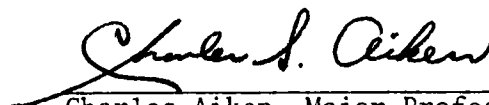
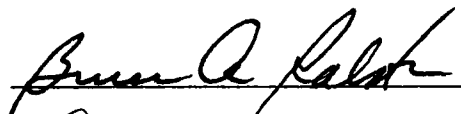
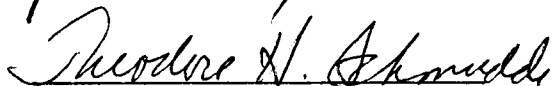


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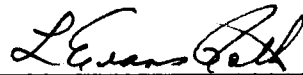
I am submitting herewith a thesis written by Carolyn Elizabeth Jenks entitled "Environmental Amenities and Student Migration Patterns at The University of Tennessee, Knoxville." I have examined the final copy of this thesis for form and content and recommend that it be accepted in partial fulfillment of the requirements for the degree of Master of Science, with a major in Geography.


Charles Aiken, Major Professor

We have read this thesis and
recommend its acceptance:

Accepted for the Council:


Vice Chancellor
Graduate Studies and Research

ENVIRONMENTAL AMENITIES AND STUDENT MIGRATION
PATTERNS AT THE UNIVERSITY OF
TENNESSEE, KNOXVILLE

A Thesis
Presented for the
Master of Science
Degree
The University of Tennessee, Knoxville

Carolyn Elizabeth Jenks

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ABSTRACT

The study is an investigation of the effects of environmental amenities on student migration patterns at The University of Tennessee, Knoxville. The hypothesis tested is that environmental amenities are significant factors in student decisions to attend Tennessee. The secondary purposes of the study are to assess familiarity with and use of environmental amenities by student migrants.

A questionnaire was mailed to out-of-state freshmen students, Spring Quarter, 1980. The questionnaire sought to discover the underlying reasons in student decisions to attend the university and to assess student familiarity with and use of recreational areas.

The ten most important reasons in student decisions to attend Tennessee are: (1) academic reputation, (2) desire to live away from home, (3) social atmosphere, (4) tuition costs, (5) size of the student body, (6) influence of family, (7) climate of East Tennessee, (8) scenery and topography of East Tennessee, (9) recreational opportunities, and (10) location of the university.

The importance of environmental amenities differs by regional origins of students. Midwesterners are influenced the greatest by environmental amenities. Northeasterners are influenced by environmental amenities, but financial reasons are more important. Southerners are influenced the least by environmental amenities.

The students' familiarity with and use of recreational areas differ by whether or not they believe that environmental amenities are important

in their decisions to attend Tennessee. Students who believe that environmental amenities are "very important" are more familiar with recreation areas and use a greater variety of recreation areas. Responding students seem to have a general image of the environmental amenities in the vicinity of Knoxville. Respondents indicated that environmental amenities influence decisions to attend Tennessee; however, once they arrive at the university, they use mostly the areas with which they are familiar, mainly the Great Smoky Mountains National Park. The image of environmental amenities is mythical because there are a variety of other federal, state, and commercial recreational areas which comprise the amenities of the Knoxville area.

Environmental amenities and their effects on permanent movements have been studied, but there is a lack of studies on the effects of environmental amenities on student migration patterns. This study shows that the migration to The University of Tennessee, Knoxville is affected by environmental amenities, but environmental amenities are not the most significant factors in student decisions. They are of secondary importance. The study is an investigation into the spatial interaction process of migration to clarify and improve an understanding of migration.

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CHAPTER I

INTRODUCTION

Migration, the movement of people from one place to another, is a process of spatial interaction. The movements have been classified by Morrill as temporary, transient, and permanent.¹ Temporary migrations are short trips of personal interaction and communication—journeys to work, tourist trips, and business trips. Permanent migrations are relocations for lengthy periods for reasons of economic improvement, social and psychological well-being, political necessity, and retirement. Transient migrations are of longer duration than temporary migrations but are much shorter than permanent ones. Such migrations include military reassignments, migrant labor movements, and college student relocations. Each year thousands of students attend college, and many become a transient population in the places in which the institutions are located.² According to Fairweather, "These temporary migrations result in vast expenditures of both time and money, yet little is known about their spatial patterns."³

Studies of student migrations have focused on the applications of interaction models in predicting student migration patterns and on

¹R. L. Morrill, The Spatial Organization of Society (Belmont, Ca.: Duxbury Press, 1970), pp. 135-140.

²Garland G. Parker, Collegiate Enrollments in the U.S., 1977-1978 (Iowa City: American College Testing Publications, 1978), pp. 24-89.

³Malcolm Fairweather, "The Spatial Dynamics of Student Temporary Migrations," The Social Science Journal 15 (1978):17.

factors influencing college choice.⁴ Richards and Holland, using factor analysis, found that six factors affect decision-making in choice of a college: (1) academic reputation; (2) cost and distance from home; (3) advice of parents, teachers, and friends; (4) social atmosphere; (5) religious emphasis; and (6) size.⁵ McConnell studied the spatial distribution of undergraduate students at Bowling Green State University using a variation of the potential model to predict student migration patterns. He attempted to account for intervening opportunities in his variation of the model, which, he concluded, was not statistically superior to the basic potential model in predicting the pattern of undergraduate enrollment by county of origin.⁶ Fairweather studied student perceptions at two Oklahoma universities to explain the patterns of student migrations. Using a sample survey, factor analysis, step-wise multiple regression, and the potential model, he concluded that student

⁴Kalmer E. Stordahl, "Student Perceptions of Influences on College Choice," The Journal of Education Research 63 (January 1970):209-212; John L. Holland, "Student Explanations of College Choice and Their Relation to College Popularity, College Productivity, and Sex Differences," College and University 33 (1958):313-320; and T. A. Bowers and R. C. Pugh, A Comparison of Factors Underlying College Choice by Students and Parents (Washington, D.C.: George Washington University, Educational Research Institute Center Reports ED-062-936, April, 1972).

⁵James M. Richards, Jr. and John L. Holland, "A Factor Analysis of Student 'Explanations' of the Choice of a College" (Iowa City: American College Testing Research Reports, No. 8, American College Testing Program, 1965).

⁶Harold McConnell, "Spatial Variability of College Enrollment as a Function of Migration Potential," The Professional Geographer 17 (1965): 29-37.

perceptions do not explain student migration patterns better than the potential model.⁷

Ullman studied interregional migration in the United States in the 1950's and concluded that regional growth and immigration in certain parts of the country was in response to environmental amenities, especially a pleasant climate.⁸ Other studies that note a positive relationship between environmental amenities and population growth include ones by Gibson, Fuller and Chapman, and Evanko.⁹ Gibson's study of Arizona residents in Phoenix and Tucson found that migration to the cities was strongly influenced by the climate. In Fuller and Chapman's study of Asian student preferences for regions of the United States, the cold climate of the North and the aridity of the West were unattractive, but the humidity of the South was attractive. Environmental amenities were very strong factors in state preferences of New York students in the study by Evanko. The three most frequently cited reasons

⁷Malcolm Fairweather, "The University of Oklahoma and Oklahoma State University: A Factorial-Spatial Analysis of Their Undergraduate Distribution" (Ed.D. Dissertation, Oklahoma State University, 1974).

⁸Edward L. Ullman, "Amenities as a Factor in Regional Growth," The Geographical Review 44 (1954):119-132.

⁹Lay James Gibson, "The Amenities as a Factor in Arizona's Population Growth," Annals of Regional Science 3 (1969):192-199; Gary Fuller and Murray Chapman, "The Role of Mental Maps in Migration Research: A Pilot Study," paper presented at the Annual Meeting of the Population Association of America, Toronto, Canada, April, 1972; and Fay Evanko, "An Application of Canonical Correlation and Cross-Factor Correlation in Explaining Residential Preference Differentials in the United States" (M.A. Thesis, State University of New York, Albany, 1972) both cited by Larry M. Svart, "Environmental Preference Migration: A Review," The Geographical Review 66 (July, 1976):316-318.

in ranking states as desirable were: (1) attractive landscape/topography, (2) attractive climate, and (3) nice rural/open space.

Migration to the Southeast and the Southwest has increased since the late 1960's. Between 1970 and 1975, the South gained more than five million people. The urban growth was 9.3 percent and the nonmetro growth 6.9 percent.¹⁰ According to Heiman:

With the exception of the Florida peninsula, the rapidly growing nonmetro areas in the South are predominantly mountainous. They include the northern Piedmont, the South's Appalachian coal area, the Blue Ridge mountain area, the lower Tennessee Valley, the Ozark and Ouachita mountains of Arkansas, and the central Texas hill country.¹¹

The Southeast is an environmentally attractive area. It has a pleasant climate, mountains, lakes and rivers, and other natural amenities. Deavers noted that recreational opportunities and scenery were among the factors that attracted migrants to the nonmetropolitan growth areas of the South.¹² The effect of environmental amenities on permanent migration has been studied, but the influence of environmental amenities on transient movement, specifically college student migrations, has not been analyzed.

¹⁰ Grover Heiman, "Where Americans Are Moving Now," Nation's Business 66 (February, 1978):43 and "Why Migration Became a Flood Tide," Business Week (May 17, 1976):95.

¹¹ Ibid.

¹² Kenneth L. Deavers cited by Grover Heiman, "Where Americans Are Moving Now," Nation's Business 66 (February, 1978):43.

I. PURPOSE AND HYPOTHESIS

This study is an investigation of the influence of environmental amenities on student migration to The University of Tennessee, Knoxville. The hypothesis is that environmental amenities are significant in student decisions to attend the university. Environmental amenities include recreational opportunities in the vicinity of Knoxville which are dependent on the natural environment. The Great Smoky Mountains National Park, national and state forests, state parks, and Tennessee Valley Authority reservoirs are among the attractions. The temperate climate and the scenery of East Tennessee are also environmental amenities.

Secondary purposes of the study are to determine familiarity with and use of environmental amenities by student migrants. The following questions are raised and investigated:

1. From which states do the students migrate? Does one region of the country have more persons who believe that environmental amenities were an important consideration in their decisions to attend The University of Tennessee?
2. If environmental amenities are important in student decisions to attend The University of Tennessee, do students who believe that environmental amenities highly influenced their decisions differ in their familiarity with and use of environmental amenities from students who do not believe that environmental amenities were important?
3. Was The University of Tennessee a second or third choice for the students because they were unable to gain admittance to

universities in their home states, or was it overwhelmingly a clear desire to attend the university, particularly because of its location?

II. THE STUDY AREA

The study area, or amenity area of The University of Tennessee, is defined as a region within a 120-mile radius of Knoxville (Figure I-1). The area contains parts of Tennessee, Kentucky, Virginia, North Carolina, South Carolina, and Georgia. The distance of 120 miles was chosen after interviewing presidents of several university sports clubs to discover the farthest distance the groups traveled for recreation.¹³ The farthest distance is approximately 150 miles. The 120-mile radius, linear distance measured on a Tennessee Valley Authority Administrative Districts and Area Offices map, encompasses driving distances of approximately 150 miles from Knoxville and driving times of about two hours.

The amenity area extends eastward from the Cumberland Plateau over the Ridge and Valley to the Blue Ridge. The varied terrain ranges in elevation from 600 feet above sea level at Chattanooga to more than 5,000 feet in some of the highest parts of the Blue Ridge. Most of the area has a Humid Subtropical, or Cfa climate. The climate of the higher

¹³ Interviews with presidents of The University of Tennessee Snow Ski Club, Trap and Skeet Club, Water Ski Club, and Scuba Club, and with Paul Franklin, advisor, The University of Tennessee Recreation Coordinating Committee, Knoxville, Tennessee, 15, 16 January 1980. The farthest these groups usually travel is 120-150 miles, or two-hour driving time from Knoxville.

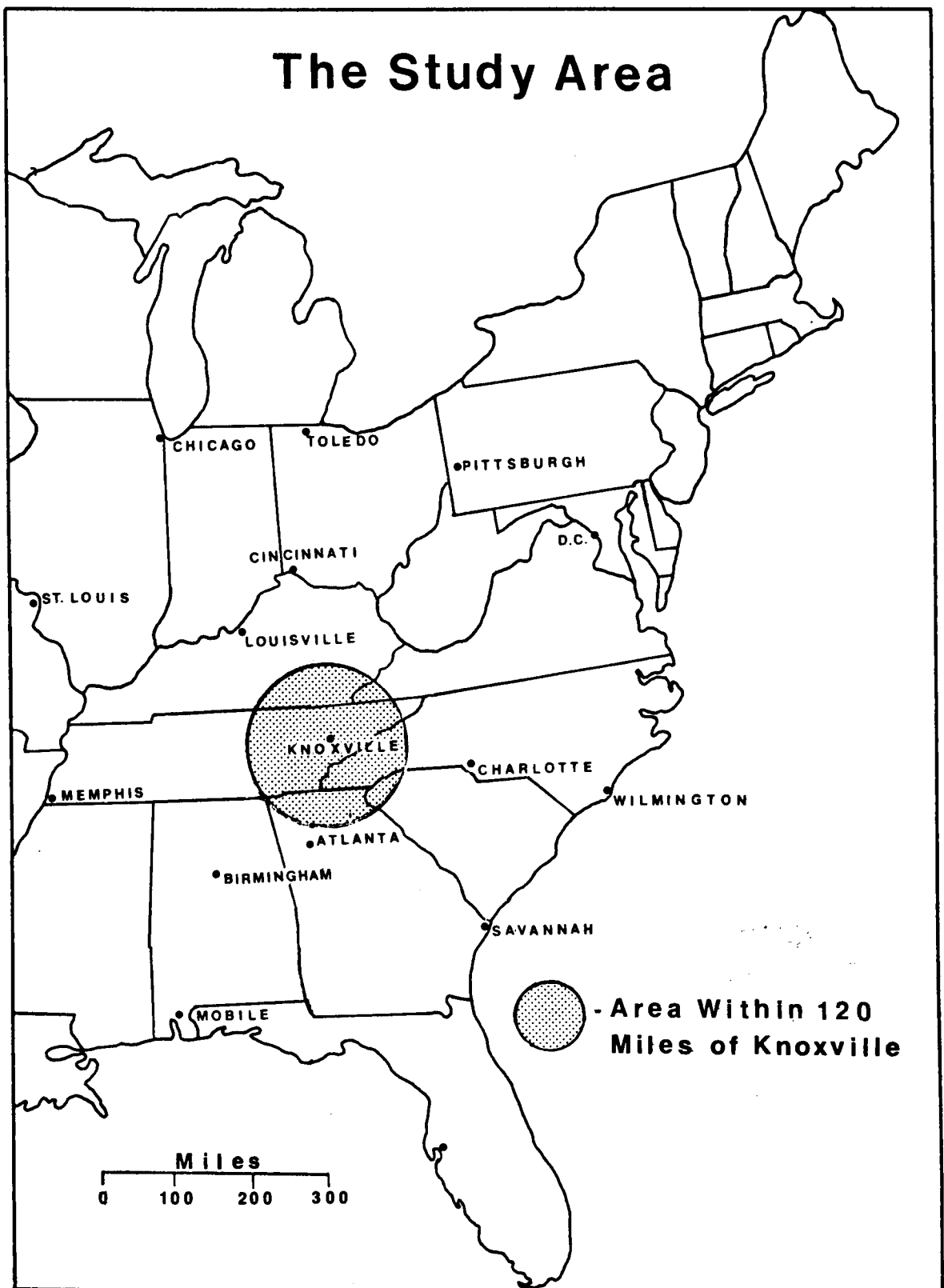


Figure I-1. The Study Area.

elevations of the Blue Ridge is West Coast Marine, or Cfb.¹⁴ Average annual precipitation ranges between 40 and 80 inches, average temperatures range between 30-40 degrees Fahrenheit in winter and 70-80 degrees Fahrenheit in summer.¹⁵

III. PROCEDURE

The research population for the study was the freshmen, out-of-state students at The University of Tennessee, Knoxville for the academic year 1979/80. International students and out-of-state students from places within the study area were excluded. Freshmen were selected because they should have the least number of accumulated biases toward environmental amenities as factors affecting their decisions to attend the university. Also, their reasons for attending the university should be vivid in their memories. Out-of-state students from places within the study area were excluded because their proximity to and familiarity with the environmental amenities of the Knoxville area might have biased their responses. International students were excluded because their perceptions of the United States and their migration patterns to the country constitute a sufficient research topic for a separate study.

