

**A RESOLUTION ACCEPTING THE DOWNTOWN PARKING STUDY REPORT
PREPARED BY STUDENTS IN THE DEPARTMENT OF CITY AND REGIONAL
PLANNING AT UNC-CHAPEL HILL**

Resolution No. 133/2007-08

WHEREAS, the Carrboro Vision 2020 policy document recognizes downtown vitality as a key element of the Town's successful economic development, and

WHEREAS, adequate downtown parking to meet the needs of the community is a component of downtown vitality, and

WHEREAS, the Town of Carrboro is interested in a better understanding of the community's downtown parking needs, and

WHEREAS, students from the Department of City and Regional Planning at the University of North Carolina-Chapel Hill studied the supply and demand of downtown parking in Carrboro,

NOW, THEREFORE, BE IT RESOLVED BY THE BOARD OF ALDERMEN OF THE TOWN OF CARRBORO:

Section 1: The Board of Aldermen hereby receives the report on parking in downtown Carrboro.

Section 2: The Board of Aldermen hereby thanks the students for their work on parking in downtown Carrboro.

Section 3. The Board of Aldermen refers the study to staff for evaluation.

COURSE SYLLABUS

PLAN 823 (3 AND 4) — SPRING 2008
Downtown Carrboro Parking Study

Class time: Mondays, Wednesdays, 2:00-3:15 pm

Class location: PEABODY HALL, 311

Instructor\client: Adena Messinger (AMessinger@ci.carrboro.nc.us)

Coordinator: Noreen McDonald (noreen@unc.edu) and Daniel Rodríguez (danrod@unc.edu)

Office hours: By appointment

BACKGROUND

Part in land use planning and part in transportation, parking remains a contested topic in contemporary city planning. Although the importance of parking as a policy lever for decreasing driving is increasingly recognized among planning researchers¹, political support is weak. Furthermore, by making parking costly or inconvenient, planners may be decreasing the accessibility and attractiveness of local areas. In practice, parking policies are frequently determined based on arbitrary standards and limited evidence².

PROJECT GOAL

Examine parking demand and supply in downtown Carrboro to support the future development of a parking plan and make recommendations to planning and elected officials. Students will be presenting findings to the Carrboro Board of Aldermen.

OBJECTIVES AND TASKS

Objective 1: Characterize and quantify the supply for parking in downtown Carrboro, including its spatial and temporal dimensions.

- Identify existing capacity of paved and unpaved public lots
- Interview or survey major downtown merchants to count number and availability of private (non-public) parking spaces and identify potential patterns of peak use (defined by weekday and weekend)
- Examine approvals and permits of new development that has been recently approved and that is in the CUP stage as of January 2008 to identify additions to parking supply
- Summarize overall supply by location and peak period (some lots are not open 24/7).

Objective 2: Characterize and quantify the demand for parking in downtown Carrboro, including its spatial and temporal dimensions.

¹ Shoup, D. C. (2005) *The High Cost of Free Parking*, Planners Press, American Planning Association, Chicago.

² Marsden, G. (2006) The evidence base for parking policies--a review *Transport Policy*, 13, 447-457.

- Measure demand for parking for peak periods (defined by weekday and weekend)
- Analyze spatially actual demand for parking relative to demand of attractors in immediate area
- Identify where parkers are coming from by location (could be a license plate study or a survey)
- Determine parking duration by time of day and day of week (weekday, Sat, Sun)
- Identify parking needs for new development that has been recently approved and that is in the CUP stage as of January 2008

Objective 3: Identify areas of excess demand/undersupply and excess supply.

- Overlay demand and supply analyses by time of day, day of week and location

Objective 4: Make recommendations to planning staff.

- Analyze data, identifying areas of concern
- Provide recommendations. Consider referring to strategies used by peer communities in addressing issues of excess demand and perceived excess demand.

