

RESEARCH & DEVELOPMENT

Public Opinions of Roadway Assets using Roadway Reviews and Focus Groups

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North Carolina Department of Transportation Research Project No. 2016-04



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Abstract: This project uses Roadway Reviews and Focus Groups to gain insight into how North Carolina residents assess and prioritize roadway assets. During a three-week period in November 2015, researchers from the Institute for Transportation Research and Education (ITRE) surveyed more than 350 residents in six locations across the state (Asheville, Burlington, Charlotte, Jonesville, Rocky Mount, and Wilmington) during both daytime and nighttime hours to determine expectations for the condition of NC roadways and to identify features that NC residents think are the most important on different types of roadways.						
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Executive Summary

Seeking to most effectively allocate limited resources, the North Carolina Department of Transportation initiated Research Project No. 2016-04: Public Opinions of Roadway Assets using Roadway Reviews and Focus Groups to gain insight into how North Carolina residents assess and prioritize roadway assets. During a three-week period in November 2015, researchers from the North Carolina State University Institute for Transportation Research and Education (ITRE) surveyed more than 350 residents across the state using an innovative methodology termed "Roadway Reviews." The purpose of the Roadway Reviews was: (1) to determine expectations for the condition of NC roadways and (2) to identify features that NC residents think are the most important on different types of roadways in the areas of overall condition, safety, and appearance.

Unlike traditional methods which separate participants by distance or time, such as web, mail, and phone surveys, this study solicited citizen input face-to-face through surveys that asked residents about state-maintained roadways while they were driven on in real time. Study participants were asked to rate whether the condition of roadway features met their basic expectations, i.e. what they find personally acceptable, and to rank the importance of the features for primary, secondary, and interstate roadway types and for NC roadways overall. Eleven roadway features were examined, including pavement, signs, markings, lighting, and guardrails.

In 2011, North Carolina became one of the first states in the country to undertake such an effort. The present study expands on previous research to incorporate a more robust analysis and the addition of focus groups which provided further details about how and why citizens value roadway features as they do. To identify how public perceptions of roadways compare to the actual conditions of roadways, expectation ratings provided by survey respondents were compared to the physical condition of individual features on each route as measured by NCDOT and federal standards.

Condition of Roadways

Overall, residents were generally satisfied with the condition of major (interstate and primary) roadways. They were less satisfied with the condition of minor (secondary) roadways.

Among all roadways that were rated, the best rated highway features were:

- Condition of signs
- Flow of traffic
- Visibility of signage

The lowest rated features were:

- Width of outside (right) shoulders
- Raised pavement markers
- Width of inside (left) shoulders
- Lighting

Features that Most Influence Perceptions of Roadway Condition, Safety, and Appearance

After traveling on a specific type of roadway, survey participants were asked to identify the roadway features that had the greatest impact on their perception of the 1) overall condition, 2) overall safety, and 3) overall appearance of the roadway.

The features that were considered most important for overall condition were:

- Roadway markings
- Physical condition of the road surface
- Smoothness/feel of the road surface

The features that were considered most important for overall safety were:

- Roadway markings
- Physical condition of the road surface
- Visibility of signs

The features that were considered most important for overall appearance were:

- Cleanliness
- Mowing and trimming of areas other than along the guard rails
- Physical condition of the road surface

Determining Acceptable Conditions for Various Roadway Features

NCDOT provided field-measured technical data for each of the roadway segments that were rated. To identify how public perceptions of roadways compare to the actual conditions of the roadways and determine what acceptable conditions are for each roadway feature that was rated, expectation ratings provided by survey respondents were compared to the physical condition of individual features on each route as measured by NCDOT and federal standards. Standards that generally met survey participant expectations were derived for the following features:

- Pavement Smoothness: All Roadways (IRI score of 100 or less)
- Lane Width: Interstates (12 and 13 feet); Primary and Secondary Roadways (10 to 12 feet)
- Shoulder Type: Interstates (Paved); Primary (Paved and Unpaved); Secondary (Paved and Unpaved)
- *Raised Pavement Markers:* Interstates (Average RPM failure of 16% or less); Primary Roadways (Average RPM failure of 42% or less); Secondary Roadways (Average RPM failure of 63% or less)
- *Litter:* Interstates (107 pieces of litter or less); Primary Roadways (93 pieces of litter or less); Secondary Roadways (40 pieces of litter or less)

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1. Introduction

During a three-week period in November 2015, researchers from NC State University's Institute for Transportation Research and Education (ITRE) surveyed residents at six locations across the state using an innovative methodology. This method, which was first piloted in North Carolina by ITRE in 2011, is called "Roadway Reviews." In contrast with traditional customer survey methods like web-based and phone surveys, Roadway Reviews engage roadway users face-to-face through surveys that asked residents about state-maintained roadways while they were driven on in real time.

North Carolina is one of only a few states in the country that has conducted this type of study. Both the 2011 study and the present study were initiated with the purpose of identifying how citizens' opinions about roadway features compare to the actual measured "ground truth" conditions of those features and the variables that influence these personal perceptions. Compared to the previous study, the present study incorporates a more robust analysis of perceived versus measured conditions as well as the addition of focus groups. Findings from this study can be used to inform decisions related to resource allocation and asset maintenance prioritization.

1.1. Background

Currently, the NCDOT has a robust system for measuring the conditions of roadway assets and maintaining them accordingly. However, to most effectively allocate resources, it is vital that transportation agencies like the NCDOT incorporate stakeholder feedback into their asset management decisions. For this reason, the NCDOT recently began integrating resident feedback from an annual statewide transportation customer service survey administered online, via mail, and over the phone into their asset management practices.

While these surveys continue to offer valuable insight into customer opinions about an array of NCDOT services, they provide minimal information about which assets roadway users prioritize and the "why" behind their opinions. Knowing these details are important because, while quantitative information like that gleaned through the NCDOT's asset management measurement systems is valuable for determining when assets may need improvements, indepth qualitative feedback from customers can better help the agency identify which assets should be improved first given limited funds and human resources.

Through this study, the NCDOT sought to gain more comprehensive opinions from North Carolina residents about roadway assets.

1.2. Objectives

As North Carolina's population continues to grow, the usage of roadways is increasing and the needs of roadway users are increasing. In spite of this growth, however, the human and financial resources available to manage roadway assets continues to be limited. As such, the Roadway Reviews project was initiated to enhance the asset management decisions by NCDOT, with the purpose of:



- 1) Objectively determine expectations that North Carolina residents have for North Carolina's roadways
- 2) Identify roadway features that residents believe are most important on different types of roadways

1.3. Scope

This study was designed to capture the wide range of North Carolina's roadway features, geography, and residents. Research was purposefully conducted in each of North Carolina's three geographic regions: 1) Mountain, 2) Piedmont, and 3) Coastal. Study sites included six locations selected to reflect the state's diverse economic conditions and geographic areas: Asheville, Charlotte, Rocky Mount, Jonesville, Burlington, and Wilmington. These are the same locations that were chosen for the 2011 study.

Similarly, this project focused on examining opinions about varied roadway features and roadway types. Survey and focus group questions revolved around eleven roadway features commonly maintained by the NCDOT. The routes surveyed by participants included a mixture of primary roadways, secondary roadways, and interstates. Routes were selected to ensure that each route incorporated an array of different types of facilities in various conditions.

ITRE researchers met with NCDOT staff numerous times to ensure that project objectives, key outcomes, data to be collected, and the methodology used to collect and analyze data aligned with the goals of the project.

2. Literature Review

In the absence of customer feedback, transportation agencies often rely on quantitative data and legacy processes to inform asset management plans. Integrating data on customer opinions into resource management practices can enable transportation agencies to more efficiently allocate and prioritize public resources (Guirao, García-Pastor, and López-Lambas 2016). This study utilizes the approach explored by Hu (2010), which examines quality of service in terms of the variance between perceived and adequate quality.

2.1. Previous Study

Similar to this study, the 2011 Roadway Reviews study was designed to assess the expectations residents have for specific highway features and to identify the level of importance that residents place on each of these features. As with the 2011 study, the present study is a collaboration between ITRE and the ETC Institute, a market research firm specializing in community-based research for government organizations. However, in 2011, ETC, who developed the Roadway Reviews method, led the project, while the second time around ITRE led the study with ETC providing only participant recruitment services.



While similar to the 2011 study, the present study expanded the scope of the research with the addition of focus groups and refined data analysis strategies. The team made efforts to select roadway features similar to those collected in the previous study, allowing for before and after comparisons. Lessons learned from the first study were incorporated and some procedures were adjusted accordingly.

2.2. Roadway Features Examined

Public opinion about eleven roadway features were examined through this study. In both 2011 and 2015, ITRE researchers worked closely with the NCDOT to ensure that the surveys and focus group sessions included questions about the features that NCDOT was most interested in evaluating. These features included:

- Roadway markings
- Raised pavement markers
- Lighting
- Smoothness and physical condition of road surface
- Width of lanes
- Flow of traffic
- Visibility and condition of signs
- Width of inside and outside shoulders
- Shoulder type
- Mowing & trimming along guard rails and other areas
- Cleanliness (lack of litter/debris)

Features were grouped by type to enhance participant understanding. For example mowingand litter-related assets were grouped into a category called "Vegetation and Litter." More information is available in the following section of this report.

3. Methodology

Wan et al. (2016) note that a customer's level satisfaction is combination of their expectations and perceptions. Accordingly, this unique Roadway Review methodology employed a mixture of small survey and focus groups to gauge both the expectations of roadway users and their perceptions about the importance of roadway features. Three, two-hour study sessions were held at each of the six locations across the state. A map of the study locations is provided in Exhibit 1. The session times were:

Session 1: 11am - 1pm Session 2: 4pm - 6pm Session 3: 7pm - 9pm





Exhibit 1: Map of Roadway Review Locations in North Carolina

The time for Session 3 was selected so that participants could evaluate the roadway features in nighttime conditions. This was particularly useful for raised pavement markings, signs, and roadway lighting.

At each session at each location, approximately 15-20 residents participated in the roadway surveys and approximately 8-10 residents participated in a focus group in lieu of participating in the roadway survey. For all sites, at least one focus group was held during at least one of these sessions at the same time as roadway surveys. Ultimately, the team aimed for 50 survey participants and 10 focus group participants at each location, with a goal of 360 participants overall.

Participants met with researchers in a conference room at a hotel in a location near the survey route. During each session, survey participants were driven in one of four 15-passenger vans, each with their own driver and facilitator. Participants were divided into 3 or 4 approximately equal groups of 5-7 people per van to help ensure that they could adequately see the roadway features that they were asked to rate.

Survey participants were oriented to the study, associated terminology, and their roles to start of each session. Focus group participants were held in a separate area to avoid any bias that could be caused by the orientation information. Once survey vans departed, focus groups were conducted in the hotel conference room.



The first section of each route was used as practice section to ensure that the participants understood how to complete the survey form. Once all participants indicated that they understood how to complete the survey, the driver began the survey route and a trained facilitator helped identify features to be rated on each roadway segment. Through the survey process, the facilitator provided guidance to the participants and ensured that the survey forms were completed properly.

Survey participants were asked to rate the conditions of the roadway segments they traveled based on whether features met their basic expectations based on what they find personally acceptable (Appendix B). Participants were also asked to rate and rank the importance of the features (Appendix C; Appendix D), including pavement, signs, markings, lighting, and guardrails, as well as answer four "end of course" discussion questions (Appendix E). Once the last section of the route was been rated, participants returned to the starting location to submit their surveys and collect a \$50 gift card that was offered as an incentive for their participation.

3.1. Sample Selection

3.1.1. <u>Routes</u>

To the extent possible, the routes used in this study were conducted along similar or the same roadways used in the previous 2011 study. Routes were selected to include adequately diverse features, in particular a balanced sample of IRI, or International Roughness Index, scores for pavement. Prior to the development of the updated routes, the team conducted an on-site visit to each of the locations to physically review each route to ensure they were suitable for the study and include the majority of the roadway features desired. Video of each route was also captured using a vehicle mounted camera to allow further off-site inspection of routes.

The NCDOT captured "ground truth" data on the physical condition of each route. Based on the actual conditions observed at each location and input from the NCDOT, the initial routes were modified to ensure routes included a representative sample of roadway features and conditions from across the state. For example, initial investigations revealed that one proposed route needed to be reconfigured because multiple bridges on the route were under construction. In cases where early assessments showed that a given route lacked IRI diversity, for example a lack of roadway segments labeled "Poor," ITRE collaborated with the NCDOT to identify nearby segments that could be integrated into the route to increase the range of IRI conditions for a site.

Each route consisted of around 10-15 roadway sections. Online and GIS maps were developed for each route. These maps can be used for further data analysis in the future. Routes for each site were finalized once routes with sufficient asset and type diversity were agreed upon by ITRE and the NCDOT. These routes were incorporated into the unique surveys for each of the sites. Route maps and a summary of route segment attributes are provided in Appendix A.



3.1.2. <u>Participants</u>

A total of 358 citizens participated in the 2015 Roadway Reviews study. This sample size includes 296 residents surveyed in the vans along the routes, 55 focus group participants, and 7 community leaders and legislators. Study participants were recruited via phone calls administered and managed by the ETC Institute.

ETC recruited a participant pool representative of the general adult population in North Carolina in addition to contacting a small sample of local leaders residing near the six study sites. The sample of residents was recruited via a list of public phone numbers for residents with 50 miles of each site location. Using a contact list provided by the NCDOT, a similar method was used to recruit community leaders, such as local and state elected officials, representing the areas surrounding the study sites. Emails and mailed packets with more details about the study were sent to those who expressed an interest in participating.

Initially, residents were randomly selected from the list and were called by an ETC recruiter. However, ETC transitioned to a more targeted sampling approach mid-way through the recruitment process to ensure that participants were indeed representative of North Carolina's population. For example, extra effort was made to recruit participants under 40 years of age because ETC found that younger residents were less likely to answer their phone and were less likely to agree to participate in the study.

As a recruitment tool, and to compensate participants for their personal time and travel to the site, recruiters informed potential participants that they would receive \$50 in Visa Debit cards. In addition to the financial incentive, lunch was provided for participants during Session 1 and snacks provided for Sessions 2 and 3. Recruiters asked participants to commit to attend one of the three, two-hour study sessions.

In accordance with university and NCDOT research standards, this studied applied for and received approval from the North Carolina State University Internal Review Board (IRB). The study procedures approved by the IRB were strictly followed, including ensuring that each participant explicitly consented to their involvement in the study. Such practices helped ease any participant concern by assuring participant anonymity and the confidential maintenance of any personal, identifiable information that may be collected during this project.

3.2. Condition Ratings

This study aimed to capture the expectations that residents have for NCDOT-maintained roadway assets by asking them to rated specific segment features on a five-point scale. In the Condition Ratings sections of the roadway surveys, participants rated eleven features such as "lighting" and "mowing and trimming along guardrails" for each route segment of interest compared to how they aligned with their basic expectations. Each feature was rated by circling the appropriate number that corresponded to a scale ranging from "Greatly Exceeds Expectations" (5) to "Far Below Expectations" (1), as shown in Appendix B. Study facilitators made a significant effort to explain to participants that "basic expectation" means the minimum condition that they would personally expect for a given asset.



For example, if as participant expected that a roadway should have less litter than what was present they may have rated the condition of "Cleanliness (lack of litter/debris)" as "1" or "2" because it did not meet their expectations. Alternatively, if a feature was cleaner than they expected they may have felt that it exceeded their expectations and may have rated it as "4" or "5."

3.3. Importance Ratings

Upon completion of a series of Condition Ratings for a group of segments of the same roadway type (primary, secondary, or interstate), roadway survey participants were asked to fill out an Importance Rating section on the corresponding segments. Importance Rating sections were designed to identify how important each of the eleven features were to the participant for a given roadway type (primary, secondary, or interstate) similar to the section of roadway just rated for conditions. Accordingly, respondents were asked to "Rate how important the following features are to you when traveling on the type of highway you just finished rating."

Participants rated the importance of each of the features on a five-point scale, from "Extremely Important" (5) to "Not Important" (1) by circling the number that corresponded with their importance rating, as shown in Appendix C.