A questionnaire that evaluated student motives in attending The University of Tennessee was employed. The University of Tennessee

¹⁴Glenn T. Trewartha, An Introduction to Climate, 4th ed. (New York: McGraw-Hill Book Company, 1968), pp. 394-395.

¹⁵Center for Business and Economic Research, College of Business Administration, 1977 Tennessee Statistical Abstract (Knoxville: The University of Tennessee, July, 1977), pp. 314-317.

Student Activities Office provided a list of freshmen, out-of-state students enrolled during the Winter Quarter, 1980. The questionnaire was mailed to all appropriate freshmen for whom local addresses were available. The total number of out-of-state freshmen enrolled during the Winter Quarter was 879. Local addresses were not available for sixty students, sixty-two were from places within the study area, and eighty-eight were international students. The target population was 659.

The questionnaire had three main purposes, and the questions were grouped according to the purposes (Appendix). Questions 1-17 assessed student attitudes as to what influenced their decisions to attend The University of Tennessee. On a scale of one to five, students rated how important a reason was in their decisions to attend the university. This section, particularly, attempted to discover if and how environmental amenities influenced student migration patterns. Questions 18-25 assessed student familiarity with and use of environmental amenities within 120 miles of Knoxville. The questions also checked the defined size of the amenity area. Question 26 asked for the location of the permanent home of the student. It checked the validity of the home residence given on the list of out-of-state freshmen, which was not totally accurate. Questions 27-31 dealt with the importance of financial aid and academic reputation in student decisions to come to The University of Tennessee.

For section one, the questionnaire data were analyzed for all respondents by region and by state. Section two was analyzed first for

all respondents and then by classification of respondents into two groups, students who rated environmental amenities very important and those who rated environmental amenities unimportant in their decisions to attend the university. Data from section three were analyzed also for all respondents and for each of the two groups of students. Chi squared tests were performed between data from sections one and two and between data from sections one and three to discover if any statistically significant relationships existed between decisions to attend the university and familiarity with and use of recreation areas, acceptance at universities, and offers of financial aid.

Information on types and locations of recreation areas in the study area was obtained from publications of the Tennessee Department of Conservation, the Kentucky Department of Public Information, the North Carolina Division of Economic Development-Department of Natural Resources, the South Carolina Division of Tourism, the Virginia Department of Conservation and Economic Development, and the Tennessee Valley Authority. Statistics concerning financial expenditures and number of visitors at state and national parks were obtained from the United States Statistical Abstract and the Tennessee Statistical Abstract. Data on academic programs, expenses, and percentages of out-of-state students at colleges and universities were gathered from Peterson's Annual Guide to Undergraduate Study in 1980 and Barron's Profiles of American Colleges—Volume I. Information concerning The University of Tennessee was obtained from various departments at the university.

Chapter II discusses academic reputation, student expenses, sports reputation, and accessibility of The University of Tennessee, Knoxville.

Chapter III describes the environmental amenities in the vicinity of Knoxville, concentrating on the recreational opportunities. Chapter IV analyzes the data from the questionnaires, and Chapter V concludes the study with suggestions for further research.

CHAPTER II

THE UNIVERSITY OF TENNESSEE, KNOXVILLE

The University of Tennessee, Knoxville is located in the heart of the city adjacent to the Tennessee River. The university was established in 1794 as Blount College. In 1869 the school, then called East Tennessee University, became the state land-grant institution. The name was changed to The University of Tennessee in 1879.¹ Today, The University of Tennessee covers 397 acres, possesses 98 major buildings, offers 120 major areas of study, and has numerous athletic and sports facilities.² The University of Tennessee, Knoxville is the main and largest campus in The University of Tennessee system and is the largest institution of higher learning in the study area.

I. ORIGINS OF THE STUDENT BODY

The student enrollment at The University of Tennessee, Knoxville during the Fall Quarter of 1979 was 29,720, of whom 88 percent were Tennessee residents.³ Compared to fourteen Southern state-supported universities in 1979, The University of Tennessee had the sixth highest

¹The University of Tennessee, The University of Tennessee Record, General Catalog/Knoxville/1980/81 (Knoxville: The University of Tennessee, March 1980), p. 13.

²Barron's Profiles of American Colleges, 11th ed., Vol. 1 (Woodbury, N.Y.: Barron's Educational Series, Inc., 1978), p. 808.

³The University of Tennessee Record, p. 9; Barron's Profiles of American Colleges, p. 808.

percentage of out-of-state students (Table II-1). The average was 16 percent.⁴ At Tennessee, out-of-state students comprised 12 percent of the student body. During the Fall Quarter of 1979, the number of out-of-state students in The University of Tennessee System was 4,714. Of the 4,714 students, 64 percent were from the South, 16 percent were from the Northeast, 15 percent were from the Midwest, and 5 percent were from the West (Figure II-1).⁵

The 1979 freshmen class was similar to the total student body. Of the 8,473 freshmen, 636 were nonresidents. Sixty percent of the 636 were from the South, 22 percent from the Midwest, 16 percent from the Northeast, and 2 percent from the West (Figure II-2). Ohio, New Jersey, New York, Illinois, Michigan, and Pennsylvania had rather large freshmen populations at The University of Tennessee.⁶

II. FEATURES OF THE UNIVERSITY

Academic Reputation

What induces students to decide to attend a university in another state? Fairweather, Bowers and Pugh, and Richards and Holland found

⁴Joan Hunter, ed., Peterson's Annual Guide to Undergraduate Study—1980 (Princeton: Peterson's Guides, 1980), pp. 161, 419, 561, 592, 760, 764, 792, 803, 808, 809, 812, 854.

⁵A Graphic View of The University of Tennessee, 4th ed. (Knoxville: The University of Tennessee Office of Institutional Research, 1980), p. 9; Information on the regional origins of out-of-state students attending the Knoxville campus was not available.

⁶Out-of-state freshmen student percentages by region were computed from the Student Activities Office list of freshmen out-of-state students.

Table II-1. Enrollment and Percentage of Out-of-State Students at Southern State Universities, 1979

University	1979 Enrollment	Percentage of Out-of-State Students
1. West Virginia	21,429	41%
2. Virginia	15,234	35
3. Texas	43,095	25
4. Alabama	15,861	16
5. Georgia	23,286	16
6. South Carolina	24,783	15
7. North Carolina at Chapel Hill	20,294	15
8. North Carolina State	18,476	12
9. Louisiana	24,952	12
10. Tennessee	29,720	12
11. Kentucky	22,083	11
12. Florida State	21,379	10
13. Florida	31,133	7
14. Mississippi State	11,265	5
15. Arkansas	9,652	3

Source: Joan Hunter, ed., Peterson's Annual Guide to Undergraduate Study—1980 (Princeton: Peterson's Guides, 1980), pp. 161, 419, 561, 593, 760, 764, 778, 792, 803, 808, 809, 812, 854.

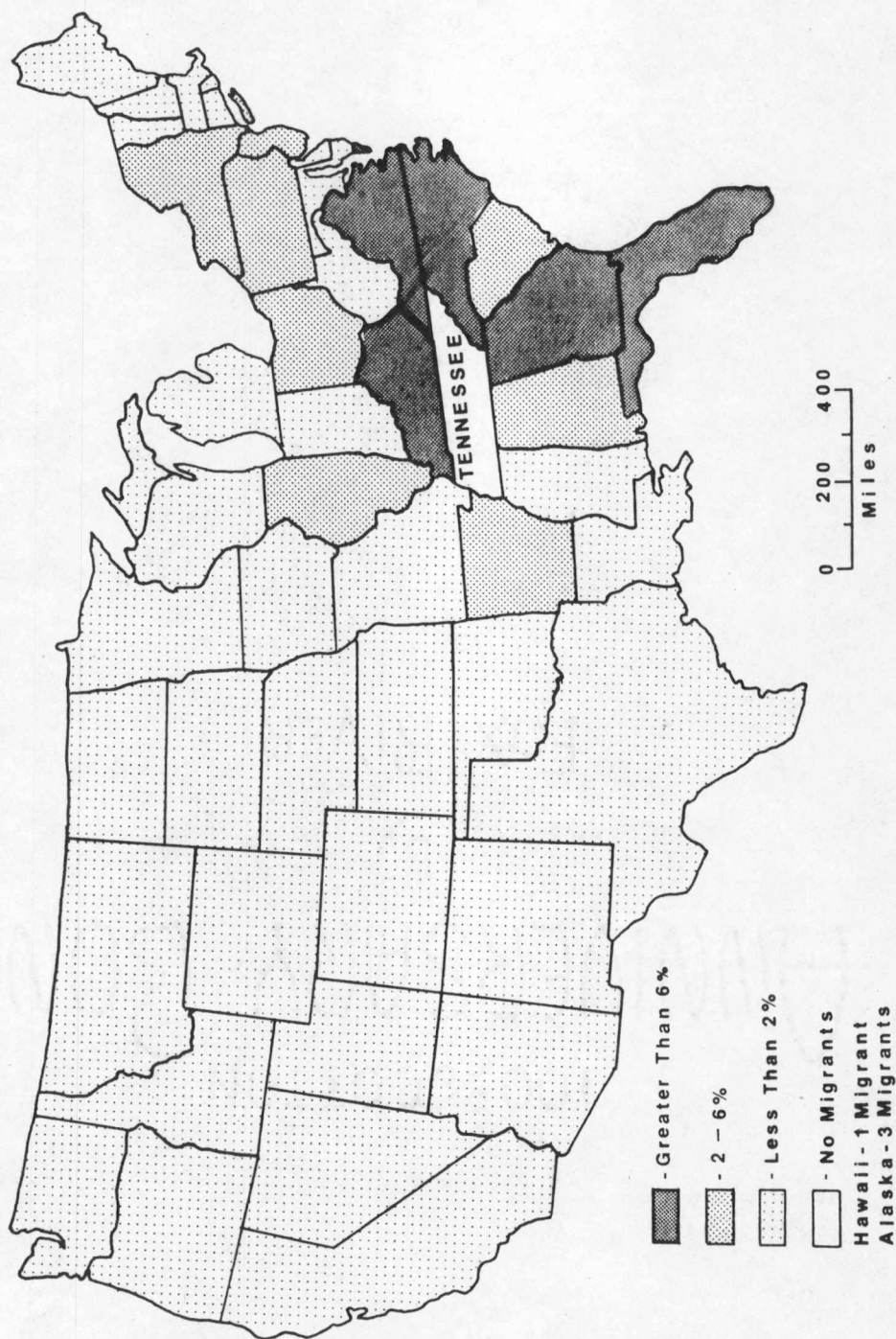


Figure II-1. Origins of Out-of-State Students at The University of Tennessee, Knoxville, 1979. Percentage of Total Out-of-State Students.

Source: A Graphic View of The University of Tennessee, 4th ed. (Knoxville: The University of Tennessee Office of Institutional Research, 1980), p. 9.

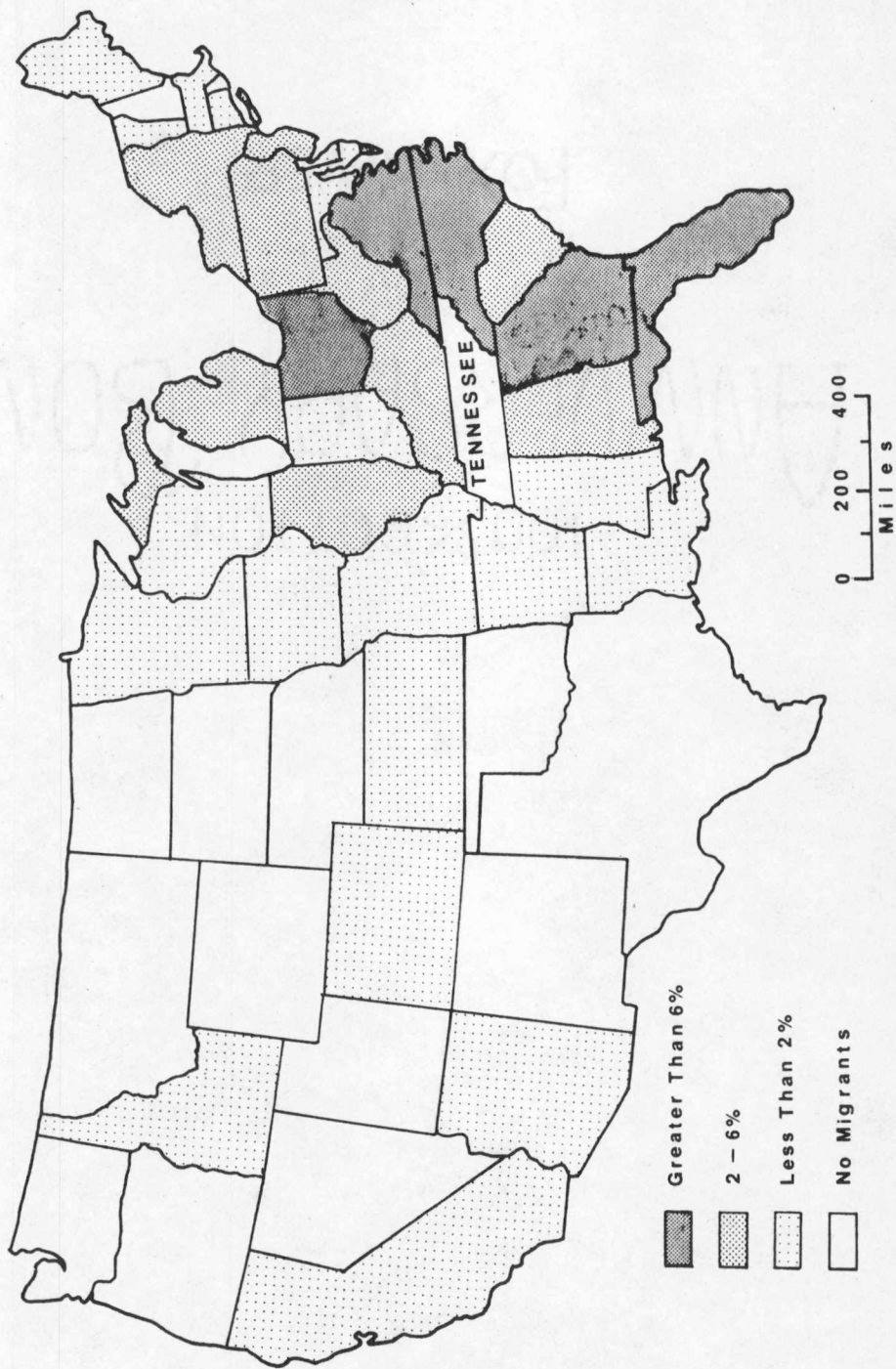


Figure II-2. Origins of Out-of-State Freshmen at The University of Tennessee, Knoxville, 1979. Percentage of Total Out-of-State Freshmen.

Source: The University of Tennessee Student Activities Office List of Out-of-State Freshmen, Winter Quarter, 1979.

that academic reputation was an important factor in student choice of a college.⁷ The academic reputation of The University of Tennessee, Knoxville may be an important factor in attracting student migrants. The Gourman Report, which evaluated the quality of colleges and college programs, ranked seven academic programs at The University of Tennessee, Knoxville high. The academic programs in Agriculture, Home Economics, Physical Education, Aerospace Engineering, Agricultural Engineering, Nuclear Engineering, and Botany were ranked at the 3.0 level or higher on a scale of one-to-five, five being a top quality program.⁸

If out-of-state students are attracted to the university because of the high quality of academic programs, then it follows that there might be a high percentage of out-of-state students majoring in these programs. However, because the specific majors of out-of-state freshmen students are not available, it is difficult to determine whether out-of-state students are attracted to the university by the quality programs.⁹

Students may be attracted to the university because of its academic reputation, but universities in the states with many freshmen migrants

⁷Malcolm Fairweather, "The University of Oklahoma and Oklahoma State University: A Factorial-Spatial Analysis of Their Undergraduate Distribution"; T. A. Bowers and R. C. Pugh, "A Comparison of Factors Underlying College Choice by Students and Parents"; James M. Richards, Jr. and John L. Holland, "A Factor Analysis of Student 'Explanations' of the Choice of a College."

⁸Jack Gourman, The Gourman Report—A Rating of American and International Universities (Los Angeles: National Education Standards, Inc., 1977).

