Parking Survey

Town of Chapel Hill, North Carolina



Land Use Category: Residential (Multi-family)

Facility Name: Timberlyne Apartments

Building Size

Number of Units: 144

Number of Bedrooms: 216 (assumed 72 1-bedroom and 72 2-bedroom)

Total Surveyed Parking Spaces 175

Parking Spaces per bedroom: 0.81

Date(s) of Survey (October 10-17, 2003): 13(M), 15(W)

Maximum Parking Occupancy: 136

Maximum Parking Utilization: 78%

Maximum Parking Utilization per bedroom: 0.63

Number of Bedrooms per Maximum Occupied Space: 1.59



Appendix B - Surveyed Analysis and Recommendations

Town of Chapel Hill, North Carolina



Land Use Categories

- Bank
- Office
- Restaurant
- Mixed Use Center
- Super Center
- Place of Worship
- Multi-Family Residential

Appendix C - Downtown Parking Study

Town of Chapel Hill, North Carolina



History and Background

The Chapel Hill downtown is a major mixed-use center of cultural, retail, businesses, and restaurant activities, often referred to as the heart of Chapel Hill. The downtown is the place residents take visiting family and friends. Maintaining and expanding the downtown's vitality is critical to the vitality of the Town.

Because of the importance of the downtown to the Town, there have been a number of recent reports and planning efforts prepared for the Chapel Hill downtown, which include:

- Downtown Small Area Plan (2000)
- Downtown Design Guidelines
- Downtown Design Workshop (2002)
- Land Use Management Ordinance
- Downtown Economic Development Initiative

The amount, type, and use of parking are integral pieces of these plans to achieve economic, business and cultural vitality for the downtown. The following goals, objectives and strategies are excerpted from these documents from which to set a framework for parking assessment and planning.

1989 Comprehensive Plan

- Limit long-term parking in areas where transit services are sufficient in order to encourage alternatives to the use of the automobile. These policies support the concept of gradually reducing the amount of long-term private parking, and reversing the requirement for on-site parking as part of new downtown development. They also support the concept of private development projects providing payments to the Town equal to the cost of providing its required amount of parking in the downtown area. Funds received would be earmarked for future construction of public decks on Town-owned property.

Downtown Small Area Plan

- Provide adequate (but not excessive), and convenient off street short-term parking in either public or private facilities to serve the needs of businesses, residents, and visitors.
- Encourage a cooperative parking system driven by downtown tenants.

Downtown Design Workshop

This workshop was designed to help determine the future of two key Town-owned parcels – Parking Lots 2 and 5:

- The design concept for Parking Lot 2 and 5 call for retail, office and residential development with underground parking.

Downtown Economic Development Initiative

The Town Council has adopted a number of basic principals for the use of Parking Lots 2 and 5. Pertinent principals that affect parking supply and demand include:

- Consider both properties simultaneously.
- Should be the catalyst for a vibrant downtown into the future.
- Should enhance the bike, pedestrian and public transit orientation of the community.
- Parking needs to provide at least as much public parking as currently in place.

Purpose and Objectives of Downtown Parking Study

This report is in part a response to the goals and objectives of past downtown planning efforts to collect and provide information that will reflect current parking supply, location, type and use which will permit the examination of parking supply and use on a block by block basis. As such, understanding the parking dynamics became an important element of the Town of Chapel Hill's Downtown Parking Study.

The Downtown Parking Study is intended to cover three areas:

1. Parking Survey: Parking Supply, Occupancy and Utilization
2. Parking Assessment of Current Conditions
3. Parking Recommendation and Strategies

1. Downtown Parking Survey

As part of the Town of Chapel Hill's Parking Study, a focused survey of current conditions was made. This effort included a parking inventory, parking occupancy survey, and parking utilization calculation.

The filed inventory identified all parking spaces within the downtown. This inventory identified the total number of public parking spaces: on-street, off-street, and the total number of private spaces.

The parking occupancy survey identified how many of the available parking spaces were occupied. The parking occupancy was conducted for both a weekday afternoon and Friday evening in October 2003 in order to identify differences in parking demand between typical weekday activities and evening activities.

