

# 2013 UNC Campus Commuting Survey

**Prepared For:**

**THE DEPARTMENT OF PUBLIC SAFETY**

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## I. Introduction

In 1997, the University commissioned its first study of campus commuting patterns. The purpose of the study was to survey both students and employees about the various travel modes they used to commute to campus, as well as their origins and destinations. The data gathered was used to help the UNC Department of Transportation and Parking and the Town of Chapel Hill plan for University and Town transportation needs. This study was repeated in 2001, 2004, 2007, 2009, and 2011, and is now completed every other year.

In 2013, the University again surveyed the campus community to determine how campus commuting patterns have changed over the last two years. This new study provides comprehensive information about the current state of campus commuter behavior and characteristics, makes comparisons to the 1997, 2001, 2004, 2007, 2009, and 2011 studies where possible and relevant, and offers analysis of trends in the data and the implications of these trends for on-campus and off-campus decision makers.

The report is divided into several sections: a brief explanation of the study's methodology, a chapter detailing employee commuting patterns, a chapter detailing student commuting patterns, and finally a discussion of major findings. Two appendices are also included.

The 1997 study was completed by UNC Department of City and Regional Planning students Matt Raimi and Joe DiStafano under the direction of then-transportation planner Raymond Magyar. The 2001 study was completed by UNC Department of City and Regional Planning student Patrick McDonough under the direction of transportation planner Deborah Freed. The original 1997, 2001, 2004 and 2007 reports are available from the UNC Department of Public Safety. The 2004, 2007, 2009, and 2011 studies were conducted by Larry Mayes, Director of Assessment with the UNC Office of Institutional Research and Assessment, at the request of Associate Vice Chancellor for Campus Services Carolyn Elfland. The 2013 survey was conducted by the UNC Office of Institutional Research and Assessment, and the results were tabulated and analyzed by the consulting firm, VHB, P.C.

## II. Methodology

The study was based on results of a survey of a random sample of UNC-Chapel Hill faculty, staff, and students, as well as UNC Hospitals' employees. Development of the questionnaire, the sampling techniques used, response rates obtained, and analyses conducted are described below.

### The Survey Questionnaire

The questionnaire used in the current study was originally developed for the 1997 survey, and has undergone only slight modifications for the 2001, 2004, 2007, 2009, 2011, and 2013 administrations. Designed and pre-tested by Department of Transportation employees in consultation with faculty in the Department of City and Regional Planning, the instrument was intended to be direct, brief, and comprehensive in terms of data collection. Most questions are close-ended and check boxes have been used to make answering these questions simple and efficient. Open-ended questions have been for numerical responses and a few qualitative free responses where respondents list reasons not listed in the survey under "other" in order to describe reasons they do or do not use certain modes to travel to campus.

Separate sections were developed to elicit more detailed information from those who drive and those who take the bus to campus, and the survey directs individuals to appropriate sections of the survey based on their habits. Great care was taken to make sure that the surveys addressed each target audience appropriately (e.g., having students describe their "travel to campus" and employees describe their "journey to work").

The 1997 and 2001 surveys were deployed as a paper-and-pencil questionnaire, and each response had to be manually keyed into an electronic database prior to analysis. To reduce the burden and expense of compiling results, both a web-based version and a hard copy version that could be electronically scanned were developed for use in the 2004, 2007, 2009, 2011, and 2013 studies by Larry Mayes, Director of Assessment with the UNC Office of Institutional Research and Assessment. Copies of the web-based questionnaires for the employees and students are provided in Appendix A.

### Population and Sample

The 2013 study utilized the same methodology for determining sample size as the 1997, 2001, 2004, 2007, 2009, and 2011 studies (see original reports for details). Of the combined population of faculty and staff at the University and UNC Hospitals, a random sample was drawn using employee records obtained from the personnel databases of those organizations. Completed responses totaling 1,496 were received for a response rate of 21%. At a confidence level of 95%, the margin of error for the employee survey is estimated at +/-2.34%. The student population consisted of all undergraduate, graduate, and professional students who lived off-campus during Spring 2013. From this population, a random sample of 7,000 was drawn. A total of 741 completed responses were received for a response rate of 11%. The margin of error for the student survey is +/-3.56% at a confidence level of 95%. The analysis in this report for employees and students considers all respondents who partially or completely filled out the survey, which results in a higher number of respondents than what is shown here—1,713 total employee respondents and 1,180 total student respondents.

### Administration of the Survey

All students and employees in the target sample received an email announcement directing them to the website containing the on-line survey, and one email reminder sent approximately 10 days after the first announcement. The responses went directly to a secured server in the Office of Institutional Research and Assessment. Since email addresses were unavailable for UNC Facilities Services employees, members of the target sample in those organizations received a scannable version of the survey via regular mail. Completed surveys were returned by mail to the Office of Institutional Research and Assessment where they were checked carefully for completeness and to be sure they were filled out correctly before being scanned. No significant difference in response rates was observed between the two methods of data

collection.

Responses collected from both the web-based and scannable form administration methods were combined for the analysis. The results were analyzed using SAS, and Microsoft Excel was used to create the tables and cross-tabulations in this report.

### III. Employee Survey Results

This section presents the travel and mode characteristics reported by the 1,713 University employees and UNC Hospital employees who responded to the survey. Analyses are divided into sections as follows:

- Trip Origins
- Distance and Time to Work
- General Mode Attributes
- Travel Mode Cross-Tabs
- Characteristics of Respondents Who Drive
- Characteristics of Respondents Who Take the Bus
- Description of Survey Respondents

#### Trip Origins

##### County

Forty-one percent of respondents reported living in Orange County, with another 23 percent living in Durham County. In addition, 12 percent reported residing in Wake County, 10 percent residing in Chatham County, and 10 percent residing in Alamance County.

##### City and Town Origins

Chapel Hill, Durham, and Carrboro combined to house 61 percent of UNC employees, up from 53 percent in 2009. This marks the first increase in this percentage since survey inception in 1997. Similarly, the percentage of respondents who reported that they lived in Chapel Hill or Carrboro rose to 39%, after falling from 47 percent to 31 percent from 1997 to 2011. This recent upward trend could have significant transportation impacts.

Table 3.1 Employee City and Town Origins														
City/Town	2013		2011		2009		2007		2004		2001		1997	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Chapel Hill	418	29.7%	593	23.2%	429	28.1%	614	28.1%	479	30.0%	285	33.7%	285	39.8%
Durham	305	21.7%	573	22.4%	317	20.7%	474	21.7%	357	22.4%	164	19.4%	138	19.3%
Carrboro	135	9.6%	190	7.4%	126	8.2%	163	7.5%	118	7.4%	86	10.2%	51	7.1%
Pittsboro	53	3.8%	123	4.8%	89	5.8%	127	5.8%	73	4.6%	40	4.7%	48	6.7%
Hillsborough	56	4.0%	79	3.1%	59	3.9%	104	4.8%	68	4.3%	43	5.1%	29	4.1%
Raleigh	71	5.0%	118	4.6%	70	4.6%	106	4.8%	64	4.0%	32	3.8%	20	2.8%
Mebane	48	3.4%	20	0.8%	48	3.1%	78	3.6%	49	3.1%	28	3.3%	NA	NA
Cary	41	2.9%	95	3.7%	55	3.6%	69	3.2%	47	2.9%	24	2.8%	16	2.2%
Graham	52	3.7%	35	1.4%	50	3.3%	80	3.7%	47	2.9%	24	2.8%	25	3.5%
Apex	28	2.0%	49	1.9%	23	1.5%	46	2.1%	30	1.9%	21	2.5%	NA	NA
Burlington	20	1.4%	70	2.7%	38	2.5%	38	1.7%	34	2.1%	16	1.9%	16	2.2%
Snow Camp	19	1.3%	29	1.1%	22	1.4%	23	1.1%	19	1.2%	11	1.3%	NA	NA
Other towns/cities	162	11.5%	549	21.5%	202	13.2%	264	12.1%	212	13.3%	72	8.5%	88	12.3%
Total Valid Responses	1,408	100%	2,558	100%	1,528	100%	2,186	100%	1,597	100%	846	100%	716	100%
No Response	305		137		75		96		67		29		12	
<b>TOTAL</b>	<b>1,713</b>		<b>2,695</b>		<b>1,603</b>		<b>2,282</b>		<b>1,664</b>		<b>875</b>		<b>728</b>	

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Zip Code

The distribution of employees by zip code shows 33 percent of current employees living in the Chapel Hill zip codes of 27516, 27514, and 27517 up from 25 percent in 2009. In comparison to 1997 survey respondents, there has been a notable decline (14 percent) in employees residing in the 27514 North East Chapel Hill area and only a small decline in employees residing in the West Chapel Hill (27516) area. However, both have increased since 2011.

Table 3.2 Employee Zipcode Origins

Zip Code	2013		2011		2009		2007		2004		2001		1997	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
27516 (W. Chapel Hill)	221	15.7%	279	11.3%	192	13.0%	276	13.1%	165	17.8%	139	17.7%	118	16.5%
27713 (Durham/RTP)	140	9.9%	262	10.6%	132	8.9%	208	9.9%	94	10.1%	54	6.9%	51	7.1%
27514 (NE. Chapel Hill)	120	8.5%	156	6.3%	121	8.2%	181	8.6%	106	11.4%	101	12.8%	163	22.8%
27517 (SE. Chapel Hill)	119	8.4%	168	6.8%	119	8.0%	153	7.3%	94	10.1%	51	6.5%	na	na
27510 (Carrboro)	111	7.9%	157	6.4%	109	7.4%	139	6.6%	62	6.7%	65	8.3%	50	7.0%
27312 (Pittsboro/Chatham Co.)	60	4.2%	140	5.7%	77	5.2%	123	5.8%	45	4.8%	46	5.8%	47	6.6%
27707 (Durham)	52	3.7%	102	4.1%	55	3.7%	102	4.8%	38	4.1%	41	5.2%	36	5.0%
27278 (Hillsborough/Orange Co.)	56	4.0%	118	4.8%	59	4.0%	100	4.7%	37	4.0%	43	5.5%	29	4.1%
27253 (Alamance Co.)	57	4.0%	91	3.7%	56	3.8%	87	4.1%	30	3.2%	21	2.7%	25	3.5%
27302 (Mebane)	47	3.3%	116	4.7%	45	3.0%	74	3.5%	26	2.8%	28	3.6%	18	2.6%
27705 (N. Durham)	42	3.0%	59	2.4%	44	3.0%	48	2.3%	22	2.4%	22	2.8%	21	2.9%
27703 (E. Durham)	22	1.6%	44	1.8%	22	1.5%	32	1.5%	na	na	na	na	na	na
27712 (N. Durham)	16	1.1%	29	1.2%	20	1.4%	27	1.3%	na	na	na	na	na	na
27215 (Burlington)	12	0.8%	42	1.7%	26	1.8%	26	1.2%	na	na	na	na	na	na
27502 (Apex)	21	1.5%	33	1.3%	18	1.2%	25	1.2%	na	na	na	na	na	na
27513 (Cary)	13	0.9%	27	1.1%	21	1.4%	24	1.1%	13	1.4%	16	2.0%	na	na
27704 (Durham)	11	0.8%	28	1.1%	11	0.7%	23	1.1%	11	1.2%	11	1.4%	na	na
27344 (Siler City)	10	0.7%	26	1.1%	27	1.8%	22	1.0%	10	1.1%	na	na	na	na
Total responses for zipcodes with less than 1% of responses	282	20.0%	587	23.8%	327	22.1%	436	20.7%	175	18.9%	149	18.9%	151	21.9%
<b>Total Valid Responses</b>	<b>1412</b>	<b>100%</b>	<b>2464</b>	<b>100%</b>	<b>1,481</b>	<b>100%</b>	<b>2,106</b>	<b>100%</b>	<b>928</b>	<b>100%</b>	<b>787</b>	<b>100%</b>	<b>715</b>	<b>100%</b>
No Response	301		231		122		176		726		44		13	
<b>TOTAL</b>	<b>1,713</b>		<b>2,695</b>		<b>1,603</b>		<b>2,282</b>		<b>1,664</b>		<b>831</b>		<b>728</b>	



**Distance and Time To Work**

**Distance From Home To Work**

From 2011 to 2013, the survey suggests that employees are commuting shorter distances to campus each day. As shown in Table 3.3, the distance categories less than 11 miles have increased, while the distance categories 11 miles or greater have decreased. The percentage commuting greater than 20 miles decreased for the first time since 1997. The number of employees living within a 2-mile radius of campus--the area best served by walking, bicycling, and transit—is the highest since survey inception in 1997, at 11 percent in 2013.

