North Carolina Train Service Study

PIEDMONT AND CAROLINIAN
FALL 2014 ON-BOARD SURVEY RESULTS
NCDOT Rail Division

Prepared by

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EXECUTIVE SUMMARY

North Carolina Department of Transportation Rail Division contracted Parsons Brinckerhoff to complete a passenger rail study in the fall of 2014 to gain an understanding of the characteristics of rail users in North Carolina. The fall 2014 survey is a follow-up to a similar survey conducted in the spring of 2014. This passenger study considers nearly 6,000 surveys completed by passengers aboard the *Piedmont* and the *Carolinian* passenger trains. Initial analysis of the data highlights a few trends among the participating passengers. A brief list of the general findings includes:

1. Using the train to commute to work is very rare. Commuting accounts for less than 2% of the Piedmont ridership, and less than 1% of the *Carolinian* passengers;

2. Booking tickets through the mobile app and the internet decreases in popularity with increasing age, while the inverse is true for ticket window and telephone reservations. Additionally, purchasing tickets on-board the train, through a travel agent, or at the ticketing kiosk, is relatively uncommon;

3. Riders falling within the middle age groups (35-49) are less likely to use the train for visiting family and friends than the other riders, but they are more likely to ride the train for business purposes;

4. Riders with a higher income level are more likely to use the train for business as well as leisure;

5. Both the *Piedmont* and *Carolinian* are chosen by those intending to visit family/friends, partially in order to avoid highway traffic, and relax;

6. The *Piedmont* is more popular with students, while the *Carolinian* is more popular with the elderly and those visiting family/friends.

1 INTRODUCTION

The North Carolina Department of Transportation (NCDOT) Rail Division conducted this survey in fall 2014 to validate and supplement data collected during an earlier survey period (spring 2014). Both recent surveys were intended to update information regarding passenger demographics and origin/destination statistics for both the *Piedmont* and *Carolinian* routes. Information gathered through the survey effort could be used to guide the development of a marketing plan to improve awareness and establish a brand for North Carolina's state-supported intercity passenger rail program. Additionally, the survey data highlights potential areas where operations and level of service may be adjusted to optimize the use of resources while maintaining rider satisfaction.

1.1 Study Description

A survey was distributed, completed, and collected on-board the *Piedmont* and *Carolinian*. Surveys were administered by North Carolina Volunteer Train Hosts who were trained to brief passengers about the questions on the survey and how to handle situations such as incomplete forms and nonparticipation. The survey process was conducted in November 2014, before the Thanksgiving holiday period. In total, over 6,000 completed responses were received, covering all six daily, state-supported trains. The survey responses have been electronically entered and analyzed using Microsoft Excel and Access. The results have been compiled and displayed for easy interpretation.

1.2 Route Description

The *Piedmont* and *Carolinian* passenger rail corridors operate along 173- and 704-mile routes, respectively. Together, the state-supported services run three daily round trips in North Carolina and along the eastern seaboard. The *Piedmont* serves nine stations between Raleigh and Charlotte. The *Carolinian* operates along the entirety of the *Piedmont* corridor and extends north beyond the state boundary to connect with the Northeast Corridor. Figure 1 displays the train schedules adapted from the Amtrak System Timetable.

Figure 1 Piedmont and Carolinian train schedules (adapted from Amtrak System Timetable)

	Piedmont	Piedmont	Carolinian			Train Name			Carolinian	Piedmont	Piedmont
Train Number	73	75	79						80	74	76
Normal Days of Operation	Daily	Daily	Daily						Daily	Daily	Daily
	Read Down →		R67	Mile	▼	Connecting Train Number	Symbol	▲	R66	Read Up	
New York, NY–Penn Sta.			7 05A	0	Dp	New York, NY–Penn Sta.		Ar	8 47P		
Newark, NJ–Penn Station			R7 24A	10		Newark, NJ–Penn Station			D8 27P		
Trenton, NJ			8 03A	58		Trenton, NJ			D7 43P		
Philadelphia, PA –30th St. Station			8 35A	91		Philadelphia, PA –30th St. Station			D7 07P		
Wilmington, DE			8 58A	116		Wilmington, DE			D6 43P		
Baltimore, MD–Penn Sta.			9 45A	185		Baltimore, MD–Penn Sta.			D5 51P		
Washington, DC			10 55A	225		Washington, DC		Ar	D4 37P		
Alexandria, VA			11 12A	233		Alexandria, VA			4 06P		
Quantico, VA			11 39A	260		Quantico, VA			3 34P		
Fredericksburg, VA			11 57A	279		Fredericksburg, VA			3 12P		
Richmond, VA –Staples Mill Rd.			1 02P Ar / 1 10P Dp	334	Ar / Dp	Richmond, VA –Staples Mill Rd.		Dp / Ar	2 12P / 2 05P		
Petersburg, VA			1 43P	362		Petersburg, VA		Dp	1 20P		
Rocky Mount, NC			3 13P	460		Rocky Mount, NC			11 52A		
Wilson, NC			3 32P	476		Wilson, NC — Eastern North Carolina—see below			11 30A		
Selma-Smithfield, NC			4 03P	502		Selma-Smithfield, NC			11 00A		
Raleigh, NC	6 45A	11 45A	4 42P Ar / 4 50P Dp	531	Ar / Dp	Raleigh, NC		Dp / Ar	10 25A / 10 17A	3 11P	8 26P
Cary, NC	6 57A	11 57A	5 03P	539		Cary, NC			10 02A	2 53P	8 08P
Durham, NC	7 17A	12 17P	5 24P	557		Durham, NC			9 42A	2 33P	7 48P
Burlington, NC	7 53A	12 53P	6 01P	591		Burlington, NC			9 01A	1 55P	7 10P
Greensboro, NC	8 18A	1 18P	6 32P	612		Greensboro, NC			8 39A	1 34P	6 49P
High Point, NC	8 34A	1 34P	6 48P	628		High Point, NC			8 17A	1 14P	6 29P
Salisbury, NC	9 08A	2 08P	7 24P	662		Salisbury, NC			7 43A	12 41P	5 56P
Kannapolis, NC	9 24A	2 24P	7 41P	678		Kannapolis, NC			7 25A	12 25P	5 40P
Charlotte, NC	9 55A	2 55P	8 12P	704	Ar	Charlotte, NC		Dp	7 00A	12 00N	5 15P

Table 1 displays select performance metrics provided by Amtrak and compares November 2014 and April 2014 values that correspond with spring and fall survey times. The ridership and revenue numbers are comparable, while on-time performance and satisfaction show significant discrepancies. Between the two survey periods, Amtrak's customer satisfaction surveys switched from paper to electronic form.

Table 1 Performance metrics during the operating months when surveys I and II occurred

	Ridership		Revenue		On-time Performance		Overall Customer Satisfaction	
	APR 2014	NOV 2014	APR 2014	NOV 2014	APR 2014	NOV 2014	APR 2014	NOV 2014
Carolinian	27,774	24,920	$1,690,553	$1,614,300	77%	66%	0.83	0.75
Piedmont	14,353	15,384	$291,984	$325,330	84%	73%	0.99	0.92

2   METRICS AND OBJECTIVES

The goal of surveying passengers on the *Carolinian* and *Piedmont* is to discern ridership trends by doing the following:

1. Summarize the most popular train stations;
2. Compile a list of the demographics that describes a majority of the ridership along these two routes;
3. Highlight potential marketing channels by analyzing ridership characteristics and common sources of media;
4. Evaluate customer satisfaction with regards to the services currently provided.

By summarizing the information collected and examining trends, it may be possible to adjust services to more effectively meet the needs of rail users in North Carolina. Refining marketing activities and adjusting level of service are two such applications.

3   DATA COLLECTION

Sample surveys for both the *Piedmont* and *Carolinian* trains are included in Appendix A.1 and A.2. Copies of these surveys were distributed by Train Hosts on selected surveying dates. The response rate across all six daily trains exceeded 30%.

3.1   Survey Design and Administration

The survey was developed to compliment the spring 2014 survey effort. To increase outreach, Spanish versions of the survey were created for the fall survey to accommodate any non-English speaking Hispanic riders. Many questions were similar to the spring 2014 survey, but some included changes. These changes facilitate an update to the baseline established earlier this year. The primary revisions from the spring 2014 survey are found on the *Piedmont* survey, which places less emphasis on food and Wi-Fi services than was previously done. Wi-Fi on-board the *Piedmont* has been a consistent demand over the past few years, and the Rail Division has continuously made strides toward procurement and implementation.

In order to remain consistent with the previous process and avoid any logistical issues, *Piedmont* surveys were distributed to passengers throughout the entire duration of the service between the Charlotte and Raleigh Stations. However, *Carolinian* surveys were distributed, completed, and collected within North Carolina between the Charlotte and Rocky Mount stations. Surveys were administered by Volunteer Train Hosts with the assistance of contracted staff. Surveyors participated in an updated NCDOT training session prior to deployment. Training covered the following topics:

1. When to arrive at the station, and how to prepare for the trip;
2. Common questions that may be asked and proper answers to these inquiries;
3. Engaging passengers early and often;
4. What to say to the passengers and how to present the surveys;
5. How to distribute and collect the surveys efficiently;
6. When/how to collect the completed surveys;

7. Where to submit the collected surveys.

These training topics have been reevaluated since the survey conducted in the spring. As such, surveying was conducted in a much more efficient and successful manner. Survey instructions were provided to survey administrators. The instructions included specific procedures covered during the training sessions, NCDOT and consultant contact information, and an announcement script. The survey instructions are included in Appendix A.3 and A.4.

The *Piedmont* and *Carolinian* trains were surveyed between 1st November 2014 and 22nd November 2014 on weekdays and weekends. All trains were surveyed during this time period. The overall survey participation rate was determined by comparing the number of surveys completed and the number of train passengers for the respective train. A summary of data collection is shown in Table 2. Note that the ridership data for the *Carolinian* (#79 and #80) represents only the number of passengers available to participate during the actual span of survey administration between Rocky Mount and Charlotte. This adjustment was made to give an accurate portrayal of the participation in the survey.

Table 2 Summary of data collection activities

Survey Dates	Piedmont								Carolinian				All Trains	
	#73		#74		#75		#76		#79		#80			
	Respondents	Ridership	Respondents	Ridership	Respondents	Ridership	Respondents	Ridership	Respondents	Ridership	Respondents	Ridership	Respondents	Ridership
1-Nov	31	71	14	89	70	135	16	89	60	230	66	275	257	889
2-Nov	27	41	77	107	90	202	97	263	91	230	80	275	462	1,118
3-Nov	62	104	34	80	73	87	26	263	54	484	159	317	408	1,335
4-Nov	39	104	31	80	32	87	30	82	65	270	99	330	296	953
5-Nov	23	61	28	47	32	67	23	82	38	196	90	226	234	679
6-Nov	31	47	28	73	45	82	23	87	173	220	95	203	395	712
7-Nov	31	53	130	79	67	94	72	131	170	334	156	230	626	921
8-Nov	48	78	36	205	63	204	26	210	78	490	113	306	364	1,493
9-Nov	29	103	51	100	52	118	38	111	64	223	85	272	319	927
11-Nov	23	61	24	80	35	94	32	87	52	259	98	241	264	822
13-Nov	28	47	37	74	30	84	34	116	77	310	83	243	289	874
15-Nov	38	106	6	93	71	170	30	114	43	213	77	226	265	922
16-Nov	43	217	71	196	49	170	86	377	74	406	133	305	456	1,671
18-Nov	19	62	19	45	25	60	19	79	46	184	65	184	193	614
20-Nov	25	70	40	80	44	85	59	135	119	279	126	304	413	953
21-Nov	28	61	49	153	59	177	37	213	140	478	154	276	467	1,358
22-Nov	40	97	35	118	48	130	16	73	74	389	76	366	289	1,173
Total	565	1,383	710	1,699	885	2,046	664	2,512	1,418	5,195	1,755	4,579	5,997	17,414
Response Rate	40.9%		41.8%		43.3%		26.4%		27.3%		38.3%		34.4%	

The overall survey response rate increased from 28.3 percent in the spring to 34.4 percent in the fall. This increase is most noticeable in the *Carolinian* statistics. Survey percentages increased by approximately 10-20 percent among these passengers. The increased efficiency is largely due to revised training methods and improved preparation of the on-board survey administrators.

3.2 Database and Quality Control

A Microsoft Access database was created for the survey project conducted in the spring and was updated for this new survey process. Completed surveys were divided into batches according to the date of collection and were manually entered into the Microsoft Access database. A quality control procedure for the database entries followed. This procedure involved the review of at least 10 percent of each entered survey batch. If reviewers found errors, the batch was resubmitted for checking and data entry. From this database, pivot tables were used to cross-analyze datasets and summarize survey results.

Quality control measures were applied throughout all phases of data collection. Contracted staff collaborated with NCDOT to ensure that either qualified Volunteer Train Hosts or other representatives were present during survey periods (typically scheduled one week before the survey date). Contracted staff assisted the Train Hosts when necessary, to carry out the procedures outlined in the survey instructions. Survey administrators routinely checked the stock of survey questionnaires and pens at designated train stations to ensure that sufficient survey materials were available during data collection. NCDOT coordinated with train station attendants to ensure that completed surveys were delivered to NCDOT in a timely manner.

4 DATA SUMMARY

In order to retain consistency and allow easy comparison, the *Data Analysis* chapter has been divided into the following sections: *Rider Profiles and Passenger Demographics*, *Trip Specifics*, and *Customer Satisfaction and Passenger Preference*. Many of the trends are similar to the previously established baseline. As expected, this confirms a sufficient sample size and stable travel characteristics. As such, the focus throughout this section is shifted towards any new trends or discrepancies.

Throughout this section, many charts and graphs are presented. These figures were chosen to quickly display trends in the answers to the survey questionnaire. For a more detailed overview of the response statistics, see Appendix B.

4.1 Rider Profile and Passenger Demographics

The information presented below reports the survey results regarding passenger residence, gender, age group, ethnicity, and other socioeconomic aspects. Note that the percentage values present do not always sum up to 100 percent due to rounding or multiple selection questions.

4.1.1 Passenger Residence

Passengers were asked to provide their zip code in both the *Carolinian* and *Piedmont* surveys. A comparison of the collected numbers can be seen in Table 3.

**Table 3 Passenger residence from *Piedmont* and *Carolinian* surveys**

Service	Response Rate		In-state Residence		Out-of-state Residence	
Survey Period	Spring	Fall	Spring	Fall	Spring	Fall
Piedmont	85%	93%	92%	88%	8%	12%
Carolinian			63%	59%	37%	41%

Compared to spring results, the percent of non-North Carolina riders increased slightly on both train routes. This may be attributed to seasonal travel patterns in which additional interstate travel occurs during holiday periods. This is a trend worth examining in more depth over time.

In-state Residence

Figure 2 displays where the concentrations of passengers reside in North Carolina. As could be expected, the greatest numbers of riders claimed residence in the largest metropolitan areas.