The utilization calculation simply divided the total parking occupancy by the parking supply to determine what percentage of the total parking spaces were utilized.

The survey and analysis effort was further stratified by districts within the downtown, in order to determine if there are parking supply and utilization similarities or difference between districts. These districts include:

- Established Mixed-Use Downtown Center (The East Franklin and Rosemary Area);
- Emerging Mixed-Use Downtown Area (The West Franklin Street area); and
- Future Mixed-Use Downtown Area (The West Rosemary Street area).

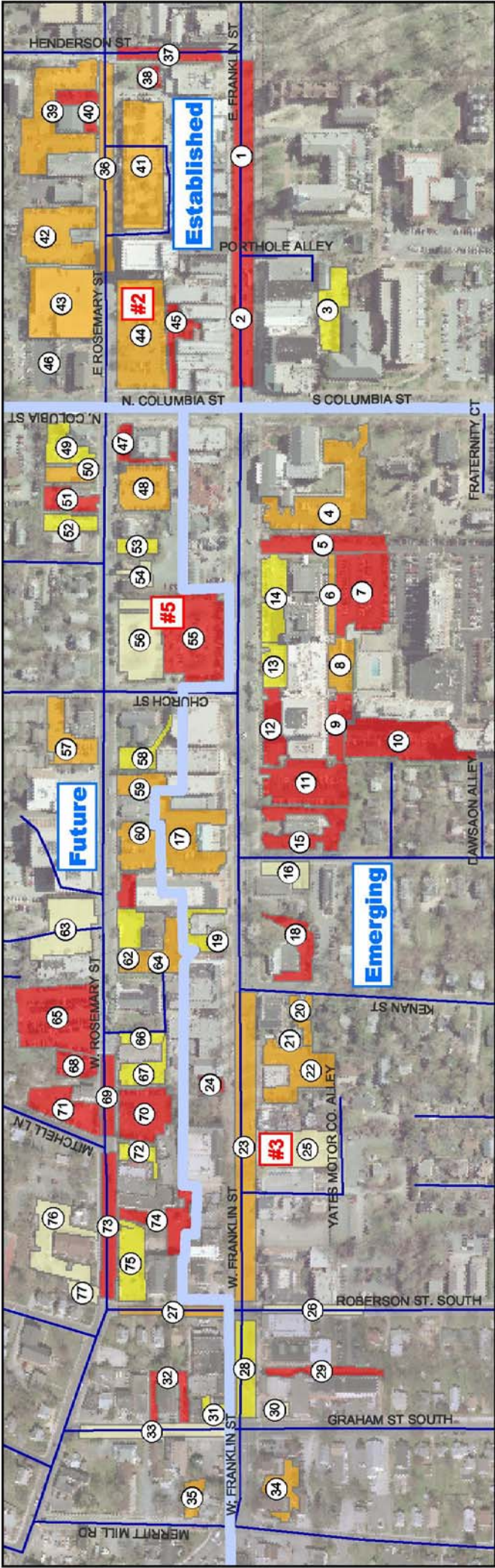
A map of the downtown is presented in the following exhibit. This exhibit identifies the three (3) downtown districts. In addition, this exhibit provides an identifier code for all private and public on-street and off-street parking areas within the downtown that can be used as a reference to identify detailed parking information as contained in the database table in the Appendix of this report.

In addition, this map provides color coding of all the parking areas identifying the parking utilization of the parking area. Four (4) utilization categories were identified: 0-25 percent, 25-50 percent, 50-75 percent, and 75-100 percent.