Table 3.3 Employee Home To Work Distance														
Distance	2013		2011		2009		2007		2004		2001		1997	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Less than 2 miles	182	10.8%	198	7.4%	150	9.4%	132	5.8%	101	6.1%	48	5.5%	58	8.0%
2-5 miles	349	20.6%	438	16.3%	338	21.2%	448	19.7%	365	22.1%	223	25.6%	193	26.5%
6-10 miles	418	24.7%	633	23.5%	334	20.9%	424	18.7%	343	20.7%	178	20.4%	138	19.0%
11-20 miles	241	14.2%	457	17.0%	264	16.6%	529	23.3%	363	21.9%	192	22.0%	190	26.1%
Over 20 miles	502	29.7%	964	35.8%	509	31.9%	739	32.5%	482	29.1%	230	26.4%	149	20.5%
<b>Total Valid Responses</b>	<b>1,692</b>	<b>100%</b>	<b>2,690</b>	<b>100%</b>	<b>1,595</b>	<b>100%</b>	<b>2,272</b>	<b>100%</b>	<b>1,654</b>	<b>100%</b>	<b>871</b>	<b>100%</b>	<b>728</b>	<b>100%</b>
No Response	21		5		8		10		10		4		0	
<b>TOTAL</b>	<b>1,713</b>		<b>2,695</b>		<b>1,603</b>		<b>2,282</b>		<b>1,664</b>		<b>875</b>		<b>728</b>	

**Home To Work Travel Time**

The shorter distances from employees’ homes to campus since 2011 are reflected in commuting times. Most notably, there has been a drop in the percentage of respondents reporting a commute of more than 40 minutes from 2011 to 2013, and an increase in the percentage of those reporting travel time of 40 minutes or less. The percentage with commute times greater than 30 minutes has remained higher than 1997 levels every survey year since. Complete travel time results are displayed in Table 3.4.

Table 3.4 Employee Home to Work Time													
Time	2013		2011		2009		2007		2004		2001		
	#	%	#	%	#	%	#	%	#	%	#	%	
1-10 minutes	98	6.4%	117	4.5%	78	5.0%	78	3.5%	76	7.6%	74	9.2%	
11-20 minutes	403	26.3%	602	22.9%	361	23.0%	573	25.5%	302	30.1%	251	31.2%	
21-30 minutes	388	25.3%	664	25.3%	398	25.3%	617	27.5%	251	25.0%	204	25.3%	
31-40 minutes	238	15.5%	399	15.2%	253	16.1%	363	16.2%	140	14.0%	123	15.3%	
More than 40 minutes	404	26.4%	843	32.1%	482	30.7%	613	27.3%	234	23.3%	153	19.0%	
<b>Total Valid Responses</b>	<b>1531</b>	<b>100%</b>	<b>2,625</b>	<b>100%</b>	<b>1,572</b>	<b>100%</b>	<b>2,244</b>	<b>100%</b>	<b>1,003</b>	<b>100%</b>	<b>805</b>	<b>100.0%</b>	
No Response	172		70		31		38		661		70		
<b>Total</b>	<b>1703</b>		<b>2,695</b>		<b>1,603</b>		<b>2,282</b>		<b>1,664</b>		<b>875</b>		

**General Mode Attributes**

This section discusses the travel behavior reported by the responding employees, exploring basic mode characteristics first, then cross-tabulations of mode choice and its relationship to other commuter characteristics.

**Home to Work Travel Modes**

The percentage of respondents who reported driving to work alone at least one day each week has decreased slightly from 68 percent in 2011 to 66 percent in 2013. Several modes have increased substantially in popularity. The percentage using bus (18 percent) is up 6 percentage points since 2011, and is the highest it's been since survey inception in 1997. The percentage reporting bicycling at least once a week (5.2 percent) has nearly doubled since 2011 (2.8 percent), and is also the highest it's been since survey inception in 1997. Those reporting teleworking from home (7 percent) is over three times as high as 2011. The number reporting walking has increased since 2011, but has remained relatively stable since 1997. The relative popularity of several other modes has been fairly stable. The percentage reporting using park and ride (19 percent) dropped only slightly compared to 2011 (20 percent). The percentage of employees reporting carpooling remained at 5 percent since 2011. The 2013 data show continued long-term trends in decreased percentage driving alone and increased percentages utilizing the bus, bicycling, and teleworking from home. See Table 3.5 for complete results.

Table 3.5 Employee Home To Work Travel Modes								
	2013 Data	2011 Data	2009 Data	2007 Data	2004 Data	2001 Data	1997 Data	
Mode	Total	Percent of Total Respondents*						
Drive Alone (not park & ride)	1051	65.6%	67.9%	61.6%	68.7%	69.9%	78.3%	76.9%
Park & Ride	301	18.8%	20.3%	20.5%	17.4%	17.4%	7.8%	5.6%
Bus	287	17.9%	11.5%	16.2%	11.0%	10.1%	9.4%	4.9%
Carpool	85	5.3%	5.0%	6.4%	6.2%	4.7%	7.5%	8.2%
Bicycle	84	5.2%	2.8%	5.0%	4.5%	2.9%	4.8%	3.7%
Dropped off by Friend/Spouse	71	4.4%	4.3%	4.4%	3.7%	6.1%	10.4%	5.5%
Walk	55	3.4%	2.0%	3.8%	3.5%	2.7%	4.1%	2.9%
Telework from Home	116	7.2%	2.3%	4.1%	3.2%	na	na	na
Other	24	1.5%	1.6%	2.3%	2.0%	3.4%	Less than 1%	Less than 1%
Vanpool	22	1.4%	1.1%	1.8%	1.1%	3.4%	Less than 1%	Less than 1%
Motorcycle/Moped	17	1.1%	1.2%	1.0%	1.1%	1.0%	Less than 1%	Less than 1%

\*Often exceeds 100% because many employees use more than one mode to get to campus in any given week.

**Mode Use Frequency**

Almost 70 percent of employees use the same mode to get to work five or more days per week. See Table 3.6 for detailed results.

Mode	Number of Days Used					Mode Total	Percent of Total Respondents *
	1	2	3	4	5+		
Drive Alone (not park & ride)	50	107	56	79	759	1051	65.6%
Park & Ride	9	6	25	31	230	301	18.8%
Carpool	5	13	8	0	59	85	5.3%
Vanpool	0	0	0	2	20	22	1.4%
Bus	8	17	30	25	207	287	17.9%
Motorcycle/Moped	2	0	1	1	13	17	1.1%
Walk	6	4	3	2	40	55	3.4%
Bicycle	7	11	7	1	58	84	5.2%
Dropped off by Friend/Spouse	12	9	6	3	41	71	4.4%
Telework from Home	52	41	5	6	12	116	7.2%
Other	1	4	2	2	15	24	1.5%

\*Often exceeds 100% because many employees use more than one mode to get to campus in any given week.

**Route to Campus**

Of the commuters who reported driving alone to get to campus, the major routes used to get to campus are shown below in Table 3.7. The most frequent major route used was NC 54 E from the I-40 / Raleigh direction, which was used by a little over a quarter of the respondents. Martin Luther King Blvd (NC 86 N) was used by over 18 percent of respondents. US 15-501 N, US 15-501 S, and NC 54 W Bypass were used by between 12 and 14 percent of respondents.

	Count	Percent
NC 86 N Mlk Blvd (from Hillsborough direction)	192	18.3%
US 15-501 N (from I-85 Durham direction)	126	12.0%
US 15-501 S (from Pittsboro direction)	150	14.3%
NC 54 E (from Raleigh / I-40 direction)	268	25.6%
NC 54 W Bypass (from Graham/Mebane direction)	140	13.4%
W Franklin (from Carrboro direction)	42	4.0%
E Franklin (from Durham direction)	44	4.2%
Other	85	8.1%
<b>Total</b>	<b>1047</b>	<b>100.0%</b>

## **Travel Mode Cross-Tabs**

To develop a more complete picture of employees' travel choices, home to work travel modes were analyzed against several variables to identify trends based on certain respondent characteristics. A description of the cross-tabulations that follow this section is provided below.

Each cross-tabulation examines mode choice against a certain employee attribute, which is listed at the top after the words "Employee Mode By..." Immediately below this title are groups of values for that attribute that employees were allowed to choose to describe themselves. For example, using Table 3.8, the distances that employees live from campus could be "Less than 2 miles" or "6-10 miles."

In each group of values, the word "frequency" denotes the number of employees surveyed who said that group of values described them. In Table 3.8, the "Frequency=633" in the 6-10 miles group of values means that of all those who responded, 633 employees live between 6 and 10 miles from campus. The "% of mode" numbers are read and summed horizontally. For example, using the column under the 2-5 mile heading and the "Bus" row, the 39.0% number in the "% of mode" column indicates that of all the employees who take the bus to campus, 39.0% of them live between 2 and 5 miles from campus.

The "% of (attribute)" numbers should be read and summed vertically. In Table 3.8, the attribute is "Distance to Work." Using the column under the 2-5 mile heading and the "Bus" row, the 27.4% number in the "% of Dist. Work" column indicates that of all the employees who live 2 to 5 miles from campus, 27.4% of them choose to ride the bus at least one day per week.

It is important to note that while the "total of mode" listed in the cross-tabs always adds up to 100%, the percent of the cross-tab attribute (i.e. % of distance to work) often exceeds 100%. This occurs because many employees use more than one mode to get to campus in any given week.

This section contains cross-tabs for the following categories:

- Distance to Work
- Travel Time to Work
- Age Group
- Employment Category
- Gender
- Income Group

**Travel Mode By Distance to Work**

Between the 2011 and the 2013 surveys, there was a slight decrease in those who lived within two miles of campus reporting that they drive to campus at least one day per week (51.0% vs. 49.5%).

Mode choice varies the most within five miles of campus, where the most choices abound. Unsurprisingly, walking tapers off after the 2-5 mile range and biking tapers off after the 6-10 mile range.

Park and ride, carpool, and vanpool are used most by those over 20 miles from the campus.

Over 80 percent of bus ridership occurs within 10 miles of campus. Among those who ride the bus, fewer have fallen in the 2-5 mile category each year since 2001 (33.8% in 2013 vs. 39.0% in 2011, 41.2% in 2009, 50.2% in 2007, 57.1% in 2004, and 57.3% in 2001). More of the riders are in the 6-10 mile category (25.1% in 2013 vs. 16.9% in 2011). The percentage of employees using park and ride for the 2-5 mile category has decreased from 20% in 2004 to 13% in 2009 and 2007 to 12% in 2011 and increased to 15% in 2013. The number of carpoolers has increased, from 8% in 2004 to 12% in 2009 and 2007 to 18% in 2011 and decreased slightly to 17% in 2013. Complete results are shown in Table 3.8.

Table 3.8 Employee Mode By Distance to Work												
	Total Valid Responses	Distance to Work (miles)										Total of Mode
		Less than 2 miles (Frequency=182)		2-5 miles (Frequency=349)		6-10 miles (Frequency=418)		11-20 miles (Frequency=241)		Over 20 miles (Frequency=502)		
		% of mode	% of Dist. Work	% of mode	% of Dist. Work	% of mode	% of Dist. Work	% of mode	% of Dist. Work	% of mode	% of Dist. Work	
Drive Alone	1050	8.6%	49.5%	21.1%	63.6%	25.1%	63.2%	14.8%	64.3%	30.4%	63.5%	100%
Park & Ride	300	3.3%	5.5%	14.7%	12.6%	31.3%	22.5%	20.0%	24.9%	30.7%	18.3%	100%
Carpool	84	8.3%	3.8%	16.7%	4.0%	15.5%	3.1%	10.7%	3.7%	48.8%	8.2%	100%
Vanpool	22	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	4.4%	100%
Bus	287	21.6%	34.1%	33.8%	27.8%	25.1%	17.2%	7.7%	9.1%	11.8%	6.8%	100%
Motorcycle	17	0.0%	0.0%	29.4%	1.4%	17.6%	0.7%	23.5%	1.7%	29.4%	1.0%	100%
Walk	55	61.8%	18.7%	25.5%	4.0%	5.5%	0.7%	3.6%	0.8%	3.6%	0.4%	100%
Bicycle	84	40.5%	18.7%	42.9%	10.3%	11.9%	2.4%	2.4%	0.8%	2.4%	0.4%	100%
Dropped Off	71	19.7%	7.7%	33.8%	6.9%	14.1%	2.4%	14.1%	4.1%	18.3%	2.6%	100%
Telework from Home	116	14.7%	9.3%	29.3%	9.7%	18.1%	5.0%	7.8%	3.7%	30.2%	7.0%	100%
Other	24	4.2%	0.5%	20.8%	1.4%	45.8%	2.6%	8.3%	0.8%	20.8%	1.0%	100%
<b>Total of Dist. To Work *</b>			<b>147.8%</b>		<b>141.8%</b>		<b>119.9%</b>		<b>114.1%</b>		<b>113.5%</b>	

\*Often exceeds 100% because many employees use more than one mode to get to campus in any given week.