Figure 2 Distribution of in-state residents who responded to on-board surveys
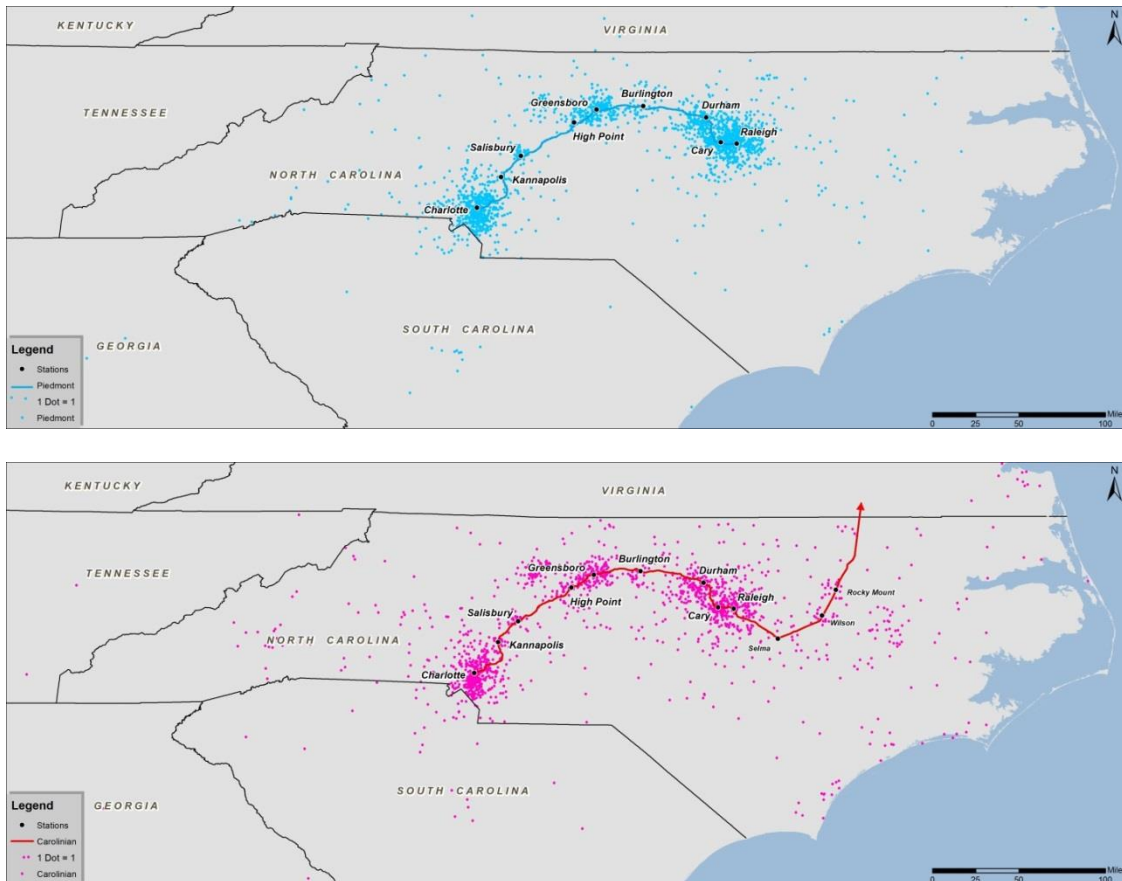
Out-of-state Residence

Figure 3 depicts the most common out-of-state residency. Passengers residing outside of North Carolina were generally located along the eastern seaboard. On the *Piedmont*, the majority of non-North Carolina residents were from Florida and South Carolina. The *Carolinian* showed significant contrast, with most out of state residents located to the north of the state along the route's corridor.

Figure 3 Top out-of-state Residency of *Piedmont* and *Carolinian* passengers
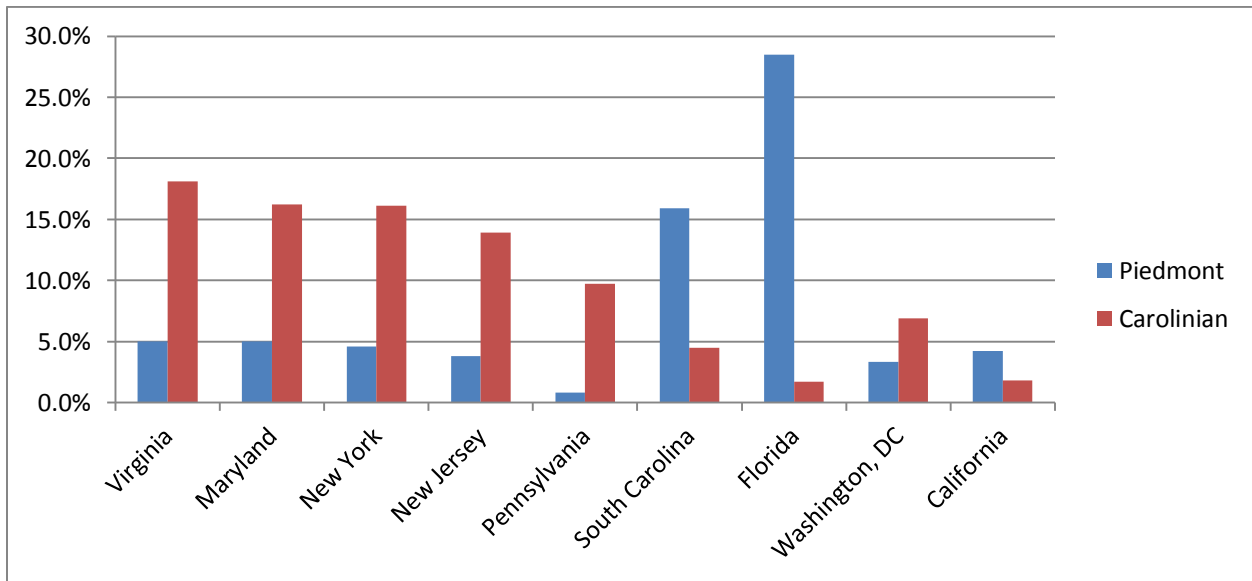
4.1.2 Gender, Age, and Ethnicity

Figure 4 shows basic demographic information about *Piedmont* and *Carolinian* riders. The only significant variations from the spring study are a slight increase in Hispanic/Latino ridership (from 2 percent to 5 percent). It should be noted that the increase in Hispanic riders is not attributed to the creation of Spanish version surveys, as none were completed for collection. Additionally, there is a noticeable spike in *Carolinian* riders over the age of 65. In regards to the gender split, the *Piedmont* was about 55/45 (female to male), while the *Carolinian* was 65/35.

Figure 4 Passenger demographics of *Piedmont* and *Carolinian* respondents
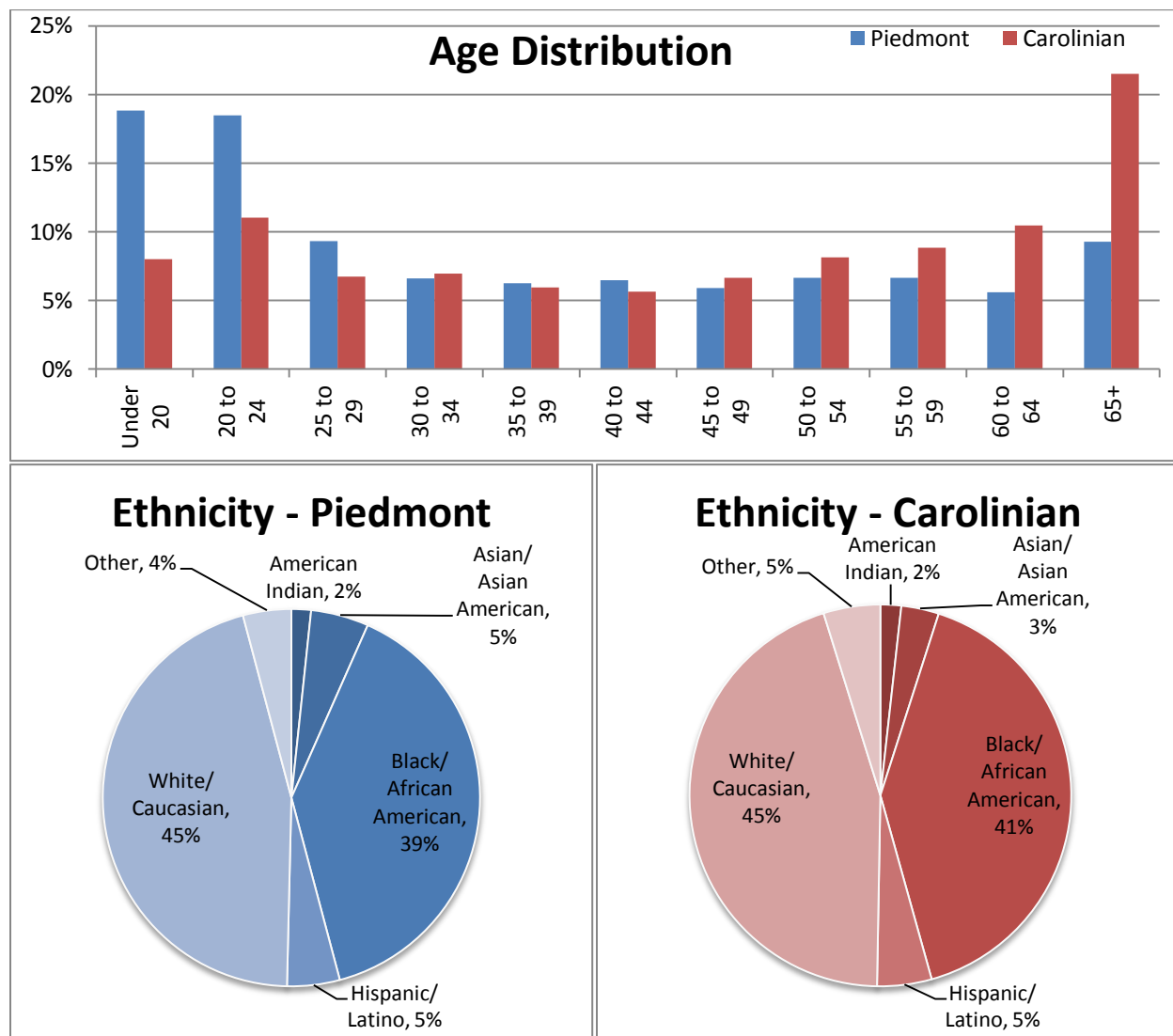
4.1.3 Socioeconomics

Table 4 displays three categories of socioeconomic data for the *Piedmont* and *Carolinian* services; these include employment status, education level, and household income. The ridership of both trains exhibit fairly similar characteristics, with the exception that the *Carolinian* has a higher percentage of retired individuals, while the *Piedmont* is weighted toward students. This is likewise reflected in the education and income levels, as the students would likely answer "some college" and fall in a lower income bracket. This coincides with the age distribution mentioned in the previous section.

Table 4 Socioeconomic data on the *Piedmont* and *Carolinian* passengers

Piedmont					
Employment		Education		Household Income	
Full Time	41.9%	**No HS Diploma**	3.5%	**Under $25,000**	29.6%
Part Time	9.9%	**HS Diploma or GED**	17.2%	**$25,000 to $49,000**	25.0%
Student	28.8%	**Some College**	31.6%	**$50,000 to $100,000**	25.7%
Unemployed	6.6%	**Associate's Degree**	6.7%	**$100,000 or more**	19.7%
Retired	12.8%	**Bachelor's Degree**	22.2%		
		Master's Degree	12.1%		
		Post Graduate	6.7%		

Carolinian					
Employment		Education		Household Income	
Full Time	42.6%	**No HS Diploma**	3.8%	**Under $25,000**	23.7%
Part Time	7.8%	**HS Diploma or GED**	15.6%	**$25,000 to $49,000**	27.3%
Student	13.8%	**Some College**	24.3%	**$50,000 to $100,000**	29.1%
Unemployed	7.0%	**Associate's Degree**	8.9%	**$100,000 or more**	19.9%
Retired	28.9%	**Bachelor's Degree**	22.3%		
		Master's Degree	15.5%		
		Post Graduate	9.6%		

4.1.4   Passenger Communications

For marketing and communication purposes, passengers were asked about the types of media they use and their exposure to train services. Trends in media usage do not typically show significant variation within the course of a single year. Consequently, the collected responses shown in Figure 5 are almost identical to those reported in the spring.

Figure 5 Regularly used media sources
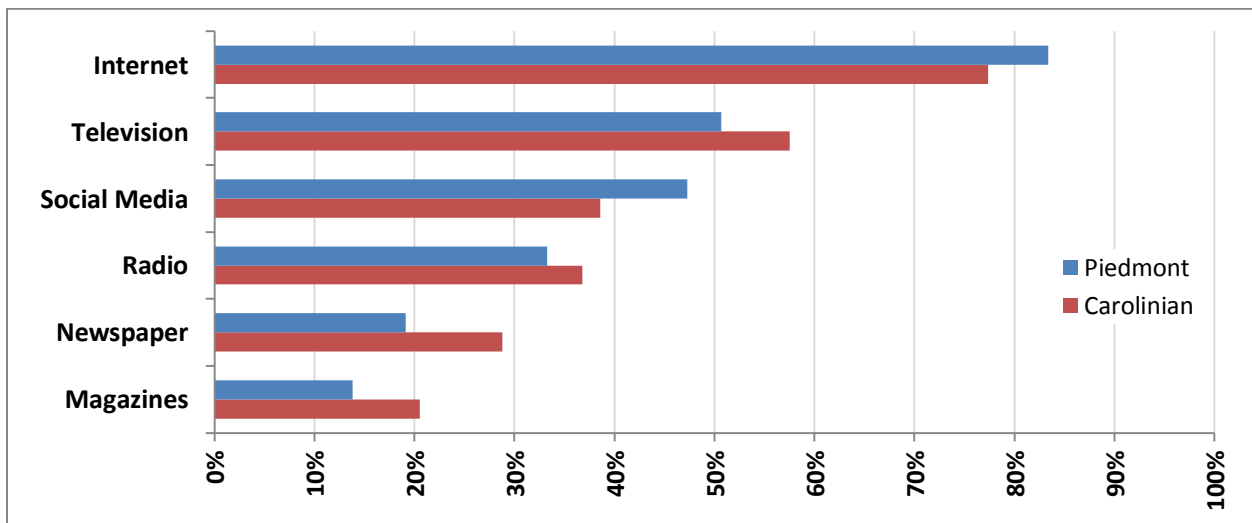
Figure 6 shows how passengers learned about *Piedmont* and *Carolinian* services prior to their trip. The discrepancies with the spring data are minor. They involve a small decrease in the percentage of passengers reporting to have taken the train before, while the reported usage of NCByTrain.org and Amtrak.com has risen slightly. As with the spring survey results, highway signs, radio, print, tabling events, and travel agencies each apply to less than 5 percent of riders. This does not necessary imply that these formats are ineffective, but warrants consideration as to which sources should and should not be utilized.

Figure 6 Means of exposure to state-supported passenger rail services
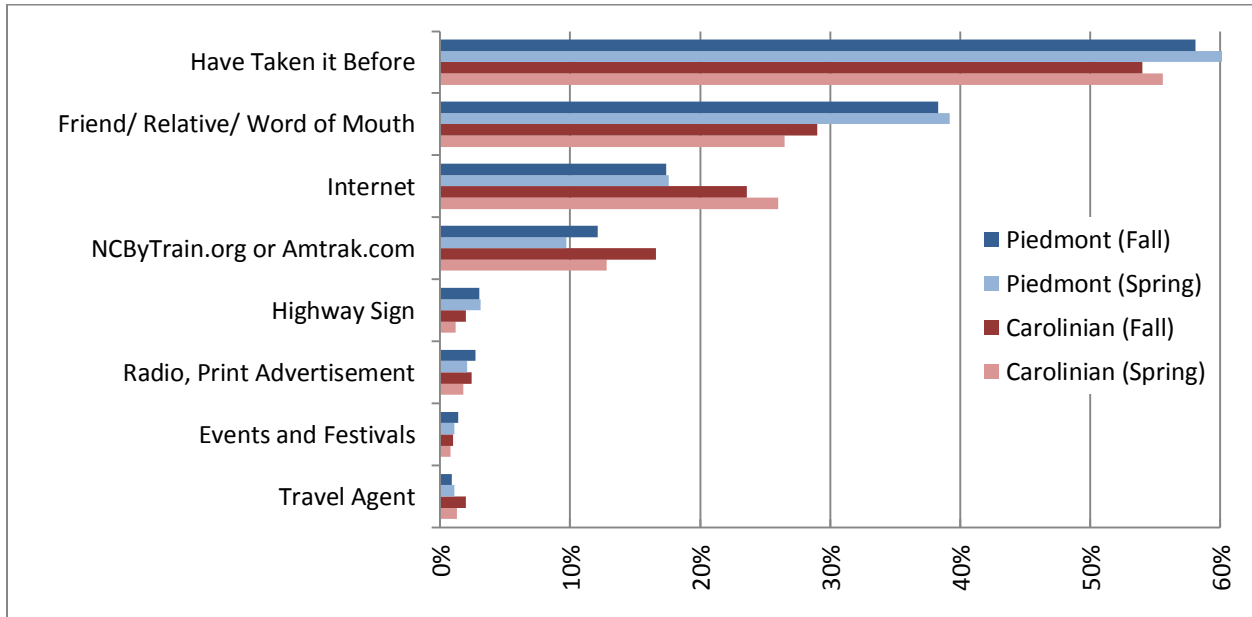
4.2 Trip Specifics

This section relates to the travel characteristics of on-board survey respondents; the analysis includes station boarding and alighting, means of access and egress to and from stations, trip purpose, alternate travel mode preference, travel party details, trip length, booking methods, ticket type, and trip experience.