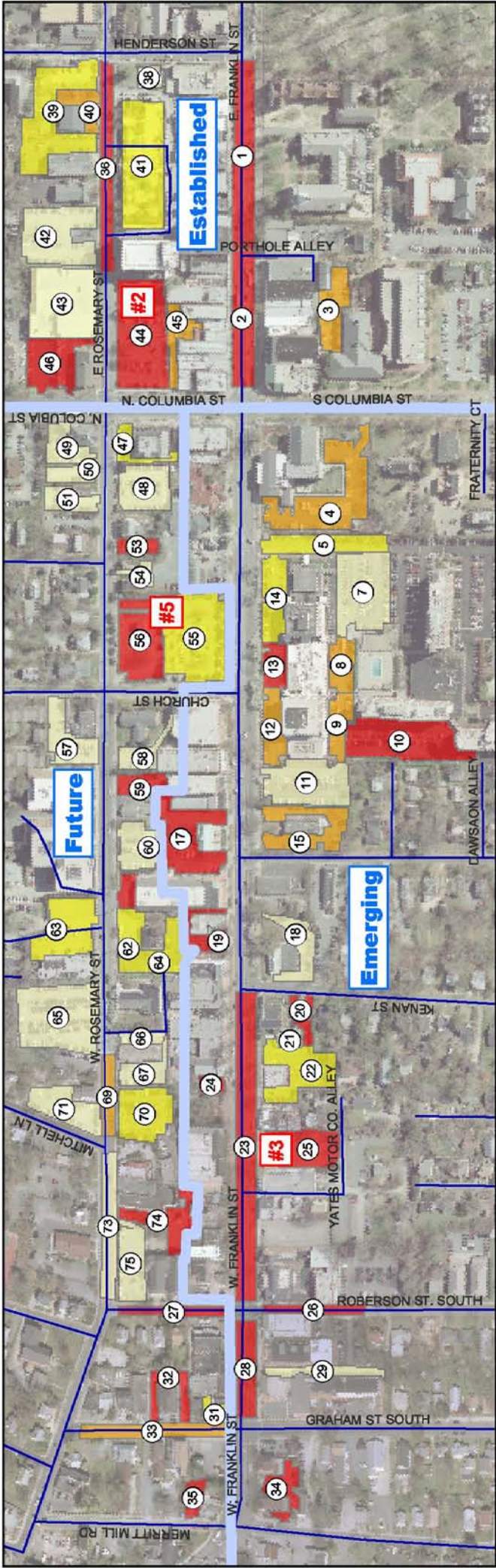
A summary of the parking survey is presented in the following table:

Chapel Hill Downtown Parking Utilization

Weekday
Afternoon



Friday
Night



Chapel Hill Downtown Parking Inventory and Utilization

Total Number of Parking Spaces	Weekday Afternoon		Friday Night		Peak	
	Occupied Spaces	Percent Full	Occupied Spaces	Percent Full	Occupied Spaces	Percent Full

Established

On-Street Parking	60	54	90.0%	41	97.6%	56	93.3%
Public Parking	728	476	65.4%	288	39.6%	506	69.5%
Private/Business Parking	244	148	60.7%	82	35.0%	148	60.7%
Total	1,032	678	65.7%	411	39.8%	710	68.8%

Emerging

On-Street Parking	78	36	46.2%	76	97.4%	76	97.4%
Public Parking	71	3	4.2%	71	100.0%	71	100.0%
Private/Business Parking	693	518	74.7%	326	43.1%	576	83.1%
Total	842	557	66.2%	473	56.2%	723	85.9%

Future

On-Street Parking	31	17	54.8%	20	64.5%	27	87.1%
Public Parking	173	94	54.3%	107	61.8%	159	91.9%
Private/Business Parking	888	546	61.5%	236	30.6%	578	65.1%
Total	1,092	657	60.2%	363	33.2%	764	70.0%

Total Downtown

On-Street Parking	169	107	63.3%	137	81.1%	159	94.1%
Public Parking	972	573	59.0%	466	47.9%	736	75.7%
Private/Business Parking	1,825	1,212	66.4%	644	35.3%	1,302	71.3%
Total	2,966	1,892	63.8%	1,247	42.0%	2,197	74.1%

In review of the Chapel Hill Downtown Parking Inventory and Utilization table, information is provided for both the weekday afternoon and the Friday night condition. The table also includes a peak column, where the peak between the two time periods for each individual parking area was recorded.