**Travel Mode By Travel Time From Home to Work**

As in all past surveys, the majority of respondents to the 2013 survey drive to campus at least one day each week, regardless of travel time. Interestingly, of those that drive one or more days, most are not those traveling more than 40 minutes, but instead traveling 11-20 minutes. For those traveling 40 minutes or more, fewer are driving alone or using park and ride than in 2011 (86% vs. 98%) and nearly twice as many take the bus (20% vs. 11%). Those who travel more than 40 minutes account for 75 percent of vanpool use, compared to 80 percent in 2011 and 66 percent in 2009. Complete results are in Table 3.9.

<b>Table 3.9 Employee Mode By Travel Time to Work</b>												
		<b>Travel Time In Minutes</b>										
		<b>1-10 (Frequency=98)</b>		<b>11-20 (Frequency=403)</b>		<b>21-30 (Frequency=388)</b>		<b>31-40 (Frequency=238)</b>		<b>40+ (Frequency=404)</b>		<b>Total of Mode</b>
	<b>Total Valid Responses</b>	<b>% of mode</b>	<b>% of travel time</b>	<b>% of mode</b>	<b>% of travel time</b>	<b>% of mode</b>	<b>% of travel time</b>	<b>% of mode</b>	<b>% of travel time</b>	<b>% of mode</b>	<b>% of travel time</b>	
Drive Alone	1012	7.5%	77.6%	28.5%	71.5%	27.8%	72.4%	14.2%	60.5%	22.0%	55.2%	<b>100%</b>
Park & Ride	283	0.7%	2.0%	12.7%	8.9%	21.6%	15.7%	20.5%	24.4%	44.5%	31.2%	<b>100%</b>
Carpool	82	11.0%	9.2%	25.6%	5.2%	17.1%	3.6%	19.5%	6.7%	26.8%	5.4%	<b>100%</b>
Vanpool	20	0.0%	0.0%	0.0%	0.0%	10.0%	0.5%	15.0%	1.3%	75.0%	3.7%	<b>100%</b>
Bus	272	4.8%	13.3%	22.8%	15.4%	27.9%	19.6%	15.4%	17.6%	29.0%	19.6%	<b>100%</b>
Motorcycle	16	0.0%	0.0%	50.0%	2.0%	12.5%	0.5%	12.5%	0.8%	25.0%	1.0%	<b>100%</b>
Walk	54	9.3%	5.1%	44.4%	6.0%	18.5%	2.6%	22.2%	5.0%	5.6%	0.7%	<b>100%</b>
Bicycle	82	11.0%	9.2%	51.2%	10.4%	25.6%	5.4%	1.2%	0.4%	11.0%	2.2%	<b>100%</b>
Dropped Off	69	10.1%	7.1%	40.6%	6.9%	21.7%	3.9%	8.7%	2.5%	18.8%	3.2%	<b>100%</b>
Telework from Home	113	8.0%	9.2%	31.0%	8.7%	20.4%	5.9%	10.6%	5.0%	30.1%	8.4%	<b>100%</b>
Other	22	4.5%	1.0%	13.6%	0.7%	13.6%	0.8%	40.9%	3.8%	27.3%	1.5%	<b>100%</b>
<b>Total of Dist. To Work *</b>			<b>133.7%</b>		<b>135.7%</b>		<b>130.9%</b>		<b>128.2%</b>		<b>132.2%</b>	

\*Often exceeds 100% because many employees use more than one mode to get to campus in any given week.

**Travel Mode By Age Group**

While the propensity to report “Drive Alone” one day per week varied in 1997 from 39 percent of 18-24 year-olds to 83 percent of employees aged 35-49, the percentage of those reporting driving at least one day per week in 2013 varied less across age groups, from 50 percent in 18-24 year-olds to 68% in 35-49 year-olds.

The bus is a significant mode choice for those under 25, but less so for older employees. Bus use is lowest for those in the age brackets 35 and higher.

Over three quarters of those employees who report using a bicycle to get to work one day each week are 35 or older. Detailed statistics are available in Table 3.10.

		<b>Age Group</b>										<b>Total of Mode</b>
		<b>18-24 (Frequency=42)</b>		<b>25-34 (Frequency=280)</b>		<b>35-49 (Frequency=611)</b>		<b>50-64 (Frequency=513)</b>		<b>65+ (Frequency=75)</b>		
	<b>Total Valid Responses</b>	<b>% of mode</b>	<b>% of Age Group</b>	<b>% of mode</b>	<b>% of Age Group</b>	<b>% of mode</b>	<b>% of Age Group</b>	<b>% of mode</b>	<b>% of Age Group</b>	<b>% of mode</b>	<b>% of Age Group</b>	
Drive Alone	995	2.1%	50.0%	16.3%	57.9%	41.8%	68.1%	34.7%	67.3%	5.1%	68.0%	<b>100%</b>
Park & Ride	284	6.0%	40.5%	26.8%	27.1%	39.4%	18.3%	25.0%	13.8%	2.8%	10.7%	<b>100%</b>
Carpool	83	2.4%	4.8%	20.5%	6.1%	37.3%	5.1%	34.9%	5.7%	4.8%	5.3%	<b>100%</b>
Vanpool	21	4.8%	2.4%	4.8%	0.4%	33.3%	1.1%	52.4%	2.1%	4.8%	1.3%	<b>100%</b>
Bus	275	4.0%	26.2%	27.3%	26.8%	38.5%	17.3%	25.5%	13.6%	4.7%	17.3%	<b>100%</b>
Motorcycle	17	0.0%	0.0%	0.0%	0.0%	41.2%	1.1%	41.2%	1.4%	17.6%	4.0%	<b>100%</b>
Walk	54	9.3%	11.9%	22.2%	4.3%	40.7%	3.6%	22.2%	2.3%	5.6%	4.0%	<b>100%</b>
Bicycle	79	6.3%	11.9%	17.7%	5.0%	43.0%	5.6%	27.8%	4.3%	5.1%	5.3%	<b>100%</b>
Dropped Off	67	9.0%	14.3%	22.4%	5.4%	29.9%	3.3%	35.8%	4.7%	3.0%	2.7%	<b>100%</b>
Telework from Home	112	0.9%	2.4%	18.8%	7.5%	45.5%	8.3%	30.4%	6.6%	4.5%	6.7%	<b>100%</b>
Other	24	0.0%	0.0%	20.8%	1.8%	50.0%	2.0%	29.2%	1.4%	0.0%	0.0%	<b>100%</b>
<b>Total of Age Group*</b>			<b>164.3%</b>		<b>142.1%</b>		<b>133.9%</b>		<b>123.2%</b>		<b>125.3%</b>	

\*Often exceeds 100% because many employees use more than one mode to get to campus in any given week.

**Travel Mode By Employment Category**

Hospital employees drive alone one day or more per week more than University employees (74 percent vs. 64 percent); in 2011, the distribution was similar (72 percent vs. 61 percent). Hospital employees are slightly more likely to use park and ride (25 percent for Hospital employees vs. 18 percent for University employees). Walking to work is chosen by 4 percent of University employees as well as Hospital employees at least one day per week. Bicycling and bus are both used with greater frequency by University employees. See Table 3.11 for detailed results.

<b>3.11 Employee Mode by Employment Category</b>						
		<b>Employment Category</b>				<b>Total of Mode</b>
		<b>Hospital Employee (Frequency=254)</b>		<b>University Employee (Frequency=1260)</b>		
	<b>Total Valid Responses</b>	<b>% of mode</b>	<b>% of Emp. Category</b>	<b>% of mode</b>	<b>% of Emp. Category</b>	
Drive Alone	989	19.0%	74.0%	81.0%	63.6%	<b>100%</b>
Park & Ride	287	22.0%	24.8%	78.0%	17.8%	<b>100%</b>
Carpool	82	13.4%	4.3%	86.6%	5.6%	<b>100%</b>
Vanpool	22	4.5%	0.4%	95.5%	1.7%	<b>100%</b>
Bus	277	7.9%	8.7%	92.1%	20.2%	<b>100%</b>
Motorcycle	17	5.9%	0.4%	94.1%	1.3%	<b>100%</b>
Walk	54	16.7%	3.5%	83.3%	3.6%	<b>100%</b>
Bicycle	79	7.6%	2.4%	92.4%	5.8%	<b>100%</b>
Dropped Off	65	15.4%	3.9%	84.6%	4.4%	<b>100%</b>
Telework from Home	109	3.7%	1.6%	96.3%	8.3%	<b>100%</b>
Other	23	34.8%	3.1%	65.2%	1.2%	<b>100%</b>
<b>Total of Dist. To Work *</b>			<b>127.2%</b>		<b>133.4%</b>	

\*Often exceeds 100% because many employees use more than one mode to get to campus in any given week.



**Travel Mode By Gender**

Men are more likely to drive alone (67 vs. 65 percent), carpool (7 vs. 5 percent), and bicycle (8 vs. 4 percent) than women. Women are more likely to use the bus (19 vs. 17 percent) and use park and ride (21 vs. 15 percent) than men. Detailed results are in Table 3.12.

Table 3.12 Employee Mode By Gender						
		Gender				
		Male (Frequency=487)		Female (Frequency=1038)		Total of Mode
	Total Valid Responses	% of mode	% of Gender	% of mode	% of Gender	
Drive Alone	999	32.8%	67.4%	67.2%	64.6%	100%
Park & Ride	286	25.5%	15.0%	74.5%	20.5%	100%
Carpool	84	40.5%	7.0%	59.5%	4.8%	100%
Vanpool	22	31.8%	1.4%	68.2%	1.4%	100%
Bus	276	29.7%	16.8%	70.3%	18.7%	100%
Motorcycle	17	76.5%	2.7%	23.5%	0.4%	100%
Walk	54	35.2%	3.9%	64.8%	3.4%	100%
Bicycle	79	46.8%	7.6%	53.2%	4.0%	100%
Dropped Off	67	22.4%	3.1%	77.6%	5.0%	100%
Telework from Home	111	24.3%	5.5%	75.7%	8.1%	100%
Other	24	33.3%	1.6%	66.7%	1.5%	100%
<b>Total of Gender*</b>			<b>132.0%</b>		<b>132.6%</b>	

\*Often exceeds 100% because many employees use more than one mode to get to campus in any given week.

**Travel Mode By Income**

Higher income groups are more likely to drive alone to work and are less likely to take the bus or walk. Over 80 percent of those who bicycle to campus earn more than \$50,000 annually. Those earning more than \$50,000 annually are also much less likely to use Park and Ride. Detailed results are listed in Table 3.13.