PRODUCTS

- IRB application
- Survey of businesses
- Parking demand assessment
- Parking supply assessment
- Recommendations
- Presentation

WORKSHOP FORMAT

The workshop is client and student driven. For the first few weeks, we expect to meet once a week. This will allow us to refine the objectives, identify critical data needs, create teams, assign responsibilities, and develop a timeline of tasks and expected completion dates. After this, we may meet less often. However, students are expected to interact with instructors and the client contact person outside of the official meeting times. Students are responsible for the on-time delivery of quality products. The faculty will assist students in key decisions regarding the work, but please remember that Carrboro is the ultimate client in this exercise.

GRADING

Grades will be assigned by instructors (50%) and by everyone else's assessment of each person's contribution to the group (50%).

RESOURCES

A small set of resources will be available on Blackboard (blackboard.unc.edu). They provide some background information. In addition, the following two resources have been placed in reserve at Chapin Library.

Shoup, Donald, 2005. The high cost of free parking, APA Pres: Washington DC.

ULI, 2000. The Dimensions of Parking, National Parking Association & ULI: Washington DC.

Report on Carrboro Parking Demand and Supply

DRAFT

Spring, 2008

By Liz Brisson, Denman Glober, Reed Huegerich, Erin Burg Hupp, Chava Kronenberg, Anne Patrone, Michael Schwartz, Bridget Venne and Ariel Yang

Executive Summary

In light of the concern expressed by citizens of Carrboro regarding the impact of several large developments in the central business district (CBD) of Carrboro will have on parking supply and demand as well as the recommendation of 2000 policy document Vision2020, the Town of Carrboro (hereinafter called the “Town”) requested that a comprehensive study of downtown parking be conducted. To this end, a team of master’s students from the UNC Department of City and Regional Planning (hereinafter called the “Team”) worked with the Town to carry out four major tasks: 1) administration and analysis of a parking survey of downtown business owners; 2) data collection and analysis of the total supply of parking within the Carrboro CBD; 3) data collection and analysis of the demand for parking at varying times of day and days of the week; and, 4) analysis of how future approved and proposed development will affect parking supply and demand.

In order to capture the business owner perceptions of downtown parking as well as anecdotal data, the Team conducted a parking survey of downtown business owners. The survey was designed to also capture parking data on employees and customers of each business. Responses revealed that employees are parking in areas intended only for customer use, most notably, at the Carr Mill Mall main lot. Additionally, employers expressed concern over the future parking supply in Carrboro. In the survey, the majority of business owners opposed enforcement or metering of spaces and believe the Town should provide additional spaces downtown.

In order to capture the current parking supply in Carrboro’s CBD, the Team conducted a hand count of parking spots within town-designated parking lots. With the Town’s assistance, the team aggregated the number of spaces in each lot into three distinct Parking Analysis Zones (A, B, and C), which experience different parking behaviors; and, the most central zone, Parking Analysis Zone B, was further subdivided in to three Sub-Zones for analysis purposes. The Team

counted a total supply of 2,619 parking spaces in the whole CBD. Of those, 1,700 were located in Zone B, the study's primary area of interest. The supply counts collected for each parking lot, as well as the aggregate zone and sub-zone counts, were utilized in the demand and land use analysis.

The Team collected demand data in three different ways: 1) hand counts were conducted of public and private lots at varying times and days of week to determine occupancy, 2) cars in public lots were marked with chalk several times a day to assess turnover, and, 3) tube counts were carried out at specific lots to add to hand count data and to determine occupancy at Carr Mill Mall, as hand counts were not permitted by the owners of this private lot. This data was used to determine two aspects of parking demand: 1) occupancy and 2) turnover. With respect to occupancy, or how full lots and zones are, the Team utilized an 85% occupancy standard, used by traffic engineers, to determine whether there is an over-demand or under-supply in parking lots and zones. Zone B experienced the highest occupancy (peaking at 80%), with each component sub-zone peaking at different times. With respect to turnover, analysis revealed that on average 80% of cars park for less than 3 hours at a time in public lots, yet 20% exceed the posted 2 hour limit for municipal lots by at least 1 hour.

Finally, the Team conducted a land use analysis. First, the land use analysis relates parking occupancy to square feet of building space by expressing parking generation in terms of parking spaces used per 1,000 square feet, thus connecting the study to the existing zoning ordinance. Second, the land use analysis reveals the probable parking effects of future approved and proposed developments.