4.2.1 Boarding and Alighting

The boarding and alighting data presented in this section represent the stations where passengers stated to have gotten on and off trains. There were three common issues with responses to this survey item: (1) passengers stated getting on and off at stations that were inconsistent with specific train directions, (2) passengers stated getting on and off at the same station, and (3) passengers listed stations along a connecting route. For quality assurance, the responses that presented any of these cases were excluded from analysis.

Piedmont

Figure 7 These passengers seem to have been reallocated equally across the other stations. shows the percentage of survey respondents boarding at each station along the *Piedmont* route. Corresponding to the Amtrak System Timetable, and similar to expectations, the

majority of boarding occurred in the Triangle metropolitan area for the morning and midday. Over 65 percent of the afternoon and evening boarding occurred at the Charlotte station on #74 and #76. The significant shift, when compared to the responses collected earlier in the year, is a 10 percent decrease in boarding at the Charlotte station. These passengers seem to have been reallocated equally across the other stations.

Figure 7 Respondents boarding at stations along the *Piedmont* corridor
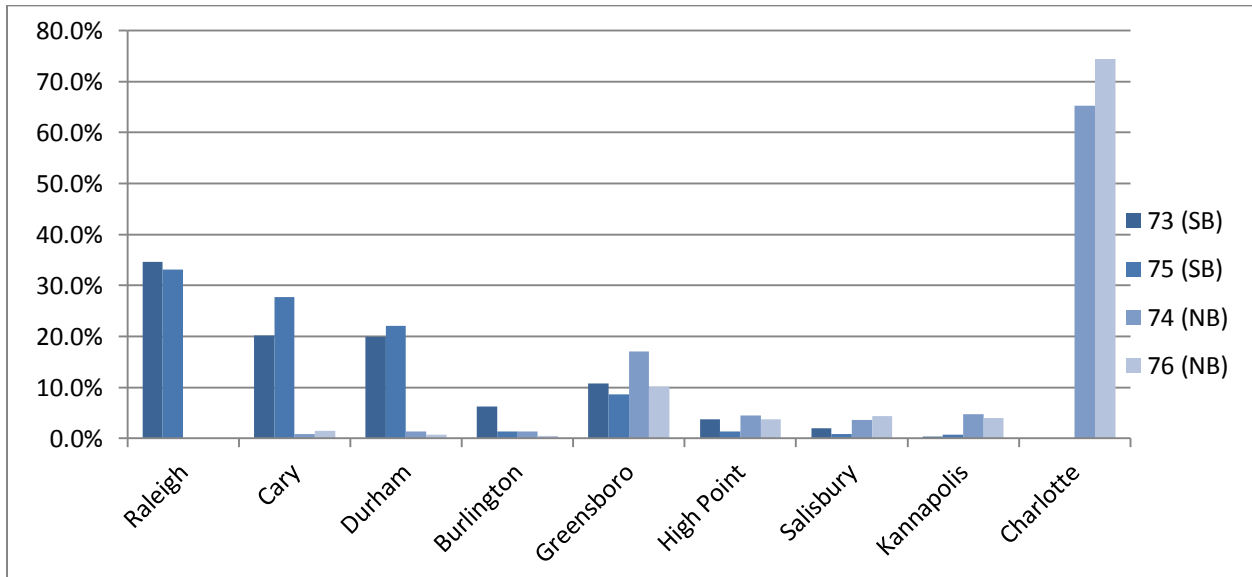
Figure 8 shows the percentage of survey respondents alighting at each station along the *Piedmont* route. Compared to the spring, Charlotte and Raleigh stations appear to be reaching the same levels of popularity, but the number of individuals reporting to have alighted in Greensboro has decreased by 2 percent to 5 percent across each of the four trains.

Figure 8 Respondents alighting at stations along the *Piedmont* corridor
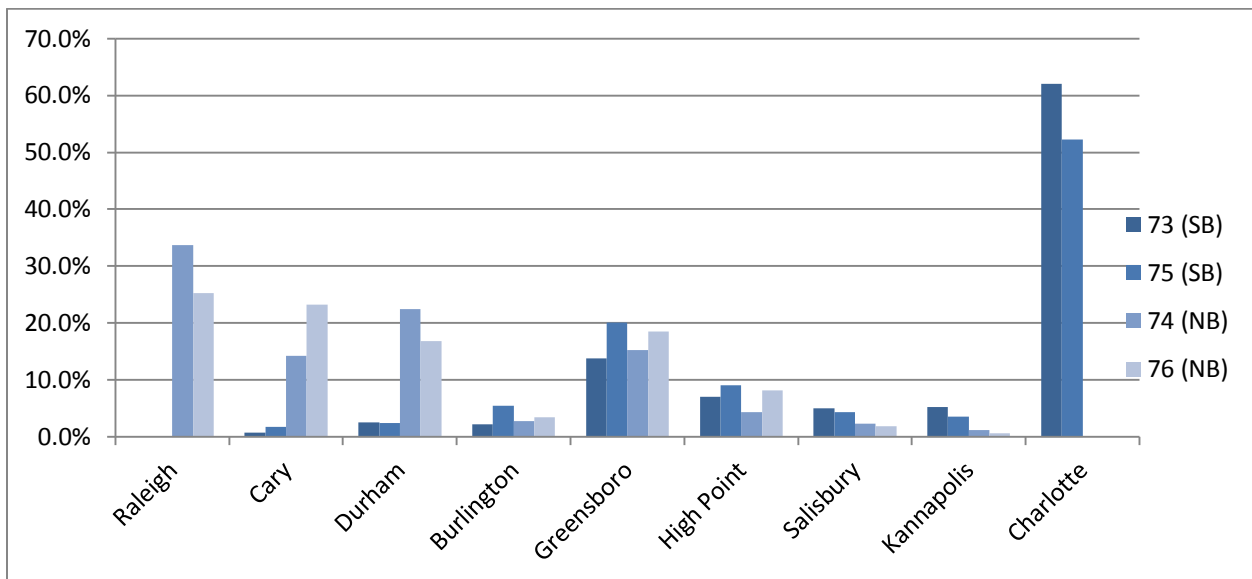
Carolinian

Figure 9 shows the percentage of survey respondents boarding at each station along the *Carolinian* route. Many of the percentages displayed below correspond closely with the baseline established in the spring. The largest difference is 5 percent decline in reports of passengers on train #79 boarding in Raleigh.

**Figure 9 Respondents boarding at stations along the *Carolinian* corridor**
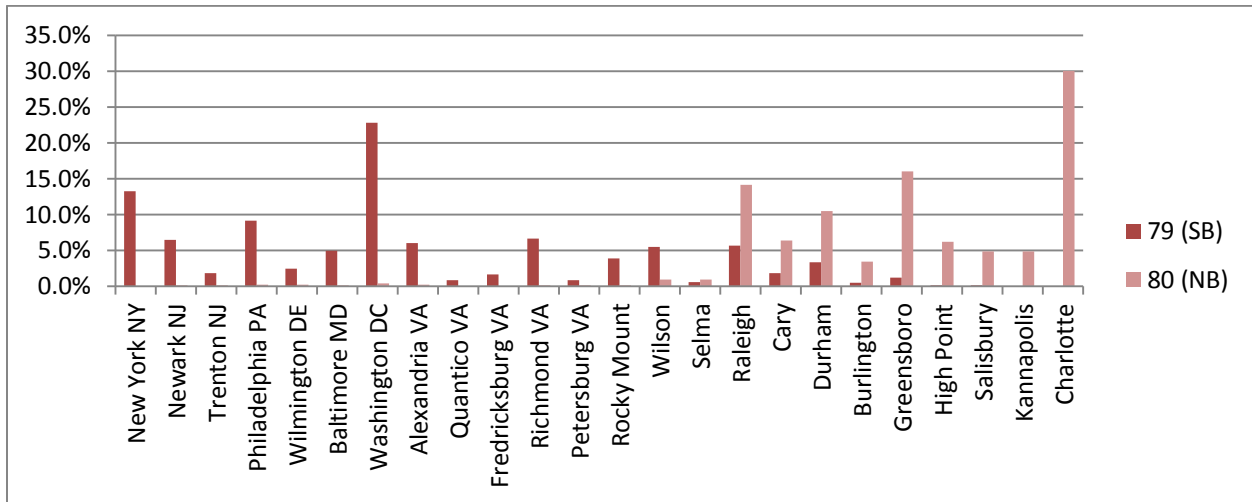
Figure 10 shows the percentage of survey respondents alighting at each station along the *Carolinian* route. The alighting inversely parallels the boarding, in which passengers were alighting train #79 mostly at Charlotte, Greensboro, and Raleigh, and just over a third of the passengers are alighting train #80 at North Carolina Stations. The reported alighting from train #79 in Raleigh has increased by about 8 percent while alighting in Greensboro has lost 7 percent of the total reports. Alighting from train #80 has increased by almost 5 percent in Durham.

Figure 10 Respondents alighting at stations along the *Carolinian* corridor
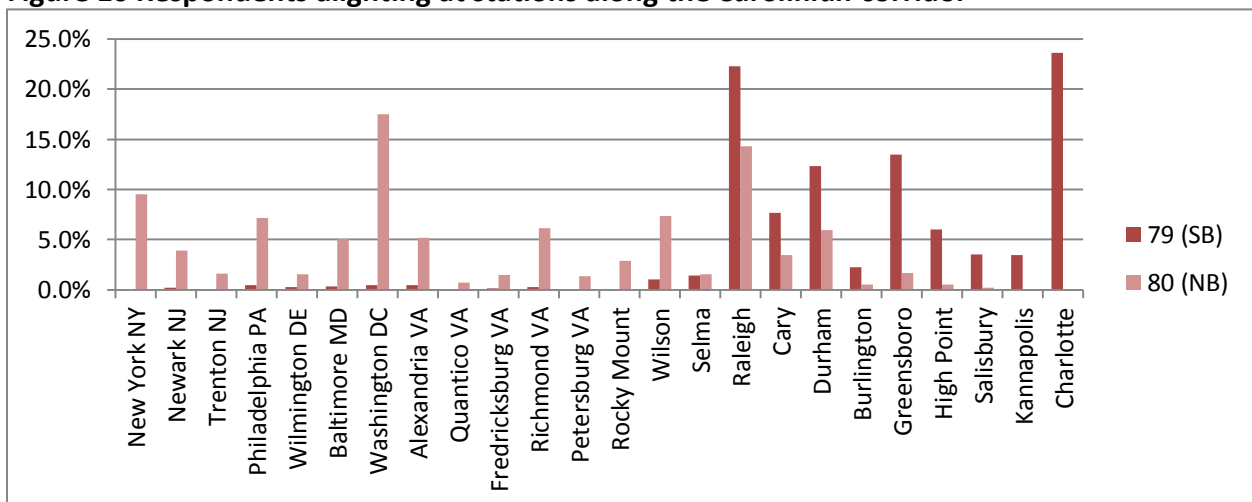
4.2.2 Access and Egress

Figure 11 shows the way in which respondents traveled to and from their boarding and alighting stations. On both services, the majority of riders were dropped off, with driving as the second most common method at approximately 20 percent. Very few respondents accessed the station by another connecting train, by foot, or bicycle. The rate of usage for connecting trains was slightly higher than the last survey period for *Piedmont* passengers (1-3 percent), but otherwise there are no major discrepancies between this data and that from the spring survey.

Figure 11 Access and egress modes to and from *Piedmont* and *Carolinian* stations
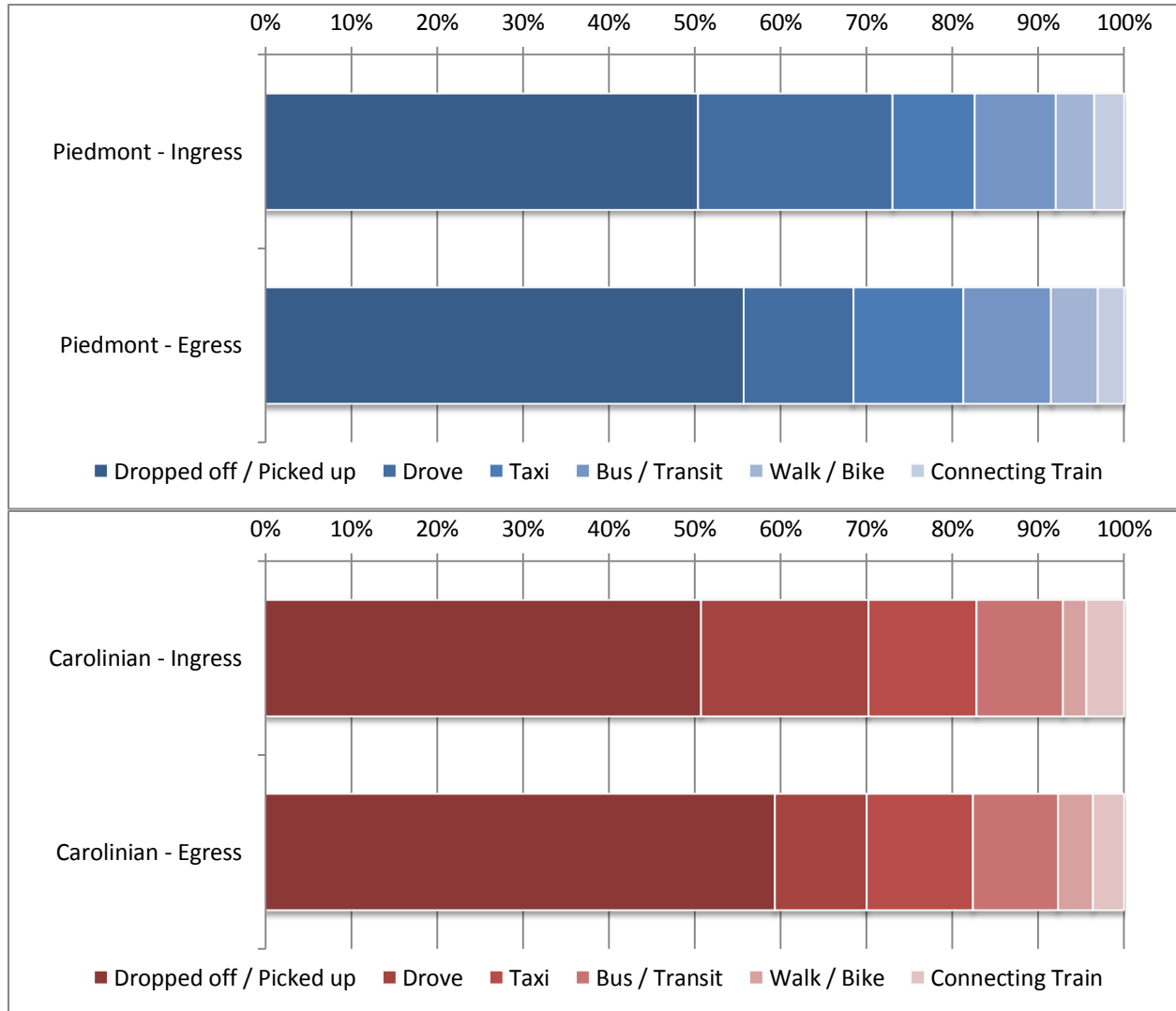
4.2.3 Trip Purpose

Figure 12 shows the trip purpose distribution of the riders surveyed on both services. Along the *Piedmont* route, there was a shift (4-5 percent) from school to leisure, while passengers visiting friends and family increased slightly on the *Carolinian*. This shift is likely a seasonal trend in that people travel more for leisure and visiting during the holidays.