⁹The University of Tennessee Office of Orientation, File of Freshmen Invited by College-Summer Orientation, 1979.

rank higher in many more programs than The University of Tennessee. For example, Tennessee had seven academic programs in the top three rankings, but Ohio State University had thirty-eight. The State University of New York at Buffalo had twenty-one programs, and the University of Illinois had thirty-seven programs that ranked high. The Gourman Report also ranks the top fifty colleges by curriculum. Tennessee was not among the top fifty, but Ohio State University, Rutgers, the State University of New York at Buffalo, New York University, the University of Illinois, the University of Michigan, Michigan State University, and Pennsylvania State University were among them.¹⁰ The academic reputation of The University of Tennessee is not comparable to the academic reputation of the other universities; therefore, academic reputation is not the decisive factor in decisions of out-of-state students to attend the university.

Another measure of academic reputation is a university's median American College Testing Score or Scholastic Aptitude Test Score of the freshmen class. Compared to fourteen other Southern universities, Tennessee had the next-to-the-lowest median American College Testing score, Arkansas had the lowest (Table II-2). The median score of freshmen at Tennessee was much lower than the scores of freshmen at the state universities in Michigan, New Jersey, New York, Pennsylvania, and Ohio.¹¹ Admissions to the other universities are also more competitive

¹⁰ Jack Gourman, The Gourman Report, p. 75.

¹¹ Barron's Profiles of American Colleges, pp. 15, 29, 134, 140, 209, 284, 289, 388, 396, 422, 494, 552, 570, 605, 653, 714, 732, 733, 780, 846, 886, 910.

Table II-2. Median Freshmen Scores and Competitiveness of Admissions
for Selected Universities, 1979

University	Score	Score*	Admissions
1. Florida State	23		Competitive
2. West Virginia U.	22		Competitive
3. Kentucky	21		Competitive
4. Mississippi State	21		Competitive
5. Alabama	20	452-V 495-M	Competitive
6. Louisiana State	20		Competitive
7. Tennessee	19		Competitive
8. Arkansas	17		Less Competitive
9. Virginia		589-V 631-M	Highly Competitive
10. North Carolina at Chapel Hill		516-V 546-M	Very Competitive
11. South Carolina		499-V 471-M	Competitive
12. Florida		492-V 558-M	Competitive
13. Texas		498-V 490-M	Competitive
14. Georgia		486-V 527-M	Competitive
15. North Carolina State		466-V 540-M	Competitive
16. Illinois	25		Very Competitive
17. Michigan State	23	485-V 527-M	Competitive
18. Ohio State	20		Noncompetitive
19. New York U.		540-V 560-M	Very Competitive
20. Michigan		520-V 590-M	Very Competitive
21. State U. of N.Y. at Buffalo		526-V 587-M	Very Competitive
22. Pennsylvania State		492-V 546-M	Competitive
23. Rutgers		492-V 538-M	Competitive

*In the Scholastic Aptitude Test Scores, V stands for verbal and M stands for Math.

Source: Joan Hunter, ed., Peterson's Annual Guide to Undergraduate Study—1980 (Princeton: Peterson's Guides, 1980), pp. 161, 419, 561, 593, 760, 764, 778, 792, 803, 808, 809, 812, 854.

than the admissions to The University of Tennessee, except for Pennsylvania State University and Ohio State University.¹²

Expenses

The low tuition costs at The University of Tennessee, Knoxville may be attractive to many students. For the academic year 1979/80, Tennessee had the fourth lowest tuition costs for in-state undergraduate students and the sixth lowest tuition costs for undergraduate, out-of-state students among fifteen Southern state universities (Table II-3).¹³

Comparison of in-state, undergraduate tuition at Southern universities with in-state tuition at state universities in Ohio, New York, New Jersey, Illinois, and Pennsylvania reveals that costs vary. The costs range from \$520.00 to \$1,368.00 (Table II-3).¹⁴ However, the average in-state tuition at Southern universities is \$627.00 compared to \$1,096.00 at Northern state universities. In-state tuition at The University of Tennessee is \$558.00, \$538.00 less than the average in-state tuition at the state universities in Ohio, New York, New Jersey, Illinois, Michigan, and Pennsylvania.

The out-of-state, undergraduate tuition is also lower at Southern universities. The average out-of-state tuition at Southern universities is \$1,704.00. At Northern state universities, the average is \$2,596.00 (Table II-3). If an out-of-state student attends The University of Tennessee, the average annual tuition costs are \$464.00 more than at an in-state university.

¹²Ibid.

¹³Ibid.

¹⁴Ibid.

Table II-3. Annual Tuition and Room and Board Expenses for
Selected Universities, 1979

University	Tuition Out-of-State	Tuition In-State	Room and Board
1. North Carolina State	2270.00	558.30	1470.00
2. North Carolina at Chapel Hill	2239.00	529.00	1626.00
3. Virginia	2154.00	909.00	1700.00
4. Kentucky	1812.00	562.00	1760.00
5. Georgia	1803.00	753.00	1572.00
6. Florida	1740.00	710.00	1850.00
7. Mississippi State	1695.00	870.00	1700.00
8. South Carolina	1692.00	732.00	1500.00
9. Alabama	1629.00	764.50	1335.00
10. Tennessee	1560.00	558.00	1516.00
11. Texas	1549.00	469.60	1825.00
12. Louisiana State	1484.00	554.00	1356.00
13. West Virginia U.	1479.00	459.00	1530.00
14. Florida State	1375.00	520.00	1350.00
15. Arkansas	1090.00	460.00	NG
16. New York U.	4450.00	NG	2200.00
17. Michigan	3474.00	1174.00	1910.00
18. Pennsylvania State	2748.00	1368.00	1665.00
19. State U. of N.Y. at Buffalo	1550.00	1100.00	1783.00
20. Michigan State	2334.00	1097.00	1560.00
21. Illinois	2184.00	916.00	1710.00
22. Ohio State	2160.00	975.00	1707.00
23. Rutgers	1874.00	1043.00	1768.00

NG = Not Given

Source: Joan Hunter, ed., Peterson's Annual Guide to Undergraduate Study—1980 (Princeton: Peterson's Guides, 1980), pp. 161, 419, 561, 593, 760, 764, 778, 792, 803, 808, 809, 812, 854.

Comparison of room and board expenses among universities reveals that the average costs are similar (Table II-3). At the Southern universities, average room and board costs are \$1,578.00; at Northern universities, the costs are \$1,783.00. Room and board expenses at The University of Tennessee are \$267.00 less than the average cost at the other universities, but, the difference is easily offset by additional travel costs and higher tuition rates for out-of-state students.¹⁵

Clearly, the question of tuition and room and board expenses is not the one decisive factor for students who decide to attend a university outside their home state. Expenses at The University of Tennessee, Knoxville are low, but students can pay relatively the same costs at their home-state colleges. However, the question of expenses may be very important when several out-of-state universities are considered by a student. Tuition expenses at universities in New York, Michigan, Ohio, Pennsylvania, Illinois, North Carolina, and Virginia are very high for undergraduate, out-of-state students. Compared to universities in these states, Tennessee is extremely attractive because of its lower tuition costs for out-of-state students.

Another facet of expenses is the cost-of-living factor. The cost-of-living in the South is the lowest in the United States. On the basis of an average of 100 for the urban United States, the cost-of-living in Atlanta is 91.8 compared to 114.6 in New York City,

¹⁵Ibid.

107.9 in Washington, D.C., 116.2 in Boston, 97.2 in Pittsburgh, and 100.7 in Detroit.¹⁶ The cost-of-living in Knoxville in the fourth quarter of 1979 was 92.9.¹⁷ Attending The University of Tennessee definitely reduces cost-of-living expenses for students from certain sections of the country. In this way, student migrants can reduce college expenses and may be attracted to the university.

Accessibility

An attractive feature of The University of Tennessee is its accessibility. Knoxville is centrally located in the Eastern United States (Figure II-3). The city is approximately a five hour drive from Atlanta, Cincinnati, Birmingham, Louisville, and Charlotte, and approximately a ten hour drive from Chicago, Washington, Toledo, Pittsburgh, Mobile, Wilmington, St. Louis, and Savannah.¹⁸ A large portion of the United States population is within a day's drive of Knoxville.

Knoxville's accessibility is enhanced by three major interstate routes converging at the city. Interstate 81 traverses the eastern United States from the Canadian border through New York southward to Tennessee, terminating northeast of Knoxville where the route joins

¹⁶"What It Cost To Live Where," The Knoxville News-Sentinel, December 25, 1980, p. E-2.

¹⁷American Chambers of Commerce Researchers Association, Inter-City Index Report—Cost of Living Indicators (Indianapolis: American Chambers of Commerce Researchers Association, 4th quarter, 1979).

¹⁸Rand McNally and Company, Rand McNally Road Atlas (New York, San Francisco: Rand McNally Company, 1980), p. i.

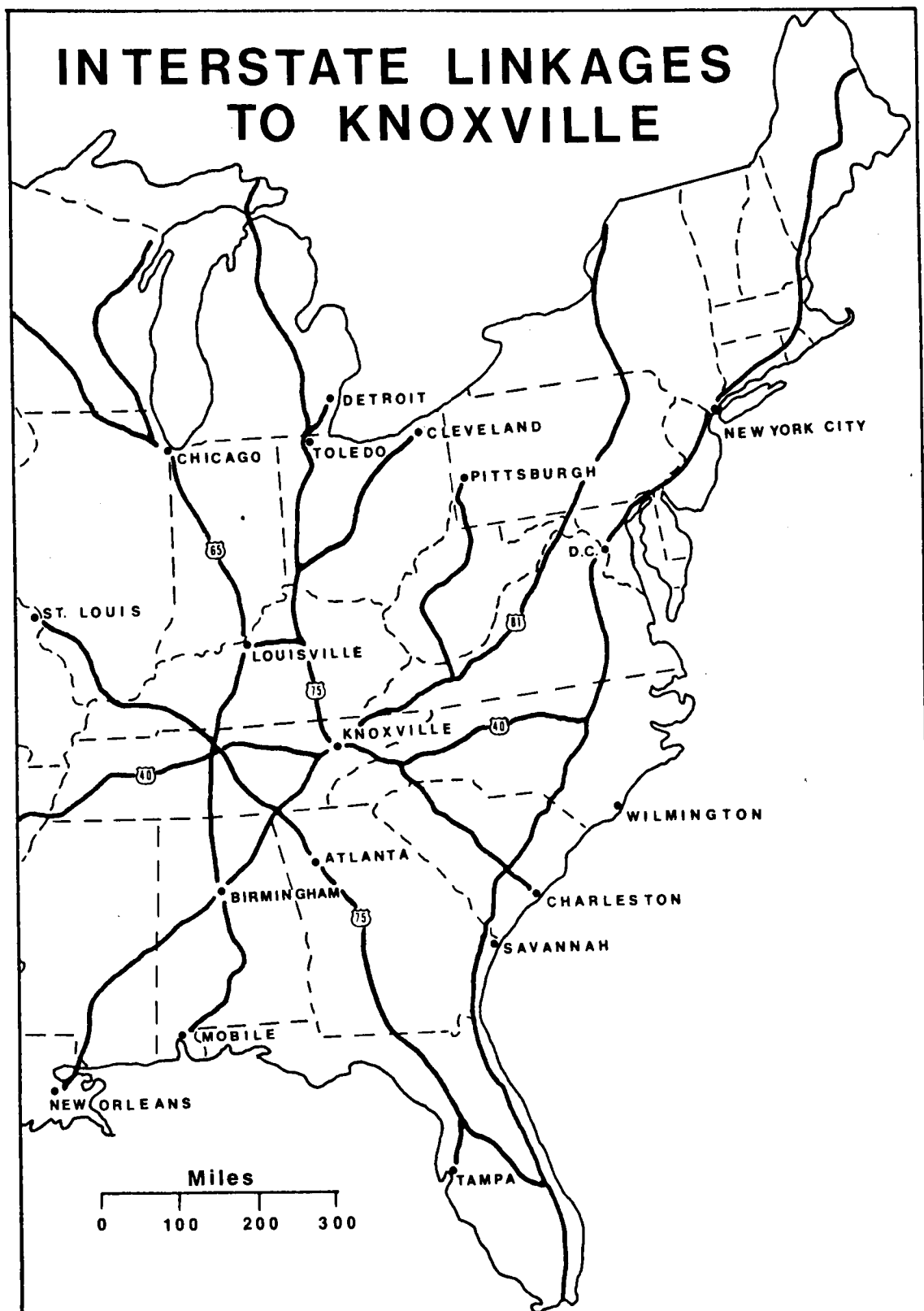


Figure II-3. Interstate Linkages to Knoxville.

Source: Rand McNally and Company, Rand McNally Road Atlas, 1980, p. i.

Interstate 40. Interstate 40 is a major east-west route from Barstow, California to Greensboro, North Carolina; and Interstate 75 is a major north-south route from the Canadian border through the Midwest southward to Tampa, Florida. The three interstates not only provide easy access to Knoxville, but they also increase the exposure of The University of Tennessee to potential students traveling through Knoxville.

Sports Tradition

The sports tradition of The University of Tennessee may be a major attractant in student decisions to attend. The university is renowned for its sports reputation. According to The Daily Beacon, the student newspaper:

There is a lot to know about the Tennessee sports field. You can always brag a little and tell how Tennessee has more and better facilities and action than any other university in the Southeast. Tell them about Neyland Stadium, which will be the second largest football stadium on a college campus this fall, upon completion of the North End seats.

Tell them about the school that won the NCAA football championship in 1951, and about our swimming and track teams which have won national championships more recently.¹⁹

In the "Annual National All-Sports Survey" conducted by The Knoxville Journal, Tennessee ranked among the top ten universities seven times between 1971 and 1981. In the Southeastern Conference composite interconference record started in 1964-65, Tennessee ranked first, seven years out of sixteen.²⁰

¹⁹"Information and Facts to Know about the Hill," The Daily Beacon, 17 June 1980, p. 2.

²⁰"All-Sports Title, USC Nips UCLA for National," The Knoxville Journal, 22 June 1980.

The football program is the most renowned and has the highest budget. During the 1979/80 academic year, grants-in-aid for football totaled \$366,610, while grants-in-aid for all other sports totaled only \$335,362.²¹ The basketball program at the university is also very well known. The basketball team frequently is nationally ranked and has been invited to nine post season tournaments since 1945.²² Other sports at the university also have impressive records. University track teams have compiled a record of eighteen Southeastern Conference titles and two National Collegiate Athletic Association Track Championships. The swimming teams have annually ranked among the top ten universities since 1970.²³ Baseball teams have won one Southeastern Conference title and four Eastern Division Championships.²⁴

Obviously, The University of Tennessee has a strong tradition of good athletic teams which may play a strong role as part of the social atmosphere in decisions to attend the university. The university also has numerous athletic facilities for students' personal recreation as

²¹The University of Tennessee, Report of the Treasurer for the Year Ended June 30, 1980 (Knoxville: The University of Tennessee, 1978), p. 349.

²²Department of Athletics, The University of Tennessee, 1979/80 University of Tennessee Basketball Guide (Knoxville: The University of Tennessee, 1979), pp. 3, 65.

²³Department of Athletics, The University of Tennessee, 1980 University of Tennessee Track (Knoxville: The University of Tennessee, 1979), p. 4; Department of Athletics, The University of Tennessee, 1980 University of Tennessee Swimming (Knoxville: The University of Tennessee, 1979), p. 3.

²⁴Department of Athletics, The University of Tennessee, 1980 University of Tennessee Baseball (Knoxville: The University of Tennessee, 1979), p. 18.

well as good athletic facilities for intercollegiate competition. Approximately one-third of the Knoxville campus is comprised of sports and athletic facilities. The student aquatic center has both indoor and outdoor olympic-size swimming pools. The center is surrounded by tennis courts, basketball courts, softball fields, and other facilities.²⁵

Sports clubs are a facet of the sports tradition at The University of Tennessee. There are thirty-six sports clubs at the university (Table II-4). The clubs can be grouped into three types: (1) those whose activities are dependent on man-made facilities, (2) those whose activities are relatively independent from the natural environment and from man-made facilities, and (3) those whose activities are dependent on the natural environment. Of the thirty-six clubs, twenty-two are type one, six are type two, and seven are type three.²⁶

The clubs with high memberships are the Canoe and Hiking Club, the Equestrian Club, the Snow Ski Club, and the Weightlifting Club. Although there are fifteen more type one than type three clubs, the total membership in type three is only 131 persons less than the total membership in type one, and type three clubs have 345 more members than type two clubs.