Then, participants identified which attributes were most important regarding their perceptions of 1) Overall Condition, 2) Safety, and 3) Appearance for the given roadway type. For this section, respondents ranked the three most important features that influenced their preceptions for each of the three categories by listing the letter that corresponded with the feature they found important, provided in Appendix D. For example, for "Safety," a participant may have written the letters that indicated that they ranked lighting first, visibility of signs second, and width of lanes third in importance.

Both of these Importance Rating sections were created to better idenify how residents prioritize roadway features and how these features influence their perceptions while traveling on roadways. Once the route and survey were completed, participants were asked to answer "end of course" discussion questions, as shown in Appendix E.

Throughout all roadway survey sections, participants were given the opporunity to provide explanatory written comments and feedback.

3.4. Focus Groups

One key addition to the present study compared to the 2011 study was the integration of focus groups. At each of the six sites, between 6 and 15 residents were asked to participate in focus groups instead of the roadway surveys. These individuals were shown video footage of roadway segments as well as photos of select features in various conditions and were asked to provide feedback about their expectations and perceptions regarding the features they viewed.



At the start of each session, video footage of roadways during nighttime and in daylight were shown. Each video included a selection of roadway features in various conditions. Participants were asked to describe what they liked and disliked about the features in each video.

After each section of video, participants were shown photos of five different roadway features in various conditions. These features included signage, road surface, striping, pavement markings, and mowing along guardrails, as shown in Appendix F. For each roadway feature, participants selected the photos that they found acceptable based on their expectations for the given feature. Participants first marked the number of each photo they found acceptable with an "X" on a written survey, as shown in Appendix G, and then explained their selection and the reasoning behind it in a group discussion.

Following the discussions on all five roadway features, participants were asked to identify the three roadway features they found most important by writing them on the written survey and then discussing their choices with the rest of the focus group, as shown below in Appendix G.

Focus groups were added to the 2015 study framework for two primary reasons. First, they allowed researchers to control for the variance in roadway conditions present at each study location by presenting the same videos and photos of roadway features at all six locations. Second, they allowed researchers to more thoroughly capture the "why" of perceptions because the focus group environment provided an opportunity for facilitators to ask follow up questions that added context to participant responses. Ultimately, pairing the focus group method with that of the roadway survey provided a more complete understanding of the data which the NCDOT can use to guide resource allocation decisions.

4. Findings

4.1. Sample Size and Characteristics

A total of 358 people participated in the study. Participants were randomly recruited to ensure statistical validity. The majority of participants (303) were assigned to complete the roadway survey. Most of the roadway survey participants (296) were residents (from within 50 miles of a study location), while a small subset (7) were community or legislative leaders. The remaining participants (55) completed the focus group exercise. Exhibit 2 provides a demographic summary of the study sample.



	Demographic	Surveyed Community or Legislative Leaders (n)	Surveyed Residents (n)	Focus Group Participants (n)
Gender	Male	86% (6)	46% (137)	44% (24)
	Female	14% (1)	53% (158)	56% (31)
	Unknown	0% (0)	1% (1)	0% (0)
Age	Age 18-25	14% (1)	9% (28)	5% (3)
	Age 26-55	14% (1)	41% (121)	35% (19)
	Age >55	43% (3)	49% (144)	60% (33)
	Unknown	29% (2)	1% (3)	0% (0)
Education	Some High School	0% (0)	7% (21)	4% (2)
	High School Degree or GED	14% (1)	33% (99)	27% (15)
	Undergraduate or Associates Degree	43% (3)	46% (137)	49% (27)
	Master's Degree or Higher	29% (2)	13% (37)	18% (10)
	Unknown	14% (1)	1% (2)	2% (1)
Household	Less than \$25,000	0% (0)	26% (77)	25% (14)
Income	\$25,000-\$49,999	14% (1)	29% (85)	27% (15)
	\$50,000-\$99,999	14% (1)	27% (80)	22% (12)
	\$100,000 or more	57% (4)	14% (42)	15% (8)
	Unknown	14% (1)	4% (12)	11% (6)
Race	White	100% (7)	63% (186)	84% (46)
	Black	0% (0)	34% (101)	11% (6)
	Asian	0% (0)	1% (2)	2% (1)
	Native Hawaiian or Pacific Islander	0% (0)	0% (0)	0% (0)
	American Indian	0% (0)	0% (0)	0% (0)
	Unknown	0% (0)	2% (7)	3% (2)

Exhibit 2: Demograph	nic Summary of	f the Study	/ Sample
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Because there were significant differences in demographics and between the ratings given by residents and community/legislative leaders, the responses from the latter were excluded from the overall analysis. It should also be noted that the survey and focus groups samples are similar on all demographic categories except for age and race – the focus group sample is slightly older and mostly white.

4.2. Level of Confidence and Precision of the Data Collected

Valid data were collected for 149 roadway segments across North Carolina. The roadways that were included in the study were chosen as a representative cross section that reflects the type and condition of roadways that are commonly encountered across the state. 296 participants each rated between 16 and 30 different roadway segments for a total of 7,167 observations (ratings) for each roadway feature included in the survey.

Each roadway segment was categorized as one of three types: interstate, primary, or secondary. A detailed description of the routes and the exact location of the roadway segments that were rated are provided in Appendix A. A breakdown of the number of observations is provided in Exhibit 3.



Location	Number of Observations
All Roadways Included in Study	
Asheville	796
Burlington	1096
Charlotte	1391
Jonesville	1546
Rocky Mount	1396
Wilmington	942
Total	7167
Level of Confidence	+/-1.2%
Precision	95%
Interstate	
Asheville	158
Burlington	152
Charlotte	103
Jonesville	207
Rocky Mount	54
Wilmington	177
Total	851
Level of Confidence	+/-3.4%
Precision	95%
Primary	
Asheville	399
Burlington	447
Charlotte	1029
Jonesville	562
Rocky Mount	806
Wilmington	589
Total	3832
Level of Confidence	+/-1.6%
Precision	95%
Secondary	
Asheville	239
Burlington	497
Charlotte	259
Jonesville	777
Rocky Mount	536
Wilmington	176
Total	2484
Level of Confidence	+/-2.0%
Precision	95%

Exhibit 3: Number of Observations by Location and Roadway Type

4.3. Condition Ratings

From the sample observations, the mean condition rating was calculated for each roadway feature presented in the survey. The mean condition ratings for roadway features on each of the three roadway types that were rated are provided in Exhibit 4. Cells highlighted in light grey



represent the highest rated features for each roadway types and cells highlighted in dark grey with white text represent the lowest rated features.

The mean rating for overall condition of all roadways that were included in the study was 3.16 on a 5-point scale, where 5 means "greatly exceeds expectations" and 1 means "fails to meet expectations." A rating of 3.00 indicates that participants generally thought the condition of the corresponding roadway feature met their expectations. If the rating is greater than 3.00, participants generally thought the condition of the feature exceeded their expectations. If the rating is less than 3.00, participants generally thought the condition of the feature did not meet their expectations.

The average ratings for interstates exceeded expectations (mean rating > 3.00) for all features except lighting, which generally met expectations. The average ratings for primary roadways exceeded expectations (mean rating > 3.00) for all but five features. The average ratings for secondary roadways did not meet expectations (mean rating <3.00) for nine of the 15 features that were rated. The mean rating for the overall condition of major roadways (generally interstates and other primary roadways on the National Highway System) was 3.52 for interstates and 3.19 for primary roadways. The mean rating for minor roadways (generally secondary, lower volume, two-lane routes and those not on the National Highway System) was 2.98.

	Mean Condition Ratings by Roadway Type			lway
Roadway Feature	Interstate	Primary	Secondary	All
Condition of signs	3.52	3.3	3.16	3.28
Flow of traffic	3.53	3.28	3.12	3.26
Visibility of signs	3.46	3.26	3.13	3.24
Cleanliness (lack of litter/debris)	3.32	3.19	3.17	3.2
Roadway markings (centerline and roadside striping)	3.43	3.17	2.98	3.14
Mowing & trimming of all other areas	3.36	3.08	3.04	3.1
Width of lanes	3.45	3.17	2.76	3.06
Physical condition of the road surface (i.e., number of potholes/cracks)	3.42	3.12	2.85	3.06
Mowing & trimming along guard rails	3.26	3.02	3.04	3.06
Smoothness/feel of the road surface	3.36	3.07	2.76	3
Type of right shoulder (gravel, pavement, etc.)	3.4	2.91	2.73	2.91
Width of outside (right) shoulders	3.56	2.86	2.65	2.87
Raised pavement markers	3.2	2.97	2.58	2.87
Width of inside (left) shoulders	3.27	2.84	2.66	2.84
Lighting	2.94	2.82	2.7	2.79

Exhibit 4: Mean Condition Ratings for Roadway Features by Roadway Type

4.4. Importance Ratings

4.4.1. Features that Most Influence Perceptions of Roadway Condition

Participants were asked to identify the three roadway features that had the greatest impact on their perception of roadway condition. Those features that were considered most important in relation to the perception of roadway condition on each of the three roadway types are

Mowing & trimming of all other areas



provided in Exhibit 5. The ratings reflect the proportion of responses listed as most important for condition. For instance, 62% of participants who provided valid responses said roadway markings on interstates are important as one of their top three choices. The top three choices for each roadway type are highlighted in grey. Findings across all roadway types indicate that roadway markings, physical condition of the road surface, and smoothness/feel of the road surface are the most important in relation to the overall condition of the roadway.

	Perceived Importance of Feature Overall Condition by Roadway Ty Inclusion)			res for 「ype (%	
Roadway Feature	Interstate	Primary	Secondary	All	
Roadway markings (centerline and roadside striping)	62.2%	57.9%	55.2%	61.1%	
Physical condition of the road surface (i.e., number of potholes/cracks)	59.2%	56.3%	52.3%	58.7%	
Smoothness/feel of the road surface	37.8%	29.0%	31.8%	33.8%	
Lighting	28.5%	27.2%	25.4%	28.3%	
Width of lanes	21.1%	22.6%	24.1%	23.2%	
Visibility of signs	18.9%	22.9%	18.1%	22.0%	
Raised pavement markers	18.9%	16.8%	14.6%	17.5%	
Flow of traffic	18.1%	12.8%	11.8%	14.7%	
Width of outside (right) shoulders	5.2%	6.8%	8.9%	7.5%	
Condition of signs	4.7%	5.9%	3.7%	5.1%	
Cleanliness (lack of litter/debris)	3.0%	4.7%	4.7%	4.5%	
Type of right shoulder (gravel, pavement, etc.)	1.9%	3.3%	3.2%	3.0%	
Width of inside (left) shoulders	1.6%	1.7%	2.0%	2.0%	
Mowing & trimming along guard rails	1.1%	1.4%	2.2%	1.7%	

0.8%

1.1%

1.2%

1.1%

Exhibit 5: Perceived Importance of Roadway Features for Overall Condition by Roadway Type



4.4.2. <u>Features that Most Influence Perceptions of Safety</u>

Participants were asked to identify the three roadway features that had the greatest impact on their perception of roadway safety. Those features that were considered most important in relation to perception of safety on each of the three roadway types are provided in Exhibit 6. The ratings reflect the proportion of responses listed as most important for safety. The top three choices for each roadway type are highlighted in grey. Findings across all roadway types indicate that roadway markings, physical condition of the road surface, and visibility of signs are the most important in relation to the safety of the roadway. For secondary roadways, width of lanes was the third-highest ranking feature in relation to perceptions of safety.

Exhibit 6: Perceived Importance of Roadway Features for Feeling of Safety by Roadway Type

	Perceived Importance of Features for			res for
	Feeling of Safety by Roadway Type (%			ype (%
		Incil	lsion)	
Roadway Feature	Interstate	Primary	Secondary	All
Roadway markings (centerline and roadside striping)	51.2%	50.8%	53.5%	51.8%
Physical condition of the road surface (i.e., number of potholes/cracks)	48.2%	46.5%	44.9%	46.4%
Visibility of signs	33.6%	40.6%	35.3%	37.1%
Width of lanes	30.0%	32.0%	41.7%	34.5%
Lighting	24.8%	31.8%	32.8%	30.3%
Flow of traffic	29.2%	18.9%	16.2%	20.7%
Raised pavement markers	21.2%	18.2%	13.7%	17.6%
Smoothness/feel of the road surface	13.5%	14.3%	14.6%	14.2%
Width of outside (right) shoulders	7.7%	10.3%	13.7%	10.7%
Condition of signs	9.9%	7.6%	8.9%	8.6%
Cleanliness (lack of litter/debris)	3.9%	4.0%	3.4%	3.8%
Type of right shoulder (gravel, pavement, etc.)	3.3%	4.2%	3.4%	3.7%
Width of inside (left) shoulders	3.6%	3.7%	3.0%	3.4%
Mowing & trimming along guard rails	1.1%	2.0%	1.4%	1.6%
Mowing & trimming of all other areas	2.2%	1.0%	1.1%	1.4%



4.4.3. <u>Features that Most Influence Perceptions of Appearance</u>

Participants were asked to identify the three roadway features that had the greatest impact on their perception of roadway appearance. Those features that were considered most important in relation to perception of appearance on each of the three roadway types are provided in Exhibit 7. The ratings reflect the proportion of responses listed as most important for appearance. The top three choices for each roadway type are highlighted in grey. Findings across all roadway types indicate that cleanliness, mowing and trimming of all other areas (other than along guard rails), and physical condition of the road surface are the most important in relation to the appearance of the roadway.

Exhibit 7: Perceived Importance of Roadway Features for Appearance by Roadway Type

	Perceived Importance of Features for			es for
	Appearance by Roadway Type (% Inclus			nclusion)
Roadway Feature	Interstate	Primary	Secondary	All
Cleanliness (lack of litter/debris)	45.1%	52.0%	45.8%	48.2%
Mowing & trimming of all other areas	35.3%	34.5%	35.1%	34.9%
Physical condition of the road surface (i.e., number of potholes/cracks)	33.6%	34.4%	34.4%	34.2%
Roadway markings (centerline and roadside striping)	28.0%	29.4%	32.3%	29.9%
Mowing & trimming along guard rails	28.9%	31.6%	24.3%	28.6%
Visibility of signs	24.9%	22.5%	22.2%	23.0%
Condition of signs	14.0%	18.0%	15.1%	16.0%
Lighting	14.8%	13.5%	17.5%	15.1%
Smoothness/feel of the road surface	15.1%	14.3%	16.0%	15.1%
Width of lanes	10.1%	7.8%	10.1%	9.1%
Type of right shoulder (gravel, pavement, etc.)	7.3%	7.3%	6.1%	6.9%
Width of outside (right) shoulders	8.1%	4.3%	7.8%	6.4%
Raised pavement markers	5.9%	5.4%	5.9%	5.7%
Flow of traffic	5.6%	5.5%	5.4%	5.5%
Width of inside (left) shoulders	3.9%	2.4%	5.0%	3.6%



4.5. Importance/Condition Matrices

One method for identifying priorities for state roadway features involves plotting the importance and condition ratings on a four-quadrant matrix where the horizontal axis shows the relative importance of each feature with regard to the overall condition of a roadway and the vertical axis shows the relative condition ratings for each feature. The four quadrants are defined as follows:

- <u>Meeting priorities</u>: Features in the upper right corner of the matrix are those that are more important on average and have an average condition rating that exceeds expectations (>3.00).
- <u>Exceeding Expectations</u>: Features in the upper left corner of the matrix are those that are less important on average and have an average condition rating that exceeds expectations (>3.00).
- <u>Less Important</u>: Features in the lower left corner of the matrix are those that are less important on average and have an average condition rating that does not meet expectations (<3.00).
- <u>Areas of Concern</u>: Features in the lower right corner of the matrix are those that are more important on average and have an average condition rating that does not meet expectations (<3.00).

The following charts provide four-quadrant performance matrices derived from the survey ratings for each roadway type included in the study.





Exhibit 8: NCDOT Highway Feature Performance Matrix for Interstates

Only "Lighting" was identified as an "area of concern" for <u>interstates</u> (Exhibit 8). This indicates that NCDOT is doing a good job overall allocating resources to meet expectations that residents have for interstates.