Figure 12 Distribution of trip purposes on the *Piedmont* and *Carolinian*
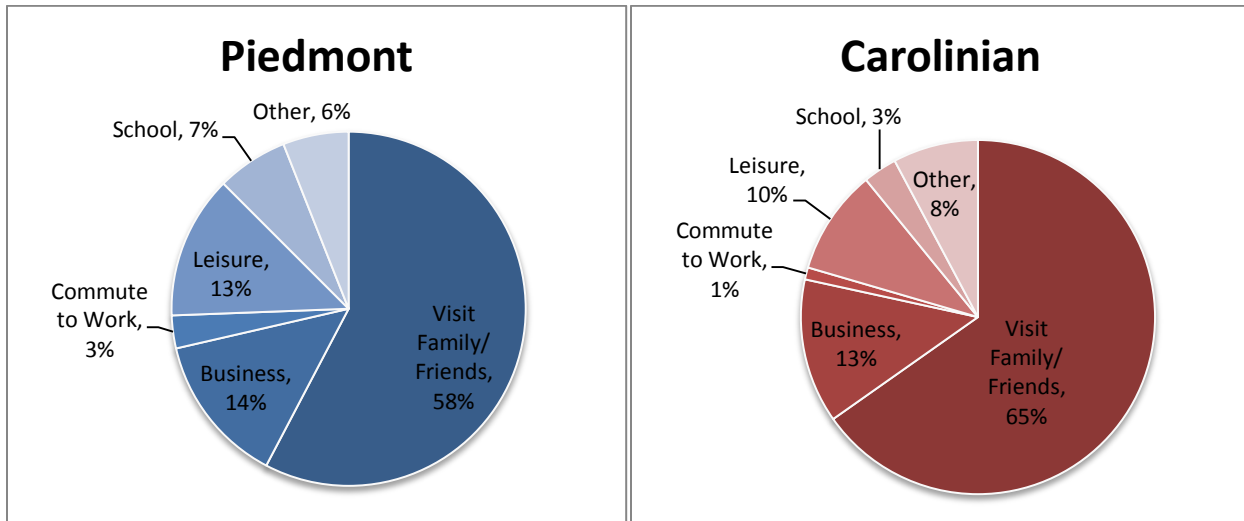
4.2.4 Alternative Travel Mode

Figure 13 displays the alternative travel mode that respondents would have preferred if passenger rail had not been available. These charts closely replicate the statistics from the first survey, indicating a large and representative sample. One key finding verified in both the spring and fall surveys is that 16 percent of *Piedmont* passengers and 11 percent of *Carolinian* passengers would forgo taking their trips had the train services been unavailable.

Figure 13 Alternative travel modes preferences for each train service
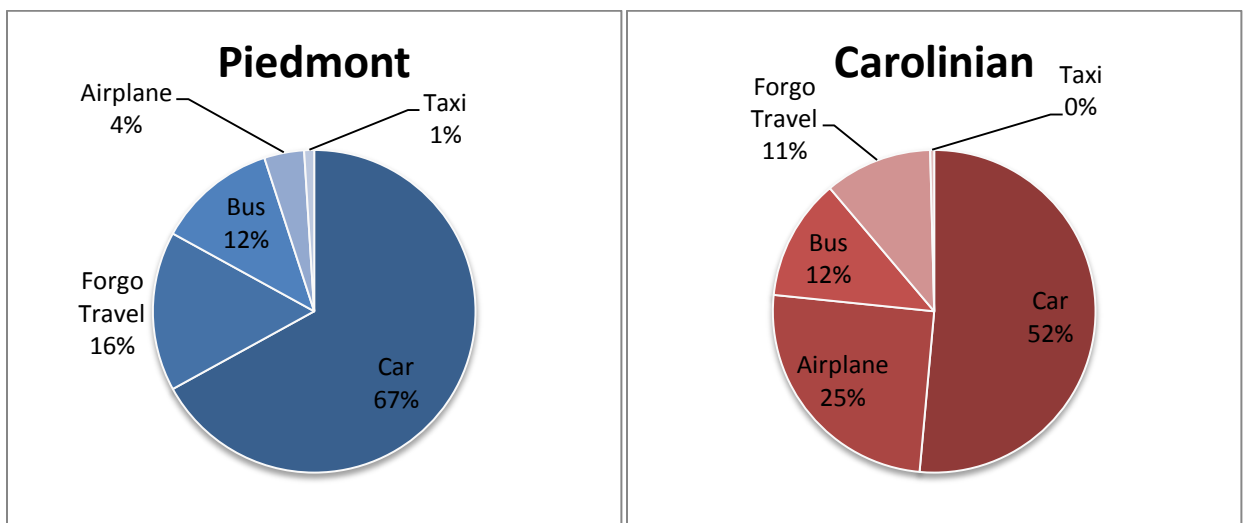
4.2.5 Other Trip Specifics

Travel Party

Similar to the choices regarding alternative travel mode, the passenger party sizes show no statistically significant variation from the 2014 spring results. Figure 14, below, displays that three quarters of passengers travel alone and about a fifth are traveling with a companion. Promoting group travel could be an opportunity given that (1) it is relatively low and (2) the majority of first-time riders learn about the services by word of mouth.

Figure 14 Passenger party for the Piedmont and Carolinian
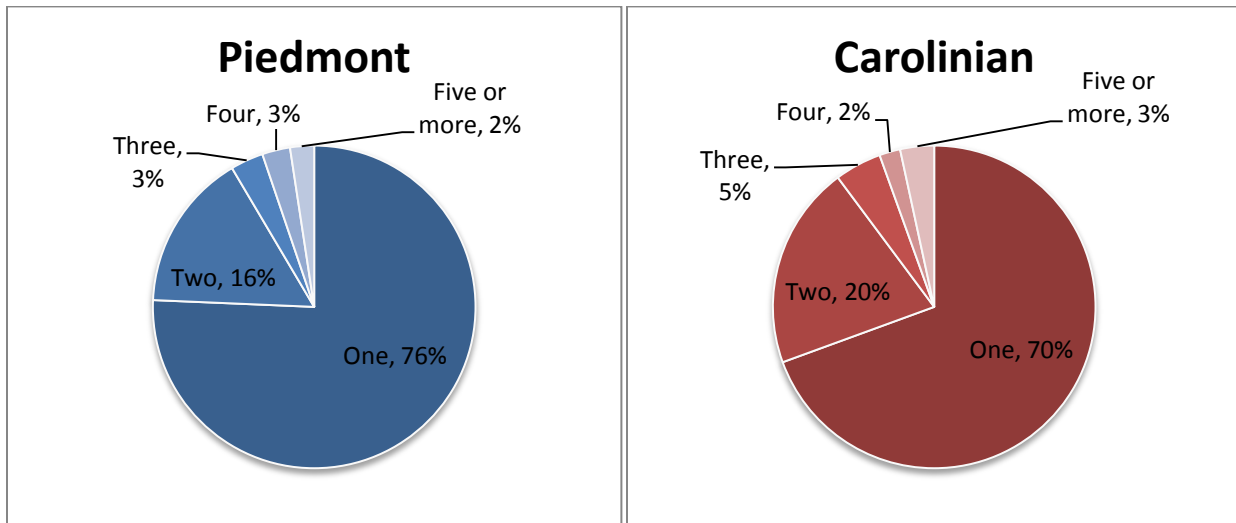
Trip Duration

Carolinian passengers typically spent more nights on their trips than *Piedmont* passengers. While two-thirds of *Piedmont* passengers spent two or fewer nights during the span of their trip, less than half cited this on the *Carolinian*. Compared to the spring survey, there have been minor shifts in this category. There was a slight increase of *Piedmont* passengers taking day trips and a slight increase of *Carolinian* passengers staying more than four nights away. Figure 15 displays responses collected during the fall of 2014.

Figure 15 Trip duration by train service

| Number of Nights Away	0	1	2	3	4	5+
Piedmont	27%	19%	22%	10%	5%	18%
Carolinian	15%	7%	17%	16%	10%	35%
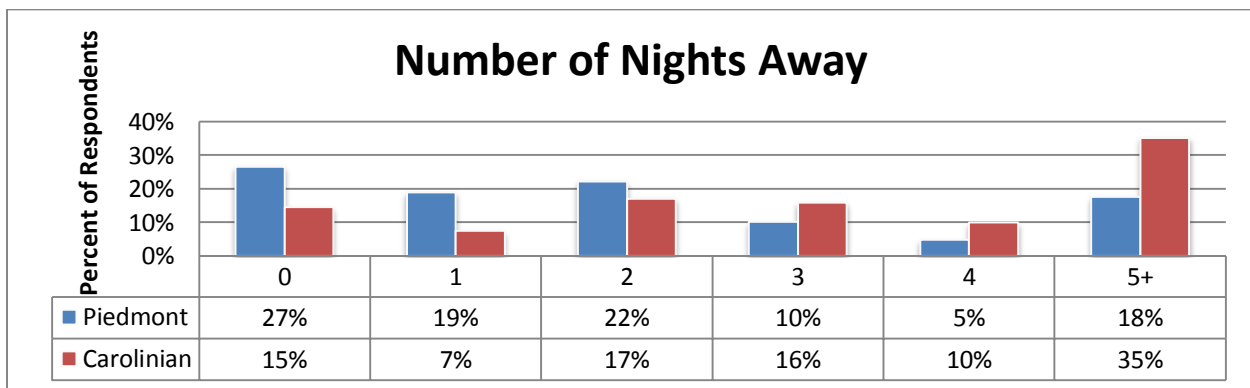
4.2.6 Type of Ticket and Booking Method

Figure 16 displays the rate of selection for different ticket types. Compared to the spring results, 5 percent of *Piedmont* travelers have switched from round trip tickets, to purchasing a one-way ticket.

Figure 16 Type of ticket purchased by service
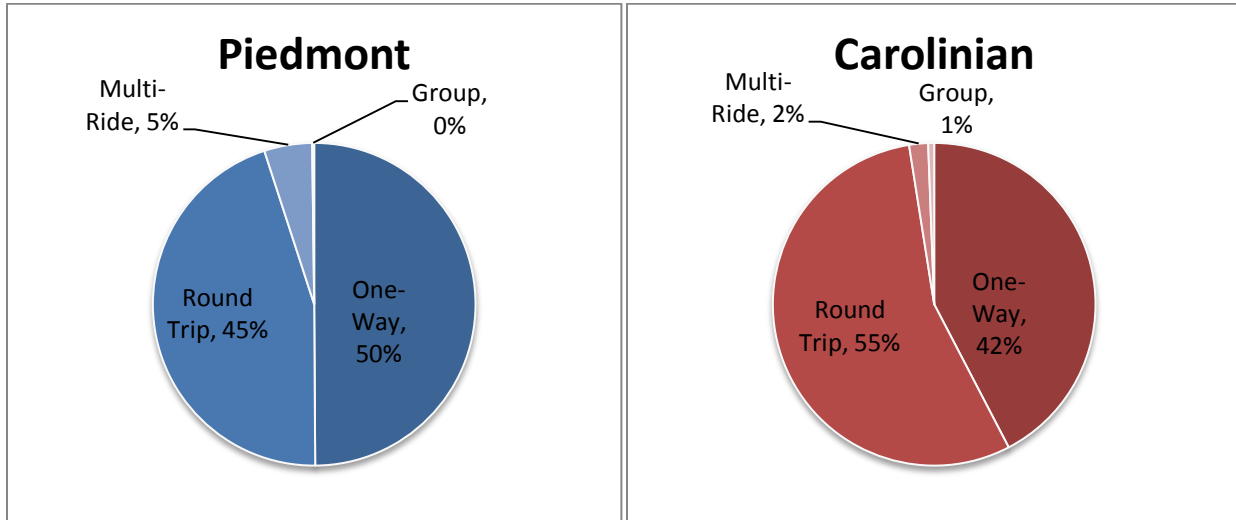
New to this survey period is the Amtrak mobile app. This app for personal mobile devices has significantly cut into the number of riders using the online websites (Amtrak.com and NCByTrain.org). A comparison of the two sets of data indicates that approximately 11 percent of passengers aboard the train have shifted from using the website to the mobile app. Again, purchasing a ticket on-board the train, at the ticketing kiosk, or through a travel agent is uncommon. During both survey periods these three sources combine for less than 4 percent of the ticket sales.

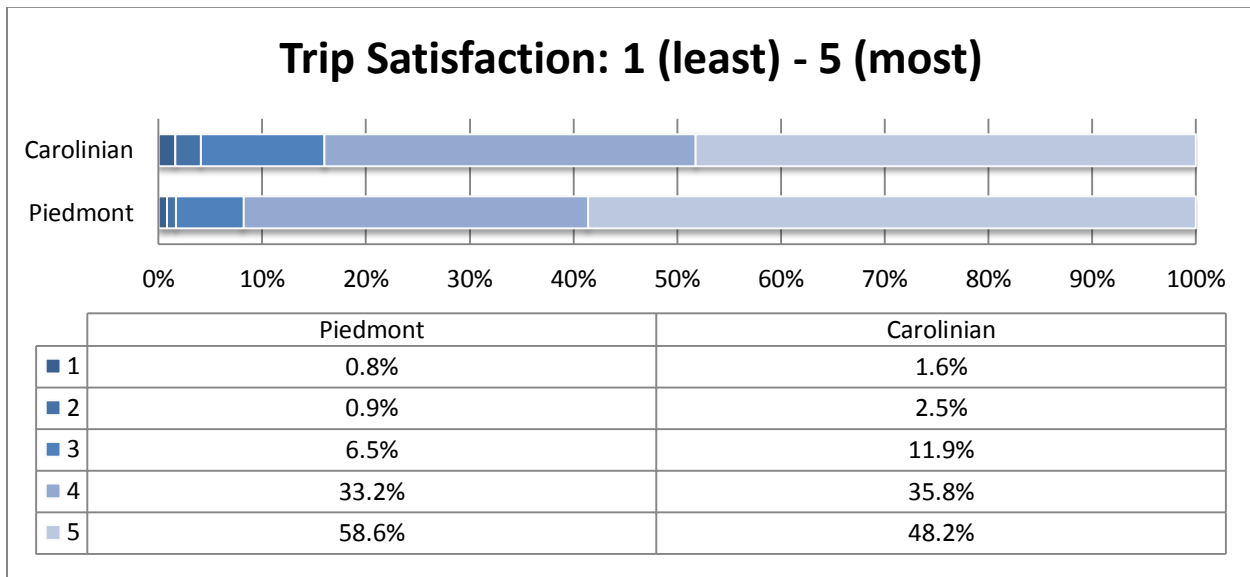**Figure 17 Method in which passengers purchase train tickets**
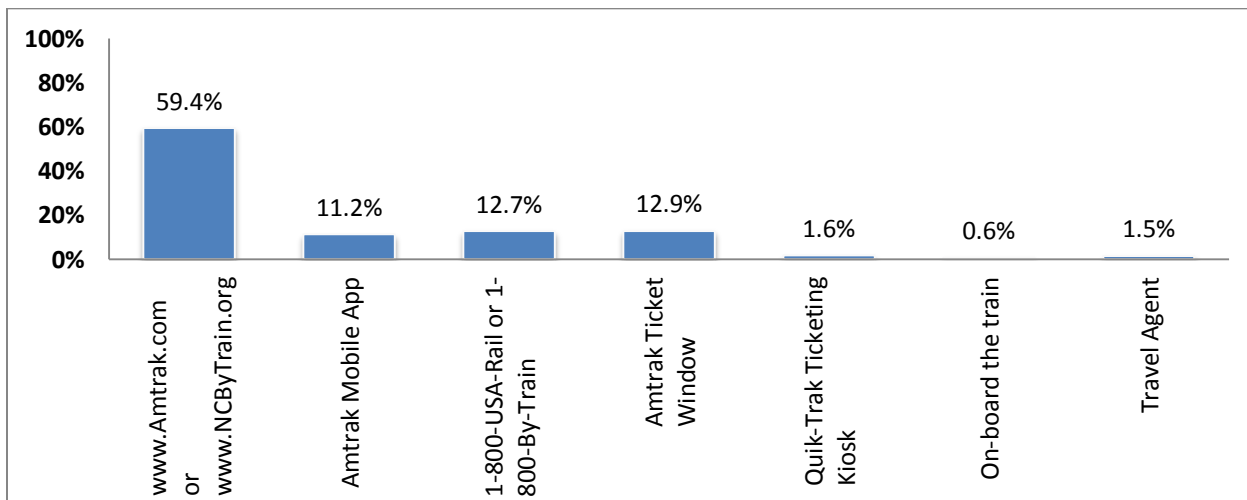
4.3   Customer Satisfaction and Passenger Preferences

A series of items in the on-board survey sought to gauge the satisfaction of passengers' experience, importance of various factors, and interest in additional services. Some survey items presented a set of factors and had respondents rate the importance or satisfaction on a scale of 1 to 5. Other questions allowed respondents to select multiple answers or provide a simple yes or no.