The seven clubs that are dependent on the natural environment are the Sailing Club, the Scuba Club, the Water Ski Club, the Crew Club, the Trap and Skeet Club, the Snow Ski Club, and the Canoe and Hiking

²⁵The University of Tennessee Record, p. 40.

²⁶Interview with Kay Williams, Program Advisor of The University of Tennessee Sports Clubs, 1 August 1980.

Table II-4. Types of Sports Clubs and Membership, 1979/80
(Highest Membership in One Academic Quarter)

Type I	Type II	Type III
Archery—IA*	Bicycling—8	Canoe & Hiking—250
Badminton—IA	Flying—35	Crew—60
Bowling—45	Frisbee—15	Sailing—20
Boxing—IA	Jogging—IA	Scuba—15
Baseball—IA	Judo—25	Snow Ski—130
Equestrian—160	Karate—85	Trap & Skeet—8
Fencing—24	<u>T'ai Chi Ch'uan—10</u>	<u>Water Ski—40</u>
Floor Hockey—12	Total Membership: 178	Total Membership: 523
Rugby (W)—15		
Gymnastics—55		
Ice Hockey—20		
Ice Skating—21		
Rugby (M)—60		
Skateboard—IA		
Soccer (M&W)—40		
Sports Car—12		
Table Tennis—25		
Volleyball—30		
<u>Weightlifting—110</u>		
Total Membership: 654		

*IA means inactive.

Source: Office of Sports Clubs, The University of Tennessee.

Club. The Sailing Club is based on Fort Loudoun Reservoir at Concord Marina.²⁷ Both the Scuba Club and the Water Ski Club are based on Norris Reservoir near Norris Dam. The Crew Club is based on the Tennessee River across from the university campus. Competitive meets are held on the river and along a section of the Clinch River near the Oak Ridge Marina.²⁸ The Trap and Skeet Club is based at Friendsville in Blount County, Tennessee, forty miles from campus. The area is remote, but it is relatively close to campus.²⁹ The Snow Ski Club does not have one particular site as its base of operation. When ski season starts, the club makes daily trips to Ober Gatlinburg Ski Resort at Gatlinburg, Tennessee and weekend trips to other resorts such as Sugar Mountain and Beech Mountain, North Carolina.³⁰

The university's Recreation Coordinating Committee is another organization whose activities are dependent on the natural environment. The committee plans various outdoor activities such as hiking, cross-country skiing, snow sledding, and white-water rafting.³¹ It organizes

²⁷Personal visit to a meeting of the Sailing Club, April, 1980.

²⁸Personal visit to an organizational meeting of the Crew Club, September, 1978; Interview with David Campbell, President of the Water Ski Club, 18 January 1980; Interview with Rick McClintock, President of the Scuba Club, 15 January 1980.

²⁹Interview with Sandy Lathan, President of the Trap and Skeet Club, 15 January 1980.

³⁰Interview with Mary Grace, President of the Snow Ski Club, 15 January 1980.

³¹Interview with Paul Franklin, Advisor of The University of Tennessee Recreation Coordinating Committee, 15 January 1980.

activities which take advantage of various recreational opportunities in the vicinity of Knoxville.

The sports clubs and the Recreation Coordinating Committee are attractive features of the university that utilize the environmental amenities in the Knoxville area. These organizations are not dependent on the sports facilities of the university, but on the particular location of the university. Recreational opportunities abound in the area surrounding Knoxville. The opportunities are provided by local and state governments, the federal government, and private organizations. The various types, locations, and general public use of recreational opportunities are discussed in the following chapter.

CHAPTER III

ENVIRONMENTAL AMENITIES IN THE VICINITY OF KNOXVILLE

Environmental amenities are important in the vicinity of Knoxville, and tourism is a significant business in the area. Tourism is the third largest industry in Tennessee; fifty million persons visited the state in 1978.¹ A study of tourism in Tennessee found that the sixteen counties in the eastern part of the state attracted the largest number of visitors.² In 1978, travelers spent \$328 million in East Tennessee, one-fifth of the total amount spent in the state.³ Tourism is also important in the other states of the study area. Five of the seven counties specializing in recreational trade in North Carolina are in the study area. Tourists spent \$600 million in North Carolina in 1972. In South Carolina, the bulk of the tourism is in the coastal areas, but parks in the northwestern corner of the states received more than one hundred thousand out-of-state visitors in 1978. Visitors spent \$1.7 billion in South Carolina in 1978. Tourism is also an important part of Kentucky's economy. Out-of-state tourists spent \$175 million in

¹Knoxville Tourist Bureau, East Tennessee's 1978 Tourist Season, 31st Annual Survey (Knoxville: The University of Tennessee, 1978), p. 17; East Tennessee Development District, Tourism Resources Report (Knoxville: East Tennessee Development District, 1976), p. 1.

²Donald A. Boyd, Frank T. Murrell, Paul R. Lowry, Estimating Outdoor Recreation Use-Patterns for Tennessee State Parks (Memphis: Bureau of Business and Economic Research, 1974), p. 1.

³Knoxville Tourist Bureau, East Tennessee's 1978 Tourist Season, 31st Annual Survey, p. 17.

Kentucky in 1974, and tourism has been increasing at double the national average rate.⁴

Not only are environmental amenities touted in tourism promotions, but The University of Tennessee Public Relations Office cites them as an asset through a public relations film.⁵ Additionally, the university's admission officers praise the amenities when prospective students and their parents ask what kinds of recreational opportunities are available in the Knoxville area.⁶

One of the attractive features of the study area is the variety of recreation facilities. There are more than fifty state recreation areas, including state parks, state forests, and state wildlife management areas. Federal recreation areas include a national park, seven national forests, and three national historic sites. Recreation facilities on area lakes are provided by the Tennessee Valley Authority and the Army Corps of Engineers. Also, more than ten commercial river outfitters and more than seven commercial ski resorts are in the vicinity of

⁴James W. Clay, Douglas M. Orr, Jr., Alfred W. Stuart, eds., North Carolina Atlas—Portrait of a Changing Southern State (Chapel Hill: The University of North Carolina Press, 1975), pp. 217, 301; South Carolina Division of Research and Statistical Services, South Carolina Statistical Abstract, 1979 (Columbia: South Carolina Division of Research and Statistical Services, 1979), pp. 179-181; and P. P. Karan and Cotton Mather, eds., Atlas of Kentucky (Lexington: The University Press of Kentucky, 1977), p. 152.

⁵Interview with Bob Gilbert, The University of Tennessee Public Relations Officer, 20 January 1981.

⁶Interview with Lucy Hamilton, The University of Tennessee Admissions Officer, 28 October 1980.

Knoxville. The recreation areas offer virtually any type of outdoor activity from pleasure driving to snow-skiing.⁷

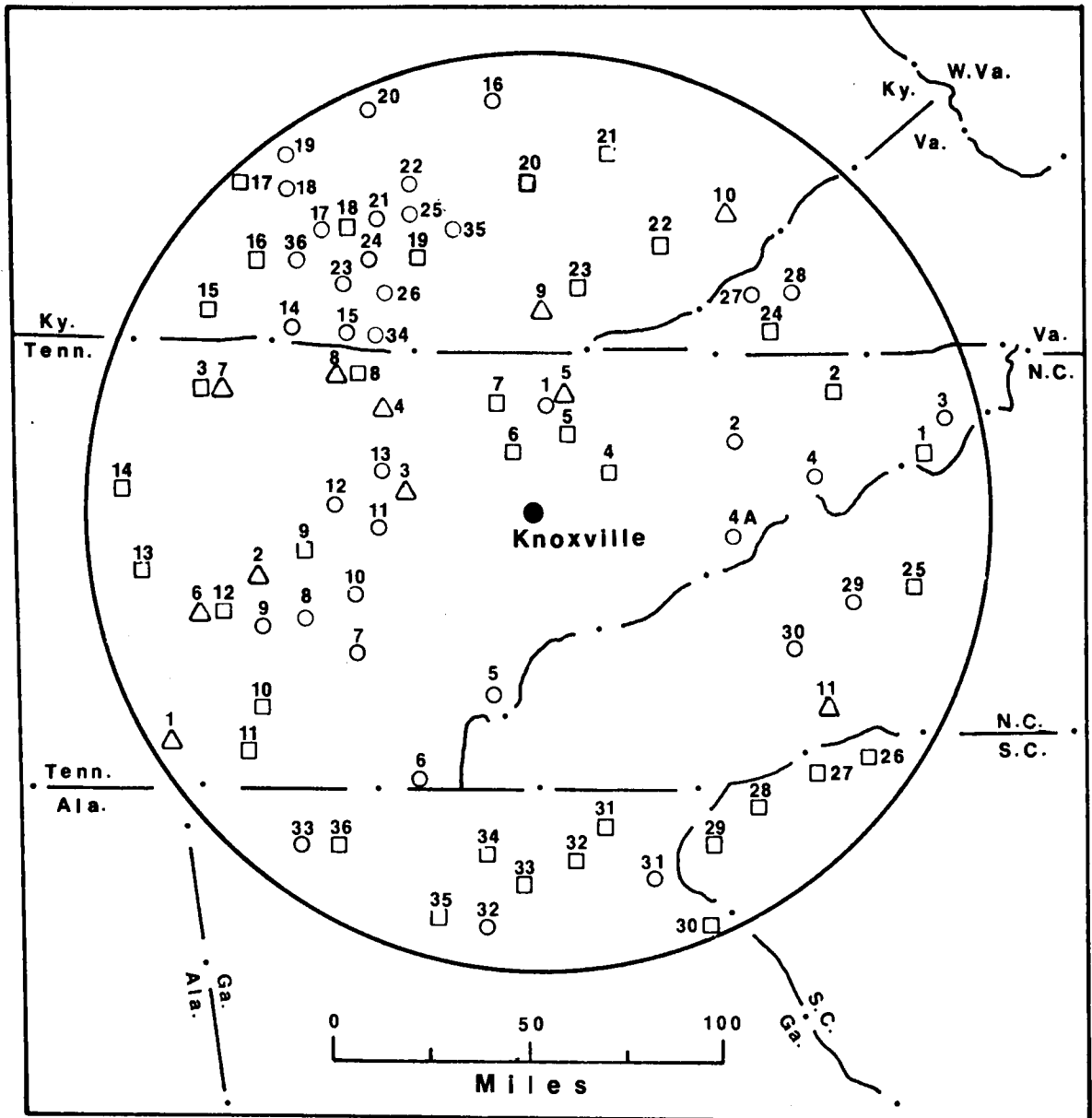
I. STATE RECREATION AREAS

Within 120 miles of Knoxville are eighty-four state recreation areas—thirty-six in Tennessee, twenty-seven in Kentucky, three in Virginia, four in North Carolina, four in South Carolina, and ten in Georgia (Figure III-1).⁸ State parks are most numerous, followed in number by state wildlife management areas and state natural areas. The other types of state recreation areas are state forests, state scenic rivers, and state historic sites.

The state recreation areas generally offer camping, fishing, swimming, boating, picnicking, and hiking. Special facilities available

⁷Tennessee Department of Conservation, Master Plan for the Tennessee Outdoor Recreation Area System (Nashville: Tennessee Department of Conservation, August, 1974), pp. 140, 145, 152; National Park Service, Index—National Park System and Related Areas as of June 30, 1979 (Washington, D.C.: United States Department of Interior, 1979); Rand McNally and Company, Rand McNally Road Atlas (New York, San Francisco: Rand McNally and Company, 1980), pp. 22, 37, 72, 88, 91, 98; Tennessee Valley Authority, Recreation on TVA Lakes (Knoxville: Tennessee Valley Authority, January, 1974).

⁸Rand McNally and Company, Rand McNally Road Atlas, pp. 27, 37, 72, 88, 91, 98; Tennessee Department of Conservation, Master Plan for the Tennessee Outdoor Recreation Area System, p. 91; Virginia Department of Highways and Transportation, Virginia Official State Highway Map—1979 (Richmond: Virginia Department of Highways and Transportation, 1979); Kentucky Department of Public Information, Camping in Kentucky—1978 Camping Directory (Frankfort: Kentucky Department of Public Information, 1978); Kentucky Department of Public Information, Kentucky Official Highway and Parkway Map (Frankfort: Kentucky Department of Public Information, 1978); North Carolina Department of Transportation, 1978-79 North Carolina Highway Map (Raleigh: North Carolina Department of Transportation).



- 1 - State Parks
- △ 2 - State Forests
- 3 - Other State Areas

Figure III-1. State Recreation Areas.

Source: Rand McNally and Company, Rand McNally Road Atlas, pp. 22, 37, 72, 88, 91, 98; Kentucky Department of Public Information, Kentucky Official Highway and Parkway Map and Camping in Kentucky—1978 Camping Directory; and Virginia Department of Highways and Transportation, Virginia Official State Highway Map—1979.

Key
State Recreation Areas

STATE PARKS

Tennessee

1. Roan Mountain
2. Warriors Path
3. Standing Stone
4. Panther Creek
5. Big Ridge
6. Norris Dam
7. Cove Lake
8. Pickett
9. Cumberland Mountain
10. Harrison Bay
11. Booker T. Washington
12. Fall Creek Falls
13. Rock Island
14. Edgar Evins

Kentucky

15. Dale Hollow
16. Lake Cumberland
17. Green River Lake
18. General Burnside
19. Cumberland Falls
20. Levi Jackson Wilderness Road
21. Buckhorn Lake
22. Kingdom Come
23. Pine Mountain

Virginia

24. Natural Tunnel

North Carolina

25. Mount Mitchell

South Carolina

26. Pleasant Ridge
27. Table Rock
28. Keowee-Toxaway
29. Oconee

Georgia

30. Tugaloo
31. Black Rock Mountain
32. Moccasin Creek
33. Unicoi
34. Vogel
35. Amicalola Falls
36. Fort Mountain

STATE FORESTS

Tennessee

1. Prentice-Cooper
2. Bledsoe
3. Mount Roosevelt
4. Lone Mountain
5. Chuck Swan
6. Fall Creek Falls
7. Standing Stone
8. Pickett

Kentucky

9. Kentucky Ridge
10. Kentenia

North Carolina

11. Holmes

OTHER STATE AREAS

Tennessee

1. Check Swan Wildlife Management Area
2. Davy Crockett Birthplace Park
3. Laurel Fork Wildlife Management Area
4. Unicoi Wildlife Management Area

Figure III-1 (continued)

OTHER STATE AREAS—Tennessee (continued)

- 4A. Andrew Johnson Wildlife Management Area
5. Tellico Wildlife Management Area
6. Ocoee Wildlife Management Area
7. Hiwassee State Scenic River
8. Savage Gulch State Natural Area
9. Cumberland Springs Laurel-Snow State Natural Area
10. Ozone Falls State Natural Area
11. Stinging Fork State Natural Area
12. Honey Creek State Natural Area
13. Frozen Head State Natural Area

Kentucky

14. Grider Hill Recreation Area
15. Wolf River Recreation Area
16. Central Kentucky Wildlife Management Area
17. Kendall Recreation Area
18. Wolf Creek Recreation Area
19. Holmes Bend and Pike Ridge
20. Lake Lorraine
21. Cave Creek
22. Cumberland Point
23. Fishing Creek
24. Omega Campground
25. Waitsboro Ferry
26. Fall Creek Recreation Area
34. Big South Fork of the Cumberland State Scenic River
35. Rockcastle State Scenic River
36. Cumberland Fork State Scenic River

Virginia

27. Southwest Virginia Museum
28. High Knob Recreation Area

North Carolina

29. Thomas Wolfe Memorial
30. Zebulon B. Vance Birthplace

Georgia

31. Traveler's Rest
32. Dahlonega Courthouse Gold Museum
33. Chief Vann House

only at specific recreation areas include resort inns, golf courses, boat marinas, bike trails, restaurants, and rental cottages.⁹ The highest attended Tennessee state recreation areas are the parks, particularly Warriors Path, Fall Creek Falls, Harrison Bay, Norris Dam, Standing Stone, and Pickett State Parks.¹⁰ State parks are more developed than state forests, wildlife management areas, historic sites, and natural areas. Fall Creek Falls, Norris Dam, and Pickett are the closest parks to the university and probably have the highest use by students.