The period of greatest parking demand, Tuesday, Early Evening, served as the base case for analysis. Parking generation rates in the zones and sub-zones ranged from 0.3 to 1.9 parking spaces per 1,000 square feet of occupied building space. The analysis found that despite additional development, parking demand will not exceed recommended occupancy in most areas of the downtown since projected occupancy ranges from 20% to 80%. However, shortages will exist in Sub-Zone 3 under approved and proposed development scenarios. After approved developments are built Sub-Zone 3 will have a projected occupancy rate of 92%. If proposed developments are constructed without modification, Sub-Zone 3 will have a projected occupancy rate of 105%.

Altogether, the Team's analysis revealed several key findings and recommendations:

- Parking demand does not generally exceed recommended occupancy. Data does not indicate that current demand is outpacing supply.
- Parking demand only exceeds recommended occupancy at specific sites and at certain times and this may become a problem in the future.
- Parking lots in the CBD experience high turnover.
- There is significant violation of the 2-hour rule

- Most CBD visitors park in lots directly adjacent to the businesses they are visiting
- The prevalent perception among business owners and others is that there is a parking shortage in the CBD.
- Although there is not a parking shortage now, there will be a shortage in Sub-Zone 3 after the addition of approved and future developments.

Based on these findings, the Team recommends a suite of interventions to better manage the existing supply of parking, expand the supply of parking, encourage travel by other modes of transport, and promote parking at the periphery of the CBD. These suggestions include:

- Education/Signage
- Stricter Enforcement
- New Restrictions
- Joint Use
- Parking Cash-outs
- Developer Impact Fees
- Pedestrian Amenities
- Park and Ride
- Parking Deck

The team conducted a cost benefit analysis comparing the purchase of a tier of a parking deck in partnership with a private developer, a park and ride employee shuttle, and the improvement of sidewalks throughout the heart of downtown. The analysis reveals that given the costs for each option, improving pedestrian amenities such as sidewalks and lighting may have the greatest ability to reduce parking demand at critical areas.



Central Business District Parking Study for Town of Carrboro

April 15, 2008

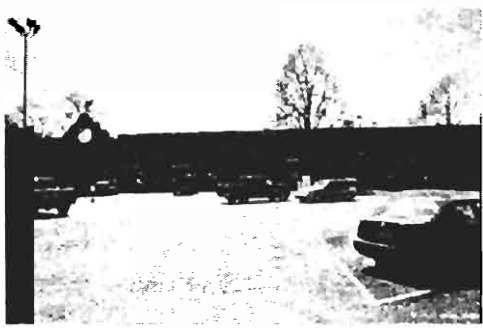
Liz Brisson, Denman Guber, Reed Huegerich, Erin Burg
Hupp, Chava Kronenberg, Anne Patrone, Michael Schwartz,
Bridget Venne and Ariel Yang