		<b>Income Group (\$/year)</b>										
		<b>0-25,000 (Frequency=16)</b>		<b>25,001-35,000 (Frequency=76)</b>		<b>35,001-50,000 (Frequency=215)</b>		<b>50,001-75,000 (Frequency=302)</b>		<b>75,001 and above (Frequency=782)</b>		<b>Total of Mode</b>
	<b>Total Valid Responses</b>	<b>% of mode</b>	<b>% of Income Group</b>	<b>% of mode</b>	<b>% of Income Group</b>	<b>% of mode</b>	<b>% of Income Group</b>	<b>% of mode</b>	<b>% of Income Group</b>	<b>% of mode</b>	<b>% of Income Group</b>	
Drive Alone	916	1.1%	62.5%	3.8%	46.1%	12.6%	53.5%	20.5%	62.3%	62.0%	72.6%	<b>100%</b>
Park & Ride	263	2.7%	43.8%	10.6%	36.8%	22.4%	27.4%	24.3%	21.2%	39.9%	13.4%	<b>100%</b>
Carpool	79	0.0%	0.0%	2.5%	2.6%	12.7%	4.7%	24.1%	6.3%	60.8%	6.1%	<b>100%</b>
Vanpool	19	5.3%	6.3%	0.0%	0.0%	21.1%	1.9%	26.3%	1.7%	47.4%	1.2%	<b>100%</b>
Bus	253	0.8%	12.5%	6.7%	22.4%	20.2%	23.7%	24.5%	20.5%	47.8%	15.5%	<b>100%</b>
Motorcycle	17	0.0%	0.0%	0.0%	0.0%	5.9%	0.5%	35.3%	2.0%	58.8%	1.3%	<b>100%</b>
Walk	48	6.3%	18.8%	14.6%	9.2%	14.6%	3.3%	22.9%	3.6%	41.7%	2.6%	<b>100%</b>
Bicycle	73	1.4%	6.3%	5.5%	5.3%	11.0%	3.7%	13.7%	3.3%	68.5%	6.4%	<b>100%</b>
Dropped Off	62	1.6%	6.3%	3.2%	2.6%	9.7%	2.8%	21.0%	4.3%	64.5%	5.1%	<b>100%</b>
Telework from Home	103	0.0%	0.0%	2.9%	3.9%	8.7%	4.2%	13.6%	4.6%	74.8%	9.8%	<b>100%</b>
Other	21	0.0%	0.0%	19.0%	5.3%	14.3%	1.4%	19.0%	1.3%	47.6%	1.3%	<b>100%</b>
<b>Total of Income Group*</b>			<b>156.3%</b>		<b>134.2%</b>		<b>127.0%</b>		<b>131.1%</b>		<b>135.3%</b>	

\*Often exceeds 100% because many employees use more than one mode to get to campus in any given week

**Characteristics of Employees Who Drive To Work**

**Days of the Week Employees Drive to Work**

Table 3.14 details the number of employees who reported driving alone to campus either during the day or night of each week. The numbers are very consistent across the weekdays, as they were in 1997, 2001, 2004, 2007, 2009, and 2011.

<b>Table 3.14 Days of the Week Employees Drive to Work</b>		
<b>Day</b>	<b>Number</b>	<b>Percent</b>
Monday	868	82.59%
Tuesday	876	83.35%
Wednesday	863	82.11%
Thursday	865	82.30%
Friday	842	80.11%
Saturday	269	25.59%
Sunday	242	23.03%
<b>Total Valid Responses</b>	<b>1051</b>	<b>100.0%</b>

**Characteristics of Employees Who Ride the Bus**

**Which Buses Respondents Ride To Work**

Respondents were asked which Chapel Hill Transit routes they use to get to work. Some riders can choose a variety of routes which pass their stop and simply take the first one available.

The NS is still the most used bus route as it was in 2011, 2009, 2007, 2004 and 2001. The FCX route has replaced the S line as the second most used as it was in 2011. Triangle Transit routes comprise 4.2 percent of bus commutes, compared to 6.4 percent in 2011. However, the 2013 number is likely too low as the survey used Triangle Transit routes from 2009. See Table 3.15 for detailed statistics.

\*The HU, S, and FCX routes all go to the same general area for park and ride purposes (the Friday Center lot, NC 54 lot, and Hedrick Office Building lot). Therefore they all use the same access route and all require UNC permits (the NC 54 lot, previously a town park n ride lot, is now operated by UNC as of August 15, 2010). Together, the three routes comprise a total of 19.1% of bus patronage.

<b>Route</b>	<b>Number</b>	<b>% of total</b>
NS	139	13.5%
FCX	86	8.3%
S	77	7.5%
V	76	7.4%
D	65	6.3%
J	62	6.0%
JFX	47	4.5%
F	44	4.3%
CW	42	4.1%
CM	38	3.7%
CPX	35	3.4%
HU	34	3.3%
G	33	3.2%
T	32	3.1%
402/412	31	3.0%
CL	29	2.8%
CCX	28	2.7%
420	23	2.2%
D EXPRESS	17	1.6%
NU	17	1.6%
Robertson Scholars Bus	13	1.3%
N	11	1.1%
A	10	1.0%
U	9	0.9%
403/413	8	0.8%
HS	5	0.5%
RU	5	0.5%
DM (SAT)	4	0.4%
500/550	4	0.4%
Orange Public Transit	3	0.3%
CM SAT	1	0.1%
CW SAT	1	0.1%
FG (SAT)	1	0.1%
JN (SAT)	1	0.1%
SU	1	0.1%
T SAT	1	0.1%
G SAFE RIDE	0	0.0%
JV SAFE RIDE	0	0.0%
M	0	0.0%
T SAFE RIDE	0	0.0%
TG	0	0.0%
T Weekend	0	0.0%
PART	0	0.0%
<b>Total Valid Responses</b>	<b>1033</b>	<b>100%</b>



**Park and Ride Lots**

Of the employees who indicated they use park and ride, 22 percent use the Friday Center lot and 14 percent use the Southern Village Park and Ride lot. Usage of the NC 54 Park and Ride lot decreased from 14 percent in 2011 to 8 percent in 2013. Usage of the Jones Ferry Park and Ride lot increased from 8 percent in 2011 to 11 percent in 2013. See Table 3.16 for detailed statistics.

<b>Table 3.16 Employee Park and Ride Lot Usage</b>		
<b>Lot</b>	<b>Number</b>	<b>% of Total</b>
Friday Center	78	22.2%
Southern Village	49	14.0%
Jones Ferry Rd	40	11.4%
NC 54	28	8.0%
Eubanks Rd	24	6.8%
Chatham County	24	6.8%
Regional Transit Center (RTP)	24	6.8%
Carrboro Plaza	20	5.7%
725 MLK Blvd	13	3.7%
Other	11	3.1%
Franklin Street	10	2.8%
Private Off-Campus / Neighborhood	10	2.8%
Hedrick Park and Ride	5	1.4%
American Tobacco Deck (Durham)	5	1.4%
Southpoint Mall (Durham)	4	1.1%
District Drive (Raleigh)	3	0.9%
Durham Tech (Hillsborough)	3	0.9%
<b>Total Valid Responses</b>	<b>351</b>	<b>100.0%</b>

**Respondent Preferences**

Employees were asked to rate six factors in terms of their importance of choosing a mode, with a score of 5 being “very important” and a score of 1 being “not important.” Average scores show that reliability and time received the highest ratings (followed by safety) with cost, comfort, and environmental concerns being less influential. These are consistent with the results from 2007, 2009, and 2011. Cost has decreased in importance for the first time since it was first asked in 2001, to a rating of 3.83 in 2013. However, ratings of all factors decreased since 2011. Complete Results are shown in Table 3.17.

**Table 3.17 Employee Average Importance Ratings**

Factor	2013		2011		2009		2007		2004		2001		1997	
	Avg. Rating	Total Valid Responses For Factor	Avg. Rating	Total Valid Responses For Factor	Avg. Rating	Total Valid Responses For Factor	Avg. Rating	Total Valid Responses For Factor	Avg. Rating	Total Valid Responses For Factor	Avg. Rating	Total Valid Responses For Factor	Avg. Rating	Total Valid Responses For Factor
Reliability	4.30	1,538	4.74	2,581	4.71	1,532	4.72	2,183	4.64	1,611	3.72	854	3.4	723
Time	4.25	1,546	4.69	2,590	4.62	1,547	4.65	2,206	4.43	1,606	4.65	855	4.22	724
Safety	3.92	1,538	4.34	2,567	4.28	1,528	4.28	2,179	4.41	1,604	4.25	848	4.47	723
Cost (in dollars)	3.83	1,538	4.17	2,599	4.03	1,538	3.86	2,190	3.85	1,612	3.5	847	NA	NA
Comfort	3.69	1,529	3.97	2,553	3.8	1,517	3.91	2,170	4.2	1,606	4.65	840	3.61	723
Environmental Concerns	3.44	1,521	3.63	2,551	3.71	1,512	3.66	2,156	NA	NA	NA	NA	NA	NA

**Description of Survey Respondents**

**Household Size**

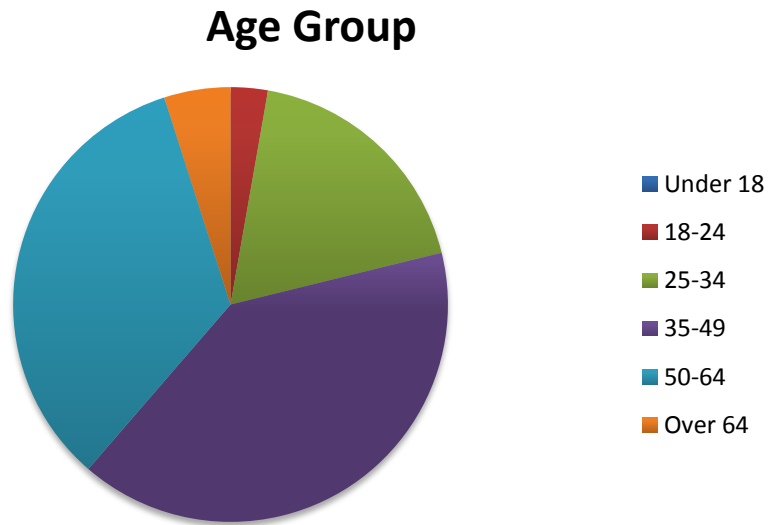
Seventy-five percent of respondents' households have 2 or more adults living in them. Thirty-five percent of households do not have children, 28 percent have 1 child, 30 percent have 2 children, and 7 percent have 3 or more children.

**Internet Access**

Ninety-four percent of employees have access to the internet both at work and in the home. Only 0.1% of employees have no access to the internet.

**Age**

Forty percent of employees are between 35 and 49, 34 percent are 50-64 years old, and 18 percent are 25-34. Only 3 percent of employees are between 18 and 24. This is very similar to the 2007, 2009, and 2011 data. In 1997, 50 percent of the employee respondents were between 35 and 49. The age group distribution of the employee respondents is shown in the chart below.



**Gender**

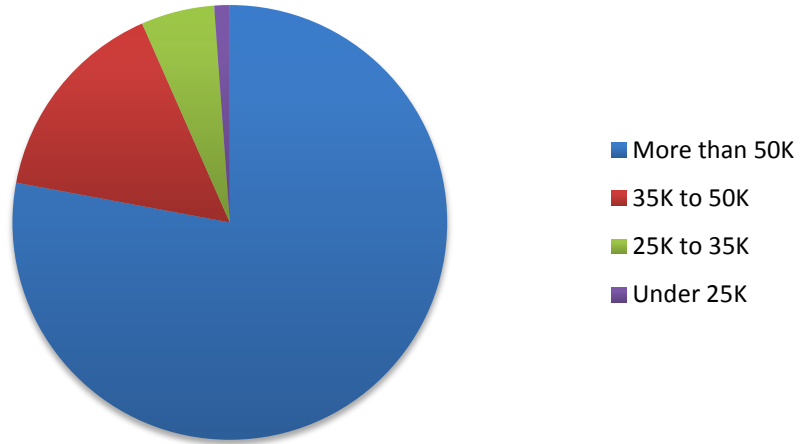
Sixty-eight percent of respondents are female and 32 percent are male, compared to 74 percent female and 26 percent male in 2011, 68 percent female and 32 percent male in 2009, 69 percent female and 31 percent male in 2007, to 67 percent female and 33 percent male in 2004, 68 percent female and 32 percent male in 2001, and 64 percent female and 36 percent male in 1997.



**Income**

Seventy-eight percent of respondents reported an income of over \$50,000 per year. Sixteen percent reported incomes between \$35,001 and \$50,000/year, and 6 percent reported incomes between \$25,001 and \$35,000/year. One percent of employees surveyed reported making less than \$25,000/year. This is very similar to the 2011 data, with a slight upward trend in income. The income distribution of the employee respondents is shown in the chart below.