II. FEDERAL RECREATION AREAS

The eighteen national recreation areas within 120 miles of Knoxville include seven national forests, one national park, one national parkway, one national military park, one national historic park, two national historic sites, one wild and scenic river, two national river and recreation areas, and one national scenic trail (Figure III-2).¹¹ The highest attended national recreation areas in the study area are the Blue Ridge Parkway, the Great Smoky Mountains National Park, and the Chickamauga and Chattanooga National Military Park.¹²

⁹Ibid.

¹⁰Center for Business and Economic Research, The University of Tennessee, 1977 Tennessee Statistical Abstract (Knoxville: Center for Business and Economic Research, The University of Tennessee, July 1977), p. 328.

¹¹National Park Service, Index—National Park System and Related Areas as of June 30, 1979.

¹²United States Department of Commerce, Bureau of the Census, Statistical Abstract of the United States, 100th ed., p. 240.

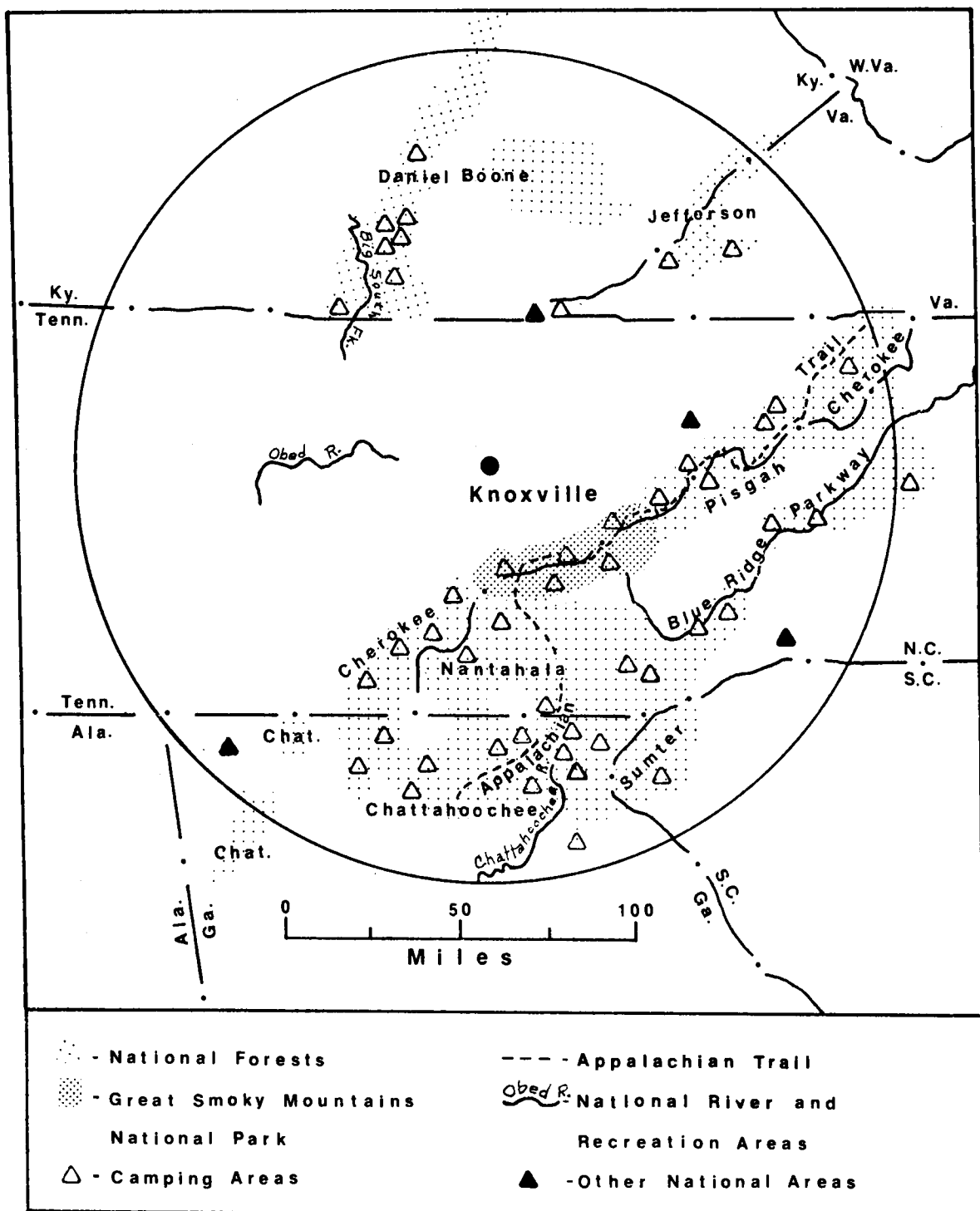


Figure III-2. Major Federal Recreation Areas.

Source: National Park Service, Index—National Park System and Related Areas as of June 30, 1979; and Rand McNally and Company, Rand McNally Road Atlas, pp. 22, 37, 72, 88, 91, 98.

The Great Smoky Mountains National Park is the most developed federal recreation area and offers the greatest variety of activities. The park has a visitor's center, camp sites, hiking trails, picnic sites, and magnificent scenery. Other attractions of the Smokies are Cades Cove, Gatlinburg, and the Appalachian Trail. In Cades Cove buildings of the original settlers of the mountains are preserved. Gatlinburg, Tennessee is a town nestled in the Smokies and surrounded by the national park. It has motels, restaurants, and dozens of tourist gift shops. Ober Gatlinburg is a ski resort above the city. Three ski slopes are available along with a restaurant, ice-skating rink, disco, and an alpine slide. The Appalachian National Scenic Trail is a 2,000-mile footpath from Mount Katahdin in Maine to Springer Mountain in Georgia. Approximately 400 miles of the trail pass through the study area. Numerous trail shelters and side trails are along the route.¹³

The national forests are not intensively developed, but they have many camping areas. Forty-two camping sites are in the national forests in the study area. The greatest numbers of sites are in North Carolina, Georgia, and Tennessee (Figure III-2).¹⁴

¹³The Appalachian Trail Conference, Suggestions for Appalachian Trail Users, 7th ed. (Washington, D.C.: The Appalachian Trail Conference, 1970); The Appalachian Trail Conference, Inc., The Appalachian Trail (Harper's Ferry: The Appalachian Trail Conference, Inc., 1973); The Appalachian Trail Conference, Inc., The Appalachian Trail—Publication No. 17—A Series of Ten Guidebooks (Harper's Ferry: The Appalachian Trail Conference, Inc., 1972).

¹⁴United States Department of Commerce, Bureau of the Census, Statistical Abstract of the United States, 100th ed., p. 241; Rand McNally and Company, Rand McNally Road Atlas, pp. 22, 37, 73, 88, 91, 98.

Numerous lakes in the study area were created by the Tennessee Valley Authority and the United States Army Corps of Engineers (Figure III-3). One of the objectives of the Tennessee Valley Authority when it was established in the 1930's was to improve the "economic and social well-being of the people living in the . . . river basin."¹⁵ The development of the recreational resources in the Tennessee River Valley was a part of this objective. The Tennessee Valley Authority developed recreational resources by building dams and creating reservoirs. The only recreational facilities provided by the agency are lake access areas and boat ramps. Some of the areas have restrooms and picnic tables.¹⁶ Chickamauga, Nickajack, Watts Bar, Cherokee, Fort Loudoun, Douglas, Wautauga, South Holston, Melton Hill, and Norris are ten of the sixteen Tennessee Valley Authority reservoirs in the study area. Chickamauga, Nickajack, Watts Bar, and Douglas receive the highest public usage in Tennessee.¹⁷

The Army Corps of Engineers also develops recreation areas by building dams and creating reservoirs. Rarely are the dams built specifically to develop a recreational resource. The Corps has developed more facilities at its recreation sites than the Tennessee Valley Authority. Seven Army Corps of Engineers campgrounds are in the study

¹⁵House of Representatives Bill #5081, Section 23 cited by Henry Billings, All Down the Valley (New York: The Viking Press, 1952), p. 80.

¹⁶Tennessee Valley Authority, Recreation on TVA Lakes.

¹⁷Center for Business and Economic Research, 1977 Tennessee Statistical Abstract, p. 321.

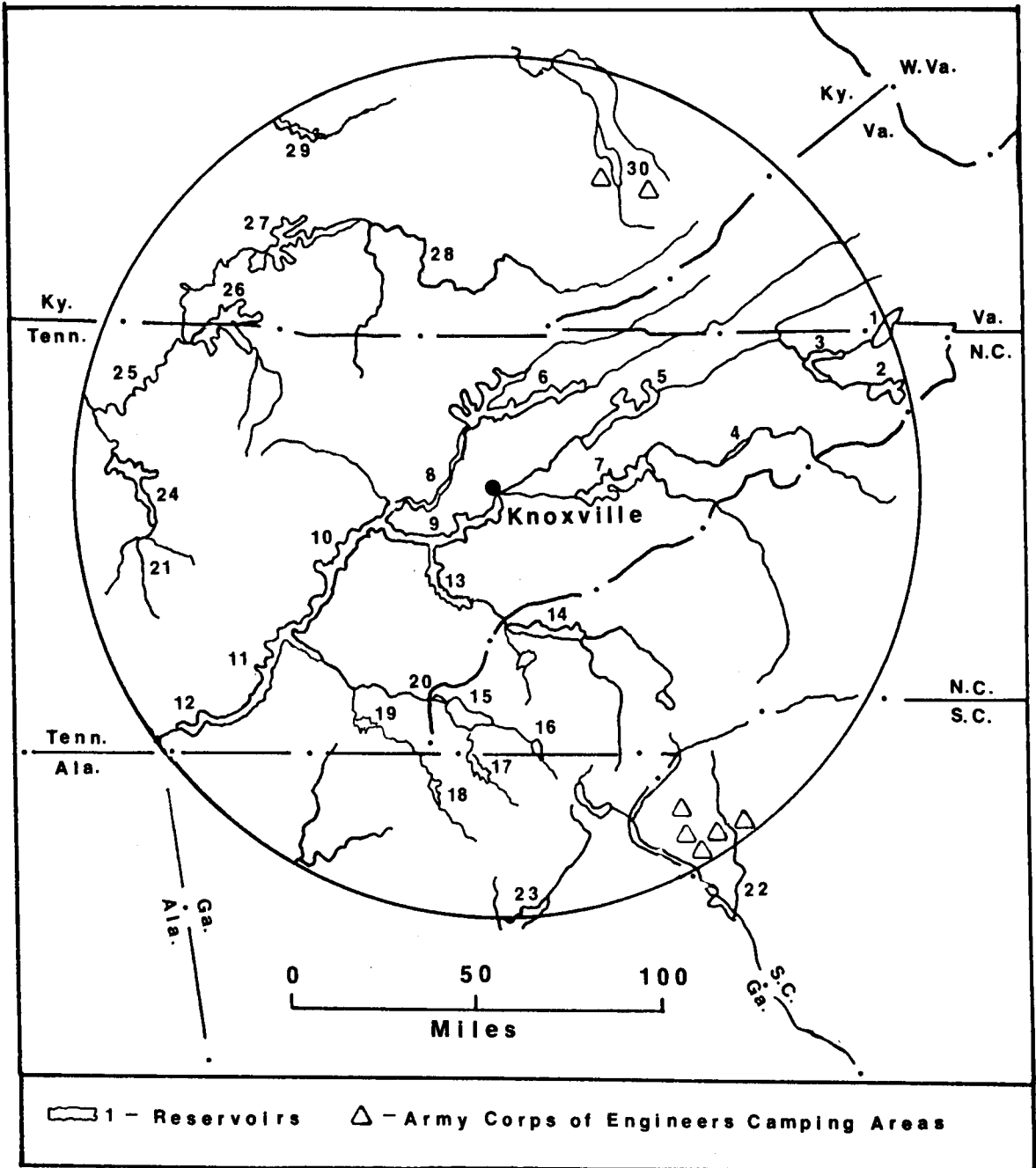


Figure III-3. Other Federal Recreation Areas.

Source: Tennessee Valley Authority, Recreation on TVA Lakes.

Key
Other Federal Recreation Areas

TENNESSEE VALLEY
AUTHORITY RESERVOIRS

Tennessee

1. South Holston
2. Wautauga
3. Fort Patrick Henry
4. Davy Crockett
5. Cherokee
6. Norris
7. Douglas
8. Melton Hill
9. Fort Loudoun
10. Watts Bar
11. Chickamauga
12. Nickajack
13. Tellico
19. Parksville
20. Appalachia
21. Great Falls

North Carolina

14. Fontana
15. Hiwassee
16. Chatuge

Georgia

17. Nottely
18. Blue Ridge

ARMY CORPS OF ENGINEERS
RESERVOIRS

Tennessee

24. Center Hill
25. Cordell Hull
26. Dale Hollow

Kentucky

27. Lake Cumberland
28. Laurel
29. Green River
30. Buckhorn

South Carolina

22. Hartwell

Georgia

23. Buford

Figure III-3 (continued)

area, two in Kentucky and five in South Carolina. The campgrounds have restrooms, boat ramps, and picnic tables.¹⁸

III. COMMERCIAL RECREATION AREAS

The creation of lakes stimulates commercial development of recreation facilities. In the study area are more than 150 commercial boat docks on Tennessee Valley Authority lakes. Some of the dock enterprises have a restaurant or snack bar, lodging, and camp sites in addition to dock facilities.¹⁹ Another type of commercial recreational development stimulated by lakes is private campgrounds. Numerous private campgrounds are in the study area, but campgrounds are not totally dependent on the natural environment as are other types of private commercial recreation developments such as whitewater river outfitters and ski resorts. More than ten whitewater river outfitters are in the Knoxville area. Four commercial river outfitters are on the Nolichucky River; nine on the Ocoee; four on the Hiwassee; three on the Chattooga; five on the French Broad; five on the Nantahala; and one each is on the Sequatchie, Tuckasegee, Cumberland, and Little Tennessee. Several books are available describing the rivers and their locations, class difficulties, and put-in points.²⁰

¹⁸Kentucky Department of Public Information, Camping in Kentucky; South Carolina Division of Tourism, South Carolina Camping.

¹⁹Tennessee Valley Authority, Recreation on TVA Lakes.

²⁰Sam Venable, "Looking for a River Tour? Forty-Six Trips Are Available from the Peaceful Sequatchie to the Rip Snorting Ocoee," The Knoxville News-Sentinel, 23 April 1978; Michael W. Mayfield, Tennessee Whitewater (Knoxville: Southeastern Brochure and Book Press,

Another commercial recreation activity is snow skiing. Eight ski resorts are within and several are just outside the study area (Figure III-4). One ski resort is in Tennessee, six in North Carolina, and one in Georgia. Three of the ski resorts in North Carolina are adjacent to Boone, North Carolina, which is just beyond the study area.²¹

Environmental amenities, especially recreational opportunities, are abundant in the study area. The degree to which environmental amenities actually influence student decisions to attend The University of Tennessee is discussed in the following chapter.

1979); East Tennessee Whitewater Club—Tennessee Scenic Rivers Association —Tennessee Valley Authority, Obed-Emory Canoe Trails (Knoxville: Tennessee Valley Authority, 1978).

²¹Rand McNally and Company, Rand McNally Road Atlas, pp. 22, 37, 73, 88, 91, 98; James W. Clay, Douglas M. Orr, Jr., Alfred W. Stuart, eds., North Carolina Atlas, p. 296.