4.3.1   Trip Experience

Figure 18 compares how satisfied respondents were on the *Piedmont* and *Carolinian*. On a scale of 1 to 5, 1 being least satisfied and 5 being most satisfied, the majority of passengers (over 95 percent) rated their trip at least a 3 or greater. Compared to the earlier survey period, there does seem to be a difference in passenger satisfaction between the two trains. The satisfaction in the *Piedmont* has remained largely unchanged, perhaps increasing by a slight margin, but the satisfaction with the *Carolinian* has declined. 4 percent fewer riders selected the highest satisfaction rating. These riders have shifted equally throughout the other possible selections (1-4).

Figure 18 Overall trip satisfaction on the *Piedmont* and *Carolinian*

Trip Satisfaction: 1 (least) - 5 (most)

	Piedmont	Carolinian
■ 1	0.8%	1.6%
■ 2	0.9%	2.5%
■ 3	6.5%	11.9%
■ 4	33.2%	35.8%
■ 5	58.6%	48.2%

4.3.2   Importance Rating

While on-board both the *Carolinian* and *Piedmont* trains, survey participants were asked to rank the importance of several items in three different categories. Within each category, the three most highly ranked items are listed below and are shown in **bold** in Table 5 and Table 6. These top three selections match the three highest ranked selections during the first survey period, and are as follows (in order of rating, highest to lowest):

1. Reason for taking the train: Relaxation, Avoid highway traffic, and Save money;
2. Stations and connections: Station security and safety, Station signage and boarding directions, and Station staffing; *and*
3. Aboard the train: On time performance, Seat spacing, and Seat comfort.

The lowest ranking items in each category were: only transportation option, connecting bus services, and ability to handle bicycles, respectively.

The metrics below are key indicators that could be used to adjust services and promotion to gain and retain ridership; this feedback must be considered when adjusting passenger service operations in the future.

Table 5 Passenger importance ratings on the *Piedmont*

Reason for taking the train	Mean rating	Aboard the train	Mean rating
Only transportation option	2.87	On time performance	**4.61**
Save time	3.24	Trip information/alerts/status	4.22
Save money	**3.64**	Seat spacing	**4.38**
Avoid highway traffic	**3.76**	Seat comfort	**4.48**
Ability to work while traveling	2.90	Visibility and scenery	4.00
The experience	3.31	Checked baggage	3.15
Relaxation	**3.79**	Ability to handle bicycles	2.17
Environmental benefits	3.15	NCDOT volunteer train hosts	2.95
		Snack and beverage service	3.56

Stations and connections	Mean rating
Station staffing	**3.79**
Station signage and boarding directions	**3.80**
Availability of parking	3.27
Connecting bus services	2.76
Checked baggage	2.86
Station security and safety	**4.32**

Table 6 Passenger importance ratings on the *Carolinian*

Reason for taking the train	Mean rating	Aboard the train	Mean rating
Only transportation option	2.56	On time performance	**4.57**
Save time	2.73	Trip information/alerts/status	4.11
Save money	**3.59**	Seat spacing	**4.44**
Avoid highway traffic	**3.90**	Seat comfort	**4.54**
Ability to work while traveling	2.93	Visibility and scenery	4.12
The experience	3.42	Checked baggage	3.32
Relaxation	**3.89**	Ability to handle bicycles	1.95
Environmental benefits	3.18	NCDOT Volunteer Train Hosts	2.87
Stations and connections	**Mean rating**	*Carolinian Specific*	
Station staffing	**3.98**	Availability of business and premium class service	3.22
Station signage and boarding directions	**4.06**		
Availability of parking	3.11	Wi-Fi	**4.31**
Connecting bus services	2.53	Food service	3.89
Checked baggage	3.10		
Station security and safety	**4.38**		

4.3.3   Other Services and Additional Comments

Passengers were asked what other types of services they would be interested in purchasing if made available. They were given a set of options in which they could select multiples of the listed supplemental services. Although a large majority of respondents selected none, the top selections in the spring included restaurant and dining options, connecting transportation, and rental car services. Figure 19 shows passenger interest in additional services from the current on-board survey. In the spring results, dining options was the most common selection. Within the new dataset there is an increased focus on connecting transportation and rental cars. The Rail Division could benefit in partnering with local transit agencies and private transportation providers in connecting passengers to stations and final destinations. Furthermore, well established connectivity also requires clear dissemination of how travelers can use multi-modal connections. Presenting information online and at stations would be helpful in trip planning and for traveling patrons.

Figure 19 Number of interested respondents for additional services
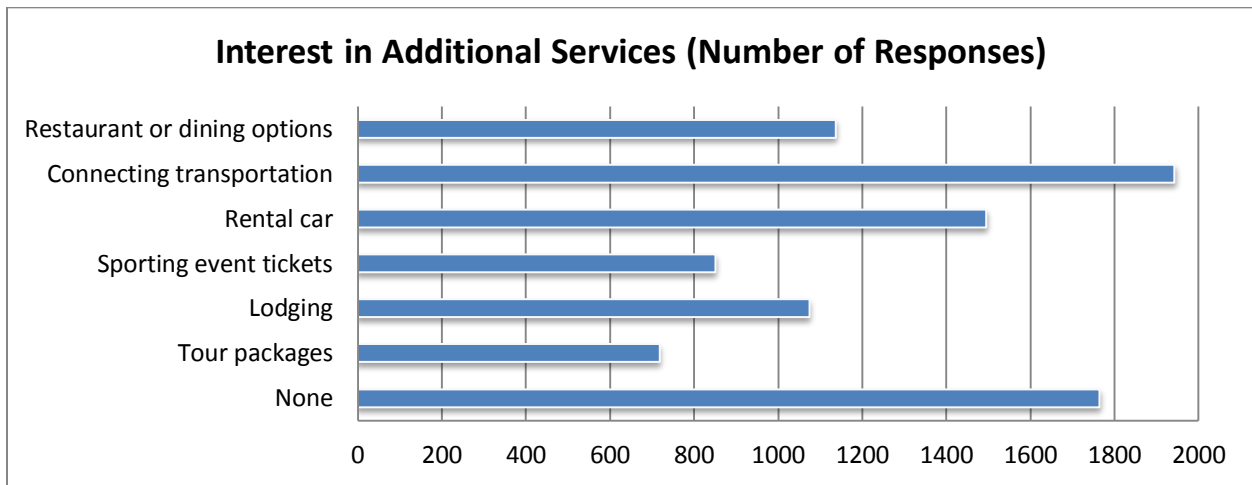

Table 7 lists the number of respondents who claimed to be interested in a bicycle share program. As expected, interest is almost identical to the interest expressed in the first survey. Roughly one-fourth showed interest.

Table 7 Interest in a bicycle share program for the five stations with the highest number of responses

Boarding Station	Yes	No	Yes-No Ratio	Alighting Station	Yes	No	Yes-No Ratio
Charlotte	338	1,122	0.30	Charlotte	273	837	0.33
Raleigh	220	552	0.40	Raleigh	225	716	0.31
Durham	152	371	0.41	Greensboro	161	503	0.32
Greensboro	151	438	0.34	Durham	159	386	0.41
Cary	130	357	0.36	Cary	98	312	0.31

Additional Comments

The final item on the survey was an additional comments box for respondents to share any suggestions and concerns regarding their travel experience or towards the state-supported rail service in general. Approximately 1500 comments were collected. Overall, there was positive feedback as rider expressed their experience with words including "great" (145 appearances), "pleasant" (35 appearances), "love" (120), "enjoy" (77), "nice" (90), and "friendly" (44). Mentioned 329 times, the primary suggestion was to provide complementary Wi-Fi on trains without it and enhance the connection on those with it. A significant number of passengers expressed the importance of timeliness, and nearly 100 complaints were presented that the train was late.

5   EVALUATION

Table 8 shows a matrix of the average importance that passengers on various trip purposes assigned for reasons in utilizing passenger rail services. The two highest rated factors for each trip purpose are shown in **bold** in order to distinguish them in the table below.

Table 8 Trip purpose versus reason for taking the train importance ratings

	Visit Family/ Friends	Business	Commute to Work	Leisure	School	Other
Only transportation option	2.84	2.37	3.01	2.01	3.14	2.90
Save time	3.03	2.89	3.36	2.69	3.15	2.95
Save money	3.71	3.62	3.68	3.15	**3.48**	3.56
Avoid highway traffic	**3.85**	**4.02**	**4.14**	3.80	**3.32**	**3.64**
Ability to work while traveling	2.79	**3.87**	3.63	2.44	2.84	2.68
The experience	3.34	3.28	3.09	**3.95**	2.92	3.23
Relaxation	**3.87**	3.78	**3.78**	**4.11**	3.26	**3.68**
Environmental benefits	3.21	3.14	3.49	3.10	2.87	3.05

Upon further examination, trip purpose was cross analyzed with demographic and socioeconomic data to ascertain the reasons that particular passengers take the train. Figure 20 displays trip purpose by age group for the *Piedmont*. "Commuting" and "other" have been omitted from this table as they were fairly uncommon selections. Visiting family/friends demonstrated a unique distribution. Younger and older age groups were significantly more likely to cite this purpose than those individuals of middle age. Inversely, business was a more common selection in the center of the age spectrum. "School" made a significant appearance only among the two youngest age groups. This coincides with the typical age of college students.

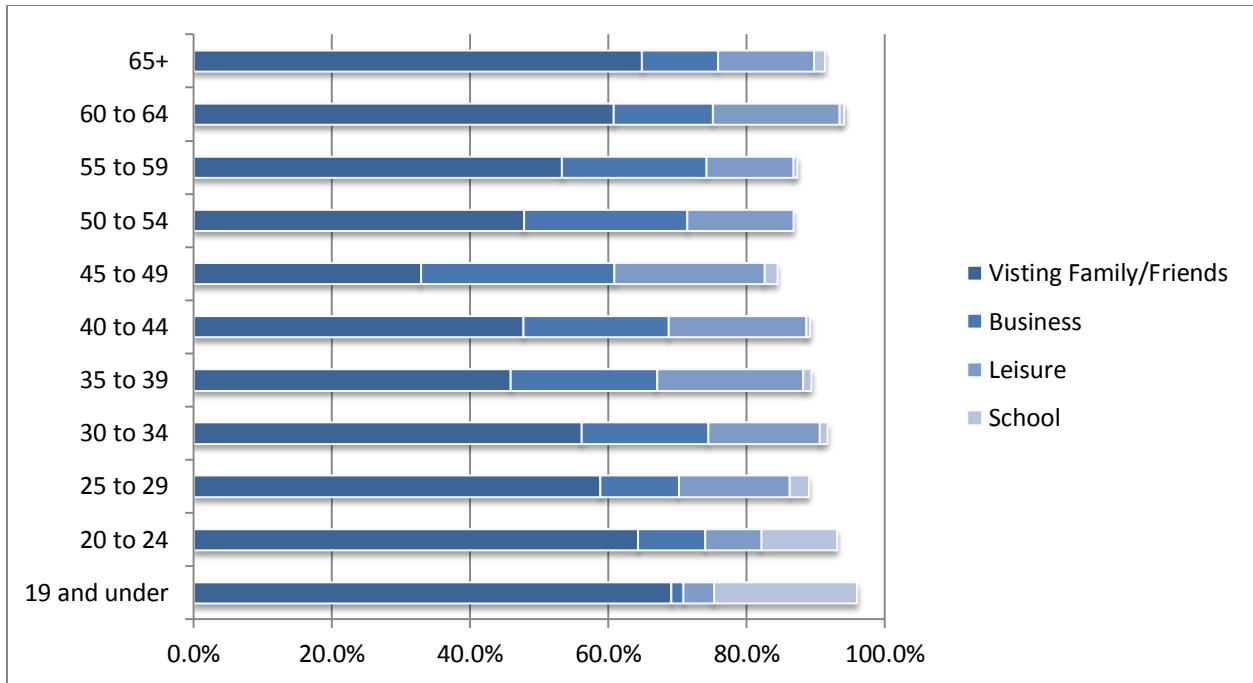**Figure 20 Piedmont trip purpose by age group**

Figure 21 presents the same comparison as above, but for the *Carolinian* train. The trends are almost identical, except for a greater emphasis on visiting family and friends (about 10 percent throughout).
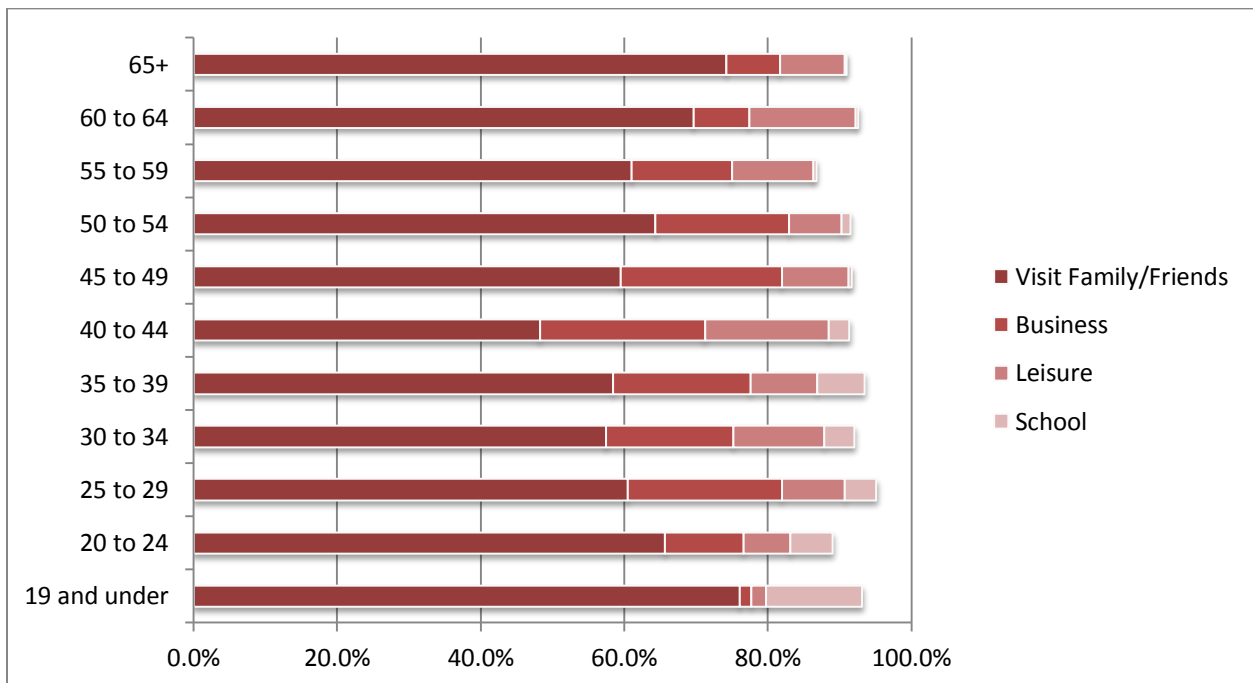
Figure 21 Carolinian trip purpose by age group

Figure 22 displays the relationship between trip purpose and educational level. As passengers' level of education increased, the number of individuals taking the train to visit family and friends decreased and travel for leisure and business increased.