Teaching Oversight by Daniel Rodríguez

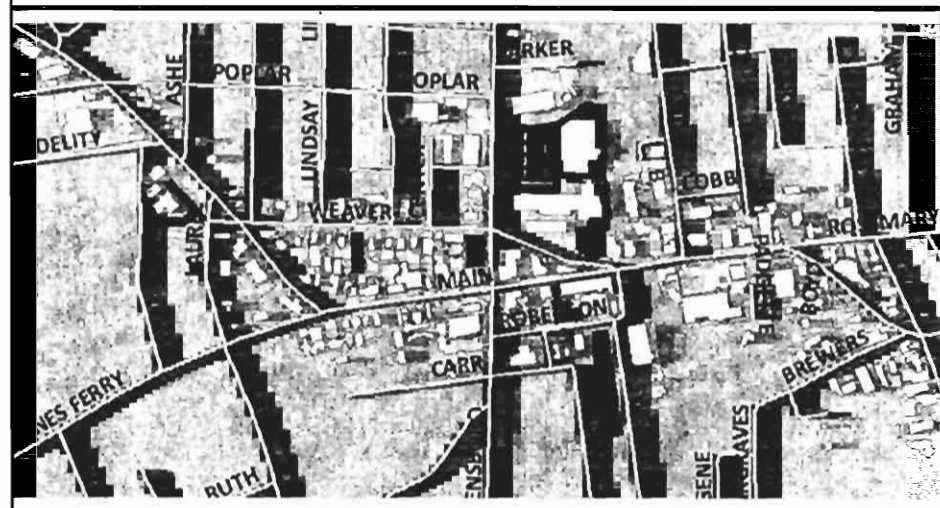
Scope of Project




- Exploratory study
 - Current supply
 - Current demand
 - Land use – future supply and demand
 - Business survey
 - Recommendations and potential solutions

Supply Counts

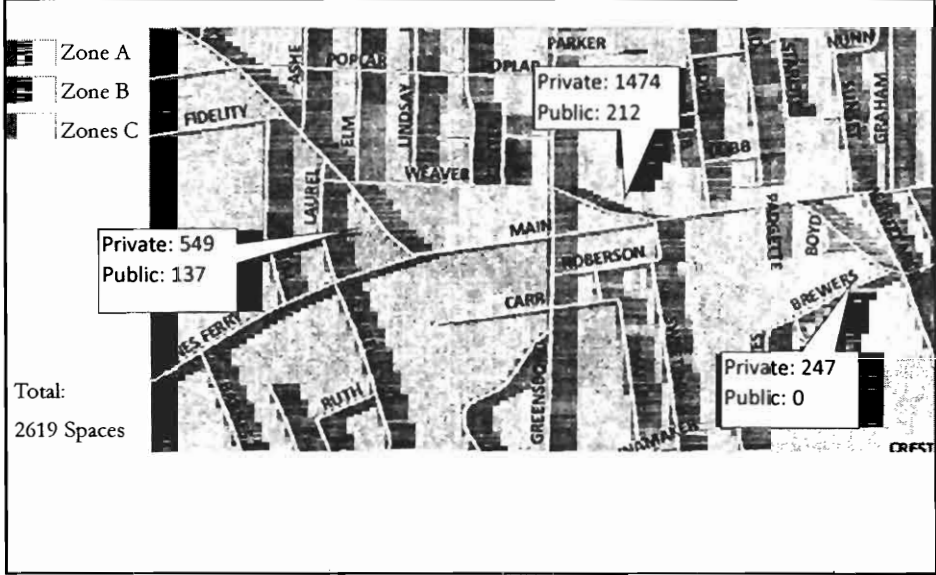


Parking Lots Surveyed

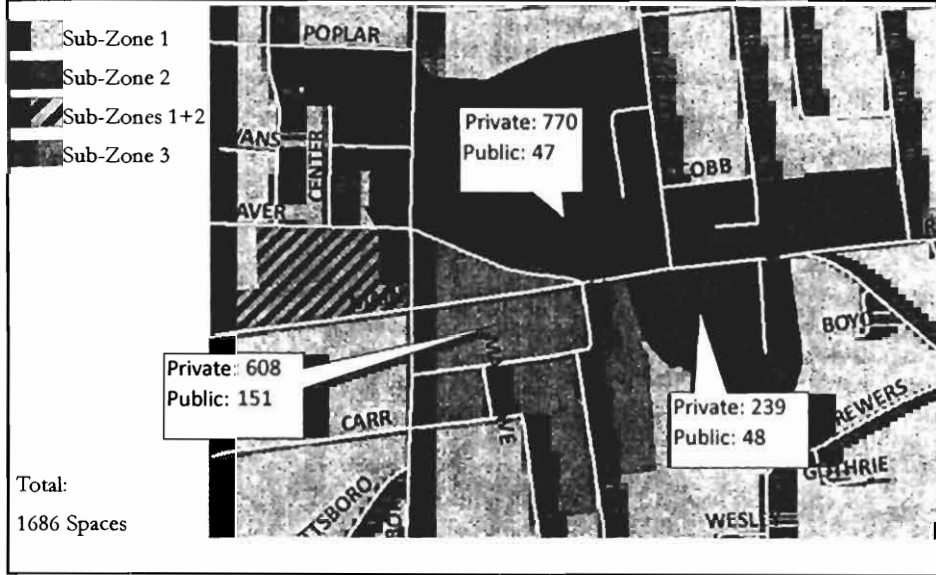


-  Private Parking
-  Public/Street Parking
-  Carr Mill Lot and Carr Mill Overflow Overlots