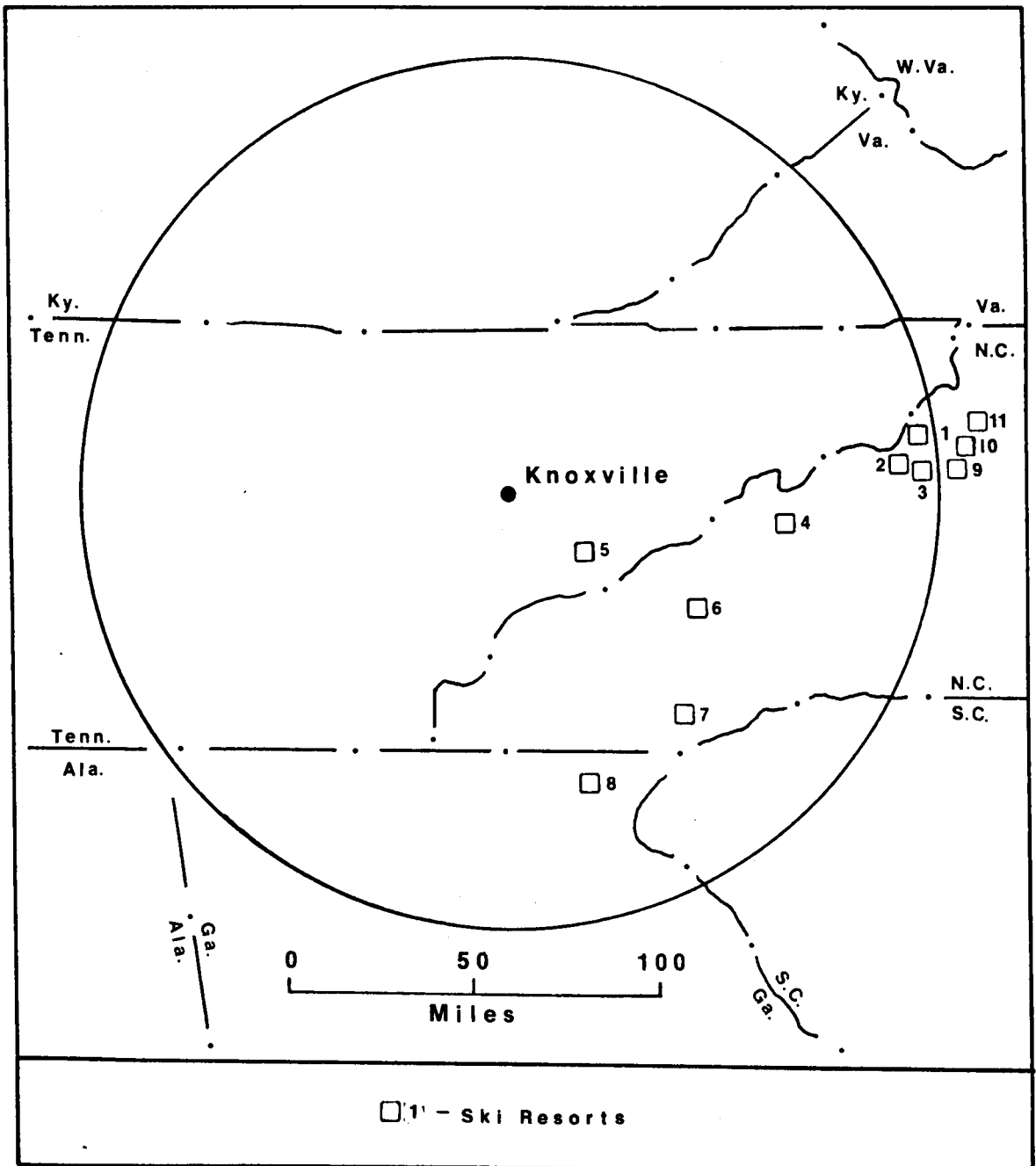


Figure III-4. Ski Resorts.

Source: Rand McNally and Company, Rand McNally Road Atlas, pp. 22, 37, 72, 88, 91, 98.

Key
Ski Resorts

Tennessee

5. Ober Gatlinburg

North Carolina

1. Beech Mountain
2. Sugar Mountain
3. Seven Devils
4. Wolf Laurel
6. Cataloochee
7. Sapphire Valley
9. Mill Ridge
10. Hounds Ear
11. Appalachian Ski Mountain

Georgia

8. Sky Valley

Figure III-4 (continued)

CHAPTER IV

THE EFFECT OF ENVIRONMENTAL AMENITIES ON STUDENT MIGRATION PATTERNS

The two previous chapters discussed the features of The University of Tennessee, Knoxville and the abundance of environmental amenities in the vicinity of Knoxville. This chapter analyzes the data from the questionnaire that was distributed to university freshmen to assess the influence of environmental amenities in decisions to attend the university.

The first section of the questionnaire, questions one through seventeen, sought to discover the underlying reasons for student decisions to attend the university. Results are discussed first for all respondents collectively and then by regions of the United States. Section two examined familiarity of students with and their use of recreation areas. The results are presented for all respondents and then are analyzed by dividing the students into two groups: those who rated environmental amenities "very important" and those who rated environmental amenities "unimportant." Section three of the questionnaire examined the significance of academic reputation and financial aid in student decisions to attend Tennessee.

Several terms, which pertain to the rating system in the first section of the questionnaire, are employed in the analysis. "Unimportant" refers to the combined total of ratings one and two, and "very important" refers only to rating five.

Questionnaires were mailed to 659 freshmen between April 18 and 22, 1980 (Appendix). Although 659 questionnaires were mailed, the actual pool of freshmen, out-of-state students was 517. Two hundred and two, 34 percent, of the questionnaires were returned.

Ohio, Georgia, Florida, New Jersey, Virginia, and Kentucky had the largest numbers of students who responded to the questionnaire (Table IV-1). Ohio, Georgia, North Carolina, Virginia, Florida, New Jersey, New York, Kentucky, Illinois, South Carolina, Alabama, and West Virginia each contributed at least 2 percent of the freshmen migrants. The response rate was 20 percent or higher for all of these states except West Virginia. The response rate by state, however, was not coincident with freshmen migrant population by state. The states with high student response rates were Idaho, Missouri, and Louisiana, but each had a small freshmen migrant population.

I. STUDENT REASONS FOR ATTENDING TENNESSEE

The first section of the questionnaire examined student rationale for attending The University of Tennessee. An average score was computed for each question.¹ The higher the score, the higher the frequency of a reason as significant in decisions to attend the university. The five most important reasons were: (1) academic reputation, (2) desire to

¹The rating levels were weighted to compute an average score. Rating 5 had 5 times its frequency total, rating 4 had 4 times its total continuing down to rating 1, which had 1 times its total. The frequency totals were summed per question and divided by 176 to acquire the average score for each question.

Table IV-1. Questionnaire Response by State

State	Migrant Population	Questionnaires Mailed	Number Responding	Percentage of Response
Alabama	19	18	8	44.4
Arkansas	4	2	0	0.0
Arizona	1	1	0	0.0
California	6	2	0	0.0
Colorado*	2	1	2	50.0
Connecticut	5	4	1	25.0
Delaware	4	4	2	50.0
Florida	56	51	16	31.4
Georgia	72	58	17	29.3
Idaho	1	1	1	100.0
Illinois	23	21	9	42.9
Indiana	11	11	4	37.3
Iowa	1	1	0	0.0
Kentucky	30	24	10	41.7
Louisiana	10	9	6	66.7
Maine	1	1	0	0.0
Maryland	10	10	4	40.0
Massachusetts	3	3	1	33.3
Michigan	21	18	5	27.8
Minnesota	2	2	0	0.0
Mississippi	6	4	1	25.0
Missouri	3	3	2	66.7
Nebraska	2	2	0	0.0
New Hampshire	1	1	0	0.0
New Jersey	31	31	15	48.4
New York	31	30	9	30.0
North Carolina	71	29	8	27.6
Ohio	73	66	27	40.9
Pennsylvania	18	17	9	47.1
South Carolina	22	11	3	27.3

Table IV-1 (continued)

State	Migrant Population	Questionnaires Mailed	Number Responding	Percentage of Response
Virginia	69	54	11	20.4
West Virginia	19	18	5	27.8
Wisconsin	2	2	0	0.0
Totals	636	517	176	34.0

*One student had an Indiana home address but resided in Colorado.

N = 176

live away from home, (3) social atmosphere, (4) tuition costs, and (5) size of the student body (Table IV-2). The next five reasons were: (1) influence of family, (2) climate of East Tennessee, (3) scenery and topography of East Tennessee, (4) recreational opportunities, and (5) location of the university.

The ten reasons can be grouped into five general factors:

(1) academic, (2) personal, (3) social, (4) financial, and (5) environmental amenity (Table IV-3). Three of the five general factors—academic, social, and financial—are directly related to the university. Tennessee's academic reputation was the most influential factor in student decisions to attend. Under this general factor, a low American College Testing median freshmen score and the wide variety of major programs, probably, were significant. The social factor was second. Size of the student body was significant to many students. The sports reputation of the university and the recreation programs were also parts of the social atmosphere. The financial factor was third. The university's low tuition costs were important to student migrants.

Additionally, student migrants were influenced by the environmental amenities of the Knoxville area. The climate, the scenery, the recreational opportunities, and the location of the university were more important to them than the Tennessee Valley Authority lakes and the mountains.

The findings of this study are similar to those of three previous studies (Table IV-4).² Fairweather found that academic reputation,

²Malcolm Fairweather, "The University of Oklahoma and Oklahoma State University: A Factorial-Spatial Analysis of Their Undergraduate

Table IV-2. Rank of Questions 1-17 by Average Score

Question	Average Score	Rank by Average Score
1. Closeness of UT to home	2.45	14
2. Desire to live away from home	3.52	2
3. Influence of family	2.90	6
4. Influence of friends	2.14	16
5. Academic reputation of UT	3.73	1
6. Social atmosphere at UT	3.36	3
7. Size of UT student body	3.09	5
8. Tuition costs at UT	3.32	4
9. Cost-of-living in Knoxville	2.30	15
10. Possibility of financial aid	2.59	12
11. Possibility of a job in the South	2.54	13
12. Location of UT	2.71	9
13. Rivers and TVA lakes	1.63	17
14. Closeness of mountains to UT	2.69	11
15. Climate of Knoxville area	2.84	7
16. Scenery and topography of East Tennessee	2.78	8
17. Number of recreational opportunities	2.71	9

Table IV-3. Reasons for Attending The University of Tennessee,
Knoxville Grouped by Factor

Factors
Reasons
I. Academic
1. Academic Reputation of the University
II. Personal
1. Desire to Live Away from Home
2. Influence of the Family
III. Social
1. Importance of the Social Atmosphere
2. Size of the University
IV. Financial
1. Tuition Costs of the University
V. Environmental Amenity
1. Climate of the Knoxville Area
2. Scenery and Topography of East Tennessee
3. Recreational Opportunities

Table IV-4. Reasons Underlying Student Decisions in Choice of an Institution of Higher Learning

Fairweather	Richards and Holland	Bowers and Pugh
1. Academic Reputation	1. Academic Phenomena	1. Social & Cultural
2. Live Away from Home	2. Practicality	2. Financial
3. Social Atmosphere	3. Advice	3. Informal Advice
4. Costs	4. Social Atmosphere	4. Geographic Location
5. Family Recommendations	5. Religious Emphasis	5. Academic
6. Campus	6. Size of a College	6. Formal Advice

desire to live away from home, tuition costs, and the social atmosphere were the four most important reasons in the selection of a university. Bowers and Pugh identified six factors in the choice of a college. Four of the six were the same as those ranked important by The University of Tennessee freshmen migrants—social and cultural, financial, personal, and academic. Richards and Holland's study found six factors underlying student decisions in choice of a college. Three of the six were also important to freshmen migrants at The University of Tennessee—academic phenomena, social atmosphere, and size of a college. The three previous studies did not investigate the importance of environmental amenities in selections of an institution of higher learning.

It is more realistic not to separate the reasons of choice but to view them as interrelated. One reason alone is not usually overwhelming in a student's decision to attend the university. The questionnaire presents the reasons separately, but they must be examined as a whole. The importance of each reason, however, does isolate itself when student reasons for deciding to come to the university are analyzed by region.

Regional Analysis

The United States was divided into three regions for the analysis. The Midwest region is an eight state area from Minnesota to Missouri to

Distribution" (Ed.D. Dissertation, Oklahoma State University, 1974); T. A. Bowers and R. C. Pugh, A Comparison of Factors Underlying College Choice by Students and Parents (Educational Research Institute Center Reports ED-062-936, April, 1972); and James M. Richards, Jr. and John L. Holland, A Factor Analysis of Student "Explanations" of The Choice of a College (American College Testing Research Reports, No. 8, American College Testing Program, 1965).

Ohio. The Northeast region consists of ten states from Maine to Virginia, and the South is a twelve state region that includes Louisiana, Arkansas, Kentucky, West Virginia, and Virginia.³ The West region was excluded because of the small number of students at Tennessee from the region.

Regional differences exist in priorities of reasons to migrate (Table IV-5). All the respondents were very strongly influenced by the university's academic reputation, the desire to live away from home, and the social atmosphere at the university. Also, all respondents felt essentially the same about the importance of the possibility of a job in the South, the Tennessee Valley Authority lakes, and the number of recreational opportunities. The interesting differences were among students from the South, the Northeast, and the Midwest in their ratings of the importance of other reasons for attending The University of Tennessee.

Northeasters and Midwesterners were unconcerned about the closeness of the university to their home. This lack of concern is reasonable because the students would not have come to the university if proximity were important. It also makes sense that Southerners are concerned about the nearness of the university. If it were not important, the Southerners might have attended a university in a different region

³The states of the regions used in the study are: (1) Midwest: Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin; (2) Northeast: Connecticut, Delaware, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; (3) South: Alabama, Arkansas, Florida, Georgia, Louisiana, Mississippi, North Carolina, Kentucky, South Carolina, Tennessee, Virginia, and West Virginia.

Table IV-5. Rank of Questions 1-17 by Average Score by Region

Question	South		Northeast		Midwest	
	Rank	Score	Rank	Score	Rank	Score
1. Closeness of UT to home	9	2.5	16	3.0	13	2.5
2. Desire to live away from home	2	3.2	3	3.8	1	3.7
3. Influence of family	6	2.9	7	3.1	11	2.7
4. Influence of friends	16	2.0	14	2.2	14	2.4
5. Academic reputation of UT	1	3.5	2	3.9	1	3.7
6. Social atmosphere at UT	3	3.0	4	3.4	4	3.5
7. Size of UT student body	3	3.0	5	3.3	6	3.1
8. Tuition costs at UT	3	3.0	1	4.0	5	3.2
9. Cost-of-living in Knoxville	12	2.3	9	2.7	15	2.3
10. Possibility of financial aid	7	2.7	12	2.6	13	2.1
11. Possibility of a job in the South	9	2.5	13	2.5	11	2.7
12. Location of UT	11	2.4	9	2.7	10	2.8
13. Rivers and TVA lakes	17	1.3	17	1.7	16	2.1
14. Closeness of mountains to UT	7	2.7	14	2.2	6	3.1
15. Climate of Knoxville area	12	2.3	6	3.2	3	3.6
16. Scenery and topography of East Tennessee	14	2.2	8	2.9	8	3.0
17. Number of recreational opportunities	14	2.2	9	2.7	8	3.0

of the country. Regional differences also exist with respect to the questions of the importance of the influence of family and the influence of friends. Southerners and Northeasterners rated the influence of the family high, but Midwesterners rated neither high. Northeasterners and Southerners may have relatives or friends living in the Knoxville area or may have relatives and friends who are familiar with East Tennessee. Additionally for Southerners, parents might have wanted their children to be close to home.

Other regional differences exist in the importance of tuition expenses and in the significance of the cost-of-living in Knoxville. Tuition expenses are important to student migrants from all three regions, but Northeasterners rated tuition as the most important reason in their decisions to attend the university. The cost-of-living in Knoxville was also rated high in importance by Northeasterners. As was discussed in Chapter II, tuition and cost-of-living are lower in the South than in the Northeast. Southerners rated financial aid more important than did students from the other two regions. Because tuition expenses are relatively equal among Southeastern universities, a scholarship, fellowship, or loan at The University of Tennessee may be the critical factor in a student's decision to come to Knoxville.