2. Parking Assessment of Current Conditions

In review of the downtown parking survey data, a number of general observations can be made regarding the dynamics of parking within the downtown. These include:

- **Afternoon/Evening:** From a Total Downtown perspective, the weekday afternoon experiences a higher parking utilization with 63.8 percent of the parking spaces occupied as compared to the Friday evening 42.0 percent utilization. The peak utilization (maximum between afternoon and evening summed by lot) of all parking within the downtown is 74.1 percent.

- **Parking Demand by District:** The Established district experiences the highest parking demand (number of parked vehicles) during the weekday afternoon followed by the Future district and the Emerging district. The Emerging district, however, experiences the highest evening demand followed by the Established district and the Future district. These variations follow the type of uses within each district, where a higher number of businesses and retail are within the Established district, and conversely a higher number of restaurants in the Emerging and Future districts.
- **Parking Utilization by District:** The Emerging district experiences the highest utilization, followed by the Established district and Future district. This higher utilization in part results from a lower number of overall parking spaces of 842 as compared to the Established district with 1,032 spaces and the Future district with 1,092 spaces.
- **Parking Utilization by Type:** In review of the Total Downtown, private/business parking accounts for 61 percent of the entire parking supply, followed by 33 percent for public off-street parking and 6 percent for on-street public parking. Peak utilization of these spaces is opposite the supply, where on-street parking is 94 percent, off-street public parking is 76 percent and private parking at 71 percent.

Based on a review of the data and understanding the dynamics of parking, some observational findings can be made regarding parking in the downtown. These are:

- **Adequate Parking Supply:** A generally accepted practice is to plan for a parking system that is 85 percent utilized for customer and visitor parking areas and 90 to 95 percent for long-term employee parking. The 15 percent buffer for customer and visitor parking allows for both an adequate parking supply and competitiveness with other centers. Because the employee trip is not discretionary, the need for a buffer greater than 5 to 10 percent is not necessary. Based on these percentages, there currently exists an adequate supply in parking for all districts within the downtown. It should be noted, however, that because of private restrictions, some of these parking spaces are not available to the general public, which results in available public parking short falls.
- **Desirable On-Street Parking:** Parking demand and utilization is always high for on-street parking. It is convenient, fast and reflects the downtown character. With time restrictions, they provide the highest turn-over of spaces within the downtown.
- **Private Parking:** Private business parking is under utilized during the evening when businesses are closed. It was noted that many of the private parking lots had signs restricting non-business use, day or night.

- **Public Parking Emerging District:** Virtually all available public parking is used in the evening within the Emerging district, even though there is private parking under utilized. Some patrons with destinations to the Emerging district must park outside the district and walk to the district.
- **Emerging District Demands:** Between the afternoon peak demands for private parking and the evening demands for public parking, the Emerging district experiences the greatest parking impacts.

3. Parking Recommendation and Strategies

With on-going plans for improving the downtown, a parking strategy needs to be incorporated in these planning efforts. The Town Council has an element of control to encourage residents, employees, and visitors to the downtown to consider modes of transport other than the private car such as transit, bicycle and pedestrian facilities, parking fines, duration of stay restrictions to control both the number, and use of cars.

However, it is reasonable for drivers to assume that they will be able to park their vehicles within a reasonable distance of their final destination, accepting that sometimes, in congested areas, this might involve some time searching for a space. However, what each individual driver constitutes an acceptable place to park will vary considerably in terms of location, and whether or not parking fees are charged. This judgment will be influenced by the journey purpose and relative urgency of the trip, as well as the driver's personal affluence. Finally, the driver's own attitudes and behavioral patterns come into play, especially relating to the security of their cars and possibly themselves when choosing where to park.

The availability of parking is known to strongly influence a driver's choice of destination. As an example, the success of shopping centers is often attributed to the provision of large areas of free car facilities. The potential for competition for retail business between the downtown and the shopping center is all too apparent, and so adequate parking must plan an important factor in securing the future economic vitality of Chapel Hill's downtown. However, there must be a balance between the availability of parking and the potential for attracting more traffic into the downtown than the road network can satisfactorily accommodate. Increasing traffic congestion in and around downtown is not being encouraged.