**Income Distribution**



## IV. Student Survey Results

This section presents the travel modes and characteristics of UNC students, including undergraduates, graduates, and professional students. Results are based on 1,180 respondents to the 2011 survey.

Analyses are divided into sections as follows:

- Trip Origins
- Distance and Time to Campus
- General Mode Attributes
- Travel Mode Cross-Tabs
- Characteristics of Respondents Who Drive
- Characteristics of Respondents Who Take the Bus
- Respondent Preferences
- Description of Survey Respondents

### Trip Origins

#### County

Sixty-two percent of student respondents live in Orange County, and 16 percent live in Durham County. In 2011, these numbers were 63 percent and 23 percent respectively; in 2009, these numbers were 65 percent and 19 percent respectively; in 2007 these numbers were 66 percent and 20 percent respectively; in 2004, these numbers were 67 and 20 percent, respectively; in 2001, these numbers were 72 and 14 percent, respectively; in 1997 more than 75 percent lived in Orange County, with only 11 percent living in Durham County. Nine percent of students live in Wake County compared to seven percent in 2011, 10 percent in 2009, 8 percent in 2007, and 7 percent in 2004, 2001, and 1997.

#### City and Town Origins

In 2013, 48 percent of students live in Chapel Hill, approximately 13 percent live in Durham, and 22 percent live in Carrboro. The percentage of students living in Carrboro has increased since 1997, but has decreased slightly since 2009. Table 4.1 provides the city and town origins for all respondents.

**Table 4.1 Student City and Town Origins**

City/Town	2013		2011		2009		2007		2004		2001		1997	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Chapel Hill	339	48.0%	221	46.9%	216	44.8%	297	50.3%	1002	54.6%	176	53.0%	237	60.6%
Durham	94	13.3%	83	17.6%	79	16.4%	90	15.3%	304	16.6%	46	13.9%	44	11.3%
Carrboro	153	21.7%	107	22.7%	111	23.0%	112	19.0%	298	16.2%	56	16.9%	51	13.0%
Raleigh	35	5.0%	5	1.1%	26	5.4%	24	4.1%	62	3.4%	14	4.2%	22	5.6%
Cary	17	2.4%	11	2.3%	11	2.3%	15	2.5%	42	2.3%	8	2.4%	4	1.0%
Hillsborough	4	0.6%	1	0.2%	3	0.6%	7	1.2%	na	na	na	na	na	na
Total responses for cities less than 1% of responses	64	9.1%	43	9.1%	36	7.5%	45	7.6%	131	7.1%	20	6.0%	32	8.2%
<b>Total Valid Responses</b>	<b>706</b>	<b>100%</b>	<b>471</b>	<b>100%</b>	<b>482</b>	<b>100%</b>	<b>590</b>	<b>100%</b>	<b>1,835</b>	<b>100%</b>	<b>332</b>	<b>100%</b>	<b>390</b>	<b>100%</b>
NA=Data Not Available														
No Response	474		13		22		15		59		5		5	
<b>TOTAL</b>	<b>1180</b>		<b>484</b>		<b>504</b>		<b>605</b>		<b>1,894</b>		<b>337</b>		<b>395</b>	

**Zip code**

Forty percent of respondents reported living in the Chapel Hill 27514 and 27516 zip codes. There has been a notable decrease since 1997 in survey respondents who reside in the north east Chapel Hill area, though this number has increased for the past two surveys. Since 1997, there has been an increase in those who reside in Durham; however, there's been a 3.6 percentage point decrease since 2011. All zip code frequencies and comparisons to 2011, 2009, 2007, 2004, 2001, and 1997 data are detailed in Table 4.2.

**Table 4.2 Student Zipcode Origins**

Zipcode	2013		2011		2009		2007		2004		2001		1997	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
27514 (NE. Chapel Hill)	165	23.5%	94	19.4%	87	18.7%	129	22.8%	459	25.6%	94	28.7%	169	43.1%
27510 (Carrboro)	143	20.4%	100	20.6%	101	21.7%	106	18.7%	280	15.6%	51	15.6%	52	13.3%
27516 (W. Chapel Hill)	115	16.4%	73	15.1%	86	18.5%	94	16.6%	336	18.8%	47	14.4%	66	16.8%
27517 (SE. Chapel Hill)	61	8.7%	50	10.3%	44	9.4%	64	11.3%	179	10.0%	35	10.7%	NA	NA
27713 (Durham/RTP)	42	6.0%	46	9.5%	29	6.2%	37	6.5%	124	6.9%	27	8.3%	10	2.6%
27707 (Durham)	25	3.6%	14	2.9%	23	4.9%	30	5.3%	112	6.3%	7	2.1%	16	4.1%
27705 (N. Durham)	12	1.7%	12	2.5%	13	2.8%	11	1.9%	23	1.3%	5	1.5%	NA	NA
27278	4	0.6%	5	1.0%	3	0.6%	7	1.2%	NA	NA	NA	NA	NA	NA
27513 (Cary)	8	1.1%	3	0.6%	4	0.9%	7	1.2%	18	1.0%	4	1.2%	NA	NA
Total responses for zip-codes with less than 1% of responses	126	18.0%	87	18.0%	76	16.3%	81	14.3%	260	14.5%	42	12.8%	79	79.9%
NA = Data Not Available														
<b>Total Valid Responses</b>	<b>1180</b>	<b>100%</b>	<b>484</b>	<b>100%</b>	<b>466</b>	<b>100%</b>	<b>566</b>	<b>100%</b>	<b>1,791</b>	<b>100%</b>	<b>327</b>	<b>100%</b>	<b>392</b>	<b>100%</b>
No Response	479		0		38		39		107		10		3	
<b>TOTAL</b>	<b>1180</b>		<b>484</b>		<b>504</b>		<b>605</b>		<b>1,898</b>		<b>337</b>		<b>395</b>	

**Distance and Time To Campus**

**Distance From Home to Campus**

The number of students living close to campus (within 2 miles) and far away (over 20 miles) has increased. As in previous surveys, roughly two-thirds of student respondents reported living within 5 miles of campus. Of these students, 47 percent live within two miles of campus, the highest since survey inception, and only 24 percent live between 2 and 5 miles from campus. The percentage of students living six or more miles from campus was 29%, the lowest since survey inception; however, the percentage live greater than 20 miles (15%) is the highest since survey inception. Table 4.3 reports the number and percentage of students living at various distances from campus.

Distance	2013		2011		2009		2007		2004		2001		1997	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Less than 2 miles	505	46.8%	178	36.8%	201	40.1%	163	27.0%	612	32.4%	106	31.7%	147	37.2%
2-5 miles	259	24.0%	142	29.3%	132	26.3%	235	38.9%	701	37.1%	113	33.8%	122	30.9%
6-10 miles	130	12.0%	92	19.0%	84	16.8%	75	12.4%	231	12.2%	42	12.6%	40	10.1%
11-20 miles	26	2.4%	16	3.3%	20	4.0%	63	10.4%	151	8.0%	35	10.5%	35	8.9%
Over 20 miles	159	14.7%	56	11.6%	64	12.8%	68	11.2%	195	10.3%	38	11.4%	51	12.9%
<b>Total Valid Responses</b>	<b>1,079</b>	<b>100%</b>	<b>484</b>	<b>100%</b>	<b>501</b>	<b>100%</b>	<b>604</b>	<b>100%</b>	<b>1,890</b>	<b>100%</b>	<b>334</b>	<b>100%</b>	<b>395</b>	<b>100%</b>
No Response	42		0		3		1		8		3		0	
<b>TOTAL</b>	<b>1,121</b>		<b>484</b>		<b>504</b>		<b>605</b>		<b>1,898</b>		<b>337</b>		<b>395</b>	

**Travel Time From Home to Campus**

Approximately 64% of students reach campus in less than 25 minutes each day, with the largest group, approximately 32 percent, traveling between 16 and 25 minutes to campus. The percentage of students commuting less than 15 minutes has declined from 1997 to 2013, and the percentage of students commuting 26-40 minutes has increased from 11 percent in 1997 to 19 percent in 2013.

Time	2013		2011		2009		2007		2004		2001		1997	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
1-5 minutes	17	2.1%	4	0.8%	4	0.8%	7	1.2%	48	2.6%	15	4.9%	24	6.1%
6-10 minutes	65	8.0%	40	8.4%	47	9.5%	75	12.6%	234	12.5%	48	15.6%	72	18.2%
11-15 minutes	176	21.6%	96	20.2%	92	18.6%	137	23.1%	408	21.7%	65	21.2%	97	24.6%
16-25 minutes	258	31.7%	127	26.7%	157	31.7%	164	27.6%	559	29.7%	81	26.4%	106	26.8%
26-40 minutes	158	19.4%	122	25.6%	113	22.8%	126	21.2%	388	20.6%	60	19.5%	45	11.4%
More than 40 minutes	139	17.1%	87	18.3%	82	16.6%	85	14.3%	242	12.9%	38	12.4%	51	12.9%
<b>Total Valid Responses</b>	<b>813</b>	<b>100.0%</b>	<b>476</b>	<b>100%</b>	<b>495</b>	<b>100%</b>	<b>594</b>	<b>100%</b>	<b>1,879</b>	<b>100%</b>	<b>307</b>	<b>100%</b>	<b>395</b>	<b>100%</b>
No Response	357		8		9		11		19		30		0	
<b>TOTAL</b>	<b>1,170</b>		<b>484</b>		<b>504</b>		<b>605</b>		<b>1,898</b>		<b>337</b>		<b>395</b>	

**General Mode Attributes**

**Travel Modes From Home to Campus**

Since 2007, the percentage of students who reported driving alone at least one day per week decreased from 55 percent to 47 percent. The percentage of students who reported using the bus to get to campus dipped slightly for the first time since survey inception, to 50%. Walking to campus increased by 8 percentage points from 16 percent in 2011 to 24% in 2013. Bicycling to campus increased slightly from 13 percent in 2011 to 14 percent in 2013. The long-term trends remain a large increase in park-and-ride use and a large increase in bus use. See Table 4.5 for detailed statistics.

Mode	2013		2011		2009		2007		2004		2001		1997	
	#	%	#	%	#	%	#	%	#	%	#	%	#	%
Drive Alone (not park & ride)	408	47.2%	246	50.8%	263	52.2%	332	54.9%	837	44.1%	190	56.4%	163	41.3%
Park & Ride	187	21.6%	96	19.8%	100	19.8%	94	15.5%	379	20.0%	56	16.6%	40	10.1%
Carpool	73	8.4%	23	4.8%	37	7.3%	84	13.9%	200	10.5%	44	13.1%	34	8.6%
Vanpool	26	3.0%	5	1.0%	5	1.0%	9	1.5%	19	1.0%	2	0.6%	1	0.3%
Bus	434	50.2%	266	55.0%	267	53.0%	289	47.8%	794	41.8%	94	27.9%	103	26.1%
Motorcycle/Moped	31	3.6%	7	1.4%	8	1.6%	12	2.0%	14	0.7%	4	1.2%	4	1.0%
Walk	206	23.8%	79	16.3%	87	17.3%	119	19.7%	369	19.4%	69	20.5%	107	27.1%
Bicycle	123	14.2%	62	12.8%	81	16.1%	68	11.2%	133	7.0%	39	11.6%	65	16.5%
Dropped off by Friend/Spouse	82	9.5%	37	7.6%	53	10.5%	67	11.0%	231	12.2%	45	13.4%	36	9.1%
Telework from Home	50	5.8%	22	4.5%	31	6.2%	32	2.8%	NA	NA	NA	NA	NA	NA
Other	23	2.7%	5	1.0%	6	1.2%	21	1.9%	36	1.9%	4	1.2%	1	0.3%

**Home to Campus Mode Frequency**

Thirty-three percent of students use the same mode to get to campus 5 or more days each week compared to 47% in 2011. There was initially an issue with the online survey instrument that wouldn't allow a respondent to select more than one day per week for any given mode. While the issue was quickly fixed, some of the change could be due to this issue. Riding the bus is the most common mode for those using the same mode of commute and the most frequently used for 5 or more days per week. Full details are in Table 4.6.