Another regional difference is the importance of environmental amenities. Midwesterners were most influenced by environmental amenities (Table IV-6, Figure IV-1). Michigan had the greatest percentage of Midwestern respondents who rated environmental amenities "very important," 60 percent. Illinois was second with 56 percent, Missouri

Table IV-6. Percentage of Respondents Who Rated Environmental Amenities "Very Important"

Region—State	Percentage
<u>Midwest</u>	
Michigan	60.0
Illinois	55.6
Missouri	50.0
Ohio	25.9
<u>Northeast</u>	
New Jersey	26.7
Maryland	25.0
Pennsylvania	22.2
New York	11.1
<u>South</u>	
Mississippi	100.0
South Carolina	66.7
Kentucky	30.0
West Virginia	20.0
Florida	18.8
Georgia	17.6
Louisiana	16.7
North Carolina	12.5
Alabama	12.5
Virginia	9.1

N = 42

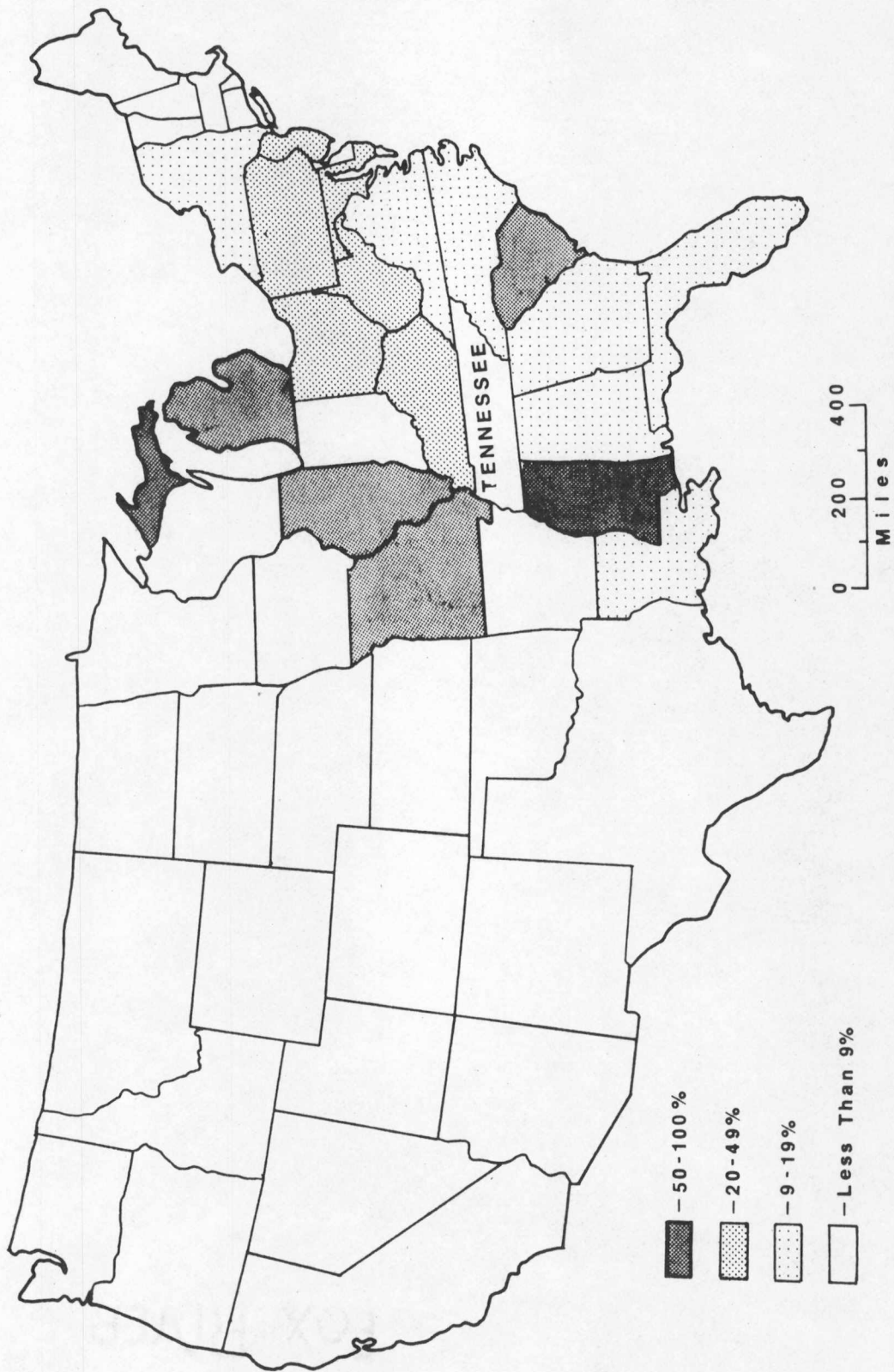


Figure IV-1. Percentage of Respondents Who Rated Environmental Amenities "Very Important." Intervals Were Selected from Natural Breaks in the Data.

had 50 percent, and Ohio had 26 percent. Environmental amenities are significant to Northeasterners also. Twenty-seven percent of the respondents from New Jersey, 25 percent from Maryland, and 22 percent from Pennsylvania rated environmental amenities "very important." Except for the mountains, Southerners rated environmental amenities lower in importance than did students from the other two regions. Although Southerners are least influenced by environmental amenities, 30 percent of the respondents from the South thought that environmental amenities were "very important."

The climate and the scenery of the Knoxville area were the two most significant environmental amenities to Northeasterners and Midwesterners. It seems that the Southerners take the climate and the scenery for granted. The climate is not radically different among the states of the South, but it is quite different between the Northeast and the South and between the Midwest and the South. More Southern migrants live in physiographic regions that are similar to the study area than do Midwesterners or Northeasterners. Southerners do not consider scenery an environmental amenity because their home areas are similar to Knoxville.

Decisions of students to attend The University of Tennessee because they perceived the Knoxville area as physically attractive supports Deavers belief that migration to the Southeast is influenced by environmental amenities.⁴ But was migration high from the states that

⁴Kenneth L. Deavers cited by Grover Heiman, "Where Americans Are Moving Now," Nation's Business 66 (February, 1978):43.

had 20 percent or more of the students rating environmental amenities "very important"? Three of the five states with 50 percent or more of the respondents rating environmental amenities "very important" had freshmen migrant populations of twenty or more students during the Winter Quarter, 1980. For those states with 20 to 49 percent of the respondents rating environmental amenities "very important," five of the six states had migrant populations of eighteen or more students during the Winter Quarter, 1980. The seven states with less than 20 percent of the respondents rating environmental amenities "very important" had freshmen populations at Tennessee ranging from ten to seventy-one. Migration, then, is not greater for those states with a high percentage of respondents rating environmental amenities "very important."

II. STUDENT FAMILIARITY WITH AND USE OF RECREATION AREAS

Were freshmen who rated environmental amenities as "very important" or "unimportant" familiar with and did they use recreation areas? Questions eighteen through twenty-five assessed student familiarity with and use of environmental amenities in the vicinity of Knoxville.

Student Familiarity with Recreation Areas

Fifty-seven percent of 176 students who responded to the questionnaire indicated that they were familiar with recreation areas (Table IV-7). Forty-seven percent knew about state recreation areas, 81 percent were familiar with the Great Smoky Mountains National Park and other federal

recreation areas, and 45 percent were familiar with rivers and the Tennessee Valley Authority reservoirs.

Table IV-7. Familiarity of Respondents with Recreation Areas

Type of Area	Yes	Percent	No	Percent	No Response	Percent
State Area	82	46.6	94	53.4	0	0.0
Federal Areas	142	80.7	34	19.3	0	0.0
Rivers & TVA Lakes	79	45.1	96	54.9	1	0.005
Averages	101	57.4	74.6	42.4	0.33	0.002

N = 176

Familiarity with recreation areas differed for students who ranked environmental amenities "very important" and those who indicated that they were "unimportant" in their decisions to attend the university. Students who rated environmental amenities "very important" were much more familiar with recreation areas (Tables IV-8 and IV-9). Seventy-four percent of the students who rated environmental amenities "very important" were familiar with recreation areas compared to only 47 percent of the students who rated environmental amenities "unimportant."

Chi squared analyses between questions one through seventeen and questions eighteen through twenty determined if any statistically significant relationships existed between student reasons to attend Tennessee and familiarity with recreation areas (Table IV-10).⁵

⁵The null hypothesis was that no relationships existed between the data compared. A critical limit of .05 was chosen for rejection of the hypothesis, i.e., only a 5 percent chance of error exists in rejecting

Table IV-8. Familiarity with Recreation Areas (Respondents Who Rated Environmental Amenities "Very Important")

Type of Area	Familiar With	Percent	Not Familiar With	Percent
State Areas	29	69%	13	31%
Federal Areas	38	90	4	10
Rivers & TVA Lakes	26	62	16	38
Averages	31	74	11	26

N = 42

Table IV-9. Familiarity with Recreation Areas (Respondents Who Rated Environmental Amenities "Unimportant")

Type of Area	Familiar With	Percent	Not Familiar With	Percent
State Areas	17	32%	36	68%
Federal Areas	40	75	13	25
Rivers & TVA Lakes	18	34	35	66
Averages	25	47	28	53

N = 53

Table IV-10. Relationships between Student Reasons to Attend The University of Tennessee, Knoxville and Familiarity with Recreation Areas

Relationships	Chi Squared	Significance
1. As the Importance of Academic Reputation Increases, Familiarity with State and Recreation Area Decreases.	10.9	0.027
2. As the Importance of Rivers and TVA Lakes Decreases, Familiarity with State Recreation Areas Decreases, Familiarity with Federal Recreation Areas Decreases, and Familiarity with Rivers and TVA Lakes Decreases.	16.0 11.2 23.9	0.003 0.024 0.000
3. As the Importance of the Mountains Decreases, Familiarity with State Recreation Areas Decreases, Familiarity with Federal Recreation Increases, and Familiarity with Rivers and TVA Lakes Decreases.	11.7 11.2 10.5	0.019 0.024 0.033
4. As the Importance of the Scenery of East Tennessee Decreases, Familiarity with State Recreation Areas Decreases, and Familiarity with Rivers and TVA Lakes Decreases.	13.6 12.2	0.009 0.016
5. As the Importance of Recreational Opportunities Decreases, Familiarity with State Recreation Areas Decreases, Familiarity with Federal Recreation Areas Decreases, and Familiarity with Rivers and TVA Lakes Decreases.	15.8 13.2 9.5	0.003 0.010 0.049
6. As the Importance of the Desire to Live Away from Home Increases, Familiarity with Federal Recreation Areas Increases.	12.7	0.013

Relationships existed between academic reputation, the desire to live away from home, the importance of rivers and Tennessee Valley Authority lakes, the closeness of the mountains, the scenery, and the number of recreational opportunities with respondent familiarity with state and federal recreation areas. As the importance of academic reputation increased, respondent familiarity with state recreation areas decreased, and as the importance of the desire to live away from home increased, respondent familiarity with federal recreation areas increased. Because academic reputation and the desire to live away from home were ranked number one and two in importance among student reasons to attend Tennessee, the relationships show that the majority of respondents were more familiar with federal recreation areas than state recreation areas. As the importance of rivers and Tennessee Valley Authority lakes decreased, the closeness of the mountains decreased, the scenery decreased, and the recreational opportunities decreased, respondent familiarity with state recreation areas and rivers and Tennessee Valley Authority lakes decreased, while familiarity with federal recreation areas increased. The relationships show the overwhelming respondent familiarity with federal recreation areas compared to state recreation areas and rivers and lakes, even when environmental amenities were not an important influence in migrant decisions to attend the university. However, some of these students indicated environmental amenities influenced them

the null hypothesis when it should have been accepted. If the significance was between .05 and .00, the relationship was statistically significant, and the null hypothesis was rejected.

to attend Tennessee, but the recreational opportunities with which they were familiar were the federal recreation areas. Essentially, the respondents were saying that of the environmental amenity of recreational opportunities, the federal recreation areas were more influential in decisions to attend Tennessee. Do these relationships also indicate that students used federal recreation areas more because they were familiar with them?

Student Use of Recreation Areas

Students who responded to the questionnaire visited six federal recreation areas and eight state areas (Table IV-11). The respondents were most familiar with the federal areas and had used them the most (Table IV-12). The Great Smoky Mountains National Park had been visited more than any other recreation area. Of the federal recreation areas, the Great Smoky Mountains National Park is closest to The University of Tennessee, has a national image, and has a variety of recreational opportunities. The national forests were essentially unimportant (Table IV-11). Cherokee, the closest to the university and the one most frequently used, had been visited by only 5 percent of the freshmen respondents.

Student use of state recreation areas was relatively insignificant. Three percent of the students had actually visited a state park, and all of the parks that had been used by the respondents were in Tennessee. Norris Dam and Fall Creek Falls state parks were the ones with the greatest frequency of use. Norris Dam is the closest state park to the

Table IV-11. Recreation Areas Visited by Respondents

Recreation Areas	Number of Respondents Who Had Visited Areas	Percentage of Respondents Who Had Visited Areas
<u>Federal Recreation Areas</u>		
Great Smoky Mountains National Park	95	54.0%
Cherokee National Forest	8	5.0
Pisgah National Forest	4	2.3
Nantahala National Forest	3	1.7
Cherokee Indian Reservation	1	0.5
Blue Ridge Parkway	1	0.5
<u>State Recreation Areas</u>		
Fall Creek Falls State Park	5	3.0%
Norris Dam State Park	3	1.7
Big Ridge State Park	2	1.1
Hiwassee State Scenic River	2	1.1
Frozen Head State Natural Area	1	0.5
Tellico Wildlife Management Area	1	0.5
Savage Gulf State Natural Area	1	0.5
Warriors Path State Park	1	0.5

N = 176

university, and Fall Creek Falls has a greater variety of scenic attractions and recreation facilities than other state parks.

Table IV-12. Number of Visits to Recreation Areas (Students Who Rated Environmental Amenities "Very Important")

Type of Area	Number of Students	Number of Visits			
		1-3	4-6	7-10	Over 10
State Areas	15	10	1	2	2
Federal Areas	38	26	6	2	4

N = 42

Differences in use of recreation areas existed between students who rated environmental amenities "very important" and those who rated them "unimportant." Besides being more familiar with recreation areas, the students who rated environmental amenities "very important," had used a wider variety of types and their frequency of use was greater (Tables IV-12 and IV-13). Students who rated environmental amenities "very important" had visited five national areas and five state areas, but those who rated environmental amenities "unimportant" had visited only three federal recreation areas and two state parks.

Table IV-13. Number of Visits to Recreation Areas (Students Who Rated Environmental Amenities "Unimportant")

Type of Area	Number of Students	Number of Visits			
		1-3	4-6	7-10	Over 10
State Areas	7	4	2	2	0
Federal Areas	38	30	5	1	2

N = 53

Chi squared analyses were also performed between questions one through seventeen and questions twenty-one and twenty-two to determine if any statistically significant relationships existed between student reasons in deciding to attend Tennessee and student use of state and federal recreation areas (Table IV-14). Respondents who rated environmental amenities "unimportant" had rarely used state recreation areas but had used federal recreation areas. It has been stated that respondents were more familiar with federal recreation areas, and the chi squared relationships also show that students have used federal recreation areas much more than state recreation areas. Respondents who said environmental amenities influenced them to attend the university indicated that once they arrived here, they did not use a variety of recreation areas, only federal recreation areas.

It appears that students have a general image of the recreation areas in the Knoxville vicinity and use only the areas with which they are familiar, mainly the Great Smoky Mountains National Park and other federal recreation areas. Increased knowledge of recreation areas increases use of them. Students who rated environmental amenities "very important" may have made an effort to become familiar with the areas.

Activities Participated in by Respondents

The activities participated in most by the freshmen students were hiking, snow skiing, camping, mountain climbing, and swimming (Table IV-15). The frequency of participation was highest for boating, water skiing, hiking, hunting, and fishing. Forty-two percent of the students were willing to drive forty to eighty miles for a day's outing, and 39 percent

Table IV-14. Relationships between Student Reasons to Attend The University of Tennessee, Knoxville and Use of Recreation Areas

Relationships	Chi Squared	Significance
1. As the Importance of a Job in the South Decreases, Use of State Recreation Areas Decreases.	10.9	0.028
2. As the Importance of the Location of UT Decreases, Use of State Recreation Areas Decreases.	30.1	0.000
3. As the Importance of Rivers and TVA Lakes Decreases, Use of State Recreation Areas Decreases, and Use of Federal Recreation Areas Increases.	24.4 13.7	0.000 0.008
4. As the Importance of the Closeness of the Mountains Decreases, Use of State Recreation Areas Decreases, and Use of Federal Recreation Areas Increases.	46.5 9.3	0.000 0.054
5. As the Importance of the Climate Decreases, Use of State Recreation Areas Decreases.	11.8	0.019
6. As the Importance of the Scenery Decreases, Use of State Recreation Areas Decreases.	28.7	0.000
7. As the Importance of Recreational Opportunities Decreases, Use of State Recreation Areas Decreases.	31.0	0.000
8. As the Importance of the Family Increases, Use of Federal Recreation Areas Decreases.	10.3	0.036
9. As the Importance of the Social Atmosphere Increases, Use of Federal Recreation Areas Decreases.	10.2	0.037

Table IV-15. Activities Participated in by Respondents

Activity	Number of Respondents	Percent	Average Number of Times, Sept. 1979—April 1980
Hiking	77	43.8	2.8
Snow Skiing	48	27.3	2.1
Camping	42	23.9	1.1
Mountain Climbing	40	22.7	1.8
Swimming in Lake or River	37	21.0	2.4
Backpacking	27	15.3	1.7
Boating & Canoeing	19	10.8	2.5
Caving	19	10.8	1.4
Water Skiing	16	9.1	2.5
Fishing	16	9.1	2.3
Hunting	5	2.8	2.4
Scuba Diving	1	0.5	1.0

N = 176

indicated that they would go 150 miles for an overnight or weekend outing (Table IV-16). This finding supports the size study area that was chosen. The activities for which students were willing to drive 150 miles were camping, snow skiing, hiking, backpacking, water skiing, and boating and canoeing (Table IV-17). Students drive farther for these activities because of the location of the hiking trails, ski resorts, and camping areas. The activities engaged in by students who indicated that environmental amenities were "very important" and those who considered them "unimportant" in their decisions to enroll at Tennessee were identical except for water skiing (Tables IV-18 and IV-19). The students who rated environmental amenities "very important" had participated in fewer activities, but the frequency of participation was greater. Only a slight difference existed in distances that the two groups of students were willing to drive for recreation. Both groups preferred to drive forty to eighty miles for a day's outing. The students who rated environmental amenities "very important" were willing to drive farther for an overnight or weekend outing.