Before considering current policy guidance, an overview of the general principles of parking provision should be considered. In general, the growth of vehicular traffic, with its associated problems of congestion, accidents, noise and pollution, has led to a significant reappraisal of transportation planning whereby it is no longer considered either feasible or desirable to cater for this continuous increase. The management of the amount and type of parking provided is seen as an important means of influencing overall levels of traffic demand. It can also be a way of giving preference to certain types of trips over one another, such as visitor/customer trips over work trips. It is important to note that parking measures that influence travel demand are not a new phenomenon, as they have been in use for many years.

General Principles of a Downtown Parking Strategy

- The development of a parking strategy for Chapel Hill's downtown should be determined as an integral part of the Town's overall transportation policy.
- The parking strategy should aim to be effective in helping to achieve overall traffic restraint while at the same time provide adequate parking space for customers and visitors.
- It is important to consider the total amount and balance of parking between public on-street and off-street and private.
- In areas of the downtown where the parking demand exceed the supply, the strategy should strive to promote policy decisions on the allocation of the available space amongst short stay customers and visitors which can result in high turn-over and use of limited facilities. Providing for long-stay commuter parking in the downtown is less essential.
- Short-term parking should be provided in the center of the downtown and long-term parking in peripheral locations.

Recommended Downtown Parking Strategies

- Developments in the Chapel Hill Town Center are required to provide on-site parking based on minimum parking rates per the Chapel Hill Land Use Management Ordinance. Given the small lot configurations and the fact that structured parking can cost well over \$10,000 per space, the Town of Chapel Hill permits the developer to provide the parking on site, near the site, or pay the Town an in-lieu parking fee of \$3,600 per space. The Town utilizes these fees to identify, construct and operate parking which is shared by all users of the Town Center. Spaces used by the Town Center's daytime activities can be shared with evening and weekday users. We recommend that the payment-in-lieu provision be retained.
- The Town should also pursue partnering with existing private businesses that have residual parking which could serve other uses or with a developer that proposes to provide parking in excess of the maximum permitted per the Land Use Management Ordinance. This partnering might have the Town leasing spaces from the private property owner or developer for general public use. This effort might also require the Town to take on the responsibility of liability and maintenance of the parking area. It is further recommended that a minimum number of parking spaces be required for Town operation to be considered. A minimum number of 20 spaces might be suggested although the actual number might depend on the specifics of the block or area.
- The provision for off-site parking should give customers and visitors priority over commuters. Customer and visitor parking should be within 500 feet of their ultimate destination, whereas employee parking can be beyond the 500 feet area along the periphery of the Town Center.