Existing Parking Supply



Existing Parking Supply

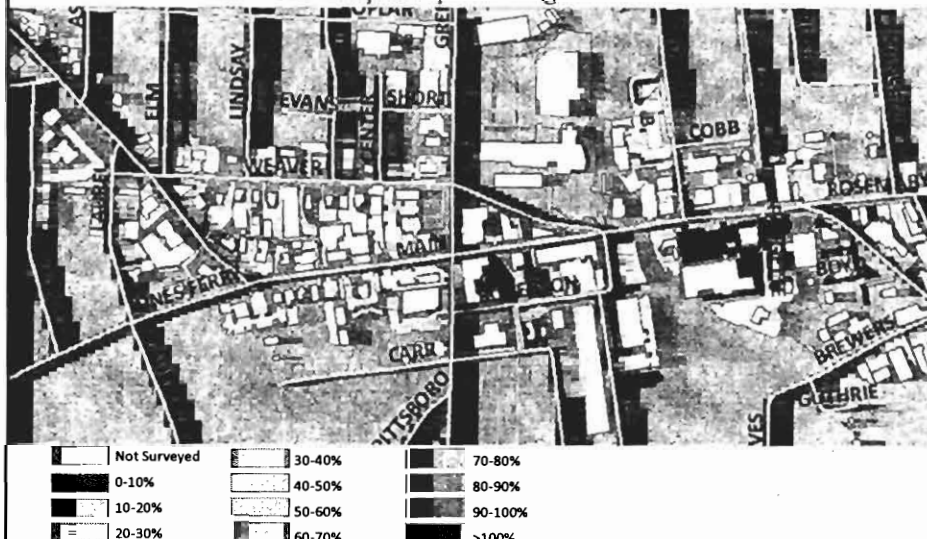


Demand Analysis



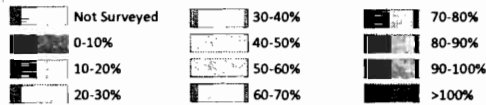
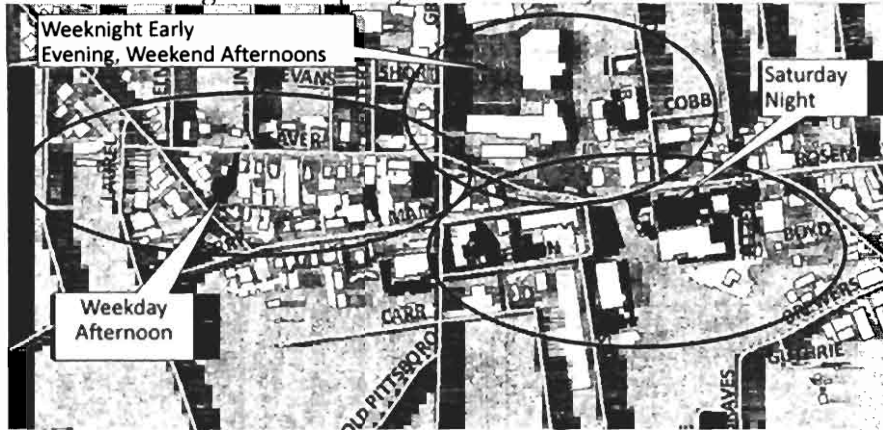
Parking Lot Occupancy Rates

Tuesday Early Evening 6PM-9PM



Parking Lot Occupancy Rates

Highest Occupancy Across All Days and Times



Zone Occupancy Rates

Existing Conditions: Zone and Sub-Zone Occupancy
Tuesday Early Evening 6PM-9PM