Exhibit 9: NCDOT Highway Performance Matrix for Primary Roadways

To increase overall satisfaction with <u>primary roadways</u> (Exhibit 9), NCDOT could pursue strategies that emphasize improvements to the "Type of right shoulder," "Width of inside shoulders," "Width of outside shoulders," "Lighting," and "Raised pavement markers" as these features were identified as "areas of concern."





Exhibit 10: NCDOT Highway Feature Performance Matrix for Secondary Roadways

To increase overall satisfaction with <u>secondary roadways</u> (Exhibit 10), NCDOT could pursue strategies that emphasize improvements to those features identified as "areas of concern" in the lower right corner of the matrix provided below. These include "Type of right shoulder," "Width of inside shoulders," "Width of outside shoulders," "Raised pavement markers," "Smoothness/feel of the road surface," "Physical condition of the road surface," "Width of lanes," "Lighting," and "Roadway markings."

4.6. Summary of Areas of Concern

As mentioned, features that are categorized as "areas of concern" are those that are more important on average and have an average condition rating that does not meet expectations (<3.00). For the three roadway types, features that are highlighted as "areas of concern" include:

- Interstates: Lighting
- **<u>Primary</u>**: Type of right shoulder, width of inside shoulders, width of outside shoulders, lighting, and raised pavement markers
- <u>Secondary</u>: Type of right shoulder, width of inside shoulders, width of outside shoulders, raised pavement markers, smoothness/feel of road surface, physical condition of road surface, width of lanes, lighting, and roadway markings in addition, this is the only roadway type where overall condition of and feeling of safety on the roadway were also highlighted as "areas of concern"



4.7. Determining Acceptable Conditions for Various Highway Features

NCDOT provided field-measured technical data for each of the roadway segments that were rated. To identify how public perceptions of roadways compare to the actual conditions of the roadways, expectation ratings provided by survey respondents were compared to the physical condition of individual features on each route as measured by NCDOT and federal standards. To identify acceptable roadway conditions, a comparison of participant ratings to field-measured conditions for each roadway segment were performed for each of the following features that were determined to be "areas of concern" in the importance/condition matrices: (1) pavement smoothness, (2) lane width, (3) shoulder type, (4) raised pavement markers (RPMs), and (5) litter. While data were available for other features highlighted as "areas of concern," including physical condition of road, roadway markings, lighting, and signage, the resolution of the data made it difficult to objectively assess these features by relating the field-measured data to the surveys. For these features, an analysis of participant responses is provided.

Rather than examining the mean condition ratings derived from participant responses in relation to the field-measured technical data, ratings were reclassified from the 5-point scale into three ratings categories: (1) above basic expectations (4 and 5 ratings aggregated), (2) meets basic expectations (ratings of 3), and (3) below basic expectations (1 and 2 ratings aggregated). This allows for a more general understanding of the spread of responses for each roadway feature included for evaluation in the survey.

4.7.1. Pavement Smoothness

NCDOT-measured pavement condition (IRI) scores were used as the technical measurements to assess the acceptability of pavement smoothness for each roadway segment by roadway type. Exhibit 11 provides a summary of the comparison between the average participant expectation ratings for pavement smoothness to the NCDOT-measured pavement condition (IRI) scores – interstate segments are symbolized by circles, primary segments are symbolized by diamonds, and secondary segments are symbolized by triangles.

Each point on the plot represents an individual roadway segment that was rated by participants based on pavement smoothness expectation. A horizontal line was added to the plot to delineate the threshold between below and above basic expectation scores and to display how roadway segments that meet participant basic expectations of pavement smoothness align with NCDOT measured pavement condition (IRI) scores. The horizontal axis intervals are defined by IRI pavement rating thresholds: Poor (IRI score of 170 and above), Fair (IRI score of 95 – 170), and Good (IRI score below 95). The vertical axis intervals are defined by the survey scoring system, where a rating of 3.0 means a feature's condition is perceived as meeting basic expectations, ratings below 3.0 mean a feature's condition is perceived as above basic expectations. The segment sample sizes are: interstate, 25 segments; primary, 75 segments; secondary, 49 segments. A breakdown of the segments by roadway type with their corresponding IRI scores is provided in Appendix A.





Exhibit 11: NCDOT Measure IRI versus Average Participant Perceived Pavement Smoothness

The figure shows that the majority of interstate and primary segments scored as fair or good according to the IRI scale were rated as meeting or exceeding participant basic expectations for pavement smoothness. In particular, the majority of interstate segments that have good pavement ratings according to the IRI scale were consistently rated as exceeding participant basic expectations for pavement smoothness. The majority of secondary segments, however, did not meet or exceed participant basic expectations for pavement smoothness despite the majority being scored as fair according to the IRI scale. In general, there is a positive trend between measured pavement condition and the average participant perceived pavement smoothness.

Exhibit 12 provides a summary of survey participant condition expectation ratings by roadway type for smoothness of road surface.





Participant Expectation Ratings for Smoothness of Road Surface by Roadway Type							
	Above basic expectation	■ Meets basic expectations	Below basic expectations				
Interstate	41%		44%	15%			
Primary	24%	55%		21%			
Secondary	14%	50%		36%			

The figure shows that the smoothness of the road surface across all roadway types met or exceeded the basic expectations of the majority of survey participants. Interstates received the largest proportion of positive expectation ratings for smoothness of the road surface (41% of total ratings for the feature on interstates), while secondary roadways received the largest proportion of negative expectation ratings for smoothness of road surface (36% of total ratings for the feature on secondary roadways). The total number of ratings for each roadway type are: interstate, 825 ratings; primary, 3694 ratings; secondary, 2396 ratings.

4.7.2. Lane Width

The actual width of the travel lanes (in feet) was used as the technical measurement to assess the acceptability of lane width on highways. Exhibit 13 provides a summary of survey participant lane width expectation ratings by roadway type for 9, 10, 11, 12, and 13 foot lanes, when applicable. The figure shows that lane width expectations varied based on roadway type.





Exhibit 13: Participant Expectation Ratings for Lane Width in Feet by Roadway Type

All interstates in the sample had lane widths of either 12 or 13 feet. These lane widths met or exceeded the basic expectations of nearly all survey participants.

Primary roadways in the sample had lane widths ranging from 9 to 12 feet. Lane widths from 10 to 12 feet met or exceeded the basic expectations of the majority of survey participants. Nine foot lane widths were below the basic expectations of the majority of survey participants (81% of total ratings for the feature on primary roadways).

Secondary roadways in the sample had lane widths ranging from 9 to 12 feet. Lane widths from 10 to 12 feet met or exceeded the basic expectations of the majority of survey participants. It should be noted that 10 foot lane widths were below the basic expectations of a large portion of survey participants (42% of total ratings for the feature on secondary roadways), while nine foot lane widths were below the basic expectations of the majority of survey participants (60% of total ratings for the feature on secondary roadways).

The total number of ratings for each roadway type are: interstate, 12 foot lane width, 796 ratings; interstate, 13 foot lane width, 39 ratings; primary, 9 foot lane width, 58 ratings; primary, 10 foot lane width, 293 ratings; primary, 11 foot lane width, 555 ratings; primary, 12 foot lane width, 2811 ratings; secondary, 9 foot lane width, 257 ratings; secondary, 10 foot lane width, 1173 ratings; secondary, 11 foot lane width, 308 ratings; secondary, 12 foot lane width, 567 ratings.



The segment sample sizes by lane width are: interstate, 12 foot lane width, 17 segments; interstate, 13 foot lane width, 1 segment; primary, 9 foot lane width, 1 segment; primary, 10 foot lane width, 7 segments; primary, 11 foot lane width, 14 segments; primary, 12 foot lane width, 56 segments; secondary, 9 foot lane width, 5 segments; secondary, 10 foot lane width, 25 segments; secondary, 11 foot lane width, 7 segments; secondary, 12 foot lane width, 12 segments.

4.7.3. Shoulder Type

The actual shoulder type (paved or unpaved) was used as the technical measurement to assess the acceptability of shoulder type on roadways. Exhibit 14 provides a summary of survey participant shoulder type expectation ratings by roadway type for paved and unpaved shoulders, when applicable. The figure shows that shoulder type expectations varied based on roadway type.

Participant Expectation Ratings for Shoulder Type by Roadway Type							
		□ Above basic expectations	□ Meets basic expectations	Below basic expectations			
Interstate	Paved	35%		61%	4%		
	Unpaved						
Primary	Paved	20%	62%		18%		
	Unpaved	8%	65%	27%			
Secondary	Paved	19%	62%		19%		
	Unpaved	7%	59%	34%			

Exhibit 14: Participant Expectation Ratings for Shoulder Type by Roadway Type

All interstates in the sample had paved shoulders. This shoulder type on interstates met or exceeded the basic expectations of nearly all survey participants.

Primary roadways in the sample had paved or unpaved shoulders. Both shoulder types on primary roadways met or exceeded the basic expectations of the majority of survey participants. Unpaved shoulders on primary roadways were below the basic expectations of some survey participants (27% of total ratings for the feature on primary roadways).



Secondary roadways in the sample had paved or unpaved shoulders. Both shoulder types on secondary roadways met or exceeded the basic expectations of the majority of survey participants. However, unpaved shoulders were below the basic expectations of some survey participants (34% of total ratings for the feature on secondary roadways).

The total number of ratings for each roadway type are: interstate, paved shoulders, 799 ratings; primary, paved shoulders, 1189 ratings; primary, unpaved shoulders, 1471 ratings; secondary, paved shoulders, 124 ratings; secondary, unpaved shoulders, 1856 ratings.

The segment sample sizes by shoulder type are: interstate, paved shoulders, 18 segments; primary, paved shoulders, 25 segments; primary, unpaved shoulders, 36 segments; secondary, paved shoulders, 3 segments; secondary, unpaved shoulders, 44 segments.

4.7.4. Raised Pavement Markers (RPMs)

Exhibit 15 provides results by roadway type for the average RPM failure to meet the basic expectations of participants for roadway condition derived using field measured RPM inventory data provided by NCDOT. RPM failure (%) was calculated by dividing the number of failed RPMs (all pavement markers that are damaged, significantly chipped, missing, or not functioning as designed) by the total RPM inventory for each roadway segment. The figure displays the average percent of failed RPMs for each roadway type on segments that meet participant basic condition expectations for RPMs.

Average RPM Failure (%) to Meet Basic Expectations by Roadway Type							
Interstate	16%						
Primary	42%						
Secondary		63%					

Exhibit 15: Average RPM Failure (%) to Meet Basic Expectations by Roadway Type



16% of RPMs on average are counted as failures on segments that meet participant basic condition expectations for RPMs on interstates. 42% of RPMs on average are counted as failures on segments that meet participant basic condition expectations for RPMs on primary roadways. 63% of RPMs on average are counted as failures on segments that meet participant basic condition expectations for RPMs on average are counted as failures on segments that meet participant basic condition expectations for RPMs on average are counted as failures on segments that meet participant basic condition expectations for RPMs on secondary roadways. These findings indicate that participants had a lower tolerance for RPM failure on interstates compared to primary and secondary roadways.

The total number of "meets basic expectations" ratings for each roadway type are: interstate, 429 ratings; primary, 1656 ratings; secondary, 485 ratings.

The sample sizes of segments with RPMs are: interstate, 18 segments; primary, 75 segments; secondary, 29 segments.



Exhibit 16: Participant Expectation Ratings for RPMs by Roadway Type

Exhibit 16 provides a summary of survey participant condition expectation ratings by roadway type for raised pavement markers (RPMs). The figure shows that RPMs across all roadway types met or exceeded the basic expectations of the majority of survey participants. Interstates received the largest proportion of positive expectation ratings for RPMs (31% of total ratings for the feature on interstates), while secondary roadways received the largest proportion of negative expectation ratings for the feature on secondary roadways.



The total number of ratings for each roadway type are: interstate, 812 ratings; primary, 3227 ratings; secondary, 1992 ratings.

The sample sizes of segments with RPMs are: interstate, 18 segments; primary, 75 segments; secondary, 29 segments.

4.7.5. <u>Litter</u>

Exhibit 17 provides results for the average number of litter pieces by roadway type to meet basic expectations for roadway condition. The number of litter pieces on each segment was field measured and provided by NCDOT. The figure displays the average number of litter pieces for each roadway type on segments that meet participant basic condition expectations for litter.





An average of 107 litter pieces were present on segments that meet participant basic condition expectations for litter on interstates. An average of 93 pieces of litter were present on segments that meet participant basic condition expectations for litter on primary roadways. An average of 40 pieces of litter were present on segments that meet participant basic condition expectations for litter on secondary roadways. These findings indicate that participants had a higher tolerance for litter on interstates and primary roadways compared to secondary roadways, although the research team acknowledges that higher travel speeds may impact perceptions of litter accumulation.


The total number of "meets basic expectations" ratings for each roadway type are: interstate, 430 ratings; primary, 2026 ratings; secondary, 1416 ratings.

The sample sizes of segments where litter was field measured are: interstate, 18 segments; primary, 78 segments; secondary, 50 segments.



Exhibit 18: Participant Expectation Ratings for Litter by Roadway Type

Exhibit 18 provides a summary of survey participant condition expectation ratings by roadway type for litter. The figure shows that litter on all roadway types met or exceeded the basic expectations of the majority of survey participants. Interstates, primary roadways, and secondary roadways received similar proportions of positive expectation ratings for litter (34% of total ratings for the feature on interstates; 29% of total ratings for the feature on primary roadways; 24% of total ratings for the feature on secondary roadways).

The total number of ratings for each roadway type are: interstate, 796 ratings; primary, 3538 ratings; secondary, 2236 ratings.



4.7.6. Physical Condition of Road

Exhibit 19 provides a summary of survey participant condition expectation ratings by roadway type for physical condition of road. The figure shows that the physical condition of road across all roadway types met or exceeded the basic expectations of the majority of survey participants. Interstates received the largest proportion of positive expectation ratings for smoothness of the road surface (44% of total ratings for the feature on Interstates), while secondary roadways received the largest proportion of negative expectation ratings for smoothness of road surface (30% of total ratings for the feature on secondary roads).

The total number of ratings for each roadway type are: interstate, 836 ratings; primary, 3720 ratings; secondary, 2390 ratings.

	Participant Expectation Rat	ings for Physical Condit	ion of Road by <i>Roadw</i>	чау Туре
	Above basic expectation	ns Deets basic expectations	Below basic expectations	
Interstate	44%		44%	
Primary	26%	56%		18%
Secondary	16%	54%		30%

Exhibit 19: Expectation Ratings for Physical Condition of Road by Roadway Type



4.7.7. Roadway Markings

Exhibit 20 provides a summary of survey participant condition expectation ratings by roadway type for roadway markings. The figure shows that roadway markings on all roadway types met or exceeded the basic expectations of the majority of survey participants. Interstates received the largest proportion of positive expectation ratings for roadway markings (40% of total ratings for the feature). Secondary roadways received the largest proportion of negative expectation ratings for the feature).

The total number of ratings for each roadway type are: interstate, 841 ratings; primary, 3749 ratings; secondary, 2422 ratings.



Exhibit 20: Participant Expectation Ratings for Roadway Markings by Roadway Type



4.7.8. <u>Lighting</u>

Exhibit 21 provides a summary of survey participant condition expectation ratings by roadway type for lighting. The figure shows that lighting on all roadway types met or exceeded the basic expectations of the majority of survey participants. Primary and secondary roadways received similar proportions of negative expectation ratings for lighting (31% of total ratings for the feature on primary roads; 35% of total ratings for the feature on secondary roads). While representing only a small proportion of the overall expectation ratings for the roadway type, Interstates received the largest proportion of positive ratings for lighting (18% of total ratings for the feature).

The total number of ratings for each roadway type are: interstate, 703 ratings; primary, 3160 ratings; secondary, 2011 ratings.



Exhibit 21: Participant Expectation Ratings for Lighting by Roadway Type



4.7.9. <u>Sign Visibility</u>

Exhibit 22 provides a summary of survey participant condition expectation ratings by roadway type for sign visibility. The figure shows that sign visibility on all roadway types met or exceeded the basic expectations of the majority of survey participants. Interstates received the largest proportion of positive expectation ratings for roadway markings (40% of total ratings for the feature). Secondary roadways received the largest proportion of negative expectation ratings for the feature). (14% of total ratings for the feature).