Mode	Number of Days Used					Mode Total	Percent of Total Respondents
	1	2	3	4	5+		
Drive Alone (not park & ride)	111	168	34	21	74	408	47.2%
Park & Ride	78	17	12	15	65	187	21.6%
Carpool	45	16	2	5	5	73	8.4%
Vanpool	26	0	0	0	0	26	3.0%
Bus	100	36	26	45	227	434	50.2%
Motorcycle/Moped	22	1	0	2	6	31	3.6%
Walk	72	21	10	11	92	206	23.8%
Bicycle	44	13	5	12	49	123	14.2%
Dropped off by Friend/ Spouse	41	24	4	4	9	82	9.5%

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Telework from Home	25	11	4	4	6	50	5.8%
Other	19	1	0	0	3	23	2.7%

**Route to Campus**

Of the respondents who reported driving alone to get to campus, 28 percent use NC 54 E from I-40 / Raleigh direction as their major route to get to campus. The second most popular major route to approach campus was Martin Luther King Blvd (NC 86 N) from the Hillsborough direction with about 21% of respondents. The full results for major route to campus for respondents who reported driving alone to get to campus is shown below in Table 4.7.

<b>Table 4.7 Route to Campus</b>	<b>Count</b>	<b>Percent</b>
1. NC 86 N Mlk Blvd (from Hillsborough direction)	85	21.2%
2. US 15-501 N (from I-85 Durham direction)	38	9.5%
3. US 15-501 S (from Pittsboro direction)	33	8.2%
4. NC 54 E (from Raleigh / I-40 direction)	114	28.4%
5. NC 54 W Bypass (from Graham/Mebane direction)	35	8.7%
6. W Franklin (from Carrboro direction)	43	10.7%
7. E Franklin (from Durham direction)	22	5.5%
8. Other	31	7.7%
<b>Total</b>	<b>401</b>	<b>100.0%</b>

## **Travel Mode Cross-Tabulations**

To develop a more complete picture of students' travel choices, home to campus travel modes were analyzed against several variables to identify trends based on certain respondent characteristics. The format of the cross-tabulations is explained below.

Each cross-tabulation examines mode choice against a certain student attribute, which is listed at the top after the words "Student Mode By..." Immediately below this title are groups of values for that attribute that students used to describe themselves. For example, using Table 4.8, the distances that students live from campus could be "Less than 2 miles" or "6-10 miles."

In each group of values, the word "Frequency" denotes the number of students surveyed who said that group of values described them. In Table 4.8, the "Frequency=92" in the 6-10 miles group of values means that of all those who responded, 92 students reported living between 6 and 10 miles from campus. The "% of mode" numbers should be read and summed horizontally. For example, using the column under the 2-5 mile heading and look at the "Bus" row, the 36.5% number in the "% of mode" column tells you that of all the students who take the bus to campus, 36.5 percent of them live between 2 and 5 miles from campus.

The "% of (attribute)" numbers should be read and summed vertically. In Table 4.8, the attribute is "Distance to Campus." Using the column under the 2-5 mile heading and the "Bus" row, the 68.3% number in the "% of Dist. Campus" column indicates that of all the students who live 2 to 5 miles from campus, 68.3 percent of them choose to ride the bus at least one day per week.

It is important to note that while the "total of mode" listed in the cross-tabs always adds up to 100 percent, the percent of the cross-tab attribute (i.e. % of distance to campus) often exceeds 100 percent. This occurs because many students use more than one mode to get to campus in any given week.

This section contains cross-tabulations for the following categories:

- Distance to Campus
- Travel Time to Campus
- Respondent Age Group
- Respondent Gender
- Respondent Enrollment Status
- Respondent Full-Time/Part-Time Status
- Respondent Job Status

**Travel Mode By Distance From Home To Campus**

Table 4.8 reports all data for this category. Within a 2-mile radius of school, about 34 percent of students walk to school one or more days per week, and another 15% bike to school one or more times per week. A higher percentage of students in the 2-5 mile range commute by bus one or more days per week than in any other range. Of those who use park and ride, the highest percentage live over 20 miles from campus.

<b>Table 4.8 Student Mode by Distance to Campus</b>												
		<b>Distance to Campus (miles)</b>										
		<b>Less than 2 miles (Frequency=505)</b>		<b>2-5 miles (Frequency=259)</b>		<b>6-10 miles (Frequency=130)</b>		<b>11-20 miles (Frequency=26)</b>		<b>Over 20 miles (Frequency=159)</b>		<b>Total of Mode</b>
	<b>Total Valid Responses</b>	<b>% of mode</b>	<b>% of Dist. Work</b>	<b>% of mode</b>	<b>% of Dist. Work</b>	<b>% of mode</b>	<b>% of Dist. Work</b>	<b>% of mode</b>	<b>% of Dist. Work</b>	<b>% of mode</b>	<b>% of Dist. Work</b>	
Drive Alone	407	35.4%	28.5%	28.0%	44.0%	15.5%	48.5%	2.9%	46.2%	18.2%	46.5%	<b>100%</b>
Park & Ride	188	9.0%	3.4%	22.3%	16.2%	31.4%	45.4%	4.3%	30.8%	33.0%	39.0%	<b>100%</b>
Carpool	74	43.2%	6.3%	32.4%	9.3%	5.4%	3.1%	1.4%	3.8%	17.6%	8.2%	<b>100%</b>
Vanpool	27	33.3%	1.8%	40.7%	4.2%	11.1%	2.3%	0.0%	0.0%	14.8%	2.5%	<b>100%</b>
Bus	433	49.4%	42.4%	34.2%	57.1%	7.9%	26.2%	1.2%	19.2%	7.4%	20.1%	<b>100%</b>
Motorcycle	32	46.9%	3.0%	37.5%	4.6%	9.4%	2.3%	3.1%	3.8%	3.1%	0.6%	<b>100%</b>
Walk	207	82.1%	33.7%	8.7%	6.9%	2.9%	4.6%	1.4%	11.5%	4.8%	6.3%	<b>100%</b>
Bicycle	123	61.8%	15.0%	29.3%	13.9%	7.3%	6.9%	0.8%	3.8%	0.8%	0.6%	<b>100%</b>
Dropped Off	83	49.4%	8.1%	36.1%	11.6%	7.2%	4.6%	1.2%	3.8%	6.0%	3.1%	<b>100%</b>
Telework from Home	50	20.0%	2.0%	34.0%	6.6%	22.0%	8.5%	2.0%	3.8%	22.0%	6.9%	<b>100%</b>
Other	51	31.4%	3.2%	29.4%	5.8%	21.6%	8.5%	2.0%	3.8%	15.7%	5.0%	<b>100%</b>
<b>Total of Dist.To Work</b>			<b>147.3%</b>		<b>180.3%</b>		<b>160.8%</b>		<b>130.8%</b>		<b>139.0%</b>	

\*Often exceeds 100% because many students use more than one mode to get to campus in any given week



**Student Mode By Travel Time**

As travel time to campus increases, students are less likely to use non-motorized modes (bicycle and walking) and more likely to use motorized modes. Meanwhile, the longer the commute is in minutes, the more likely it is to be accomplished by park and ride. See detailed data in Table 4.9.

Table 4.9 Student Mode By Travel Time To Campus												
		Travel Time In Minutes										
		1-10 (Frequency=82)		11-20 (Frequency=358)		21-30 (Frequency=173)		31-40 (Frequency=61)		40+ (Frequency=139)		Total of Mode
	Total Valid Responses	% of mode	% of travel time	% of mode	% of travel time	% of mode	% of travel time	% of mode	% of travel time	% of mode	% of travel time	
Drive Alone	385	7.8%	36.6%	44.4%	47.8%	24.9%	55.5%	8.1%	50.8%	14.8%	41.0%	100%
Park & Ride	179	2.2%	4.9%	16.8%	8.4%	22.9%	23.7%	15.6%	45.9%	42.5%	54.7%	100%
Carpool	69	13.0%	11.0%	39.1%	7.5%	23.2%	9.2%	7.2%	8.2%	17.4%	8.6%	100%
Vanpool	26	7.7%	2.4%	50.0%	3.6%	19.2%	2.9%	15.4%	6.6%	7.7%	1.4%	100%
Bus	406	8.4%	41.5%	49.0%	55.6%	27.3%	64.2%	5.4%	36.1%	9.9%	28.8%	100%
Motorcycle	30	16.7%	6.1%	56.7%	4.7%	20.0%	3.5%	3.3%	1.6%	3.3%	0.7%	100%
Walk	187	23.5%	53.7%	55.6%	29.1%	14.4%	15.6%	3.2%	9.8%	3.2%	4.3%	100%
Bicycle	118	11.9%	17.1%	63.6%	20.9%	20.3%	13.9%	0.0%	0.0%	4.2%	3.6%	100%
Dropped Off	79	13.9%	13.4%	50.6%	11.2%	29.1%	13.3%	2.5%	3.3%	3.8%	2.2%	100%
Telework from Home	48	4.2%	2.4%	31.3%	4.2%	31.3%	8.7%	8.3%	6.6%	25.0%	8.6%	100%
Other	44	9.1%	4.9%	34.1%	4.2%	31.8%	8.1%	11.4%	8.2%	13.6%	4.3%	100%
<b>Total of Dist.To Work</b>			<b>193.9%</b>		<b>197.2%</b>		<b>218.5%</b>		<b>177.0%</b>		<b>158.3%</b>	

\*Often exceeds 100% because many students use more than one mode to get to campus in any given week

**Student Mode By Age Group**

Students 35 and older are much less likely to use the bus to travel to campus than younger students (93% of bus riders are under age 35). Students younger than 35 are more likely to travel to campus by walking, but middle aged students were most likely to bike to campus (25 to 49). Complete results are shown in Table 4.10

**Note:** Since freshmen are encouraged to live on campus at UNC and this survey focused on the travel behavior of off-campus commuters, the under 18 age group had no respondents.

Table 4.10 Student Mode by Age Group												
	Total Valid Responses	Age Group										Total of Mode
		Under 18 (Frequency=0)		18-24 (Frequency=311)		25-34 (Frequency=352)		35-49 (Frequency=78)		50+ (Frequency=9)		
		% of mode	% of Age Group	% of mode	% of Age Group	% of mode	% of Age Group	% of mode	% of Age Group	% of mode	% of Age Group	
Drive Alone	351	0.0%	N/A	37.0%	41.8%	49.3%	49.1%	12.8%	57.7%	0.9%	33.3%	100%
Park & Ride	170	0.0%	N/A	29.4%	16.1%	55.9%	27.0%	12.9%	28.2%	1.8%	33.3%	100%
Carpool	61	0.0%	N/A	49.2%	9.6%	42.6%	7.4%	8.2%	6.4%	0.0%	0.0%	100%
Vanpool	25	0.0%	N/A	52.0%	4.2%	40.0%	2.8%	8.0%	2.6%	0.0%	0.0%	100%
Bus	377	0.0%	N/A	48.3%	58.5%	44.6%	47.7%	6.4%	30.8%	0.8%	33.3%	100%
Motorcycle	26	0.0%	N/A	34.6%	2.9%	46.2%	3.4%	19.2%	6.4%	0.0%	0.0%	100%
Walk	162	0.0%	N/A	59.3%	30.9%	34.6%	15.9%	4.9%	10.3%	1.2%	22.2%	100%
Bicycle	108	0.0%	N/A	36.1%	12.5%	55.6%	17.0%	6.5%	9.0%	1.9%	22.2%	100%
Dropped Off	73	0.0%	N/A	53.4%	12.5%	41.1%	8.5%	4.1%	3.8%	1.4%	11.1%	100%
Telework from Home	44	0.0%	N/A	11.4%	1.6%	68.2%	8.5%	18.2%	10.3%	2.3%	11.1%	100%
Other	40	0.0%	N/A	30.0%	3.9%	57.5%	6.5%	7.5%	3.8%	5.0%	22.2%	100%
<b>Total of Age Group</b>			<b>N/A</b>		<b>194.5%</b>		<b>194.0%</b>		<b>169.2%</b>		<b>188.9%</b>	

\*Often exceeds 100% because many students use more than one mode to get to campus in any given week

**Student Mode by Gender**

Table 4.11 details travel mode by gender. Men are more likely to drive alone or bicycle. Women are more likely to park and ride, take the bus, walk, or be dropped off. See Table 4.11 for complete results.