Figure 22 Trip purpose by education level for both trains
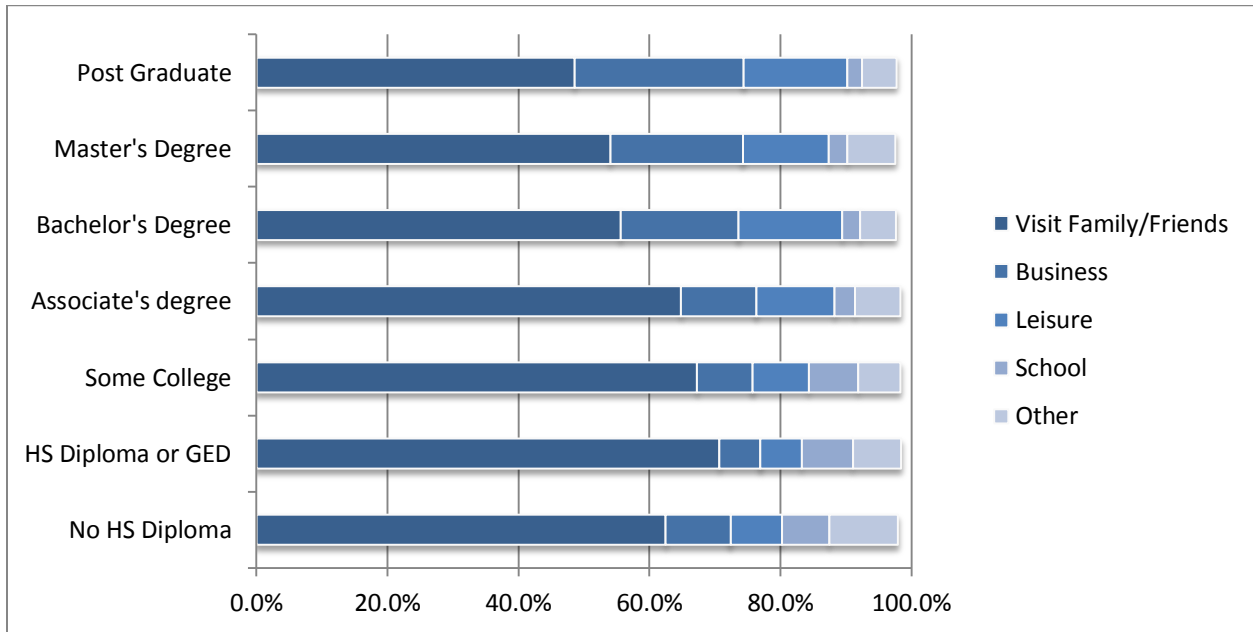
Figure 23 illustrates the most common method of purchasing a ticket for each age group. Younger groups are more apt to use mobile applications. Approximately 60 percent of tickets were booked online as discuss in Section 4.2.6. The table below examines the 40 percent of passengers that used an alternate method, and compares usage by age groups.

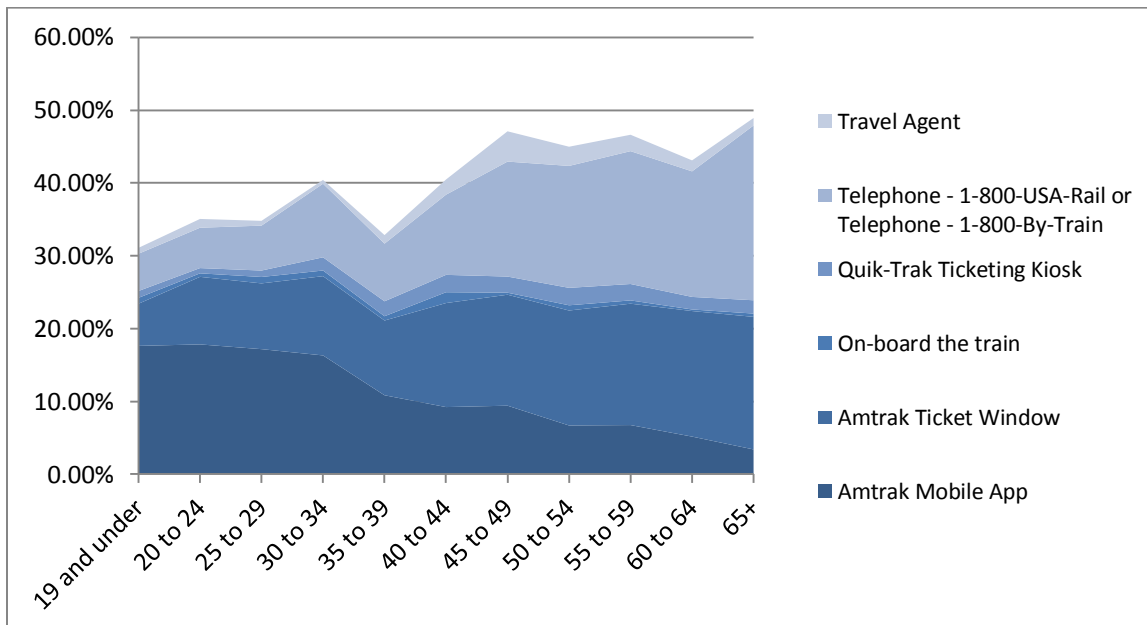**Figure 23 Method of ticket purchase by age group for both trains**

Figure 24 compares trip purpose with income level. Although the majority of passengers are taking trains to visit family and friends, some correlation between income level and trip purpose can be found. Passengers in higher income brackets are more commonly taking the train for business and for leisure. The chart below does not include visiting family and friends.

Figure 24 Trip purpose by income level for both trains
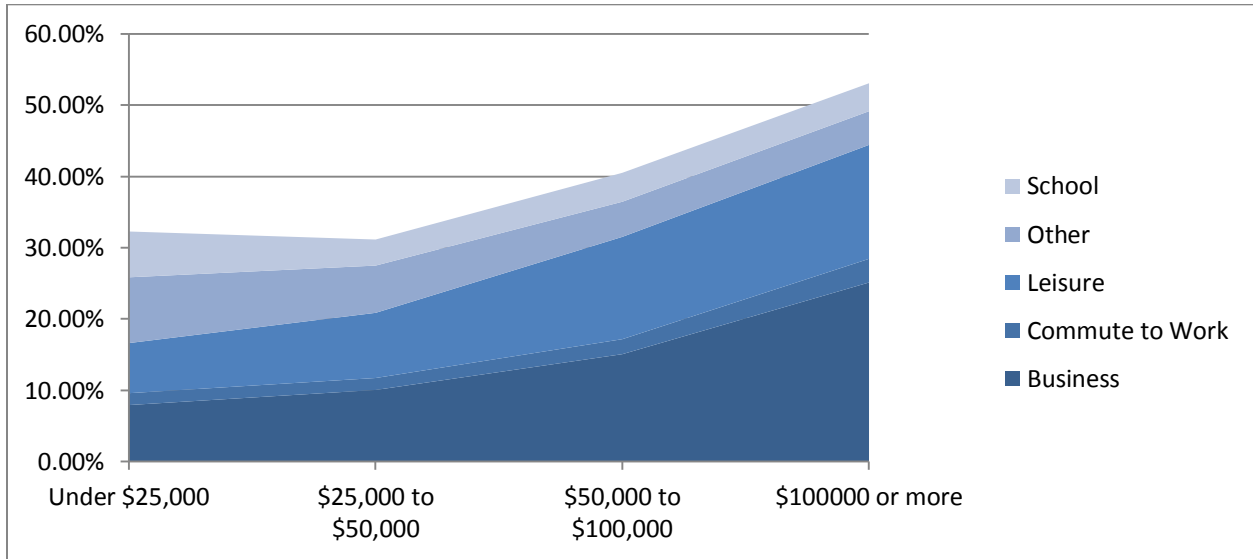
Additionally, cited reasons for choosing the train have been evaluated by every different age group. Figure 25, below, graphically displays these findings. The younger age groups responded that the train was their only source of transportation and that saving money was important, while older individuals wanted to avoid highway traffic and relax. These discrepancies can be beneficial tools in adjusting advertisements and areas of emphasis for the passenger train service.

Figure 25 Reasons for taking the train by age group for both trains
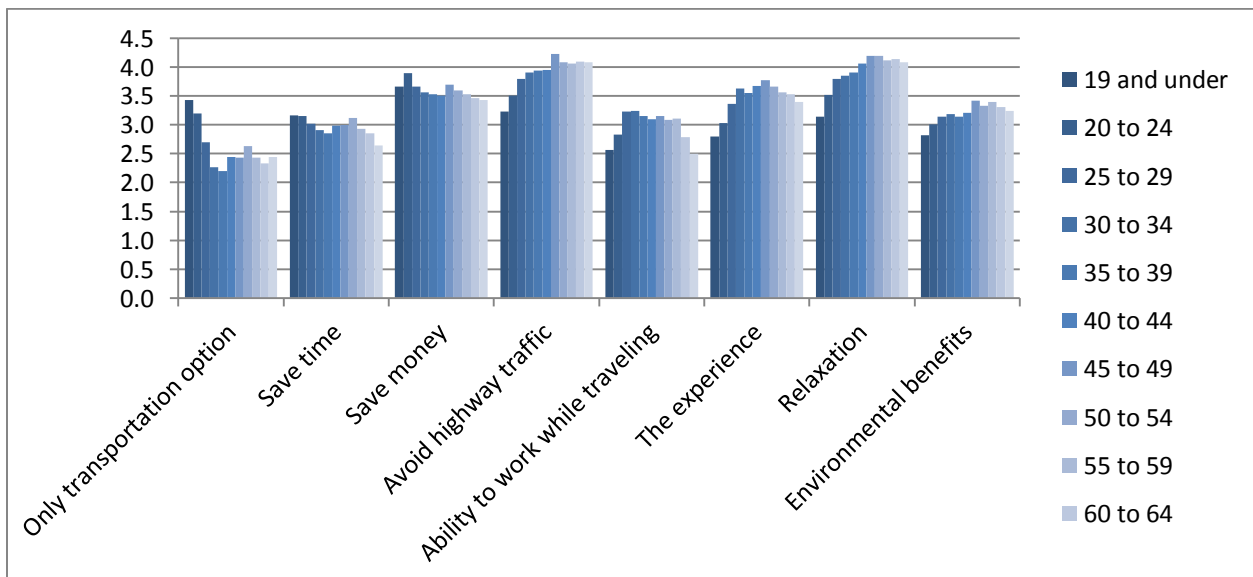
As a final comparison, selections of trip purpose were evaluated against the corresponding selections for alternative travel mode choice. The findings from this comparison were not outstanding. The distributions across every trip purpose were similar to those presented in the data summary section (see Figure 13).

6   CONCLUSION

The fall survey effort supplements and validates many of the findings from the initial survey in spring. In order to provide an accurate representation of passenger population, a large sample size, stringent data collection process, and quality control were implemented. A portrait of important ridership metrics can be framed from these results and the accompanying analysis. The most significant findings and discrepancies are enumerated below.

1. Using the train to commute to work is very rare, and accounts for less than 2 percent of the *Piedmont* ridership, and less than 1 percent of the Carolinian passengers.

2. Booking tickets through the mobile app and the internet decreases in popularity with increasing age, while the inverse is true for ticket window and telephone reservations. Additionally, purchasing tickets on-board the train, through a travel agent, or at the ticketing kiosk, is relatively uncommon.

3. Riders falling within the middle age groups (35-49) are less likely to use the train for visiting family and friends than the other riders, but they are more likely to ride the train for business purposes.

4. Riders with a higher income level are more likely to use the train for business as well as leisure.

5. Both the *Piedmont* and *Carolinian* are chosen by those intending to visit family/friends, partially in order to avoid highway traffic and relax.

6. The *Piedmont* is more popular with students, while the *Carolinian* is more popular with the elderly and those visiting family/friends.

A.1 *Piedmont* survey instrument

26. What best describes your age group?
- 19 and under
- 20 to 24
- 25 to 29
- 30 to 34
- 35 to 39
- 40 to 44
- 45 to 49
- 50 to 54
- 55 to 59
- 60 to 64
- 65+

29. What is your ethnicity?
- American Indian
- Asian/Asian American
- Black/African American
- Hispanic/Latino
- White/Caucasian
- Other

27. What best describes your employment status?
- Full Time
- Part Time
- Student
- Unemployed
- Retired

28. What is your highest education level?
- No HS Diploma
- HS Diploma or GED
- Some College
- Associate's Degree
- Bachelor's Degree
- Master's Degree
- Post Graduate

30. What is your total household income in the past 12 months?
- Under $25,000
- $25,000 to $49,000
- $50,000 to $100,000
- $100,000 or more

Additional Comments?

Would you like to receive North Carolina's Amtrak information, promotions and deals? Yes _____ No_____
If yes, please provide your email address. _____

Thank you for completing the survey.

FOR OFFICIAL USE ONLY

TRAIN NO. _____   DATE _____   TIME _____

North Carolina's AMTRAK
ncbytrain.org

November 2014 Piedmont Service
Passenger Survey

In an effort to provide the best service possible, we are conducting a survey to solicit your feedback on the *Piedmont* service. A NCDOT representative is available to answer questions and will collect your completed survey before you reach your destination.

1. Where did you get on the train?
- Charlotte
- Kannapolis
- Salisbury
- High Point
- Greensboro
- Burlington
- Durham
- Cary
- Raleigh

2. Where will you get off this train?
- Charlotte
- Kannapolis
- Salisbury
- High Point
- Greensboro
- Burlington
- Durham
- Cary
- Raleigh

3. How did you get to the train station?
- Connecting Train
- Drove
- Dropped Off
- Taxi
- Bus/Transit
- Walk/Bike

4. How will you get to your final destination?
- Connecting Train
- Drive
- Pick Up
- Taxi
- Bus/Transit
- Walk/Bike

5. What best describes the purpose of your trip? *(Select one)*
- Visit Family/Friends
- Business
- Commute to Work
- Leisure
- School
- Other

6. If train service were not available, how would you make this trip? *(Select one)*
- Automobile
- Taxi
- Bus
- Airplane
- Would not make the trip

7. How important was each factor in choosing to take the train today?

	Least Important				Most Important
	1	2	3	4	5
Only transportation available	○	○	○	○	○
Save time	○	○	○	○	○
Save money	○	○	○	○	○
Avoid driving in traffic	○	○	○	○	○
Ability to work while traveling	○	○	○	○	○
The experience	○	○	○	○	○
Relaxation	○	○	○	○	○
Environmental benefits	○	○	○	○	○

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8. How many people (including yourself) are traveling in your party?
○ 1 ○ 2 ○ 3 ○ 4 ○ 5+

9. Are you traveling with children under 13 years old?
○ Yes ○ No   If yes, how many? _____

10. How many nights will you stay away from home on this trip?
○ 0 ○ 1 ○ 2 ○ 3 ○ 4 ○ 5+

11. Including this trip, how many train trips have you made in the past 30 days?
(Count a round trip as 2 trips)
○ 1 ○ 2 ○ 3 ○ 4 ○ 5+

12. Do you use the internet to make purchases?
○ Yes   ○ No

13. Which media source do you use regularly?
(Select all that apply)
- Radio
- Television
- Newspaper
- Magazines
- Internet
- Social Media

14. For this trip, how did you purchase your ticket?
- www.Amtrak.com or www.NCByTrain.org
- Amtrak Mobile App
- Telephone – 1-800-USA-RAIL or 1-800 BY-TRAIN
- Amtrak Ticket Window
- Quik-Trak Ticketing Kiosk
- On-board the train
- Travel Agent

15. If the method used to purchase ticket for this trip were not available, how would you purchase your ticket?
- www.Amtrak.com or www.NCByTrain.org
- Amtrak Mobile App
- Telephone – 1-800-USA-RAIL or 1-800 BY-TRAIN
- Amtrak Ticket Window
- Quik-Trak Ticketing Kiosk
- On-board the train
- Travel Agent

16. Which type of ticket did you purchase?
- One-Way
- Round Trip
- Multi-Ride
- Group

17. What is your zip code?
_____

18. How did you learn about the *Piedmont* or *Carolinian* services? *(Select all that apply)*
- Have taken it before
- Friend/Relative/Word of Mouth
- Highway Sign
- Internet
- Radio, Print Advertisement
- Travel Agent
- Events and Festivals
- NCByTrain.org or Amtrak.com

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19. For this trip, please rate the importance of the following.