The total number of ratings for each roadway type are: interstate, 833 ratings; primary, 3651 ratings; secondary, 2124 ratings.



Exhibit 22: Participant Expectation Ratings for Sign Visibility by Roadway Type



4.7.10. Participant Expectation Ratings Sample Sizes

Exhibit 23 provides a summary of the number of condition expectation ratings provided by survey participants for each roadway feature that was evaluated by roadway type.

Number of Participant Expectation Ratings by Roadway Type									
Roadway Type	Pavement Smoothness	Raised Pavement Markers (RPMs)	Litter	Physical Condition of Roadway	Roadway Markings	Lighting	Sign Visibility		
Secondary	2396	1992	2236	2390	2422	2011	2124		
Primary	3694	3227	3538	3720	3749	3160	3651		
Interstate	825	812	796	836	841	703	833		
Boadway		Lar	ne Width	1					
Туре	9 foot	10 foot	11 foot	12 foot	13 foot				
Interstate	0	0	0	796	39				
Primary	58	293	555	2811	0				
Secondary	257	1173	308	567	0				
Roadway	Shoulde	r Type							
Туре	Paved	Unpaved							
Interstate	799	0							
Primary	1471	1189							
Secondary	1856	124							

Exhibit 23: Participant Expectation Ratings Sample Sizes

4.8. Focus Group Results

Focus groups were held concurrently with the roadway surveys at each study location. The purpose of the focus groups was to control for site conditions and better capture the "why" behind perceptions of roadway features. The focus groups provided the opportunity for follow-up questions, helped add context to the survey responses, and offered additional information about what is most important to citizens in relation to North Carolina's roadways. A total of 55 people participated in the focus groups (Asheville: 8; Burlington: 7; Charlotte: 6; Jonesville: 13; Rocky Mount: 6; Wilmington: 15).

A major component of the focus groups was an evaluation of videos and pictures of a sample of roadway features, including signage, road surface, roadway striping, pavement markings, and mowing. Focus group participants were shown several examples of each of these features and were asked to mark the ones that they found to be acceptable. For example, six images of stop signs were shown. The condition of each stop sign varied from brand new to extremely deteriorated. Participants were asked to indicate which stop signs they found to be acceptable.



by marking the corresponding fields on their worksheets. An example of a completed focus group worksheet is provided in Appendix G.

A summary of the roadway feature evaluation results is provided in Exhibit 24. Overall, the results meet expectations. Roadway features with little to no deterioration or defects received the majority of positive responses. The specific examples that were mostly frequently selected as acceptable are indicated in bold in Exhibit 24.



Exhibit 24: Focus Group Roadway Feature Evaluation Results

		Percent
		Acceptable
	Description of Image	Responses
	1 (Clear letters, very faded almost pink, completely white at night, cannot see any letters at night)	20%
	2 (Good condition, clear lettering, slightly discolored in one spot near the bottom, pole at a slant, clear letters at night, not very reflective)	91%
Signage –	3 (Dirty, clear letters, clear letters at night, good reflection at night)	78%
Stop Sign	4 (Cracked paint on letters, faded color, dull red, tape on left side possibly covering a crack, letters harder to read at night, not reflective, slightly covered by vegetation on the right side)	18%
	5 (Dirty, faded color, closer to burnt orange than red, legible at night, color becomes more faded at night)	47%
	6 (Very good condition, looks new, bright red color, clear letters during day and night, no scuff marks, reflective, majority of pole covered by vegetation but sign is not covered up)	87%
	1 (Clear lines, pavement slightly faded no cracks or pot holes, partly pavement and grass shoulder)	91%
D I	2 (Very faded color, very faded center yellow line, cracks going linearly down the middle and sides, cracks crossing horizontally across, grassy shoulder creeping onto pavement)	11%
Road	3 (Multiple thin cracks present, most cracks are sealed, partially faded center yellow line, clear white side line)	47%
Surface	4 (Cracks and pot holes linearly down white dotted line, clear white dotted and double yellow lines, thin cracks crossing horizontally, no shoulder)	6%
	5 (Coarse pavement texture, clear double yellow center and single white side lines, grassy shoulder, no cracks or pot holes)	89%
	1 (Cracked and faded double yellow line, cracked right white side line, very faded left white side line)	13%
Strining	2 (Slightly cracked but still clear paint for the center yellow line and white side lines)	85%
Striping	3 (Clear center double yellow and white side lines, no cracks, no fading)	98%
	4 (Extremely faded white dotted lines, cracked and faded yellow lines)	11%
	1 (Cracked arrows, chipped, still clear and visible)	76%
Pavement	2 (Cracked, faded, chipped, stem faded more than tip of arrow)	28%
Markings	3 (Clear markings, no cracks, no fading)	96%
	4 (Small chips in markings, clear, no fading, no cracks)	83%
	1 (Overgrown grass and weeds, creeping onto pavement, as tall as height of guard rail, no litter)	26%
Mowing	2 (Maintained trees and bushes, short grass, minimal litter)	98%
wowing	3 (Short grass, no litter, some rocks behind guard rail, some grass under and in from of guard rail)	78%
	4 (Tall grass, overgrown, taller than guard rail, covering parts of guard rail, in front of and behind rail, no litter)	7%

The focus group results indicate that features with minimal deterioration and defects are found to be acceptable over those with wear such as discoloration, cracking, chipping, and fading. For mowing, maintained trees and bushes, short grass, and minimal litter was preferred.



Focus group participants were also asked to list the top three roadway features that are most important to them. Exhibit 25 provides a summary of the results. Overall, roadway markings, physical condition of the road surface, and visibility of signs were listed as important by the majority of participants (56%, 51%, and 22%, respectively). These features were also frequently ranked as most important by the roadway survey participants.

	Roadway Feature Listed As Important	Percent of Participants
	Roadway markings (centerline and roadside striping)	56%
Marking and	Raised pavement markers	7%
Visibility	Lighting	15%
	General	11%
	Smoothness/feel of the road surface	7%
Road Surface	Physical condition of the road surface (i.e., number of potholes/cracks)	51%
and	Width of lanes	11%
Movement	Flow of traffic	2%
	General	9%
	Visibility of signs	22%
Signage	Condition of signs	2%
	General	36%
	Width of <u>outside</u> (right) shoulders	9%
Shouldors	Width of <u>inside</u> (left) shoulders	0%
Shoulders	Type of right shoulder (gravel, pavement, etc.)	0%
	General	5%
	Mowing & trimming along guard rails	7%
Maintonanco	Mowing & trimming of all other areas	11%
Wantenance	Cleanliness (lack of litter/debris)	13%
	General	5%
	Overall condition of this highway	4%
Overall	Overall appearance of this highway	0%
Experience	Feeling of safety on this highway	9%
	General	2%

Exhibit 25: Roadwa	y Features Listed	l as Important b	y Focus Groups
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4.9. Overall Quality of Roadways in North Carolina

For the final discussion portion of the survey, participants were asked "What grade would you give to the overall quality of highways in North Carolina?" Exhibit 26 provides a summary of the responses. Options ranged from "Excellent" (A) to "Failing" (F).

Exhibit 26: Survey Results for Overall Quality of Roadways in North Carolina

What grade wou	uld you	give to the overall quality of highways in NC?
Excellent (A)	8%	Nearly half (46%) of participants gave an above
Good (B)	38%	average grade
Average (C)	42%	
Below Average (D)	10%	Only 11% of participants gave a below average
Failing (F)	1%	grade

The majority of survey participants (88%; 262 people) graded the overall quality of highways in North Carolina as "Average" (C) or higher. Nearly half of participants (46%; 137 people) gave an above average grade ("Excellent" (A) or "Good" (B)), 11% of participants (33 people) gave a "Below Average" (D) grade, and only three participants gave a "Failing" (F) grade. The three "Failing" (F) grades were recorded in Charlotte and Wilmington.

5. Conclusions

North Carolina residents were generally satisfied with the overall conditions of interstates and primary roadways, but were less satisfied with secondary roadways. On a 5-point scale with a 3.0 representing that basic expectations for roadway conditions are met, the mean ratings for interstate, primary, and secondary are 3.52, 3.19, and 2.98, respectively. Among all roadway facilities rated, the highest rated features were condition of signs, flow of traffic, and visibility of signs, while the lowest rated features were width of outside (right) shoulders, raised pavement markers, width of inside (left) shoulders, and lighting.

Along with using condition rating scales, participants identified the roadway features that they thought to be most important in influencing their perception of roadway condition, safety, and appearance. Roadway features considered most important for condition were roadway markings, physical condition of the road surface, and smoothness/feel of the road surface. Features considered most important for safety were roadway markings, physical condition of the road surface source considered cleanliness, mowing and trimming of areas other than along the guard rails, and physical condition of the road surface to be the most important features in influencing their perception of roadway appearance.

Condition and importance ratings were analyzed collectively in a matrix to determine "areas of concern" that can inform NCDOT prioritization. To identify acceptable roadway conditions, a comparison of participant ratings to field-measured conditions for each roadway segment were performed for features that were determined to be "areas of concern" in the importance/condition matrices. Interpretable field-measured data was available for pavement



smoothness, lane width, shoulder type, raised pavement markers, and litter. An analysis of participant ratings was performed for features where field-measured data was not available or not interpretable. Standards that generally met the expectation of survey participants include:

- Pavement Smoothness: All Roadways (IRI score of 100 or less)
- Lane Width: Interstates (12 and 13 feet); Primary and Secondary Roadways (10 to 12 feet)
- *Shoulder Type:* Interstates (Paved); Primary (Paved and Unpaved); Secondary (Paved and Unpaved)
- *Raised Pavement Markers:* Interstates (Average RPM failure of 16% or less); Primary Roadways (Average RPM failure of 42% or less); Secondary Roadways (Average RPM failure of 63% or less)
- *Litter:* Interstates (107 pieces of litter or less); Primary Roadways (93 pieces of litter or less); Secondary Roadways (40 pieces of litter or less)

Focus groups held concurrently with the van surveys at each study location provided context to and supported the survey results. Roadway features with little to no deterioration or defects received the majority of positive responses over those with wear such as discoloration, cracking, chipping, and fading. For mowing, maintained trees and bushes, short grass, and minimal litter was preferred.

Survey participants were also asked what grade they would give to the overall quality of highways in North Carolina. Over half of participants gave North Carolina roadways an above average grade. Nearly 90% of participants gave North Carolina roadways a grade of average or above.

6. Future Research

This study presents several opportunities for future research. The extensive study records maintained by ITRE researchers and NCDOT staff allow for the 2015 study results to be compared to any future NC Roadway Review study results. In addition, the findings of this research can be used to refine the questions in future costumer service surveys and to develop questions that target the assets that residents indicated were most important.

7. References

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8. Appendices

8.1. Appendix A: Site Route Maps and Segment Data

8.1.1. Asheville Route





8.1.2. Burlington Route





8.1.3. Charlotte Route





8.1.4. Jonesville Route





8.1.5. <u>Rocky Mount Route</u>





8.1.6. Wilmington Route





8.1.7.	All Route Sec	ment Descri	ptions,	IRI Scores,	, and Average	e Participant	Perceived	Pavement	Smoothness Ratings
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Site	Survey Segment Code	Route	Begin	End	Highway	IRI	Overall Condition	Average Participant Perceived Pavement Smoothness Rating
Asheville	I 1-1	I-240 East	Tunnel Rd	I-40 East towards Statesville Ramp	Interstate	83	Good	3.2
Asheville	l 1-2	I-40 East	I-40 East towards Statesville ramp	Exit 55 Ramp	Interstate	95	Good	3.1
Asheville	l 1-3	I-40 East	Exit 55 Ramp	Top of Exit 59 Ramp (Patton Cove Rd)	Interstate	49	Good	3.7
Asheville	S 1-1	Patton Cove Rd	Top of Exit 59 Ramp (Patton Cove Rd)	US-70	Secondary	119	Fair	2.3
Asheville	P 1-1	US-70	Patton Cove Rd	Lytle Cove Rd	Primary	94	Good	2.1
Asheville	P 1-2	US-70 / West State St	Lytle Cove Rd	Blue Ridge Rd	Primary	97	Fair	2.3
Asheville	P 1-3	US-70 / West State St	Blue Ridge Rd	Cragmont Rd	Primary	96	Fair	2.4
Asheville	P 1-4	US-70 / West State St	Cragmont Rd	NC-9 / Broadway Ave	Primary	129	Fair	3.2
Asheville	P 2-1	NC-9 / Broadway Ave	US-70 / West State St	Blue Ridge Rd	Primary	191	Poor	3.1
Asheville	P 2-2	NC-9 / Broadway Ave	Blue Ridge Rd	Old Lackey Gap Rd	Primary	143	Fair	3.2
Asheville	P 2-3	NC-9 / Broadway Ave	Old Lackey Gap Rd	Chesnut Hill Rd	Primary	150	Fair	3.4
Asheville	S 2-1	Chesnut Hill Rd	NC-9 / Broadway Ave	Flat Creek Rd	Secondary	134	Fair	3.1
Asheville	S 3-1	Old Fort Rd	Chesnut Hill Rd	Echoing Ridge	Secondary	139	Fair	2.8
Asheville	S 3-2	Old Fort Rd	Echoing Ridge	Weldon Way / Moonstone Dr	Secondary	110	Fair	3
Asheville	S 3-3	Old Fort Rd	Weldon Way / Moonstone Dr	Wrights Cove Rd	Secondary	113	Fair	3.2



Asheville	S 3-4	Old Fort Rd	Wrights Cove Rd	Alt 74 / Charlotte Highway	Secondary	114	Fair	3.3
Asheville	P 3-1	Alt 74 / Charlotte Highway	Old Fort Rd	Winding Ridge Rd	Primary	111	Fair	3.4
Asheville	P 3-2	Alt 74 / Charlotte Highway	Winding Ridge Rd	Cedar Ridge Dr	Primary	49	Good	3.6
Asheville	P 3-3	Alt 74 / Charlotte Highway	Cedar Ridge Dr	I-40 East towards Statesville Ramp	Primary	103	Fair	3.1
Asheville	I 2-1	I-240 West	I-40 East towards Statesville Ramp	Exit 7 top of Ramp to Tunnel Rd	Interstate	103	Fair	3.3
Burlington	1-1	I-40W/86	MM 139	NC-61	Interstate	42	Good	3.7
Burlington	l 1-2	I-40W/87	NC-61	Rock Creek Diary Rd Interchange	Interstate	44	Good	3.6
Burlington	l 1-3	I-40W/88	Rock Creek Diary Rd Interchange	Mount Hope Church Rd Exit	Interstate	56	Good	3.3
Burlington	S 1-1	Mount Hope Church Rd	Mount Hope Church Rd Exit	McConnell Rd	Secondary	102	Fair	2.8
Burlington	S 1-2	Mount Hope Church Rd	McConnell Rd	Cook-Stewart Rd	Secondary	93	Good	3
Burlington	S 1-3	Mount Hope Church Rd	Cook-Stewart Rd	Baseman Rd	Secondary	114	Fair	3
Burlington	S 1-4	Mount Hope Church Rd	Baseman Rd	Holts Store Rd	Secondary	99	Fair	3.1
Burlington	S 1-5	Holts Store Rd	Mount Hope Church Rd	NC-61	Secondary	117	Fair	2.9
Burlington	P 1-1	NC-61	Holts Store Rd	Herron Rd	Primary	76	Good	3.2
Burlington	P 1-2	NC-61	Herron Rd	Homeview Rd	Primary	89	Good	3.1
Burlington	P 1-3	NC-61	Homeview Rd	Konica Dr	Primary	105	Fair	3
Burlington	P 1-4	NC-61	Konica Dr	Greeson Rd	Primary	199	Poor	2.5
Burlington	P 1-5	NC-61	Greeson Rd	US-70	Primary	124	Fair	3.2
Burlington	P 2-1	US-70	NC-61	Brightwood Church Rd	Primary	105	Fair	3
Burlington	P 2-2	US-70	Brightwood Church Rd	Golf House Rd East	Primary	85	Good	3
Burlington	P 2-3	US-70	Golf House Rd East	Tatton Church Rd	Primary	115	Fair	3.2