<b>Table 4.11 Student Mode By Gender</b>						
		<b>Gender</b>				
		<b>Male (Frequency=209)</b>		<b>Female (Frequency=541)</b>		<b>Total of Mode</b>
	<b>Total Valid Responses</b>	<b>% of mode</b>	<b>% of Gender</b>	<b>% of mode</b>	<b>% of Gender</b>	
Drive Alone	351	29.6%	49.8%	70.4%	45.7%	<b>100%</b>
Park & Ride	170	21.8%	17.7%	78.2%	24.6%	<b>100%</b>
Carpool	61	27.9%	8.1%	72.1%	8.1%	<b>100%</b>
Vanpool	25	20.0%	2.4%	80.0%	3.7%	<b>100%</b>
Bus	377	26.5%	47.8%	73.5%	51.2%	<b>100%</b>
Motorcycle	26	53.8%	6.7%	46.2%	2.2%	<b>100%</b>
Walk	161	24.8%	19.1%	75.2%	22.4%	<b>100%</b>
Bicycle	109	36.7%	19.1%	63.3%	12.8%	<b>100%</b>
Dropped Off	73	15.1%	5.3%	84.9%	11.5%	<b>100%</b>
Telework from Home	44	29.5%	6.2%	70.5%	5.7%	<b>100%</b>
Other	40	20.0%	3.8%	80.0%	5.9%	<b>100%</b>
<b>Total of Gender</b>			<b>186.1%</b>		<b>193.7%</b>	

\*Often exceeds 100% because many students use more than one mode to get to campus in any given week

**Student Mode By Enrollment Status**

All classifications in Table 4.12 (Undergraduate, Graduate, Professional, Post-Baccalaureate) contain large numbers of students who drive to campus at least one day per week. Post baccalaureate students are less likely than other classifications to commute by bus and most likely to drive alone or park and ride. Undergraduates are much more likely to walk to campus than other groups. Undergraduate students are the least likely to park and ride and the least likely to drive alone. The large percentages in the row labeled “Total of Enrollment Status” indicates that students are often choosing more than one mode per week, demonstrating a multi-modal approach to commuting. Detailed results are available in Table 4.12.

<b>Table 4.12 Student Mode By Enrollment Status</b>										
		<b>Enrollment Status</b>								
		<b>Undergraduate (Frequency=203)</b>		<b>Graduate (Frequency=408)</b>		<b>Professional (Frequency=127)</b>		<b>Post Baccalaureate (Frequency=12)</b>		<b>Total of Mode</b>
	<b>Total Valid Responses</b>	<b>% of mode</b>	<b>% of Status</b>	<b>% of mode</b>	<b>% of Status</b>	<b>% of mode</b>	<b>% of Status</b>	<b>% of mode</b>	<b>% of Status</b>	
Drive Alone	351	23.6%	40.9%	56.4%	48.5%	17.7%	48.8%	2.3%	66.7%	<b>100%</b>
Park & Ride	169	14.8%	12.3%	57.4%	23.8%	24.9%	33.1%	3.0%	41.7%	<b>100%</b>
Carpool	61	31.1%	9.4%	44.3%	6.6%	24.6%	11.8%	0.0%	0.0%	<b>100%</b>
Vanpool	25	28.0%	3.4%	52.0%	3.2%	20.0%	3.9%	0.0%	0.0%	<b>100%</b>
Bus	378	28.0%	52.2%	56.9%	52.7%	14.6%	43.3%	0.5%	16.7%	<b>100%</b>
Motorcycle	26	26.9%	3.4%	50.0%	3.2%	19.2%	3.9%	3.8%	8.3%	<b>100%</b>
Walk	160	46.9%	36.9%	37.5%	14.7%	15.0%	18.9%	0.6%	8.3%	<b>100%</b>
Bicycle	109	27.5%	14.8%	58.7%	15.7%	12.8%	11.0%	0.9%	8.3%	<b>100%</b>
Dropped Off	72	37.5%	13.3%	48.6%	8.6%	12.5%	7.1%	1.4%	8.3%	<b>100%</b>
Telework from Home	44	6.8%	1.5%	81.8%	8.8%	9.1%	3.1%	2.3%	8.3%	<b>100%</b>
Other	40	27.5%	5.4%	52.5%	5.1%	17.5%	5.5%	2.5%	8.3%	<b>100%</b>
<b>Total of Enrollment Status</b>			<b>193.6%</b>		<b>190.9%</b>		<b>190.6%</b>		<b>175.0%</b>	

\*Often exceeds 100% because many students use more than one mode to get to campus in any given week

**Student Mode By Full-Time/Part-Time Status**

Mode choice varies by whether a student is part-time or full-time. Full-time students are more likely to take the bus, walk, bike, carpool, or be dropped off than part-time students. Part-time students are more likely to drive alone, Park and Ride, and telework. See Table 4.13 for detailed statistics.

<b>Table 4.13 Student Mode By Status</b>						
		<b>Status</b>				<b>Total of Mode</b>
		<b>Full Time (Frequency=697)</b>		<b>Part Time (Frequency=53)</b>		
	<b>Total Valid Responses</b>	<b>% of mode</b>	<b>% of Status</b>	<b>% of mode</b>	<b>% of Status</b>	
Drive Alone	352	90.3%	45.6%	9.7%	64.2%	<b>100%</b>
Park & Ride	170	92.4%	22.5%	7.6%	24.5%	<b>100%</b>
Carpool	61	96.7%	8.5%	3.3%	3.8%	<b>100%</b>
Vanpool	25	92.0%	3.3%	8.0%	3.8%	<b>100%</b>
Bus	377	97.3%	52.7%	2.7%	18.9%	<b>100%</b>
Motorcycle	26	96.2%	3.6%	3.8%	1.9%	<b>100%</b>
Walk	161	98.1%	22.7%	1.9%	5.7%	<b>100%</b>
Bicycle	109	93.6%	14.6%	6.4%	13.2%	<b>100%</b>
Dropped Off	73	95.9%	10.0%	4.1%	5.7%	<b>100%</b>
Telework from Home	44	88.6%	5.6%	11.4%	9.4%	<b>100%</b>
Other	39	92.3%	5.2%	7.7%	5.7%	<b>100%</b>
<b>Total of Status</b>			<b>194.3%</b>		<b>156.6%</b>	

\*Often exceeds 100% because many students use more than one mode to get to campus in any given week

**Travel Mode By Job Status**

Students without jobs are more likely than those with jobs to ride the bus, walk, or drive alone, though numbers for all mode categories are fairly similar between groups. See Table 4.14 for detailed statistics.

<b>Table 4.14 Student Mode By Off-Campus Job</b>						
	Total Valid Responses	Job Status				Total of Mode
		Have a Job (Frequency=246)		Do Not Have A Job (Frequency=493)		
		% of mode	% of job status	% of mode	% of job status	
Drive Alone	348	32.8%	46.3%	67.2%	47.5%	100%
Park & Ride	167	32.3%	22.0%	67.7%	22.9%	100%
Carpool	60	35.0%	8.5%	65.0%	7.9%	100%
Vanpool	25	36.0%	3.7%	64.0%	3.2%	100%
Bus	372	30.9%	46.7%	69.1%	52.1%	100%
Motorcycle	25	20.0%	2.0%	80.0%	4.1%	100%
Walk	160	29.4%	19.1%	70.6%	22.9%	100%
Bicycle	108	38.9%	17.1%	61.1%	13.4%	100%
Dropped Off	71	31.0%	8.9%	69.0%	9.9%	100%
Telework from Home	44	29.5%	5.3%	70.5%	6.3%	100%
Other	39	41.0%	6.5%	59.0%	4.7%	100%
<b>Total of Job Status</b>			<b>186.2%</b>		<b>194.9%</b>	

\*Often exceeds 100% because many students use more than one mode to get to campus in any given week

**Characteristics of Students Who Drive To Campus**

Students who drive alone or carpool were asked additional questions about their commuting behavior. Of the 864 student respondents, over half (450) reported either driving alone or carpooling at least one time per week.

**Days of the Week Students Drive to Campus**

Table 4.15 details the number of students who come to campus by carpool or by driving alone by day of the week. Percentages during the week are mostly consistent. The results are similar in 2013 to 2011. In 1997, 60 percent to 76 percent of students drove to campus Monday through Friday. More students drive alone to campus on weekends than during the week.

<b>Table 4.15 Days of the Week Students Drive To Campus</b>		
Day	Number	Percent
Monday	169	19.6%
Tuesday	166	19.2%
Wednesday	148	17.1%
Thursday	141	16.3%
Friday	120	13.9%
Saturday	229	26.5%
Sunday	229	26.5%

**Stopping On The Way To and From Campus**

Ninety-two percent of students do not stop on their way to and from campus. Four percent pick up or drop off a spouse or a child en route, and four percent stop for another reason, with respondents citing work, dining, shopping, or the gym as destinations.

## Characteristics of Students Who Ride The Bus To Campus

Analysis in this section is based on the 499 students who reported riding the bus to campus. Of these students, 153 (31%) indicated that they ride a bus to campus via park and ride lots.

### Which Buses Respondents Ride to Campus

Ninety-nine percent of students reported riding Chapel Hill Transit buses, while one percent reported riding Triangle Transit buses. The 2013 survey number is likely lower than actual ridership as the survey used Triangle Transit routes from 2009. Ninety-one percent of riders indicated that they ride only one bus to get to campus.

Respondents were asked to indicate all bus routes they use, since many bus riders can choose a variety of routes to get to campus, and simply take the first bus that comes to their stop in the appropriate direction. Thus, the total number of different bus routes reportedly used exceeds the number of total park and ride and bus users. The J route is the most popular route, as it was in 2011 and 2009. See Table 4.16 for detailed bus ridership statistics by route.

Route	Number	% of total
J	122	9.7%
NS	108	8.6%
D	86	6.9%
FCX	75	6.0%
S	75	6.0%
CW	72	5.7%
T	65	5.2%
A	64	5.1%
CM	64	5.1%
V	55	4.4%
G	40	3.2%
JFX	40	3.2%
F	35	2.8%
NU	34	2.7%
U	34	2.7%
CL	29	2.3%
RU	26	2.1%
CPX	25	2.0%
D EXPRESS	25	2.0%
N	18	1.4%
HU	17	1.4%
T SAFE RIDE	17	1.4%
CW SAT	14	1.1%
Robertson Scholars Bus	14	1.1%
JN (SAT)	12	1.0%
CCX	11	0.9%
CM SAT	11	0.9%
T SAT	11	0.9%
T Weekend	11	0.9%
402/412	10	0.8%
JV SAFE RIDE	7	0.6%
DM (SAT)	6	0.5%
HS	5	0.4%
403/413	4	0.3%
FG (SAT)	3	0.2%
G SAFE RIDE	2	0.2%
500/550	2	0.2%
420	2	0.2%
SU	1	0.1%
TG	1	0.1%
PART	1	0.1%
M	0	0.0%
Orange Public Transit	0	0.0%
<b>Total Valid Responses</b>	<b>1254</b>	<b>100%</b>

\*The HU, S, and FCX routes all go to the same general area for Park and Ride purposes (the Friday Center lot, NC54 lot and the Hedrick Office Building lot). Therefore, they all use the same access route and all require UNC permits (the NC 54 lot, previously a town park n ride lot, is now operated by UNC as of August 15, 2010). Together, the three routes comprise a total of 13.4% of bus patronage.

**Park and Ride Lots**

Approximately 35 percent of students who use Park and Ride park at the Friday Center lot. The NC 54 lot comprises the second largest category, followed by the Jones Ferry Rd and the Southern Village lots. Table 4.17 displays detailed results.

\* The Friday Center lot and the NC 54 lot combined usage is 47.7 % at the same area with the same access (the Hedrick Park and Ride lot is for employees only).