Table IV-16. Distances Students Would Drive to Engage in Recreational Activities

Miles	Day Outing	Percent	Overnight or Weekend Outing	Percent
0-40	52	29.5	6	3.4
41-80	74	42.0	25	14.2
81-150	30	17.0	59	33.5
Over 150	12	6.8	70	39.8

N = 176

Table IV-17. Activities for Which Students Would Drive 150 Miles

Activity	All Respondents (N = 176)	Respondents Rating Environmental Amenities	
		"Very Important" (N = 42)	"Unimportant" (N = 53)
Backpacking	29	8	6
Boating & Canoeing	81	23	21
Hiking	35	10	9
Camping	60	16	19
Snow Skiing	68	16	24
Water Skiing	27	3	12
Mountain Climbing	17	6	6
Caving	16	5	3
Scuba Diving	15	6	2
Hunting	11	1	3
Fishing	16	5	5
Swimming in Lake or River	22	6	10

Table IV-18. Activities Participated in by Students Who Rated Environmental Amenities "Very Important"

Activity	Number of Respondents	Percent	Average Number of Times, Sept. 1979—April 1980
Hiking	17	40.5	3.9
Camping	17	40.5	1.8
Swimming in Lake or River	17	40.5	3.9
Snow Skiing	15	35.7	3.1
Mountain Climbing	13	31.0	2.5
Backpacking	10	23.8	1.3
Fishing	7	16.7	3.6
Boating & Canoeing	6	14.3	4.6
Caving	6	14.3	3.7
Hunting	2	4.8	3.5

N = 42

Table IV-19. Activities Participated in by Students Who Rated Environmental Amenities "Unimportant"

Activity	Number of Respondents	Percent	Average Number of Times, Sept. 1979—April 1980
Hiking	41	77.4	2.1
Snow Skiing	36	67.9	3.6
Camping	23	43.4	1.9
Mountain Climbing	19	35.8	1.9
Backpacking	16	30.2	3.2
Caving	6	11.3	1.0
Swimming in Lake or River	5	9.4	1.3
Water Skiing	5	9.4	2.5
Fishing	3	5.7	1.5
Hunting	2	3.8	2.0
Boating & Canoeing	1	1.9	1.1

N = 53

III. ACADEMIC REPUTATION AND FINANCIAL AID

The last section of the questionnaire, questions twenty-seven through thirty-one, was intended to discover if the decision to come to Tennessee because of academic reputation was influenced because a student was rejected by other universities, or if he came because financial aid was offered only by Tennessee.

Academic Reputation

Academic reputation was the most important reason in student decisions to attend Tennessee. Was academic reputation important to students because they were accepted at Tennessee and not at other universities to which they applied? All respondents applied to home-state schools or other out-of-state schools and were accepted at one or more of the universities to which they applied. Fifty-one percent of the respondents applied and were accepted at home-state universities, and 66 percent were accepted at other out-of-state universities. The importance of academic reputation in decisions to come to Tennessee, therefore, was not affected significantly by out-of-state students not being accepted at home-state schools or other out-of-state schools.

There was essentially no difference between the two groups of students. Fifty-two percent of the respondents who rated environmental amenities "very important" were accepted at in-state and at other out-of-state schools. Fifty-four percent of the students who rated environmental amenities "unimportant" applied and were accepted at home-state universities, and 51 percent applied and were accepted at out-of-state colleges besides The University of Tennessee.

Financial Aid

Students were not affected by being accepted only by The University of Tennessee, but did offers of financial aid only from Tennessee affect student decisions to attend? Students were asked if they received offers of financial aid from home-state schools, out-of-state schools, and The University of Tennessee. The majority of responding students did not receive offers of aid from any college at which they were accepted. Twenty-one percent of the respondents received offers of aid from home-state schools, 19 percent received offers of aid from out-of-state universities, and 31 percent received offers of aid from The University of Tennessee. Ten percent more students were offered aid by Tennessee than by other universities. The factor of financial aid only from Tennessee may have affected decisions of a few students to attend the university, but it appears so slight that the effect can be regarded as negligible. Nor was financial aid a deciding factor in student decisions to attend the university for the two groups of students. However, the students who rated environmental amenities "unimportant" received approximately twice the number of offers of aid as the students who rated environmental amenities "very important."

IV. CONCLUSION

According to the 176 responding students, environmental amenities were of secondary importance in decisions to attend Tennessee. Although environmental amenities were secondary to other factors, they still affected migration patterns to the university. Forty-two migrants,

24 percent of the respondents, believed that environmental amenities were of primary importance.

Respondents believed that environmental amenities influenced their decisions to come to Tennessee, but once they were in Knoxville only a small percentage of them took advantage of the variety of recreational opportunities. The image of the Knoxville area differed among respondents from various regions. Northeasterners and Midwesterners had a positive image of the Knoxville area, but Southerners had a neutral or a negative image. It seems the migrants have a perception of the Knoxville area related to a mythical image of mountains. The image is obvious from the respondents' familiarity with the Great Smoky Mountains National Park but not with other federal and state recreation areas.

A hierarchy exists in the importance of factors in student decisions to attend the university. The five factors—academic, personal, social, financial, and environmental amenity—were interrelated, and each contributed in affecting student decisions to attend Tennessee.

CHAPTER V

CONCLUSION

Environmental amenities and their effects on permanent movements have been studied, but there is a lack of studies of the effects of environmental amenities on student migrations. This study investigated the influence of environmental amenities on student migrations to The University of Tennessee, Knoxville. According to the responding students, environmental amenities are of secondary importance in student decisions to attend the university. However, environmental amenities did influence student decisions to attend and, therefore, do affect the migration patterns to the university.

Migrants have a mythical image of the environmental amenities of East Tennessee. The image is exemplified by the contrasting perceptions of the environmental amenities among migrants from different regions of the United States and also by the respondents' familiarity with and use of environmental amenities in the vicinity of Knoxville. Respondents from the Midwest and Northeast had very positive images of the environmental amenities of the Knoxville area while Southerners had a neutral or negative image of the amenities. In the hierarchy of student reasons to attend the university, environmental amenities were much more important to Midwesterners and Northeasterners than Southerners. Respondents indicated that environmental amenities influenced their decisions to attend, but most of the respondents were familiar only with federal recreation areas, mainly the Great Smoky Mountains National

Park. The subsequent use of recreation areas was almost entirely of the national park. The respondents' image of environmental amenities was mythical because it focuses on the mountains when there was a variety of other state, federal, and commercial recreation areas.

The climate of eastern Tennessee is also part of the mythical image of environmental amenities. Northeasterners and Midwesterners have a very favorable image of the climate, but Southerners do not. The climate is warmer in the South compared to the Northern section of the United States, but it is not ideal. Knoxville receives cold weather and snow in the winter, and it can be very hot and humid in the summer. For many Southern migrants, the climate is not considered better than the places from which they come.

Other studies of migration have demonstrated how people have certain perceptions of a region. In Evanko's study of New York students' perceptions of regions, the Northeast and West Coast had positive images because of such things as climate and recreational opportunities while the Southeast had a negative image because of climate, politics, and low standard of living.¹ Gould and White, in a study of images of regions by persons in different parts of the United States, found that the South and the Great Plains were negatively regarded by the respondents overall, but the respondents from Alabama had a negative image of the North.²

¹Fay Evanko, "An Application of Canonical Correlation in Explaining Residential Preference Differentials in the U.S." (Ph.D. Dissertation, University of Washington, Seattle, 1973) cited by Larry M. Svart, "Environmental Preference Migration: A Review," The Geographical Review 66 (July, 1976):316.

²Peter Gould and Rodney White, Mental Maps (Baltimore: Penguin Books, Inc., 1974), pp. 93-118.

Because of the differences in the freshmen respondents, a hierarchy of the importance of factors in student decisions existed by region. The decision process for students coming to Tennessee seems to be one in which students decide they want to attend an out-of-state university which has a reasonable academic reputation, a good social atmosphere, is not expensive, and has a good location with respect to environmental amenities. To the responding students of the study, the attractive features of the university were more important than the environmental amenities of the Knoxville area.

A direct implication of the study is that The University of Tennessee Admissions Officers might benefit by incorporating more discussion of the environmental amenities in the Knoxville area in their presentations to prospective students. Most people are concerned with personal recreation. Advertising recreational opportunities in admissions presentations increases a prospective student's knowledge of the Knoxville area in general and increases the accuracy of a prospective student's perception of an area. If environmental amenities are important in influencing students to attend the university, then the more the students know about the environmental amenities, the more the students may be influenced to attend the university.

Regional economic theory has been the base for behavioral studies of migration. Interregional migration is attributed to an individual's search for economic opportunity outside his home area. Regional economic theory is not directly applicable to student migrations at The University of Tennessee, but it is an important facet of the movements. Students are concerned about the economics of attending Tennessee.

The study did not provide evidence to devise a theory of environmental preference migration. However, it did provide further evidence that environmental amenities do influence migration and should be considered as a factor in interregional migration.

Further studies of the effects of environmental amenities on student migrations or permanent migrations are hesitantly suggested. It is very difficult to assess the actual importance of environmental amenities in a person's decision to migrate, especially after the movement has occurred.

To acquire a better measure of the importance of environmental amenities in migration, migrants should be questioned about the factors influencing their movement before they migrate. How do people in different sections of the United States perceive other regions? Has the perception of regions changed in the last ten-to-twenty years? Are there certain regions of the United States where environmental amenities are very important to migrants? Additional behavioral and perceptual studies of migration would undoubtedly increase an understanding of migration.

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APPENDIX

QUESTIONNAIRE

Using the scale below, rate how important each reason was in your decision to attend The University of Tennessee. Circle the number which best represented your feelings when you were deciding whether or not to attend the university.

No Importance	Low Importance	Neutral	Moderate Importance	High Importance
1	2	3	4	5

1. How important was the closeness of UT to your home in your decision to attend UT? 1 2 3 4 5
2. Did your desire to live away from home influence you to choose UT? 1 2 3 4 5
3. To what extent did the influence of your family affect your decision to attend UT? 1 2 3 4 5
4. To what extent did the influence of friends affect your decision to attend UT? 1 2 3 4 5
5. How important was the academic reputation of UT in your decision to attend UT? 1 2 3 4 5
6. How important was your impression of the social atmosphere here at UT in your decision to attend UT? 1 2 3 4 5
7. How important was the size of the UT student body in your choice of UT? 1 2 3 4 5
8. To what extent were UT's tuition costs important in your decision to attend UT? 1 2 3 4 5
9. How important was the cost-of-living in Knoxville in your decision to attend UT? 1 2 3 4 5
10. To what extent was the possibility of financial aid important in your decision to attend UT? 1 2 3 4 5
11. To what extent did the possibility of a future job in the Southeast influence you to decide to attend UT? 1 2 3 4 5

12. How important was the location of UT in East Tennessee or the Southeast in your decision to attend UT? 1 2 3 4 5
13. Were the numerous TVA lakes and rivers near UT important in your decision to attend UT? 1 2 3 4 5
14. To what extent did the closeness of the mountains affect your decision to attend UT? 1 2 3 4 5
15. To what extent did the temperate climate of Knoxville influence your decision to attend UT? 1 2 3 4 5
16. Was the scenery and topography of Tennessee and the Southeast important in your decision to attend UT? 1 2 3 4 5
17. To what extent were the numerous recreation opportunities (hiking, canoeing, etc.) within 150 miles of UT important in your decision to attend UT? 1 2 3 4 5
18. Did you know of the numerous Tennessee state parks, state forests, and other state recreation areas near UT before you decided to attend UT?

Yes _____

No _____

19. Did you know the Great Smoky Mountains National Park, several national forests, and other national recreation areas were within 150 miles of UT before deciding to attend UT?

Yes _____

No _____

20. Did you know of the numerous TVA lakes and rivers in Tennessee and the Southeast before deciding to attend UT?

Yes _____

No _____

21. Have you visited any state parks or other state recreation areas within 150 miles of UT since attending UT?

Yes _____

No _____

- 21a. If you said yes, what areas have you visited _____

and how many times have you used these areas?

- A. 1-3 times B. 4-6 times C. 7-10 times D. More than 10 times

22. Have you visited the Great Smoky Mountains National Park or any other national recreation areas within 150 miles of UT since attending UT?

Yes _____

No _____

- 22a. If you said yes, what national recreation areas have you used beside the Great Smoky Mountains National Park _____

and how many times have you used these areas?

A. 1-3 times B. 4-6 times C. 7-10 times D. More than 10 times

23. What recreation activities have you participated in since attending UT which are within 150 miles of UT, and how many times have you engaged in these activities?

Activity	Number of times participated in		Number of times participated in
A. Backpacking	_____	J. Caving	_____
B. Canoeing	_____	K. Scuba Diving	_____
C. Kayaking	_____	L. Sailing	_____
D. Hiking	_____	M. Other Boating	_____
E. Camping	_____	N. Hunting	_____
F. Downhill Snow Skiing	_____	O. Fishing	_____
G. Cross-Country Skiing	_____	P. Swimming in	_____
H. Water Skiing	_____	lake or river	_____
I. Mt. Climbing	_____	Q. None of the above	_____
		R. Other	_____

24. How far are you willing to drive to do any one of the above activities? (Circle one answer for A and one for B)

A. For a Day Outing

B. For an Overnight or Weekend Outing

1. 0-40 miles

1. 0-40 miles

2. 41-80 miles

2. 41-80 miles

3. 81-150 miles

3. 81-150 miles

4. More than 150
miles

4. More than 150
miles

25. For which activities are you willing to drive 150 miles to participate in? (Refer to the list of activities with question 23)

26. What is your home(permanent)state, city, and county of residence?
-

27. How many institutions did you apply to in your home state?

A. 0 B. 1 C. 2 D. Over 2

and at how many of these institutions were you accepted?

A. 0 B. 1 C. 2 D. Over 2

28. Were you offered financial aid or assistance from the institutions in your home state at which you applied and were accepted?

Yes _____ No _____

29. How many institutions did you apply to outside of your home state and besides UT?

A. 0 B. 1 C. 2 D. Over 2

were your offered financial aid from these other institutions at which you applied and were accepted?

Yes _____ No _____

30. Were you offered financial aid or assistance from UT?

Yes _____ No _____

31. Are there any colleges or universities within 150 miles of UT at which you applied and were accepted?

If you said yes, what was the deciding factor or factors in choosing to attend UT?

VITA

Carolyn Elizabeth Jenks was born in Oak Ridge, Tennessee on February 16, 1954. She attended the public schools in Oak Ridge and graduated from Oak Ridge High School in June, 1972. In August of 1972, she entered Middle Tennessee State University and graduated with a Bachelor of Science degree in Physical Education in December 1975.

After working with the Chromalox manufacturing plant in Murfreesboro, Tennessee for four months, she attended Draughon's Business College in Knoxville, Tennessee for nine months in the Computer Programmer option.

In July 1977, she accepted a job with the Oak Ridge National Laboratory as a research assistant until entering graduate school at The University of Tennessee, Knoxville in September 1978. She received a Master of Science degree in Geography in August, 1981.