	Least Important				Most Important
	1	2	3	4	5
Station Staffing	○	○	○	○	○
Station Signage and Boarding Directions	○	○	○	○	○
Availability of Parking	○	○	○	○	○
Connecting Bus Service	○	○	○	○	○
Checked Baggage	○	○	○	○	○
Station Security and Safety	○	○	○	○	○

20. When traveling by train, please rate the importance of the following.

	Least Important				Most Important
	1	2	3	4	5
On Time Performance	○	○	○	○	○
Trip Information/Alerts/Status	○	○	○	○	○
Seat Spacing	○	○	○	○	○
Seat Comfort	○	○	○	○	○
Visibility (Size and clarity of windows, scenery)	○	○	○	○	○
Checked Baggage	○	○	○	○	○
Ability to handle Bicycles	○	○	○	○	○
NCDOT Volunteer Train Hosts	○	○	○	○	○
Snack & Beverage Service	○	○	○	○	○

21. Do you live in North Carolina?
○ Yes   ○ No

22. What is your gender?
○ Male   ○ Female

23. If your were able to bundle services with your train fare, which services would you be interested in purchasing? *(Select all that apply)*
- Connecting Transportation
- Rental Car
- Lodging
- Tour Packages
- Dining Options at Destination
- Sporting Event Tickets
- None

24. Would you be interested in a bicycle share program at the stations? *(A bicycle share program is designed for short point-to-point journeys and provides bicycle rental to the public at automated sites that are open 24 hours a day, seven days a week.)*
○ Yes   ○ No

25. Overall how would you rate your trip experience today on the *Piedmont*?
(1= least satisfied and 5=most satisfied)
○ 1 ○ 2 ○ 3 ○ 4 ○ 5

A.2 *Carolinian* survey instrument

26. What best describes your age group?
- 19 and under
- 40 to 44
- 20 to 24
- 45 to 49
- 25 to 29
- 50 to 54
- 30 to 34
- 55 to 59
- 35 to 39
- 60 to 64
- 65+

29. What is your ethnicity?
- American Indian
- Asian/Asian American
- Black/African American
- Hispanic/Latino
- White/Caucasian
- Other

27. What best describes your employment status?
- Full Time
- Unemployed
- Part Time
- Retired
- Student

28. What is your highest education level?
- No HS Diploma
- Bachelor's Degree
- HS Diploma or GED
- Master's Degree
- Some College
- Post Graduate
- Associate's Degree

30. What is your total household income in the past 12 months?
- Under $25,000
- $25,000 to $49,000
- $50,000 to $100,000
- $100,000 or more

Additional Comments?

Would you like to receive North Carolina's Amtrak information, promotions and deals? Yes _____ No _____
If yes, please provide your email address. _____

North Carolina's AMTRAK
ncbytrain.org
Thank you for completing the survey.

FOR OFFICIAL USE ONLY

TRAIN NO. _____ DATE _____ TIME _____

November 2014 Carolinian Service
Passenger Survey

In an effort to provide the best service possible, we are conducting a survey to solicit your feedback on the *Carolinian* service. A NCDOT representative is available to answer questions and will collect your completed survey before you reach your destination.

1. Where did you get on the train?
- Charlotte
- Petersburg VA
- Kannapolis
- Richmond VA
- Salisbury
- Fredricksburg VA
- High Point
- Quantico VA
- Greensboro
- Alexandria VA
- Burlington
- Washington DC
- Durham
- Baltimore MD
- Cary
- Wilmington DE
- Raleigh
- Philadelphia PA
- Selma
- Trenton NJ
- Wilson
- Newark NJ
- Rocky Mount
- New York NY

2. Where will you get off this train?
- Charlotte
- Petersburg VA
- Kannapolis
- Richmond VA
- Salisbury
- Fredricksburg VA
- High Point
- Quantico VA
- Greensboro
- Alexandria VA
- Burlington
- Washington DC
- Durham
- Baltimore MD
- Cary
- Wilmington DE
- Raleigh
- Philadelphia PA
- Selma
- Trenton NJ
- Wilson
- Newark NJ
- Rocky Mount
- New York NY

3. How did you get to the train station?
- Connecting Train
- Taxi
- Drove
- Bus/Transit
- Dropped Off
- Walk/Bike

4. How will you get to your final destination?
- Connecting Train
- Taxi
- Drive
- Bus/Transit
- Pick Up
- Walk/Bike

5. What best describes the purpose of your trip? *(Select one)*
- Visit Family/Friends
- Leisure
- Business
- School
- Commute to Work
- Other

6. If train service were not available, how would you make this trip? *(Select one)*
- Automobile
- Airplane
- Taxi
- Would not make the trip
- Bus

7. How important was each factor in choosing to take the train today?

	Least Important				Most Important
	1	2	3	4	5
Only transportation available	○	○	○	○	○
Save time	○	○	○	○	○
Save money	○	○	○	○	○
Avoid driving in traffic	○	○	○	○	○
Ability to work while traveling	○	○	○	○	○
The experience	○	○	○	○	○
Relaxation	○	○	○	○	○
Environmental benefits	○	○	○	○	○

---

8. How many people *(including yourself)* are traveling in your party?
○1 ○2 ○3 ○4 ○5+

10. How many nights will you stay away from home on this trip?
○0 ○1 ○2 ○3 ○4 ○5+

12. Do you use the internet to make purchases?
○ Yes   ○ No

14. For this trip, how did you purchase your ticket?
- www.Amtrak.com or www.NCByTrain.org
- Amtrak Mobile App
- Telephone – 1-800-USA-RAIL or 1-800 BY-TRAIN
- Amtrak Ticket Window
- Quik-Trak Ticketing Kiosk
- On-board the train
- Travel Agent

16. Which type of ticket did you purchase?
- One-Way
- Multi-Ride
- Round Trip
- Group

17. What is your zip code?
_____

18. How did you learn about the *Piedmont* or *Carolinian* services? *(Select all that apply)*
- Have taken it before
- Radio, Print Advertisement
- Friend/Relative/Word of Mouth
- Travel Agent
- Highway Sign
- Events and Festivals
- Internet
- NCByTrain.org or Amtrak.com

9. Are you traveling with children under 13 years old?
○ Yes ○ No   If yes, how many? _____

11. Including this trip, how many train trips have you made in the past 30 days? *(Count a round trip as 2 trips)*
○1 ○2 ○3 ○4 ○5+

13. Which media source do you use regularly? *(Select all that apply)*
- Radio
- Magazines
- Television
- Internet
- Newspaper
- Social Media

15. If the method used to purchase ticket for this trip were not available, how would you purchase your ticket?
- www.Amtrak.com or www.NCByTrain.org
- Amtrak Mobile App
- Telephone – 1-800-USA-RAIL or 1-800 BY-TRAIN
- Amtrak Ticket Window
- Quik-Trak Ticketing Kiosk
- On-board the train
- Travel Agent

---

19. For this trip, please rate the importance of the following.

	Least Important				Most Important
	1	2	3	4	5
Station Staffing	○	○	○	○	○
Station Signage and Boarding Directions	○	○	○	○	○
Availability of Parking	○	○	○	○	○
Connecting Bus Service	○	○	○	○	○
Checked Baggage	○	○	○	○	○
Station Security and Safety	○	○	○	○	○

20. When traveling by train, please rate the importance of the following.

	Least Important				Most Important
	1	2	3	4	5
On Time Performance	○	○	○	○	○
Availability of Business Class/Premium Class Service	○	○	○	○	○
Trip Information/Alerts/Status	○	○	○	○	○
Seat Spacing	○	○	○	○	○
Seat Comfort	○	○	○	○	○
Visibility (Size and clarity of windows, scenery)	○	○	○	○	○
Checked Baggage	○	○	○	○	○
Ability to handle Bicycles	○	○	○	○	○
NCDOT Volunteer Train Hosts	○	○	○	○	○
Wi-Fi	○	○	○	○	○
Food Service	○	○	○	○	○

21. If your were able to bundle services with your train fare, which services would you be interested in purchasing? *(Select all that apply)*
- Connecting Transportation
- Dining Options at Destination
- Rental Car
- Sporting Event Tickets
- Lodging
- None
- Tour Packages

22. Would you be interested in a bicycle share program at the stations? *(A bicycle share program is designed for short point-to-point journeys and provides bicycle rental to the public at automated sites that are open 24 hours a day, seven days a week.)*
○ Yes   ○ No

23. Overall how would you rate your trip experience today on the *Carolinian*? *(1=least satisfied and 5=most satisfied)*
○1 ○2 ○3 ○4 ○5

24. Do you live in North Carolina?
○ Yes   ○ No

25. What is your gender?
○ Male   ○ Female

A.3 *Piedmont* survey instructions

SURVEY INSTRUCTIONS
1. Distribute surveys to all adult passengers. Instruct passengers to return completed surveys to you before reaching their destination.
2. Do not distribute surveys to:
   - Passengers who decline to participate
   - Passengers who appear to be under 16 years of age
   - Employees of NCDOT or Amtrak
   - Passengers who tell you that they have already participated in this survey on this trip or a previous trip
   - Sleeping passengers
3. Give a short introduction such as: WE WOULD LIKE YOUR OPINIONS REGARDING THE PIEDMONT SERVICES. If they hesitate you might add: WE WANT TO KNOW WHAT YOU THINK SO THAT WE CAN PROVIDE THE BEST SERVICE POSSIBLE.
4. If asked what the purpose of the survey is, you may say: THE SURVEY IS DESIGNED TO MEASURE CUSTOMER SATISFACTION AND SOLICIT RIDER SUGGESTIONS. NCDOT IS INTERESTED IN YOUR OPINION.
5. After surveys are distributed, walk through the train car every few minutes and watch for people who may have questions or are finished. You may say: I'LL TAKE THE SURVEY IF YOU ARE DONE, or I CAN TAKE THAT FOR YOU. Collect every survey you distribute.
6. **After collecting completed surveys, please fill out the train number, date and time (of survey completion) on the bottom of each survey form.**
7. At the conclusion of your round trip, give the completed surveys to the Amtrak ticket agent or the NCDOT Station Agent. Completed forms will then be sent via RRB to the Raleigh Station where NCDOT will retrieve them.

CONTACT INFORMATION
If you have questions on your schedule, cannot make an assigned trip and conduct a survey, please notify Teshena or Ray immediately. If you have questions about the survey or need assistance explaining or answering specific survey related passenger questions, please contact Ray.

Ray Magsanoc	Parsons Brinckerhoff	919-836-4083
Teshena Debrew	NCDOT Rail	919-707-4703
Jeff Mann	Parsons Brinckerhoff	919-836-4079

ANNOUNCEMENT SCRIPT
Please make the following after leaving major stations (no more than four times in route between Charlotte/Raleigh/Rocky Mount). For example, on Train 73, make announcements after leaving Raleigh, Durham and Greensboro.

"THANK YOU FOR RIDING WITH US TODAY. ON BEHALF OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORATION, WE ARE CONDUCTING A PASSENGER SURVEY. NCDOT APPRECIATES YOUR BUSINESS AND WE VALUE YOUR OPINIONS. IN A FEW MINUTES WE WILL BEGIN DISTRIBUTING THE SURVEY FORM. NC TRAIN HOSTS WILL ANSWER ANY QUESTIONS THAT YOU MIGHT HAVE, AND WILL COLLECT THE SURVEYS UPON COMPLETION. YOU MAY LEAVE COMPLETED SURVEYS INSIDE THE SEATBACK POCKETS IF TRAIN HOSTS ARE NOT AVAILABLE TO COLLECT THEM."

THE PIEDMONT TRAIN

North Carolina's
AMTRAK
ncbytrain.org

A.4 *Carolinian* survey instructions

SURVEY INSTRUCTIONS
1. Distribute surveys to all adult passengers. Instruct passengers to return completed surveys to you before reaching their destination.
2. Do not distribute surveys to:
   - Passengers who decline to participate
   - Passengers who appear to be under 16 years of age
   - Employees of NCDOT or Amtrak
   - Passengers who tell you that they have already participated in this survey on this trip or a previous trip
   - Sleeping passengers
3. Give a short introduction such as: WE WOULD LIKE YOUR OPINIONS REGARDING THE CAROLINIAN SERVICES. If they hesitate you might add: WE WANT TO KNOW WHAT YOU THINK SO THAT WE CAN PROVIDE THE BEST SERVICE POSSIBLE.
4. If asked what the purpose of the survey is, you may say: THE SURVEY IS DESIGNED TO MEASURE CUSTOMER SATISFACTION AND SOLICIT RIDER SUGGESTIONS. NCDOT IS INTERESTED IN YOUR OPINION.
5. After surveys are distributed, walk through the train car every few minutes and watch for people who may have questions or are finished. You may say: I'LL TAKE THE SURVEY IF YOU ARE DONE, OR I CAN TAKE THAT FOR YOU. Collect every survey you distribute.
6. **After collecting completed surveys, please fill out the train number, date and time (of survey completion) on the bottom of each survey form.**
7. At the conclusion of your round trip, give the completed surveys to the Amtrak ticket agent or the NCDOT Station Agent. Completed forms will then be sent via RRB to the Raleigh Station where NCDOT will retrieve them.

CONTACT INFORMATION
If you have questions on your schedule, cannot make an assigned trip and conduct a survey, please notify Teshena or Ray immediately. If you have questions about the survey of need assistance explaining or answering specific survey related passenger questions, please contact Ray.

Ray Magsanoc	Parsons Brinckerhoff	919-836-4083
Teshena Debrew	NCDOT Rail	919-707-4703
Jeff Mann	Parsons Brinckerhoff	919-836-4079

ANNOUNCEMENT SCRIPT
Please make the following after leaving major stations (no more than four times in route between Charlotte/Raleigh/Rocky Mount). For example, on Train 80, make announcements after leaving Charlotte, Greensboro, Durham and Raleigh.

"THANK YOU FOR RIDING WITH US TODAY. ON BEHALF OF THE NORTH CAROLINA DEPARTMENT OF TRANSPORATION, WE ARE CONDUCTING A PASSENGER SURVEY. NCDOT APPRECIATES YOUR BUSINESS AND WE VALUE YOUR OPINIONS. IN A FEW MINUTES WE WILL BEGIN DISTRIBUTING THE SURVEY FORM. NC TRAIN HOSTS WILL ANSWER ANY QUESTIONS THAT YOU MIGHT HAVE, AND WILL COLLECT THE SURVEYS UPON COMPLETION."