<b>Lot</b>	<b>Number</b>	<b>% of Total</b>
Friday Center	53	34.6%
NC 54	20	13.1%
Jones Ferry Rd	15	9.8%
Southern Village	14	9.2%
Eubanks Rd	10	6.5%
District Drive (Raleigh)	10	6.5%
Franklin Street	7	4.6%
Southpoint Mall (Durham)	6	3.9%
Chatham County	5	3.3%
Private Off-Campus / Neighborhood	4	2.6%
Carrboro Plaza	3	2.0%
725 MLK Blvd	2	1.3%
Regional Transit Center (RTP)	2	1.3%
Other	2	1.3%
Hedrick Park and Ride	0	0.0%
Durham Tech (Hillsborough)	0	0.0%
American Tobacco Deck (Durham)	0	0.0%
<b>Total</b>	<b>153</b>	<b>100%</b>



**Respondent Preferences**

Students were asked to rank five factors in terms of their importance for choosing the mode they use to travel to campus. Respondents ranked cost, safety, time, comfort, and reliability on a scale of 1 to 5, with 1 being not important and 5 being very important. Reliability was the most important factor for students, followed closely by time. Cost was third most important, with safety, comfort and environmental concerns being least important. Reliability and Time have been the two most important factors in each survey since 2004. Cost dropped in importance for the first time since 2001. See Table 4.18 for results.

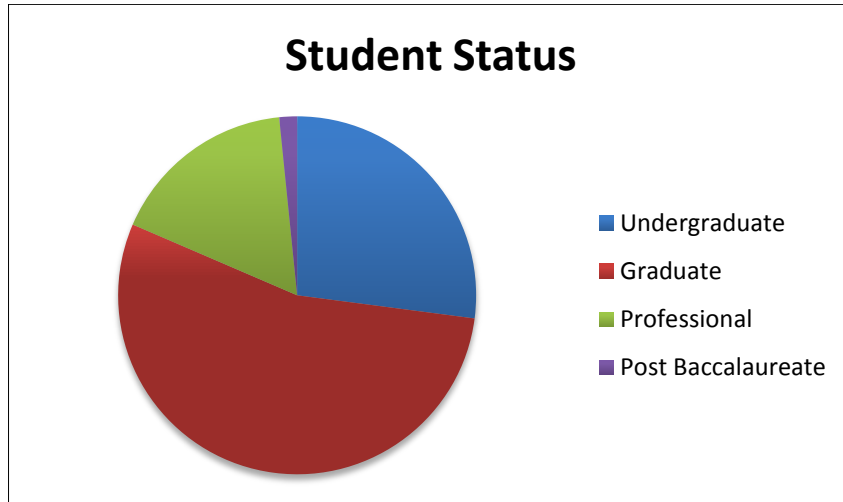
**Table 4.18 Student Average Importance Ratings**

	2013		2011		2009		2007		2004		2001		1997	
Factor	Avg. Rating	Total Valid Responses For Factor	Avg. Rating	Total Valid Responses For Factor	Avg. Rating	Total Valid Responses For Factor	Avg. Rating	Total Valid Responses For Factor	Avg. Rating	Total Valid Responses For Factor	Avg. Rating	Total Valid Responses For Factor	Avg. Rating	Total Valid Responses For Factor
Cost (in dollars)	4.15	775	4.32	476	4.09	480	3.91	589	3.85	1,612	3.5	847	3.82	394
Safety	3.93	770	3.80	476	3.96	479	3.79	585	4.41	1,604	4.25	848	3.76	394
Time	4.37	777	4.54	477	4.54	481	4.56	589	4.43	1,606	4.65	855	4.32	394
Comfort	3.44	773	3.42	472	3.35	478	3.45	584	4.2	1,606	4.65	840	3.16	394
Reliability	4.42	772	4.64	477	4.6	478	4.6	588	4.64	1,611	3.72	854	NA	NA
Environmental Concerns	3.26	771	3.41	474	3.49	477	3.4	586	NA	NA	NA	NA	NA	NA

**Description of Survey Respondents**

**Category**

Fifty-four percent of respondents were graduate students, 27 percent were undergraduates, 17 percent were professional students; and approximately 2 percent were post-baccalaureate students. The distribution of student respondents by student category is shown in the chart below.



**Status**

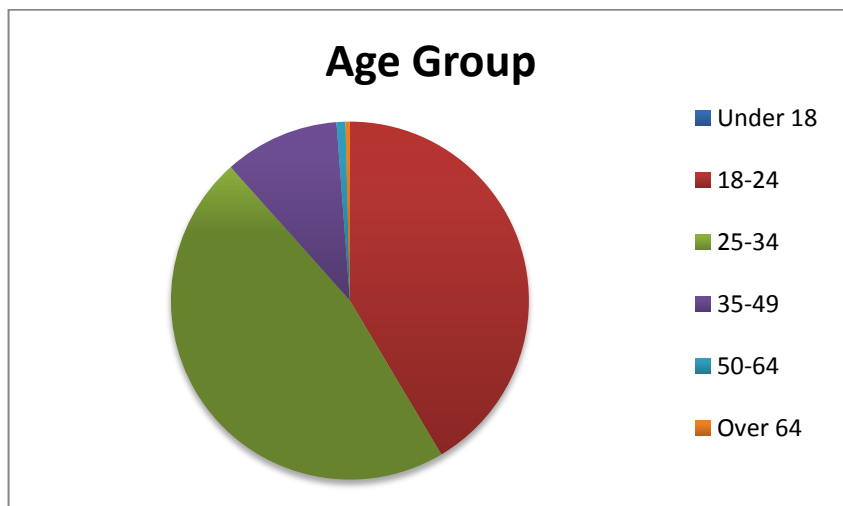
Ninety-three percent of respondents are full-time students. The remaining 7 percent are part-time students.

**Job Status**

Sixty-seven percent of students do not have an off-campus job, while 33 percent do.

**Age**

Forty-seven percent of the students are between the ages of 25-34, 42 percent are in the 18-24 range, 10 percent are in the 35-49 range, and 1 percent are over 49 years old. The distribution of student respondents by age is shown in the chart below.



**Gender**

Seventy-two percent of student respondents are female and 28 percent of students are male.

## V. Discussion of Major Findings

Given the amount of detailed data reported in the previous sections about particular types of travel and people, it is useful to examine the results from a broader perspective to identify major themes. These themes might be used to understand how ongoing transportation demand management techniques are performing on campus, and to suggest implications for new ones that may be applied. These themes are discussed below.

### **Multi-modal travel for employees and students continues to increase**

The most important finding in this report is that both students and employees are continuing to use a variety of modes on a regular basis. This can be observed throughout the cross-tabulation section by looking at the total percent of *category* (i.e. percent of enrollment status, percent of age group), which are higher than 100%. This indicates that individuals are selecting multiple modes to come to campus. In 2011, employees reported using 1.20 modes per respondent per week, which increased to 1.32 in 2013. For students, the numbers were 1.90 modes per respondent per week in 2013, up from 1.75 in 2011.

### **Implications of increased multi-modal behavior**

The data showing that students and employees are choosing a variety of modes suggests that campus transportation demand management efforts are effectively working to increase the viability of alternative modes. In addition, the percentage of constituents using the bus one or more days per week has been trending upward for employees and students since 1997. Bus usage has nearly quadrupled for employees and doubled for students since 1997. It seems that efforts to encourage people to use modes other than their cars are succeeding.

### **Land use patterns and the cost of housing matters**

One of the most interesting findings is that among employees, 69 percent of bicyclists earn over \$75,000 annually. When one considers that housing near campus tends to be very expensive, and that the bicycle is a mode that is used most within a short range of campus, this finding becomes less surprising. This trend of the majority of employee bicyclists being in the highest salary ranges was also observed in the 2001, 2004, 2007, 2009, and 2011 data. This seems to confirm that in order to make non-motorized modes more viable, employees may need to make a lot of money to locate in an area that will support adequate mode choice because of the high cost of housing.

Students, who are more likely to live in groups, can mitigate this effect by taking on roommates. The important point here is that if the high cost of housing in Chapel Hill begins to increase throughout the 2-5 mile radius as it has in the under 2-mile radius, then many lower and middle-income employees will find it difficult to live in an area well-served by transit, and this will greatly increase auto dependence. Since 1997, fewer employees and students are living in Chapel Hill and Carrboro and more are commuting greater distances to campus. However, more recently an increasing number of students and employees are living close to campus.

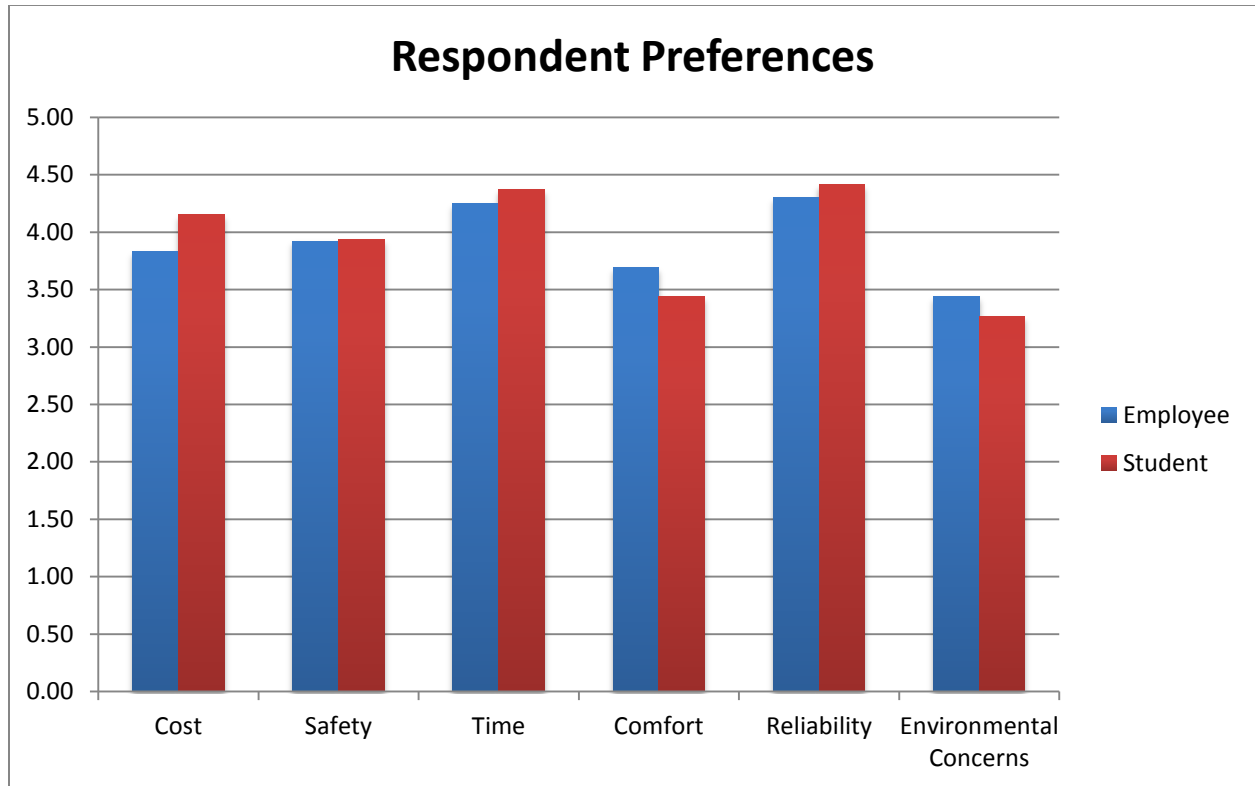
### **The role of information and lifestyle differences**

The data suggest that students are more likely than employees to use alternative ways to get to campus on days that they cannot use their primary mode for some reason. It is likely that students, who have less income and perhaps less rigid schedules than employees, have both more need and more flexibility to consider a variety of means of getting to campus. Student schedules likely vary more during the week and over semesters and years. Students also likely have fewer off-campus responsibilities, such as children, which allows students to have more flexibility getting to and from campus.

**Respondent preferences – Employees and Students**

Both employees and students were asked to comment on the importance of six different factors when choosing a mode. The results for the employees are shown in Table 3.19 and the results for students are shown in Table 4.19. The chart below compares the relative importance rating for the six different factors for students and employees. As with the tables, respondents ranked the importance of each factor on a scale of one to five, with five being “very important” and one being “not important.” The chart shows the average response for both employees and students.

In general, student and employee responses were very similar with no large differences in the average importance ranking between either group. Employees ranked comfort and environmental concerns a bit higher than students. Students considered cost, time, and reliability more important than employees.



# Appendix: Survey Instruments

# UNIVERSITY EMPLOYEE COMMUTER SURVEY

# UNIVERSITY STUDENT COMMUTER SURVEY