Burlington	P 2-4	US-70	Tatton Church Rd	Knox Rd	Primary	95	Good	3
Burlington	S 2-1	Knox Rd	US-70	Bethel Church Rd	Secondary	149	Fair	2.4
Burlington	S 2-2	Bethel Church Rd	Knox Rd	Sedalia Rd	Secondary	112	Fair	2.9
Burlington	S 2-3	Bethel Church Rd	Sedalia Rd	St John Church Rd	Secondary	129	Fair	2.6
Burlington	S 2-4	St John Church Rd	Bethel Church Rd	Carmon Rd	Secondary	223	Poor	2.4
Burlington	S 2-5	Carmon Rd	St. John Church Rd	Falcon Rd	Secondary	105	Fair	2.9
Burlington	S 3-1	Carmon Rd	Falcon Rd	Whitsett Ave (NC 61/100)	Secondary	122	Fair	2.7
Burlington	S 3-2	Whitsett Ave (NC 61/100)	W Minneola St	W Main St / NC-61	Secondary	181	Poor	3.1
Burlington	S 3-4	Church St / NC-61	W Main St / NC-61	Forest Dr	Secondary	123	Fair	2.8
Burlington	S 3-5	Forest Dr	Church St / NC-61	Boonwood Dr	Secondary	227	Poor	3
Burlington	P 3-1	NC-61/100	W Minneola Rd	Dew Sharpe Rd	Primary	96	Fair	3.1
Burlington	P 3-2	NC-61/100	Dew Sharpe Rd	NC-61	Primary	80	Good	3.2
Burlington	P 3-3	NC-61	NC-100	US-70	Primary	109	Fair	3.1
Burlington	I 2-1	I-40W/85	I-40/85 Exit	University Dr Interchange	Interstate	42	Good	3.7
Charlotte	P 1-1	US-74 East	Indian Trail Rd	Wesley Chapel Stouts Rd	Primary	81	Good	3
Charlotte	P 1-2	US-74 East	Wesley Chapel Stouts Rd	N Rocky River Rd	Primary	82	Good	3.1
Charlotte	S 1-1	N. Rocky River Rd	US-74 East	Old Charlotte Hwy	Secondary	150	Fair	3.3
Charlotte	P 2-1	Old Charlotte Hwy	N Rocky River Rd	Ashton Avenue	Primary	154	Fair	2
Charlotte	P 2-2	Old Charlotte Hwy	Ashton Avenue	South NC-200 / ML King Jr Blvd	Primary	178	Poor	2.1
Charlotte	P 3-1	South 200 / ML King Jr Blvd	Old Charlotte Hwy	NC-84 West / Weddington Rd	Primary	110	Fair	3.3
Charlotte	P 3-2	NC-84 West / Weddington Rd	South 200 / ML King Jr Blvd	7 Oaks Dr	Primary	81	Good	3.5
Charlotte	P 3-3	NC-84 West / Weddington Rd	7 Oaks Dr	Rocky River Rd	Primary	104	Fair	3.2
Charlotte	S 2-1	S Rocky River Rd	NC-84 West / Weddington Rd	NC-75 / Waxhaw Hwy	Secondary	195	Poor	1.8



Charlotte	P 4-1	NC-75 / Waxhaw Hwy	S Rocky River Rd	Potter Rd	Primary	132	Fair	2.6
Charlotte	P 4-2	NC-75 / Waxhaw Hwy	Potter Rd	Collins Rd	Primary	223	Poor	1.8
Charlotte	P 4-3	NC-75 / Waxhaw Hwy	Collins Rd	McCain St / E South Main St	Primary	180	Poor	1.8
Charlotte	S 3-1	E South Main St	NC-75 / Waxhaw Hwy	NC-16 North	Secondary	155	Fair	2.7
Charlotte	P 5-1	NC-16 North	E South Main St	Red Oaks Trail	Primary	159	Fair	3.4
Charlotte	P 5-2	NC-16 North	Red Oaks Trail	Cuthbertson Rd	Primary	136	Fair	3.3
Charlotte	P 5-3	NC-16 North	Cuthbertson Rd	Gray Byrum Rd	Primary	158	Fair	3.1
Charlotte	P 5-4	NC-16 North	Gray Byrum Rd	Avanti Dr	Primary	120	Fair	3.3
Charlotte	P 5-5	NC-16 North	Avanti Dr	New Town Rd	Primary	164	Fair	3.1
Charlotte	P 5-6	NC-16 North	New Town Rd	Chamberleyne Way	Primary	122	Fair	3
Charlotte	P 5-7	NC-16 North	Chamberleyne Way	Ardrey Kell Rd	Primary	68	Good	3.5
Charlotte	P 5-8	NC-16 North	Ardrey Kell Rd	Ramp to N I-485 Outer	Primary	96	Fair	3.5
Charlotte	I 1-1	N I-485 Outer	NC-16 North	MM 54.4	Interstate	46	Good	3.9
Charlotte	l 1-2	N I-485 Outer	MM 54.4	Top of Exit 52 Ramp	Interstate	59	Good	3.9
Charlotte	S 4-1	E John St	Council Place	Park Square Place	Secondary	175	Poor	2.6
Charlotte	S 4-2	E John St	Park Square Pl	NC-51 / Matthews Township Prkwy	Secondary	159	Fair	2.5
Charlotte	P 6-1	NC-51 / Matthews Township Prkwy	E John St	Ramp to US-74 East	Primary	135	Fair	3.6
Charlotte	P 6-2	US-74 East	NC-51 / Matthews Township Prkwy	Stallings Rd	Primary	96	Fair	3.2
Jonesville	P 1-1	NC-67 East	I-77 Interchange	Riverside Dr	Primary	127	Fair	3.2
Jonesville	P 1-2	NC-67 East	Riverside Dr	Vestal Rd	Primary	71	Good	3.5
Jonesville	P 1-3	NC-67 East	Vestal Rd	Wilhelm Rd	Primary	78	Good	3.5
Jonesville	S 1-1	Wilhelm Rd	NC-67	Woodruff Rd	Secondary	193	Poor	2.7
Jonesville	S 1-2	Woodruff Rd	Wilhelm Rd	NC-67	Secondary	160	Fair	2.6
Jonesville	P 2-1	NC-67	Woodruff Rd	US-601	Primary	119	Fair	3.3
Jonesville	P 2-2	US-601	NC-67	Marview Dr	Primary	134	Fair	2.9



Jonesville	P 2-3	US-601	Marview Dr	Reece Rd	Primary	81	Good	2.9
Jonesville	P 2-4	US-601	Reece Rd	Country Club Rd	Primary	97	Fair	2.9
Jonesville	S 2-1	Country Club Rd	US-601	Rockford Rd	Secondary	108	Fair	2.1
Jonesville	S 2-2	Rockford Rd	Country Club Rd	Union Grove Church Rd	Secondary	88	Good	3
Jonesville	S 2-3	Rockford Rd	Union Grove Church Rd	Nebo Rd	Secondary	83	Good	3.8
Jonesville	S 2-4	Nebo Rd	Rockford Rd	Larry Rd	Secondary	143	Fair	2.5
Jonesville	S 2-5	Nebo Rd	Larry Rd	Union Grove Church Rd	Secondary	167	Fair	2.5
Jonesville	S 3-1	Union Grove Church Rd	Nebo Rd	Rockford Rd	Secondary	139	Fair	3.1
Jonesville	S 3-2	Sugartown Rd	Rockford Rd	Myers Rd	Secondary	113	Fair	2.9
Jonesville	S 3-3	Myers Rd	Sugartown Rd	Old US-421	Secondary	223	Poor	2.4
Jonesville	P 3-1	Old US-421 / E. Main St	Myers Rd	UNFI Industrial Dr	Secondary	158	Fair	3.2
Jonesville	P 3-2	Old US-421 / E. Main St	UNFI Industrial Dr	Harrison St	Secondary	123	Fair	3.3
Jonesville	S 4-1	Harrison St	Old US-421 / E. Main St	Locust St	Secondary	253	Poor	2
Jonesville	S 4-2	Locust St	Harrison St	Tennessee St	Secondary	387	Poor	2
Jonesville	P 4-1	State St	Tennessee St	Entrance Ramp US- 421 North	Secondary	133	Fair	3.7
Jonesville	1-1	US-421 North	Entrance Ramp US- 421 North	Reavis Rd/Bethel Church Rd	Primary	73	Good	3.5
Jonesville	l 1-2	US-421 North	Reavis Rd/Bethel Church Rd	Branon Church Rd	Primary	70	Good	3.4
Jonesville	I 1-3	US-421 North	Branon Church Rd	US-21 Interchange	Primary	60	Good	3.8
Jonesville	I 1-4	US-421 North	US-21 Interchange	Bottom of ramp to I- 77 N	Primary	93	Good	3.2
Jonesville	2-1	I-77 N	Bottom of ramp to I- 77 N	Mile Marker 76	Interstate	63	Good	3.2
Jonesville	12-2	I-77 N	Mile Marker 76	US-21 BUS Interchange	Interstate	65	Good	3.2



Jonesville	I 2-3	I-77 N	US-21 BUS Interchange	Center Rd Bridge	Interstate	99	Fair	2.2
Jonesville	I 2-4	I-77 N	Center Rd Bridge	Top of exit (85) ramp NC-268 / CC Camp Rd	Interstate	88	Good	2.4
Rocky Mount	2-3	US-64 East	I-95 Interchange	N Winstead Ave	Primary	48	Good	3.3
Rocky Mount	P 1-1	US-301	US-301 Exit (Top of Ramp)	Railroad crossing	Primary	98	Fair	2.8
Rocky Mount	P 1-2	US-301	Railroad crossing	W Tarboro Rd	Primary	52	Good	3.2
Rocky Mount	P 1-3	US-301	W Tarboro Rd	S Halifax Rd	Primary	62	Good	3.2
Rocky Mount	P 1-4	US-301	S Halifax Rd	Stagecoach Rd	Primary	65	Good	3.1
Rocky Mount	S 1-1	South Parker St	Stagecoach Rd	W Main St	Secondary	162	Fair	2.1
Rocky Mount	S 1-2	W. Main St	South Parker St	Toisnot St	Secondary	125	Fair	3.1
Rocky Mount	S 2-1	Lake Wilson Rd	W Wilson St	Curve Rd	Secondary	126	Fair	2.4
Rocky Mount	S 2-2	Lake Wilson Rd	Curve Rd	London Church Rd	Secondary	125	Fair	2.4
Rocky Mount	S 2-3	London Church Rd	Lake Wilson Rd	Pridgen Rd	Secondary	112	Fair	2.6
Rocky Mount	S 2-4	London Church Rd	Pridgen Rd	William Chapel Church Rd	Secondary	88	Good	3.2
Rocky Mount	S 2-5	William Chapel Church Rd	London Church Rd	NC-58	Secondary	161	Fair	2.4
Rocky Mount	P 2-1	NC-58	William Chapel Church Rd	NC-97	Primary	77	Good	3.6
Rocky Mount	P 2-2	NC-97	NC-58	I-95 Exit (Top of Ramp)	Primary	90	Good	2.8
Rocky Mount	1-1	I-95	I-95 Exit (Top of Ramp)	West Mount Dr Exit (Top of Ramp)	Interstate	55	Good	3
Rocky Mount	S 3-1	West Mount Dr	I-95	NC-58	Secondary	106	Fair	2.8



Rocky		1		1		1		
Mount	P 3-1	NC-58	West Mount Dr	Batchelor Rd	Primary	78	Good	3.2
Rocky Mount	P 4-4	South Barnes St	W. Washington St	West Cross St	Secondary	104	Fair	3.3
Rocky Mount	S 4-1	South Alston St	West Cross St	E Washington St/US- 64	Secondary	180	Poor	2.8
Rocky Mount	P 3-2	NC-58	Batchelor Rd	E Old Spring Hope Rd	Primary	81	Good	3.3
Rocky Mount	P 4-1	NC-58	E. Old Spring Hope Rd	Ward St	Primary	95	Fair	3.3
Rocky Mount	P 4-2	NC-58	Ward St	US-64 Bus	Primary	126	Fair	3.3
Rocky Mount	P 4-3	E Washington St/US- 64	NC-58	W Washington St (Grass Median)	Primary	171	Poor	3.4
Rocky Mount	P 5-1	US-64 Bus	NC-58	Nashville Commons Dr	Primary	110	Fair	3.1
Rocky Mount	2-1	US-64	Nashville Commons Dr	Exit 463	Primary	44	Good	3.3
Rocky Mount	2-2	US-64	Exit 463	I-95 Interchange	Primary	57	Good	3.3
Wilmington	P 1-1	US-17 BUS	3rd St	US-74/76	Primary	191	Poor	2.8
Wilmington	P 1-2	US-74/76	US-17 BUS	US-17 Ramp	Primary	112	Fair	3.1
Wilmington	P 1-3	US-17	US-74/76	Rail Bridge	Primary	117	Fair	3
Wilmington	P 1-4	US-17	Rail Bridge	Zion Ch Rd	Primary	71	Good	3.5
Wilmington	S 1-1	Town Creek Rd	Zion Ch Rd	Old Town Creek Rd	Secondary	158	Fair	2.3
Wilmington	S 1-2	Old Town Creek Rd	Town Creek Rd	Maco Rd	Secondary	177	Poor	2.5
Wilmington	S 1-3	Maco Rd	Old Town Creek Rd	Grace Pkwy	Secondary	78	Good	3.4
Wilmington	I 1-1	I-140	End of US-17 Ramp	US-74/76	Interstate	40	Good	4
Wilmington	P 2-1	US-74/76	US-140	Mercantile Dr	Primary	77	Good	3.6
Wilmington	P 2-2	US-74/76	Mercantile Dr	US-17 Ramp	Primary	109	Fair	2.5
Wilmington	P 2-3	US-74/76	US-17 Ramp	BUS 17 Split	Primary	107	Fair	2.5
Wilmington	P 2-4	US-74/76	US-74/76 Ramp	I-140	Primary	118	Fair	2.8
Wilmington	12-1	I-140	US-74/76	I-40 Ramp	Interstate	67	Good	3.5

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Wilmington	I 2-2	I-40	I-40 Ramp	US-117 / College Rd	Interstate	61	Good	3.6
Wilmington	P 3-1	US-117 / College Rd	I-40	US-117 / Shipyard Blvd	Primary	100	Fair	3.5
Wilmington	P 4-1	US-17 BUS / Market St	Independence Blvd	3rd St	Primary	233	Poor	2.3



8.2. Appendix B: Survey Condition Ratings Example

Type	Feature	Greatly Exceeds Expectations	Exceeds Expectations	Meets Basic Expectations	Below Expectations	Far Below Expectations
gs & lity	Roadway markings (centerline and roadside striping)	5	(4)	3	2	1
arkin /isibi	Raised pavement markers	5	(4)	3	2	1
Ξ́	Lighting	5	4	(3)	2	1
*	Smoothness / feel of the road surface	5	4	3	2	1
Surface &	Physical condition of the road surface (i.e., number of potholes/cracks)	5	4	3	2	1
Mo	Width of lanes	5	4	3	(2)	1
물감화	Flow of traffic	5	4	3	(2)	1
age	Visibility of signs	5	4	3)	2	1
Sign	Condition of signs	5	4	3	2	1
ø	Width of outside (right) shoulders	5	4	3	2	1
ulde	Width of inside (left) shoulders	5	4	$\left(\begin{array}{c} 3 \end{array} \right)$	2	1
Sho	Type of right shoulder (gravel, pavement, etc.)	5	4	3	2	1
8	Mowing & trimming along guard rails	5	4	3	2	1
intenar	Mowing & trimming of all other areas	5	4	3	2	1
Ma	Cleanliness (lack of litter/debris)	5	4	3	2	1
a	Overall condition of this highway	5	4	(3)	2	1
Dverall	Overall appearance of this highway	. 5	4	3	2	1
Ĕ Ě	Feeling of safety on this highway	5	4	3	2	1
C	omments: This is a r	well kep	t high	way_		27