Parking Inventory and Utilization Table

Lot ID	Street	Lot Type	Lot Use	Neighborhood	Total Spaces	Weekday Afternoon		Friday Night		Peak	
						Occupied Spaces	% Full	Occupied Spaces	% Full	Occupied Spaces	% Full
1	Franklin	On-Street Parking	On-Street Parking	Established	28	26	92.9%	27	96.4%	27	96.4%
2	Franklin	On-Street Parking	On-Street Parking	Established	11	11	100.0%	11	100.0%	11	100.0%
3	Franklin	Surface Parking Lot	Public Parking	Established	34	14	41.2%	20	58.8%	20	58.8%
4	Franklin	Surface Parking Lot	Private Parking	Emerging	100	67	67.0%	67	67.0%	67	67.0%
5	Franklin	Surface Parking Lot	Private Parking	Emerging	27	28	103.7%	8	29.6%	28	103.7%
6	Franklin	Surface Parking Lot	Private Parking	Emerging	7	5	71.4%	-		5	71.4%
7	Franklin	Surface Parking Lot	Private Parking	Emerging	74	74	100.0%	9	12.2%	74	100.0%
8	Franklin	Surface Parking Lot	Private Parking	Emerging	31	16	51.6%	19	61.3%	19	61.3%
9	Franklin	Surface Parking Lot	Private Parking	Emerging	16	13	81.3%	10	62.5%	13	81.3%
10	Franklin	Surface Parking Lot	Private Parking	Emerging	95	95	100.0%	77	81.1%	95	100.0%
11	Franklin	Surface Parking Lot	Private Parking	Emerging	89	78	87.6%	10	11.2%	78	87.6%
12	Franklin	Surface Parking Lot	Private Parking	Emerging	21	16	76.2%	15	71.4%	16	76.2%
13	Franklin	Surface Parking Lot	Private Parking	Emerging	43	12	27.9%	33	76.7%	33	76.7%
14	Franklin	Surface Parking Lot	Private Parking	Emerging	42	19	45.2%	13	31.0%	19	45.2%
15	Franklin	Surface Parking Lot	Private Parking	Emerging	36	29	80.6%	-		29	80.6%
16	Franklin	Surface Parking Lot	Private Parking	Emerging	15	2	13.3%	-		2	13.3%
17	Franklin	Surface Parking Lot	Private Parking	Emerging	64	39	60.9%	61	95.3%	61	95.3%
18	Franklin	Surface Parking Lot	Private Parking	Emerging	28	28	100.0%	6	21.4%	28	100.0%
19	Franklin	Surface Parking Lot	Private Parking	Emerging	14	7	50.0%	14	100.0%	14	100.0%
20	Franklin	Surface Parking Lot	Private Parking	Emerging	11	7	63.6%	9	81.8%	9	81.8%
21	Franklin	Surface Parking Lot	Private Parking	Emerging	13	9	69.2%	10	76.9%	10	76.9%
22	Franklin	Surface Parking Lot	Private Parking	Emerging	31	16	51.6%	15	48.4%	16	51.6%
23	Franklin	On-Street Parking	On-Street Parking	Emerging	54	29	53.7%	54	100.0%	54	100.0%
24	Franklin	Surface Parking Lot	Private Parking	Emerging	10	10	100.0%	8	80.0%	10	100.0%
25	Franklin	Surface Parking Lot	Public Parking	Emerging	71	3	4.2%	71	100.0%	71	100.0%
26	Franklin	On-Street Parking	On-Street Parking	Emerging	10	1	10.0%	10	100.0%	10	100.0%
27	Franklin	On-Street Parking	On-Street Parking	Future	11	6	54.5%	11	100.0%	11	100.0%
28	Franklin	On-Street Parking	On-Street Parking	Emerging	14	6	42.9%	12	85.7%	12	85.7%
29	Franklin	Surface Parking Lot	Private Parking	Emerging	32	32	100.0%	5	15.6%	32	100.0%
30	Franklin	Surface Parking Lot	Private Parking	Emerging	6	1	16.7%	-		1	16.7%
31	Franklin	Surface Parking Lot	Private Parking	Future	6	2	33.3%	3	50.0%	3	50.0%
32	Franklin	Surface Parking Lot	Private Parking	Future	5	4	80.0%	5	100.0%	5	100.0%
33	Franklin	On-Street Parking	On-Street Parking	Future	8	1	12.5%	6	75.0%	6	75.0%
34	Franklin	Surface Parking Lot	Private Parking	Emerging	15	10	66.7%	12	80.0%	12	80.0%
35	Franklin	Surface Parking Lot	Private Parking	Future	12	9	75.0%	12	100.0%	12	100.0%
36	Rosemary	On-Street Parking	On-Street Parking	Established	3	2	66.7%	3	100.0%	3	100.0%
37	Rosemary	On-Street Parking	On-Street Parking	Established	18	15	83.3%	-		15	83.3%