North Carolina's
AMTRAK®
ncbytrain.org

THE CAROLINIAN TRAIN

APPENDIX B: SURVEY QUESTION RESPONSES

1. Where did you get on the train?

PIEDMONT	# 73	# 74	# 75	# 76
Responses	565	710	885	664
Non-responses	2	4	3	8
	(% of responses)	(% of responses)	(% of responses)	(% of responses)
Charlotte	2.1%	65.3%	4.0%	74.4%
Kannapolis	0.4%	4.8%	0.8%	4.0%
Salisbury	2.0%	3.7%	0.9%	4.4%
High Point	3.7%	4.5%	1.4%	3.8%
Greensboro	10.8%	17.0%	8.6%	10.2%
Burlington	6.2%	1.4%	1.4%	0.5%
Durham	19.9%	1.4%	22.1%	0.8%
Cary	20.2%	0.8%	27.8%	1.5%
Raleigh	34.6%	1.0%	33.1%	0.5%

CAROLINIAN	# 79	# 80
Responses	1398	1743
Non-responses	20	12
	(% of responses)	(% of responses)
Charlotte	0.9%	30.1%
Kannapolis	0.0%	4.8%
Salisbury	0.1%	4.9%
High Point	0.1%	6.2%
Greensboro	1.1%	16.0%
Burlington	0.5%	3.4%
Durham	3.4%	10.5%
Cary	1.8%	6.4%
Raleigh	5.7%	14.1%
Selma	0.6%	0.9%
Wilson	5.4%	0.9%
Rocky Mount	3.9%	0.1%
Petersburg VA	0.9%	0.1%
Richmond VA	6.6%	0.1%
Fredericksburg VA	1.6%	0.0%
Quantico VA	0.8%	0.0%
Alexandria VA	6.0%	0.2%
Washington DC	22.8%	0.3%
Baltimore MD	4.9%	0.1%
Wilmington DE	2.4%	0.2%

Philadelphia PA	9.1%	0.2%
Trenton NJ	1.8%	0.1%
Newark NJ	6.4%	0.1%
New York NY	13.2%	0.4%

2. Where will you get off this train?

PIEDMONT	# 73	# 74	# 75	# 76
Responses	565	710	885	664
Non-responses	6	9	7	14
	(% of responses)	(% of responses)	(% of responses)	(% of responses)
Charlotte	62.1%	4.0%	52.3%	2.3%
Kannapolis	5.2%	1.1%	3.5%	0.6%
Salisbury	5.0%	2.3%	4.3%	1.8%
High Point	7.0%	4.3%	9.1%	8.2%
Greensboro	13.8%	15.3%	20.0%	18.5%
Burlington	2.1%	2.7%	5.5%	3.4%
Durham	2.5%	22.4%	2.4%	16.8%
Cary	0.7%	14.3%	1.7%	23.2%
Raleigh	1.6%	33.7%	1.1%	25.2%

CAROLINIAN	# 79	# 80
Responses	1395	1717
Non-responses	23	38
	(% of responses)	(% of responses)
Charlotte	23.6%	0.5%
Kannapolis	3.4%	0.0%
Salisbury	3.5%	0.2%
High Point	6.0%	0.5%
Greensboro	13.5%	1.7%
Burlington	2.2%	0.5%
Durham	12.3%	5.9%
Cary	7.7%	3.4%
Raleigh	22.3%	14.3%
Selma	1.4%	1.6%
Wilson	1.0%	7.3%
Rocky Mount	0.1%	2.9%
Petersburg VA	0.0%	1.3%
Richmond VA	0.3%	6.1%
Fredericksburg VA	0.1%	1.5%
Quantico VA	0.0%	0.7%
Alexandria VA	0.4%	5.2%

Washington DC	0.4%	17.5%
Baltimore MD	0.4%	5.1%
Wilmington DE	0.3%	1.6%
Philadelphia PA	0.4%	7.2%
Trenton NJ	0.1%	1.6%
Newark NJ	0.2%	3.9%
New York NY	0.3%	9.5%

3. How did you get to the train station?

	Piedmont	Carolinian
Responses	2,801	3,148
Non-responses	23	25
	(% of responses)	(% of responses)
Connecting Train	3.5%	4.4%
Drove	22.7%	19.5%
Dropped off	50.5%	50.7%
Taxi	9.6%	12.6%
Bus/Transit	9.4%	10.1%
Walk/Bike	4.5%	2.7%
Total	100.0%	100.0%

4. How will you get to your final destination?

	Piedmont	Carolinian
Responses	2,764	3,110
Non-responses	60	63
	(% of responses)	(% of responses)
Connecting Train	3.1%	3.6%
Drive	12.8%	10.7%
Pick Up	55.7%	59.4%
Taxi	12.8%	12.4%
Bus/Transit	10.2%	9.9%
Walk/Bike	5.4%	4.1%
Total	100.0%	100.0%

5. What best describes the purpose of your trip? *(Select One)*

	Piedmont	Carolinian
Responses	2,801	3,148
Non-responses	23	25
	(% of responses)	(% of responses)
Visit Family/Friends	57.7%	65.3%
Business	13.7%	13.2%
Commute to Work	3.0%	1.1%
Leisure	13.1%	9.6%
School	6.5%	3.1%
Other	6.0%	7.8%
Total	100.0%	100.0%

6. If train service were not available, how would you make this trip? *(Select One)*

	Piedmont	Carolinian
Responses	2,772	3,081
Non-responses	52	92
	(% of responses)	(% of responses)
Automobile	67.4%	51.5%
Taxi	0.5%	0.4%
Bus	12.4%	12.2%
Airplane	3.9%	25.2%
Would not make the trip	15.9%	10.8%
Total	100.0%	100.0%

7. How important was each factor in choosing to take the train today?

	Piedmont		Carolinian	
	Responses	Mean Rating	Responses	Mean Rating
Only transportation available	2,655	2.87	2,794	2.56
Save time	2,681	3.24	2,828	2.73
Save money	2,695	3.64	2,904	3.59
Avoid driving in traffic	2,701	3.76	2,938	3.90
Ability to work while traveling	2,649	2.90	2,799	2.93
The experience	2,682	3.31	2,869	3.42
Relaxation	2,711	3.79	2,980	3.89
Environmental benefits	2,665	3.15	2,820	3.18

8. How many people (including yourself) are traveling in your party?

	Piedmont	Carolinian
Responses	2,746	3,100
Non-responses	78	73
	(% of responses)	(% of responses)
1	75.6%	69.5%
2	15.8%	20.4%
3	3.3%	4.7%
4	2.8%	2.1%
5+	2.4%	3.4%
Total	100.0%	100.0%

9. Are you traveling with children under 13 years old?

	Piedmont	Carolinian
Responses	2,692	3,040
Non-responses	132	133
	(% of responses)	(% of responses)
Yes	6.4%	7.1%
No	93.6%	92.9%
Total	100.0%	100.0%

If yes, how many?

	Piedmont	Carolinian
Responses	125	139
	(% of responses)	(% of responses)
1	60.0%	54.7%
2	29.6%	33.1%
3	8.8%	7.2%
4	0%	0.7%
5+	1.6%	4.3%
Total	100.0%	100.0%

10. How many nights will you stay away from home on this trip?

	Piedmont	Carolinian
Responses	2,729	3,075
Non-responses	95	98
	(% of responses)	(% of responses)
0	26.5%	14.5%
1	18.9%	7.4%
2	22.2%	17.1%
3	10.1%	15.9%

4	4.8%	9.9%
5+	17.5%	35.1%
Total	100.0%	100.0%

11. Including this trip, how many train trips have you made in the past 30 days? *(Count round-trip as 2)*

	Piedmont	Carolinian
Responses	2,608	2,861
Non-responses	216	312
	(% of responses)	(% of responses)
1	45.2%	54.4%
2	25.5%	27.9%
3	7.8%	6.3%
4	10.0%	6.0%
5+	11.5%	5.4%
Total	100.0%	100.0%

12. Do you use the internet to make purchases?

	Piedmont	Carolinian
Responses	2,601	2,921
Non-responses	223	252
	(% of responses)	(% of responses)
Yes	81.4%	77.0%
No	18.6%	23.0%
Total	100.0%	100.0%

13. Which media source do you use regularly? *(Multiple options selectable)*

	Piedmont	Carolinian
Responses	2,691	3,018
Non-responses or None	133	155
	(% of responses)	(% of responses)
Radio	33.3%	36.8%
Television	50.7%	57.5%
Newspaper	19.1%	28.8%
Magazines	13.8%	20.5%
Internet	83.4%	77.4%
Social Media	47.3%	38.6%

14. For this trip, how did you purchase your ticket?

	Piedmont	Carolinian
Responses	2,720	3,062
Non-responses	104	111
	(% of responses)	(% of responses)
www.Amtrak.com or www.NCByTrain.org	58.6%	60.2%
Amtrak Mobile App	13.8%	8.9%
Telephone – 1-800-USA-RAIL or 1-800-BY-TRAIN	9.3%	15.7%
Amtrak Ticket Window	13.8%	12.1%
Quik-Trak Ticketing Kiosk	2.3%	1.1%
On-board the train	0.7%	0.5%
Travel Agent	1.5%	1.5%
Total	100.0%	100.0%

15. If the method used to purchase the ticket for this trip were not available, how would you purchase your ticket? *(Multiple options selectable)*

	Piedmont	Carolinian
Responses	2,659	2,968
Non-responses	165	205
	(% of responses)	(% of responses)
www.Amtrak.com or www.NCByTrain.org	21.3%	17.7%
Amtrak Mobile App	22.6%	16.7%
Telephone – 1-800-USA-RAIL or 1-800-BY-TRAIN	23.0%	34.7%
Amtrak Ticket Window	30.0%	28.6%
Quik-Trak Ticketing Kiosk	6.2%	4.4%
On-board the train	4.7%	4.2%
Travel Agent	2.2%	2.9%

16. Which type of ticket did you purchase?

	Piedmont	Carolinian
Responses	2,735	3,066
Non-responses	89	107
	(% of responses)	(% of responses)
One-Way	49.9%	42.4%
Round Trip	45.1%	55.2%
Multi-Ride	4.8%	1.9%
Group	0.2%	0.6%

17. What is your zip code? *(Excluded)*

18. How did you learn about the Piedmont or Carolinian services? *(Multiple options selectable)*

	Piedmont	Carolinian
Responses	2,725	3,056
Non-responses	99	117
	(% of responses)	(% of responses)
Have taken it before	58.1%	54.0%
Friend/Relative/Word of Mouth	38.3%	29.0%
Highway Sign	3.0%	2.0%
Internet	17.4%	23.6%
Radio, Print Advertisement	2.7%	2.4%
Travel Agent	0.9%	2.0%
Events and Festivals	1.4%	1.0%
NCByTrain.org or Amtrak.com	12.1%	16.6%

19. For this trip, please rate the importance of the following.

	Piedmont		Carolinian	
	Responses	Mean Rating	Responses	Mean Rating
Station Staffing	2,655	3.79	2,936	3.98
Station Signage and Boarding Directions	2,629	3.80	2,900	4.06
Availability of Parking	2,609	3.27	2,825	3.11
Connecting Bus Service	2,573	2.76	2,764	2.53
Checked Baggage	2,597	2.86	2,849	3.10
Station Security and Safety	2,646	4.32	2,916	4.38

20. (Piedmont) When traveling by train, please rate the importance of the following.

	Piedmont	
	Responses	Mean Rating
On Time Performance	2,688	4.61
Trip Information/Alerts/Status	2,646	4.22
Seat Spacing	2,677	4.38
Seat Comfort	2,680	4.48
Visibility (Size and clarity of windows, scenery)	2,656	4.00
Checked Baggage	2,630	3.15
Ability to handle Bicycles	2,593	2.17
NCDOT Volunteer Train Hosts	2,598	2.95
Snack & Beverage Service	2,647	3.56

20. (Carolinian) When traveling by train, please rate the importance of the following.

	Carolinian	
	Responses	Mean Rating
On Time Performance	2,999	4.57
Availability of Business/Premium Class Service	2,880	3.22
Trip Information/Alerts/Status	2,906	4.11
Seat Spacing	2,959	4.44
Seat Comfort	2,972	4.54
Visibility (Size and clarity of windows, scenery)	2,924	4.12
Checked Baggage	2,890	3.32
Ability to handle Bicycles	2,784	1.95
NCDOT Volunteer Train Hosts	2,797	2.87
Wi-Fi	2,867	4.31
Food Service	2,913	3.89

21. (Piedmont) / 24. (Carolinian) Do you live in North Carolina?

	Piedmont	Carolinian
Responses	2,681	2,892
Non-responses	143	281
	(% of responses)	(% of responses)
Yes	88.1%	59.3%
No	11.9%	40.7%
Total	100.0%	100.0%

22. (Piedmont) / 25. (Carolinian) What is you gender?

	Piedmont	Carolinian
Responses	2,693	3,038
Non-responses	131	135
	(% of responses)	(% of responses)
Female	55.1%	64.5%
Male	44.9%	35.5%
Total	100.0%	100.0%

23. (Piedmont) / 21. (Carolinian) If you were able to bundle services with your train fare, which services would you be interested in purchasing? *(Multiple options selectable)*

	Piedmont	Carolinian
Responses	2,657	2,925
Non-responses	167	248
	(% of responses)	(% of responses)
Connecting Transportation	37.0%	32.9%
Rental Car	25.8%	27.7%

Lodging	17.8%	20.5%
Tour Packages	11.7%	13.9%
Dining Options at Destination	22.5%	18.5%
Sporting Event Tickets	19.4%	11.5%
None	29.6%	33.4%

24. (Piedmont) / 22. (Carolinian) Would you be interested in a bicycle share program at the stations?

	Piedmont	Carolinian
Responses	2,657	2,976
Non-responses	167	197
	(% of responses)	(% of responses)
Yes	27.1%	20.2%
No	72.9%	79.8%
Total	100.0%	100.0%

25. (Piedmont) / 23. (Carolinian) Overall how would you rate your trip experience today on the Piedmont or Carolinian?

	Piedmont	Carolinian
Responses	2,688	2,919
Non-responses	136	254
	(% of responses)	(% of responses)
1	0.8%	1.6%
2	0.9%	2.5%
3	6.5%	11.9%
4	33.2%	35.8%
5	58.6%	48.2%
Mean Rating	**4.48**	**4.27**

26. What best describes your age group?

	Piedmont	Carolinian
Responses	2,738	3,081
Non-responses	86	92
	(% of responses)	(% of responses)
19 and under	18.8%	8.0%
20 to 24	18.5%	11.0%
25 to 29	9.3%	6.8%
30 to 34	6.6%	7.0%
35 to 39	6.2%	5.9%
40 to 44	6.5%	5.6%

	Piedmont	Carolinian
45 to 49	5.9%	6.7%
50 to 54	6.6%	8.1%
55 to 59	6.6%	8.9%
60 to 64	5.6%	10.5%
65+	9.3%	21.5%
Total	100.0%	100.0%

27. What best describes your employment status?

	Piedmont	Carolinian
Responses	2,715	3,038
Non-responses	109	135
	(% of responses)	(% of responses)
Full Time	41.9%	42.6%
Part Time	9.9%	7.8%
Student	28.8%	13.8%
Unemployed	6.6%	7.0%
Retired	12.8%	28.9%
Total	100.0%	100.0%

28. What is your highest education level?

	Piedmont	Carolinian
Responses	2,525	2,824
Non-responses	299	349
	(% of responses)	(% of responses)
No HS Diploma	3.5%	3.8%
HS Diploma or GED	17.2%	15.6%
Some College	31.6%	24.3%
Associate's Degree	6.7%	8.9%
Bachelor's Degree	22.2%	22.3%
Master's Degree	12.1%	15.5%
Post Graduate	6.7%	9.6%
Total	100.0%	100.0%

29. What is your ethnicity?

	Piedmont	Carolinian
Responses	2,682	3,011
Non-responses	142	162
	(% of responses)	(% of responses)
American Indian	1.7%	1.8%
Asian/Asian American	5.0%	3.2%
Black/African American	39.2%	40.7%

Hispanic/Latino	4.5%	4.6%
White/Caucasian	45.5%	44.9%
Other	4.1%	4.8%
Total	100.0%	100.0%

30. What is your total household income in the past 12 months?

	Piedmont	Carolinian
Responses	2,366	2,663
Non-responses	458	510
	(% of responses)	(% of responses)
Under $25,000	29.6%	23.7%
$25,000 to $49,000	25.0%	27.3%
$50,000 to $100,000	25.7%	29.1%
$100,000 or more	19.7%	19.9%
Total	100.0%	100.0%

Would you like to receive North Carolina's Amtrak information, promotions and deals?

	Piedmont	Carolinian
Responses	1,705	1,861
Non-responses	1,119	1,312
	(% of responses)	(% of responses)
Yes	36.8%	38.8%
No	63.2%	61.2%
Total	100.0%	100.0%

These are the states of residency for out-of-state riders. They have been enumerated using the zip codes supplied.

State	Piedmont	Carolinian	Total
Virginia	5.0%	18.1%	15.8%
Maryland	5.0%	16.2%	14.2%
New York	4.6%	16.1%	14.1%
New Jersey	3.8%	13.9%	12.1%
Pennsylvania	0.8%	9.7%	8.1%
South Carolina	15.9%	4.5%	6.5%
Florida	28.5%	1.7%	6.4%
Washington, DC	3.3%	6.9%	6.3%
California	4.2%	1.8%	2.2%
All other states	28.9%	11.3%	14.4%