8.3. Appendix C: Survey Importance Ratings Example

Type		Feature	Extremely Important	Very Important	Important	Less Important	Not Important
js & ity	(A)	Roadway markings (centerline and roadside striping)	5	4	3	2	1
isibil	(B)	Raised pavement markers	5	4	3	2	1
Š,	(C)	Lighting	(5)	4	3	2	1
	(D)	Smoothness/feel of the road surface	- 5	4	3	2	1
Surface 8 vement	(E)	Physical condition of the road surface (i.e., number of potholes/cracks)	5	4	3	2	1
Road	(F)	Width of lanes	5	4	3	2	1
	(G)	Flow of traffic	5	4	3	2	1
age	(H)	Visibility of signs	5	4	3	2	1
Sign	(I)	Condition of signs	5	4	3	(2)	1
ş	(J)	Width of <u>outside</u> (right) shoulders	5	4	3	(2)	1
ulde	(K)	Width of inside (left) shoulders	5	4	3	(2)	1
Sho	(L)	Type of right shoulder (gravel, pavement, etc.)	5	4	3	2	1
eou	(M)	Mowing & trimming along guard rails	5	4	$\begin{pmatrix} 3 \end{pmatrix}$	2	1
ntenal	(N)	Mowing & trimming of all other areas	5	4	3	2	1
Mai	(0)	Cleanliness (lack of litter/debris)	5	4	3	2	1
		Overall condition of this highway	5	(4)	3	2	1
Overall perienc		Overall appearance of this highway	5	4	3	2	1
ЪЩ		Feeling of safety on this highway	5	(4)	3	2	1



8.4. Appendix D: Survey Importance Ratings Ranking Example

Write in the letters for	ike the se the feature y	ctions of U	S-70 you just	Type	Letter	Feature
Ranking	1 st	2 nd	3 rd	gs & lity	(A)	Roadway markings (centerline and roadside striping)
	Å		11	larkin Visibi	(B)	Raised pavement markers
Overall Condition	A	E	H	2	(C)	Lighting
					(D)	Smoothness/feel of the road surface
Safety	C	H	F	Surface &	(E)	Physical condition of the road surface (i.e., number of potholes/cracks)
Appearance	E	A		Road	(F)	Width of lanes
		,		- <u>-</u>	(G)	Flow of traffic
11.5		, í		age	(H)	Visibility of signs
omments: 17 1S	import	ant to	me	Sign	(I)	Condition of signs
to be able	to s	iee Siar	s and		(J)	Width of outside (right) shoulders
		<u>,</u>		ulders	(K)	Width of <u>inside</u> (left shoulders
road ma	rkngs	easile	to fee	Sho	(L)	Type of right shoulder (gravel, pavement, etc.)
sure, s	o ligh	mg is	very_	e	(M)	Mowing & trimming along guard rails
mportar	nt.			lintenan	(N)	Mowing & trimming of all other areas
				Ma		Cleanliness



8.5. Appendix E: Survey Discussion Questions Section





8.6. Appendix F: Focus Group Presentation Example





8.7. Appendix G: Focus Group Written Survey Example

	UNG
Videos and Pictures	
Signage picture(s) I find acceptable:	1 0 4 5
Road Surface picture(s) I find acceptable:	
Striping picture(s) I find acceptable:	
Pavement Markings picture(s) I find acceptable:	(1) (2) (3) (3)
Mowing picture(s) I find acceptable:	
Importance Ranking	
The top three roadway features that are most im	portant to me are
(with #1 being the most important):	
#1: Roadway markings	-
#2: Lightre	
#3: Physical Condition of 100	<u>i</u> d
Additional Comments	
NC roads are better the	an Many J BPh/ Day also
mportant to me in the	rauh.
1	



8.8. Appendix H: Expectation Ratings for Mountain Region

	Mountain Region							
		Ash	eville			Jone	esville	
	Interstate	Primary	Secondary	All	Interstate	Primary	Secondary	All
			Roadway ma	arkings (cente	erline and road	dway striping)		
Greatly exceeds basic expectations	12% (19)	9% (34)	3% (8)	8% (61)	7% (14)	8% (44)	3% (24)	5% (82)
Exceeds basic expectations	26% (40)	19% (76)	8% (19)	17% (135)	15% (31)	21% (118)	19% (144)	19% (293)
Meets basic expectations	55% (84)	67% (262)	66% (156)	64% (502)	61% (126)	58% (322)	54% (413)	56% (861)
Below basic expectations	6% (10)	5% (19)	20% (48)	10% (77)	17% (35)	12% (68)	19% (142)	16% (245)
Far below basic expectations	1% (1)	<1% (1)	2% (4)	1% (6)	<1% (1)	<1% (2)	6% (43)	3% (46)
		-		Raised pave	ment markers			
Greatly exceeds basic expectations	6% (9)	8% (31)	1% (1)	6% (41)	6% (13)	5% (24)	1% (7)	3% (44)
Exceeds basic expectations	20% (28)	30% (111)	6% (11)	22% (150)	16% (32)	18% (92)	9% (58)	13% (182)
Meets basic expectations	55% (77)	53% (201)	30% (51)	48% (329)	62% (128)	63% (329)	53% (344)	58% (801)
Below basic expectations	13% (19)	7% (27)	41% (71)	17% (117)	16% (32)	14% (72)	31% (199)	22% (303)
Far below basic expectations	6% (8)	2% (6)	22% (38)	8% (52)	<1% (1)	1% (3)	7% (44)	3% (48)
				Lig	hting			1
Greatly exceeds basic expectations	8% (9)	7% (19)	5% (8)	6% (36)	3% (5)	4% (18)	2% (15)	3% (38)
Exceeds basic expectations	7% (8)	14% (39)	3% (5)	9% (52)	10% (17)	15% (70)	9% (52)	11% (139)
Meets basic expectations	64% (69)	47% (133)	41% (68)	49% (270)	78% (136)	73% (333)	71% (432)	73% (901)
Below basic expectations	13% (14)	27% (75)	33% (54)	26% (143)	9% (16)	8% (36)	15% (93)	12% (145)
Far below basic expectations	7% (7)	6% (17)	18% (30)	10% (54)	1% (1)	<1% (1)	2% (13)	1% (15)
	110((10)	F0((10)	Smc	othness/feel	of the road su		49((20)	F0((7 2)
Greatly exceeds basic expectations	11% (16)	5% (18)	2% (4)	5% (38)	5% (11)	6% (31)	4% (30) 12% (100)	5% (72)
Exceeds basic expectations	23% (34)	16% (63)	15% (34)	17% (131)	12% (24)	26% (141)	13% (100)	1/% (265)
Neets basic expectations	52% (76)	54% (208)	63% (146)	56% (430)	43% (88)	59% (326)	45% (343) 24% (255)	50% (757)
Below basic expectations	14% (20)	23% (88)	10% (38)	19% (146)	53% (08) 6% (12)	9% (51)	34% (255) 40/ (22)	25% (374)
Fai below basic expectations	0%(0)	5% (10) Physics	4% (9)	2% (19)	0% (15)	<1%(1)	4% (55)	570 (47)
Greatly exceeds basic expectations	9% (14)	6% (23)	3% (7)	6% (AA)	6% (12)	8% (43)	5% (38)	6% (93)
Exceeds basic expectations	31% (47)	17% (68)	13% (30)	19% (145)	16% (32)	27% (146)	14% (108)	19% (286)
Meets basic expectations	53% (80)	62% (242)	62% (143)	60% (465)	46% (94)	54% (293)	52% (392)	52% (779)
Below basic expectations	7% (10)	13% (51)	19% (43)	13% (104)	26% (54)	12% (64)	25% (191)	20% (309)
Far below basic expectations	0% (0)	2% (6)	3% (8)	2% (14)	6% (12)	<1% (1)	4% (28)	3% (41)
· · · · · · · · · · · · · · · · · · ·	0,0 (0)	(0)	0,1 (0)	Width	of lanes	_/_ (_/		C , (12)
Greatly exceeds basic expectations	15% (23)	7% (27)	3% (6)	7% (56)	8% (16)	8% (42)	3% (19)	5% (77)
Exceeds basic expectations	18% (27)	15% (56)	9% (20)	13% (103)	16% (33)	26% (145)	12% (92)	18% (270)
Meets basic expectations	64% (96)	64% (246)	52% (122)	60% (464)	75% (153)	59% (326)	50% (380)	57% (859)
Below basic expectations	3% (4)	13% (50)	32% (75)	17% (129)	1% (3)	6% (35)	29% (220)	17% (258)
Far below basic expectations	0% (0)	2% (7)	4% (10)	2% (17)	0% (0)	<1% (1)	6% (46)	3% (47)
				Flow o	of traffic			
Greatly exceeds basic expectations	18% (27)	12% (47)	12% (28)	13% (102)	9% (18)	7% (41)	4% (33)	6% (92)
Exceeds basic expectations	25% (37)	23% (88)	20% (44)	22% (169)	24% (49)	23% (125)	13% (94)	18% (268)
Meets basic expectations	54% (80)	61% (237)	64% (144)	60% (461)	66% (136)	68% (370)	74% (542)	70% (1048)
Below basic expectations	3% (5)	4% (16)	4% (9)	4% (30)	1% (2)	2% (12)	7% (48)	4% (62)
Far below basic expectations	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	3% (19)	1% (19)
	440((47)		100((20)	Visibilit	y of signs	00((40)	CO((A A)	70((4 07)
Greatly exceeds basic expectations	11% (17)	9% (34)	10% (20)	10% (71)	10% (20)	8% (43)	6% (44)	7% (107)
Exceeds basic expectations	32% (48)	18% (66)	16% (33)	20% (147)	18% (37)	24% (132)	13% (89)	18% (258)
Meets basic expectations	51% (75)	63% (235)	62% (130)	60% (440)	67% (136)	64% (346)	/3% (513)	69% (995)
Below basic expectations	5% (8)	9% (35)	10% (20)	9% (63)	5% (11)	4% (20)	8% (53)	6% (84)
Far below basic expectations	0% (0)	1% (4)	3%(7)	2% (11)	0% (0)	0% (0)	1% (6)	<1% (6)
Creatly avaads basis avaatations	159/ (22)	119/ (40)	109/ (21)		1 19((22)	00/ (47)	69/ (44)	80/ (114)
Greatly exceeds basic expectations	15% (22)	11% (40)	10% (21)	11% (83)	11% (23)	9% (47)	0% (44) 1.29/ (94)	8% (114) 17% (244)
Moots basic expectations	52% (48)	68% (258)	62% (126)	21% (100) 62% (474)	67% (38)	23% (122)	72% (84)	60% (080)
Below basic expectations	33% (80) 1% (1)	2% (7)	9% (20)	1% (28)	2% (5)	2% (10)	72% (493) 8% (54)	5% (69)
Far below basic expectations	0% (0)	<1%(1)	1% (2)	<1% (20)	2% (J) 0% (0)	2% (10) 0% (0)	1% (7)	<1% (7)
	0/0 (0)	×1/0(1)	<u>۲٫۵ (۲)</u> ۱۸/i	dth of outside	e (right) shoul	ders	1/0 (/)	1/0 (/)
Greatly exceeds basic expectations	14% (20)	3% (11)	1% (3)	5% (34)	8% (17)	6% (31)	3% (24)	5% (72)
Exceeds basic expectations	36% (52)	11% (39)	6% (14)	14% (105)	30% (61)	20% (109)	10% (73)	16% (243)
Meets basic expectations	44% (64)	41% (149)	42% (93)	42% (306)	60% (121)	58% (313)	58% (431)	58% (865)
Below basic expectations	6% (9)	37% (134)	41% (92)	32% (235)	1% (3)	15% (81)	23% (171)	17% (255)

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_								
Far below basic expectations	1% (1)	8% (29)	9% (21)	7% (51)	0% (0)	1% (6)	5% (40)	3% (46)
		-	<u> </u>	vidth of inside	e (left) should	ers		
Greatly exceeds basic expectations	8% (11)	5% (15)	1% (1)	4% (27)	8% (15)	5% (25)	3% (21)	5% (61)
Exceeds basic expectations	25% (34)	9% (28)	6% (12)	11% (74)	22% (44)	18% (90)	11% (72)	16% (206)
Meets basic expectations	47% (65)	52% (169)	48% (94)	50% (328)	61% (122)	60% (293)	59% (380)	60% (795)
Below basic expectations	18% (25)	28% (92)	34% (67)	28% (184)	10% (19)	16% (79)	21% (135)	18% (233)
Far below basic expectations	2% (3)	7% (24)	11% (22)	7% (49)	0% (0)	1% (3)	5% (31)	3% (34)
		-	Type of r	ight shoulder	(gravel, paver	nent, etc.)		
Greatly exceeds basic expectations	9% (12)	3% (9)	1% (3)	3% (24)	7% (15)	5% (28)	3% (20)	4% (63)
Exceeds basic expectations	31% (44)	8% (26)	6% (13)	12% (83)	15% (31)	15% (76)	8% (55)	11% (162)
Meets basic expectations	49% (69)	61% (212)	60% (125)	58% (406)	76% (153)	69% (356)	68% (479)	70% (988)
Below basic expectations	11% (15)	23% (79)	26% (55)	21% (149)	1% (2)	10% (54)	17% (119)	12% (175)
Far below basic expectations	1% (1)	6% (20)	6% (13)	5% (34)	0% (0)	<1% (2)	4% (31)	2% (33)
			Mov	ving & trimmi	ng along guar	d rails		
Greatly exceeds basic expectations	8% (11)	5% (17)	4% (7)	5% (35)	10% (19)	8% (38)	9% (44)	8% (101)
Exceeds basic expectations	27% (39)	15% (52)	6% (11)	15% (102)	10% (19)	18% (88)	14% (69)	15% (176)
Meets basic expectations	54% (77)	53% (187)	66% (121)	57% (385)	65% (123)	59% (288)	71% (361)	65% (772)
Below basic expectations	10% (14)	23% (79)	21% (38)	19% (131)	15% (28)	14% (70)	6% (30)	11% (128)
Far below basic expectations	1% (1)	4% (15)	3% (5)	3% (21)	0% (0)	2% (8)	1% (5)	1% (13)
			Mow	ing & trimmi	ng of all other	areas		
Greatly exceeds basic expectations	11% (16)	4% (15)	5% (10)	6% (41)	11% (21)	8% (40)	7% (44)	8% (105)
Exceeds basic expectations	29% (41)	16% (59)	12% (26)	17% (126)	13% (24)	19% (99)	13% (89)	16% (212)
Meets basic expectations	51% (73)	58% (217)	65% (140)	59% (430)	71% (135)	67% (341)	75% (500)	71% (976)
Below basic expectations	8% (11)	20% (74)	17% (37)	17% (122)	5% (9)	5% (26)	4% (30)	5% (65)
Far below basic expectations	1% (1)	3% (10)	2% (4)	2% (15)	0% (0)	<1% (2)	1% (6)	1% (8)
			Cl	eanliness (lac	k of litter/deb	ris)		
Greatly exceeds basic expectations	9% (13)	10% (37)	8% (19)	9% (69)	10% (19)	8% (41)	7% (51)	8% (111)
Exceeds basic expectations	29% (42)	24% (92)	23% (52)	25% (186)	15% (30)	25% (133)	20% (144)	21% (307)
Meets basic expectations	48% (69)	56% (212)	58% (130)	55% (411)	66% (128)	53% (284)	63% (447)	60% (859)
Below basic expectations	14% (20)	9% (36)	10% (23)	11% (79)	9% (18)	13% (68)	8% (56)	10% (142)
Far below basic expectations	0% (0)	1% (3)	1% (2)	1% (5)	0% (0)	1% (5)	1% (9)	1% (14)
			0\	verall condition	n of this high	way		
Greatly exceeds basic expectations	12% (17)	7% (26)	3% (7)	7% (50)	7% (14)	7% (39)	5% (34)	6% (87)
Exceeds basic expectations	35% (50)	18% (69)	13% (29)	20% (148)	20% (40)	29% (155)	17% (126)	22% (321)
Meets basic expectations	51% (74)	64% (239)	68% (152)	63% (465)	57% (116)	59% (320)	59% (440)	59% (876)
Below basic expectations	2% (3)	10% (38)	16% (35)	10% (76)	16% (32)	5% (26)	16% (117)	12% (175)
Far below basic expectations	0% (0)	1% (3)	0% (0)	<1% (3)	1% (2)	<1% (1)	4% (28)	2% (31)
		-	Ove	erall appearar	nce of this high	nway		
Greatly exceeds basic expectations	11% (16)	8% (30)	6% (13)	8% (59)	9% (19)	8% (43)	6% (46)	7% (108)
Exceeds basic expectations	37% (52)	23% (88)	17% (37)	24% (177)	20% (40)	29% (157)	17% (129)	22% (326)
Meets basic expectations	51% (72)	60% (228)	68% (152)	61% (452)	59% (120)	58% (313)	61% (449)	59% (882)
Below basic expectations	1% (2)	8% (31)	9% (21)	7% (54)	11% (22)	5% (28)	12% (90)	9% (140)
Far below basic expectations	0% (0)	1% (4)	0% (0)	1% (4)	1% (2)	<1% (1)	4% (26)	2% (29)
			Fe	eling of safet	y on this high	way		
Greatly exceeds basic expectations	21% (31)	11% (42)	4% (8)	11% (81)	9% (17)	10% (54)	7% (52)	8% (123)
Exceeds basic expectations	27% (39)	18% (66)	13% (29)	18% (134)	24% (47)	28% (150)	17% (125)	22% (322)
Meets basic expectations	49% (71)	63% (237)	63% (141)	60% (449)	58% (116)	57% (309)	58% (426)	58% (851)
Below basic expectations	3% (4)	8% (29)	17% (39)	10% (72)	9% (18)	4% (24)	14% (105)	10% (147)
Far below basic expectations	0% (0)	1% (3)	3% (7)	1% (10)	1% (2)	<1% (2)	3% (23)	2% (27)