38	Rosemary	Surface Parking Lot	Private Parking	Established	8	7	87.5%	2	25.0%	7	87.5%
39	Rosemary	Surface Parking Lot	Private Parking	Established	108	57	52.8%	44	40.7%	57	52.8%
40	Rosemary	Surface Parking Lot	Private Parking	Established	20	18	90.0%	15	75.0%	18	90.0%
41	Rosemary	Parking Structure	Public Parking	Established	301	170	56.5%	108	35.9%	170	56.5%
42	Rosemary	Surface Parking Lot	Private Parking	Established	87	48	55.2%	15	17.2%	48	55.2%
43	Rosemary	Parking Structure	Public Parking	Established	285	213	74.7%	57	20.0%	213	74.7%
44	Rosemary	Surface Parking Lot	Public Parking	Established	108	79	73.1%	103	95.4%	103	95.4%
45	Rosemary	Surface Parking Lot	Private Parking	Established	11	10	90.9%	6	54.5%	10	90.9%
46	Rosemary	Surface Parking Lot	Private Parking	Established	10	8	80.0%	-		8	80.0%
47	Rosemary	Surface Parking Lot	Private Parking	Future	5	5	100.0%	2	40.0%	5	100.0%
48	Rosemary	Surface Parking Lot	Private Parking	Future	49	32	65.3%	4	8.2%	32	65.3%
49	Rosemary	Surface Parking Lot	Private Parking	Future	18	7	38.9%	2	11.1%	7	38.9%
50	Rosemary	Surface Parking Lot	Private Parking	Future	20	11	55.0%	4	20.0%	11	55.0%
51	Rosemary	Surface Parking Lot	Private Parking	Future	22	19	86.4%	5	22.7%	19	86.4%
52	Rosemary	Surface Parking Lot	Private Parking	Future	28	14	50.0%	-		14	50.0%
53	Rosemary	Surface Parking Lot	Private Parking	Future	10	5	50.0%	8	80.0%	8	80.0%
54	Rosemary	Surface Parking Lot	Private Parking	Future	28	5	17.9%	6	21.4%	6	21.4%
55	Rosemary	Surface Parking Lot	Public (Monthly)	Future	104	82	78.8%	30	28.8%	82	78.8%
56	Rosemary	Surface Parking Lot	Public Parking	Future	69	12	17.4%	77	111.6%	77	111.6%
57	Rosemary	Surface Parking Lot	Private Parking	Future	42	26	61.9%	10	23.8%	26	61.9%
58	Rosemary	Surface Parking Lot	Private Parking	Future	22	9	40.9%	3	13.6%	9	40.9%
59	Rosemary	Surface Parking Lot	Private Parking	Future	20	12	60.0%	20	100.0%	20	100.0%
60	Rosemary	Surface Parking Lot	Private Parking	Future	44	31	70.5%	7	15.9%	31	70.5%
61	Rosemary	Surface Parking Lot	Private Parking	Future	4	4	100.0%	6	150.0%	6	150.0%
62	Rosemary	Surface Parking Lot	Private Parking	Future	14	6	42.9%	7	50.0%	7	50.0%
63	Rosemary	Surface Parking Lot	Private Parking	Future	62	15	24.2%	27	43.5%	27	43.5%
64	Rosemary	Surface Parking Lot	Private Parking	Future	61	32	52.5%	27	44.3%	32	52.5%
65	Rosemary	Surface Parking Lot	Private Parking	Future	136	135	99.3%	21	15.4%	135	99.3%
66	Rosemary	Surface Parking Lot	Private Parking	Future	10	5	50.0%	1	10.0%	5	50.0%
67	Rosemary	Surface Parking Lot	Private Parking	Future	26	12	46.2%	2	7.7%	12	46.2%
68	Rosemary	Surface Parking Lot	Private Parking	Future	25	22	88.0%	-		22	88.0%
69	Rosemary	On-Street Parking	On-Street Parking	Future	3	3	100.0%	2	66.7%	3	100.0%
70	Rosemary	Surface Parking Lot	Private Parking	Future	48	42	87.5%	17	35.4%	42	87.5%
71	Rosemary	Surface Parking Lot	Private Parking	Future	42	33	78.6%	10	23.8%	33	78.6%
72	Rosemary	Surface Parking Lot	Private Parking	Future	13	5	38.5%	-		5	38.5%
73	Rosemary	On-Street Parking	On-Street Parking	Future	9	7	77.8%	1	11.1%	7	77.8%
74	Rosemary	Surface Parking Lot	Private Parking	Future	30	25	83.3%	24	80.0%	25	83.3%
75	Rosemary	Surface Parking Lot	Private Parking	Future	35	10	28.6%	3	8.6%	10	28.6%
76	Rosemary	Surface Parking Lot	Private Parking	Future	25	6	24.0%	-		6	24.0%
77	Rosemary	Surface Parking Lot	Private Parking	Future	26	3	11.5%	-		3	11.5%