8.9. Appendix I: Expectation Ratings for Piedmont Region

	Piedmont Region								
		Burli	ngton			Cha	rlotte		
	Interstate	Primary	Secondary	All	Interstate	Primary	Secondary	All	
	r		Roadway ma	rkings (cente	rline and road	way striping)	1	1	
Greatly exceeds basic expectations	14% (21)	5% (24)	3% (15)	6% (60)	19% (20)	3% (31)	1% (2)	4% (53)	
Exceeds basic expectations	30% (45)	19% (82)	14% (69)	18% (196)	45% (46)	18% (174)	13% (32)	19% (252)	
Meets basic expectations	55% (83)	69% (307)	66% (319)	66% (709)	36% (37)	61% (609)	66% (165)	60% (811)	
Below basic expectations	1% (1)	7% (29)	15% (74)	10% (104)	0% (0)	15% (154)	19% (48)	15% (202)	
Far below basic expectations	0% (0)	0% (0)	2% (8)	1% (8)	0% (0)	3% (26)	1% (3)	2% (29)	
	100((17)	50((22)	40((5)	Raised paver	ment markers	4.0((7)	00((0)	20((17)	
Greatly exceeds basic expectations	12% (17)	5% (23)	1% (5)	5% (45)	11% (10)	1%(/)	0% (0)	2% (17)	
Exceeds basic expectations	20% (30)	1/% (/1)	4% (18)	12% (119)	36% (34)	8% (56)	5% (9)	10% (99)	
Neets basic expectations	58% (85)	/1% (299)	47% (201)	59% (585)	49% (47)	35% (244)	37% (63)	37% (354)	
Below basic expectations	10% (14)	6% (26)	40% (174)	21% (214)	3% (3)	42% (292)	46% (78)	39% (373)	
Far below basic expectations	1%(1)	<1%(1)	8% (33)	4% (35)	1% (1)	14% (101)	12% (20)	13% (122)	
Greatly exceeds basic expectations	12% (17)	2% (14)	1% (1)	1% (25)	20% (2)	2% (18)	1% (2)	20/ (22)	
Exceeds basic expectations	21% (17)	3% (14) 1% (18)	5% (21)	7% (69)	3% (2) 8% (6)	2% (18)	1/% (2)	2% (22) 9% (97)	
Meets basic expectations	49% (69)	62% (251)	56% (249)	57% (569)	40% (31)	45% (355)	55% (112)	46% (498)	
Below basic expectations	15% (21)	26% (104)	33% (146)	27% (271)	31% (24)	35% (277)	22% (45)	32% (346)	
Far below basic expectations	4% (5)	5% (104)	6% (25)	5% (49)	19% (15)	10% (79)	7% (15)	10% (109)	
	170 (3)	370 (13)	Smo	othness/feel	of the road su	rface	770 (13)	10/0 (105)	
Greatly exceeds basic expectations	15% (22)	4% (19)	2% (9)	5% (50)	19% (19)	4% (37)	<1%(1)	4% (57)	
Exceeds basic expectations	32% (47)	11% (47)	9% (42)	13% (136)	54% (55)	19% (191)	9% (22)	20% (268)	
Meets basic expectations	48% (71)	69% (297)	58% (276)	61% (644)	27% (27)	51% (505)	45% (113)	48% (645)	
Below basic expectations	5% (8)	14% (62)	30% (143)	20% (213)	0% (0)	21% (209)	38% (94)	23% (303)	
Far below basic expectations	0% (0)	1% (5)	1% (5)	1% (10)	0% (0)	4% (40)	8% (19)	4% (59)	
	,	Physica	I condition of t	he road surfa	ice (i.e., numb	er of potholes	/cracks)		
Greatly exceeds basic expectations	15% (23)	4% (18)	2% (10)	5% (51)	19% (20)	4% (39)	1% (2)	5% (61)	
Exceeds basic expectations	39% (58)	12% (51)	13% (62)	16% (171)	54% (56)	22% (215)	8% (20)	22% (291)	
Meets basic expectations	42% (63)	70% (303)	65% (311)	64% (677)	26% (27)	52% (521)	47% (117)	49% (665)	
Below basic expectations	4% (6)	13% (58)	19% (91)	15% (155)	0% (0)	19% (188)	37% (91)	21% (279)	
Far below basic expectations	0% (0)	1% (5)	<1% (1)	1% (6)	0% (0)	3% (34)	7% (17)	4% (51)	
	r		1	Width	of lanes	1	1	1	
Greatly exceeds basic expectations	11% (16)	5% (20)	3% (14)	5% (50)	7% (7)	3% (31)	0% (0)	3% (38)	
Exceeds basic expectations	32% (47)	10% (42)	7% (35)	12% (124)	40% (41)	22% (216)	6% (14)	20% (271)	
Meets basic expectations	56% (83)	74% (326)	70% (334)	70% (743)	52% (53)	63% (631)	59% (146)	61% (830)	
Below basic expectations	2% (3)	11% (50)	20% (94)	14% (147)	1% (1)	12% (116)	32% (79)	14% (196)	
Far below basic expectations	0% (0)	0% (0)	<1% (1)	<1% (1)	0% (0)	1% (8)	4% (9)	1% (17)	
Creatly avaads basis avaatations	159/ (22)	49/ (19)	20(16)			29/ (24)	<10/ (1)	20/ (25)	
Greatly exceeds basic expectations	15% (22)	4% (18)	3% (16)	5% (50) 15% (157)	10% (10)	2% (24)	<1% (1) 14% (25)	3% (35)	
Moots basic expectations	57% (40)	70% (222)	77% (260)	75% (137)	30% (37) 45% (46)	23% (228) 65% (642)	62% (151)	62% (820)	
Below basic expectations	1% (1)	<i>4%</i> (15)	6% (300)	4% (46)	8% (8)	8% (83)	20% (50)	11% (141)	
Far below basic expectations	0% (0)	0% (0)	0% (0)		2% (2)	1% (11)	3% (8)	2% (21)	
	0,0 (0)	0,0 (0)	0,0 (0)	Visibility	of signs	1/0 (11)	0,0 (0)	2/0 (22)	
Greatly exceeds basic expectations	15% (22)	4% (19)	4% (21)	6% (62)	11% (11)	3% (27)	<1% (1)	3% (39)	
Exceeds basic expectations	34% (52)	19% (81)	16% (77)	20% (210)	30% (31)	20% (189)	17% (37)	20% (257)	
Meets basic expectations	48% (73)	73% (313)	72% (342)	69% (728)	56% (57)	67% (642)	67% (146)	66% (845)	
Below basic expectations	3% (4)	4% (16)	8% (36)	5% (56)	3% (3)	10% (100)	14% (31)	10% (134)	
Far below basic expectations	0% (0)	0% (0)	<1% (2)	<1% (2)	0% (0)	1% (7)	1% (2)	1% (9)	
				Conditio	n of signs		•		
Greatly exceeds basic expectations	13% (20)	4% (18)	4% (21)	6% (59)	13% (13)	3% (28)	<1% (1)	3% (42)	
Exceeds basic expectations	41% (62)	19% (82)	16% (73)	21% (217)	30% (29)	19% (179)	18% (36)	20% (244)	
Meets basic expectations	44% (66)	75% (321)	75% (349)	70% (736)	56% (54)	72% (668)	72% (145)	70% (867)	
Below basic expectations	2% (3)	2% (9)	5% (24)	3% (36)	1% (1)	5% (46)	8% (17)	5% (64)	
Far below basic expectations	0% (0)	0% (0)	<1% (1)	<1% (1)	0% (0)	1% (10)	1% (3)	1% (13)	
			Wie	dth of outside	e (right) should	lers		1	
Greatly exceeds basic expectations	13% (20)	3% (12)	1% (6)	4% (38)	13% (13)	1% (12)	0% (0)	2% (25)	
Exceeds basic expectations	29% (43)	5% (22)	6% (27)	9% (92)	52% (53)	12% (109)	5% (10)	14% (172)	
Meets basic expectations	56% (83)	57% (240)	48% (211)	53% (534)	35% (35)	47% (440)	41% (89)	45% (564)	
Below basic expectations	2% (3)	35% (145)	43% (188)	33% (336)	0% (0)	34% (322)	42% (90)	33% (412)	

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Far below basic expectations	0% (0)	<1% (1)	2% (7)	1% (8)	0% (0)	6% (61)	12% (26)	7% (87)
		1	W	idth of inside	(left) shoulde	rs	1	1
Greatly exceeds basic expectations	10% (14)	4% (12)	2% (6)	4% (32)	8% (8)	1% (8)	0% (0)	2% (16)
Exceeds basic expectations	19% (27)	5% (15)	5% (17)	7% (59)	48% (47)	10% (77)	3% (5)	12% (129)
Meets basic expectations	50% (70)	56% (176)	48% (161)	51% (407)	38% (37)	52% (402)	42% (69)	49% (508)
Below basic expectations	21% (30)	36% (113)	45% (153)	37% (296)	3% (3)	30% (236)	45% (74)	30% (313)
Far below basic expectations	0% (0)	0% (0)	<1% (1)	<1% (1)	2% (2)	7% (52)	11% (18)	7% (72)
			Type of ri	ght shoulder ((gravel, paven	ient, etc.)		
Greatly exceeds basic expectations	14% (19)	4% (13)	1% (5)	4% (37)	6% (6)	1% (9)	0% (0)	1% (15)
Exceeds basic expectations	31% (42)	5% (17)	6% (22)	9% (81)	34% (32)	5% (45)	0% (0)	7% (77)
Meets basic expectations	53% (73)	66% (239)	59% (226)	61% (538)	60% (57)	64% (548)	61% (121)	63% (726)
Below basic expectations	2% (3)	26% (94)	33% (128)	25% (225)	0% (0)	24% (209)	30% (60)	23% (269)
Far below basic expectations	0% (0)	<1% (1)	1% (5)	1% (6)	0% (0)	5% (43)	8% (16)	5% (59)
			Mow	ing & trimmir	ng along guard	l rails		
Greatly exceeds basic expectations	12% (16)	5% (15)	5% (15)	6% (46)	5% (5)	2% (17)	1% (1)	2% (23)
Exceeds basic expectations	25% (33)	11% (34)	9% (31)	12% (98)	43% (42)	17% (117)	17% (26)	19% (185)
Meets basic expectations	53% (71)	75% (241)	71% (237)	70% (549)	51% (50)	62% (431)	66% (103)	61% (584)
Below basic expectations	10% (13)	10% (31)	15% (50)	12% (94)	1% (1)	16% (111)	14% (21)	14% (133)
Far below basic expectations	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	3% (23)	3% (4)	3% (27)
			Mow	ing & trimmir	ng of all other	areas		
Greatly exceeds basic expectations	13% (17)	4% (15)	4% (14)	5% (46)	6% (6)	2% (14)	1% (1)	2% (21)
Exceeds basic expectations	30% (38)	11% (41)	11% (42)	14% (121)	38% (38)	18% (162)	17% (33)	20% (233)
Meets basic expectations	56% (71)	76% (283)	71% (276)	71% (630)	55% (55)	62% (560)	62% (121)	62% (736)
Below basic expectations	0% (0)	9% (35)	14% (56)	10% (91)	1% (1)	16% (143)	18% (34)	15% (178)
Far below basic expectations	0% (0)	0% (0)	<1% (1)	<1% (1)	0% (0)	2% (20)	3% (5)	2% (25)
			Cle	anliness (lack	of litter/debr	is)		•
Greatly exceeds basic expectations	9% (12)	6% (24)	6% (25)	6% (61)	7% (7)	2% (20)	0% (0)	2% (27)
Exceeds basic expectations	23% (31)	15% (60)	12% (51)	15% (142)	35% (35)	27% (251)	23% (49)	27% (335)
Meets basic expectations	53% (71)	71% (283)	70% (287)	68% (641)	48% (48)	57% (530)	65% (138)	58% (716)
Below basic expectations	15% (20)	7% (29)	11% (47)	10% (96)	9% (9)	12% (107)	12% (25)	11% (141)
Far below basic expectations	0% (0)	0% (0)	<1% (1)	<1% (1)	0% (0)	2% (19)	0% (0)	2% (19)
			Ov	erall condition	n of this highw	/av		
Greatly exceeds basic expectations	12% (18)	7% (31)	5% (22)	7% (71)	17% (17)	4% (39)	<1% (1)	4% (57)
Exceeds basic expectations	36% (52)	13% (54)	13% (60)	16% (166)	59% (59)	21% (205)	11% (26)	22% (290)
Meets basic expectations	51% (75)	72% (300)	67% (300)	67% (675)	24% (24)	59% (572)	57% (133)	56% (729)
Below basic expectations	1% (1)	7% (29)	15% (66)	10% (96)	0% (0)	15% (143)	28% (65)	16% (208)
Far below basic expectations	0% (0)	<1% (2)	0% (0)	<1% (2)	0% (0)	2% (15)	4% (9)	2% (24)
· · · · · · · · · · · · · · · · · · ·			Ove	rall appearan	ce of this high	wav		
Greatly exceeds basic expectations	13% (19)	8% (33)	5% (23)	8% (75)	16% (16)	4% (43)	<1%(1)	5% (60)
Exceeds basic expectations	34% (48)	14% (58)	15% (64)	17% (170)	58% (59)	23% (222)	13% (30)	24% (311)
Meets basic expectations	52% (75)	72% (295)	70% (310)	68% (680)	26% (26)	58% (573)	65% (155)	57% (754)
Below basic expectations	1% (1)	6% (24)	10% (44)	7% (69)	0% (0)	14% (139)	20% (47)	14% (186)
Ear below basic expectations	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	1% (6)	2% (4)	1% (10)
	0,0 (0)	0,0 (0)	5,5 (5) Fe	eling of safety	on this highw	2,0 (0)	2/0 (1)	1/0 (10)
Greatly exceeds basic expectations	10% (14)	8% (33)	5% (22)	7% (69)	15% (15)	4% (42)	1% (3)	5% (60)
Exceeds basic expectations	38% (55)	13% (54)	8% (29)	14% (148)	55% (57)	19% (125)	12% (29)	20% (271)
Meets basic expectations	52% (74)	72% (308)	72% (329)	69% (711)	30% (31)	62% (606)	59% (141)	59% (778)
Below basic expectations	0% (0)	7% (30)	15% (70)	10% (100)	0% (0)	14% (142)	23% (55)	15% (197)
Far below basic expectations	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	1% (10)	4% (9)	1% (19)



8.10. Appendix J: Expectation Ratings for Coastal Region

	Coastal Region								
		Rocky	Mount			Wilm	ington		
	Interstate	Primary	Secondary	All	Interstate	Primary	Secondary	All	
			Roadway ma	rkings (cente	rline and road	way striping)			
Greatly exceeds basic expectations	7% (4)	11% (91)	9% (48)	10% (143)	12% (21)	7% (38)	4% (7)	7% (66)	
Exceeds basic expectations	22% (12)	15% (117)	13% (65)	14% (194)	36% (62)	21% (122)	16% (27)	23% (211)	
Meets basic expectations	52% (28)	59% (472)	57% (294)	58% (794)	46% (79)	56% (320)	47% (78)	52% (477)	
Below basic expectations	17% (9)	12% (99)	19% (97)	15% (205)	6% (10)	15% (83)	28% (46)	15% (139)	
Far below basic expectations	2% (1)	2% (18)	3% (16)	3% (35)	1% (1)	1% (7)	5% (8)	2% (16)	
	r	1		Raised paver	ment markers	1	T	1	
Greatly exceeds basic expectations	10% (5)	10% (67)	9% (39)	10% (111)	9% (15)	6% (34)	4% (6)	6% (55)	
Exceeds basic expectations	14% (7)	11% (71)	7% (29)	10% (107)	30% (52)	21% (116)	14% (21)	21% (189)	
Meets basic expectations	56% (28)	51% (332)	46% (190)	49% (550)	37% (64)	55% (311)	35% (53)	48% (428)	
Below basic expectations	18% (9)	19% (121)	27% (111)	22% (241)	17% (30)	16% (88)	29% (44)	18% (162)	
Far below basic expectations	2% (1)	9% (58)	11% (46)	9% (105)	7% (12)	2% (13)	18% (28)	6% (53)	
	40((2)	00((50)	co((20)	Ligh	nting		40((4)	20((22)	
Greatly exceeds basic expectations	4% (2)	8% (59)	6% (29)	7% (90)	3% (5)	3% (17)	1% (1)	3% (23)	
Exceeds basic expectations	13% (6)	12% (85)	9% (40)	11% (131)	14% (21)	11% (54)	3% (5)	10% (80)	
Meets basic expectations	41% (19)	51% (359)	41% (182)	47% (560)	52% (81)	53% (270)	32% (47)	49% (398)	
Below basic expectations	30% (14)	19% (131)	31% (138)	24% (283)	25% (39)	29% (149)	46% (67)	31% (255)	
Far below basic expectations	11% (5)	10% (73)	13% (59)	11%(137)	6% (9)	5% (24)	18% (26)	7% (59)	
Creatly avaads basis avaastations	49/ (2)	<u>99/ (CA)</u>	SIIIU 49((22)				20((Г)	80/ (7 5)	
Greatly exceeds basic expectations	4% (Z) 129/ (7)	0% (04) 10% (146)	4% (23)	15% (09)	10% (51)	199/ (101)	5% (5) 12% (10)	0% (75) 21% (199)	
Exceeds basic expectations	15%(7)	19% (140) 50% (462)	9% (47) 45% (226)	13% (200) 54% (722)	39% (08)	10% (101)	12% (19)	21% (100)	
Relow basic expectations	17% (9)	12% (100)	45% (230) 25% (191)	21% (732)	33% (07) 1% (7)	42% (240) 28% (150)	27% (73)	43/0 (382)	
Ear below basic expectations	2%(1)	1% (7)	7% (34)	3% (42)	1% (1)	5% (26)	6% (9)	4% (36)	
	2/0(1)	Physica	l condition of t	the road surfa	i.e., numb	er of potholes	(cracks)	470 (30)	
Greatly exceeds basic expectations	4% (2)	8% (66)	4% (22)	7% (90)	14% (25)	7% (37)	3% (5)	7% (67)	
Exceeds basic expectations	13% (7)	17% (137)	10% (49)	14% (193)	43% (76)	22% (127)	14% (24)	25% (227)	
Meets basic expectations	58% (30)	61% (477)	49% (254)	56% (761)	40% (71)	43% (245)	45% (75)	43% (391)	
Below basic expectations	23% (12)	12% (94)	30% (152)	19% (258)	2% (3)	24% (138)	31% (51)	21% (192)	
Far below basic expectations	2% (1)	1% (9)	7% (37)	3% (47)	1% (1)	4% (21)	7% (11)	4% (33)	
				Width	of lanes				
Greatly exceeds basic expectations	11% (6)	9% (72)	6% (29)	8% (107)	9% (16)	4% (22)	1% (1)	4% (39)	
Exceeds basic expectations	20% (11)	19% (148)	8% (41)	15% (200)	38% (67)	20% (113)	5% (9)	21% (189)	
Meets basic expectations	57% (31)	61% (478)	51% (270)	57% (779)	51% (90)	59% (327)	38% (63)	54% (480)	
Below basic expectations	11% (6)	10% (77)	28% (148)	17% (231)	1% (1)	11% (61)	45% (74)	15% (136)	
Far below basic expectations	0% (0)	2% (15)	7% (38)	4% (53)	1% (1)	5% (29)	10% (17)	5% (47)	
	r	T		Flow o	f traffic	1	1	1	
Greatly exceeds basic expectations	15% (8)	11% (89)	9% (48)	11% (145)	17% (29)	7% (38)	5% (8)	8% (75)	
Exceeds basic expectations	20% (11)	19% (153)	10% (53)	16% (217)	39% (67)	27% (152)	17% (29)	27% (248)	
Meets basic expectations	61% (33)	64% (505)	65% (334)	64% (872)	43% (74)	54% (303)	68% (114)	54% (491)	
Below basic expectations	4% (2)	5% (41)	14% (70)	8% (113)	2% (3)	11% (60)	8% (13)	8% (76)	
Far below basic expectations	0% (0)	<1% (2)	2% (11)	1% (13)	1%(1)	2% (13)	2% (4)	2% (18)	
Creatly avaads basis avaastations	120/ (7)	120/ (105)	120/ (62)		y of signs	00/ (47)	40/ (7)	0% (70)	
Greatly exceeds basic expectations	13% (7)	13% (105)	12% (62)	13% (1/4)	14% (25)	8% (47)	4% (7) 10% (15)	9% (79)	
Exceeds basic expectations	24% (13)	20% (100)	13% (70)	18% (243)	27% (47)	23% (120)	10% (15)	21% (188)	
Neets basic expectations	50% (30)	50% (441)	57% (297)	50% (708) 119/ (153)	52% (90)	57% (314)	54% (84)	55% (488) 12% (116)	
Ear below basic expectations	0% (3) 2% (1)	9% (72) 1% (10)	2% (12)	2% (24)	5% (9) 2% (2)	12% (04)	20% (43)	13% (110)	
Fai below basic expectations	270 (1)	1%(10)	570 (15)	270 (24)	270 (3)	170 (5)	470 (7)	170 (13)	
Greatly exceeds basic expectations	13% (7)	13% (100)	11% (56)	12% (163)	10% (17)	6% (34)	4% (7)	7% (58)	
Exceeds basic expectations	23% (12)	22% (171)	16% (80)	19% (263)	34% (59)	24% (135)	12% (18)	24% (212)	
Meets basic expectations	60% (32)	56% (441)	62% (321)	59% (794)	50% (87)	64% (356)	59% (92)	61% (535)	
Below basic expectations	4% (2)	8% (60)	9% (48)	8% (110)	5% (8)	5% (28)	19% (29)	7% (65)	
Far below basic expectations	0% (0)	1% (10)	2% (11)	2% (21)	2% (3)	<1% (1)	6% (10)	2% (14)	
			Wi	dth of outside	(right) should	lers			
Greatly exceeds basic expectations	13% (7)	7% (53)	5% (26)	6% (86)	10% (18)	5% (25)	0% (0)	5% (43)	
Exceeds basic expectations	28% (15)	15% (118)	7% (36)	13% (169)	38% (66)	17% (90)	7% (12)	19% (168)	
Meets basic expectations	54% (29)	54% (418)	47% (239)	51% (686)	52% (90)	52% (283)	34% (56)	49% (429)	
Below basic expectations	4% (2)	19% (149)	32% (165)	24% (316)	0% (0)	22% (118)	45% (74)	22% (192)	


Far below basic expectations	2% (1)	4% (34)	9% (44)	6% (79)	0% (0)	5% (28)	13% (21)	6% (49)	
			w	idth of inside	(left) shoulde	rs			
Greatly exceeds basic expectations	11% (6)	6% (45)	5% (26)	6% (77)	7% (12)	4% (22)	1% (2)	4% (36)	
Exceeds basic expectations	21% (11)	13% (99)	7% (33)	11% (143)	20% (35)	10% (51)	4% (6)	11% (92)	
Meets basic expectations	58% (31)	54% (405)	45% (219)	51% (655)	60% (106)	54% (287)	36% (53)	52% (446)	
Below basic expectations	8% (4)	22% (169)	34% (164)	26% (337)	13% (23)	27% (144)	44% (66)	27% (233)	
Far below basic expectations	2% (1)	5% (35)	9% (45)	6% (81)	0% (0)	5% (28)	15% (22)	6% (50)	
			Type of ri	ght shoulder	gravel, paven	ent, etc.)	-		
Greatly exceeds basic expectations	13% (7)	7% (51)	6% (27)	7% (85)	9% (16)	5% (27)	0% (0)	5% (43)	
Exceeds basic expectations	17% (9)	13% (92)	6% (30)	10% (131)	26% (45)	11% (59)	5% (8)	13% (112)	
Meets basic expectations	62% (32)	60% (443)	51% (247)	57% (722)	62% (107)	60% (313)	49% (75)	59% (495)	
Below basic expectations	6% (3)	16% (116)	29% (143)	21% (262)	2% (4)	18% (92)	31% (48)	17% (144)	
Far below basic expectations	2% (1)	4% (31)	8% (41)	6% (73)	1% (1)	5% (27)	14% (22)	6% (50)	
Mowing & trimming along guard rails									
Greatly exceeds basic expectations	6% (3)	9% (54)	7% (26)	8% (83)	7% (12)	4% (22)	3% (4)	5% (38)	
Exceeds basic expectations	9% (5)	13% (82)	10% (37)	12% (124)	17% (29)	12% (63)	10% (13)	13% (105)	
Meets basic expectations	62% (33)	58% (363)	58% (208)	58% (604)	62% (104)	52% (263)	57% (75)	55% (442)	
Below basic expectations	17% (9)	18% (111)	21% (74)	19% (194)	13% (21)	27% (137)	21% (27)	23% (185)	
Far below basic expectations	6% (3)	2% (15)	4% (15)	3% (33)	1% (2)	5% (23)	9% (12)	5% (37)	
·			Mow	ing & trimmir	g of all other a	areas	,	,	
Greatly exceeds basic expectations	6% (3)	9% (62)	7% (32)	8% (97)	7% (11)	5% (24)	2% (3)	4% (38)	
Exceeds basic expectations	20% (11)	14% (103)	9% (42)	13% (156)	18% (30)	13% (70)	9% (14)	13% (114)	
Meets basic expectations	67% (36)	62% (442)	58% (269)	61% (747)	65% (110)	57% (298)	63% (96)	59% (504)	
Below basic expectations	7% (4)	14% (100)	21% (98)	16% (202)	9% (15)	22% (114)	20% (30)	19% (159)	
Far below basic expectations	0% (0)	1% (9)	5% (22)	3% (31)	2% (3)	4% (21)	7% (10)	4% (34)	
·	0,1 (0)	_/- (0)	Cle	anliness (lack	of litter/debr	is)		(0.1)	
Greatly exceeds basic expectations	7% (4)	9% (72)	8% (40)	9% (116)	10% (17)	6% (30)	3% (5)	6% (52)	
Exceeds basic expectations	19% (10)	19% (145)	15% (78)	17% (233)	32% (54)	20% (109)	20% (32)	23% (195)	
Meets basic expectations	59% (32)	57% (442)	61% (318)	59% (792)	48% (82)	52% (275)	60% (96)	52% (453)	
Below basic expectations	15% (8)	11% (87)	13% (69)	12% (164)	9% (16)	19% (101)	13% (21)	16% (138)	
Far below basic expectations	0% (0)	3% (25)	3% (15)	3% (40)	1% (1)	3% (18)	4% (6)	3% (25)	
	0/0 (0)	0,0 (20)	0,0 (10) Ov	erall condition	n of this highw	av	.,(0)	0/0 (20)	
Greatly exceeds basic expectations	11% (6)	9% (71)	8% (40)	9% (117)	14% (24)	7% (36)	2% (3)	7% (63)	
Exceeds basic expectations	19% (10)	21% (163)	11% (57)	17% (230)	14% (24)	18% (101)	15% (25)	22% (199)	
Meets basic expectations	60% (32)	59% (467)	56% (294)	58% (793)	43% (75)	51% (283)	13% (23)	10% (130)	
Below basic expectations	9% (5)	10% (80)	23% (118)	15% (203)	2% (4)	20% (111)	31% (52)	19% (167)	
Far below basic expectations	0% (0)	1% (6)	3% (15)	2% (21)	2% (+) 0% (0)	4% (22)	5% (8)	3% (30)	
r ur below busie expectations	070 (0)	1/0 (0)		rall annearan	ce of this high	4/0 (22)	370 (0)	570 (50)	
Greatly exceeds basic expectations	11% (6)	10% (76)	7% (20)		12% (22)	6% (21)	1% (2)	7% (50)	
Greatly exceeds basic expectations	11%(0)	10%(70)	1.20/ (53)	9% (121) 17% (228)	15% (25)	20% (34)	120/ (21)	770 (39)	
Exceeds basic expectations	22% (12) E0% (22)	20% (154)	12%(02)	17% (228)	40% (05)	20% (110) E2% (202)	13% (21) E7% (04)	24% (214) E1% (4E1)	
Nieets basic expectations	59% (32) 70/ (4)	59% (401)	59% (311)	59% (804)	37% (04)	53% (293) 19% (07)	57% (94) 25% (41)	51% (451)	
Below basic expectations	7% (4)	11% (87)	18% (95)	14% (180)	2% (4)	18% (97)	25% (41)	10% (142)	
Far below basic expectations	0% (0)	1%(5)	4% (19)	2% (24)	0% (0)	3% (19)	4% (7)	3% (20)	
	420((7)	449((00)	Fee	eling of safety	on this highw	ay	40((2)	00((72)	
Greatly exceeds basic expectations	13% (/)	11% (89)	9% (46)	10% (142)	18% (31)	7% (40)	1% (2)	8% (73)	
Exceeds basic expectations	28% (15)	22% (1/4)	11% (61)	18% (250)	43% (75)	19% (108)	11% (18)	22% (201)	
Nieets basic expectations	50% (27)	57% (454)	56% (299)	56% (780)	36% (63)	52% (287)	52% (87)	49% (437)	
Below basic expectations	9% (5)	8% (67)	18% (94)	12% (166)	4% (7)	16% (90)	27% (45)	16% (142)	
Far below basic expectations	0% (0)	2% (12)	6% (33)	3% (45)	0% (0)	5% (29)	8% (14)	5% (43)	



8.11. Appendix K: Importance Ratings for Mountain Region

	Mountain Region							
		As	heville			Jon	esville	
	Interstate	Primary	Secondary	All	Interstate	Primary	Secondary	All
	<u> </u>		Roadway	markings (center	rline and roadw	ay striping)		
Extremely important	55% (22)	33% (40)	45% (18)	40% (80)	60% (31)	49% (50)	41% (42)	48% (123)
Very Important	33% (13)	42% (50)	40% (16)	40% (79)	37% (19)	29% (30)	22% (23)	28% (72)
Important	10% (4)	24% (29)	13% (5)	19% (38)	4% (2)	21% (22)	26% (27)	20% (51)
Less Important	3% (1)	0% (0)	3% (1)	1% (2)	0% (0)	1% (1)	10% (10)	4% (11)
Not Important	0% (0)	1% (1)	0% (0)	1% (1)	0% (0)	0% (0)	1% (1)	<1% (1)
	<u> </u>			Raised paver	nent markers			
Extremely important	30% (12)	27% (31)	40% (14)	30% (57)	35% (18)	23% (23)	15% (15)	22% (56)
Very Important	28% (11)	33% (38)	14% (5)	28% (54)	43% (22)	21% (21)	18% (18)	24% (61)
Important	25% (10)	33% (38)	34% (12)	32% (60)	22% (11)	46% (46)	43% (43)	40% (100)
Less Important	18% (7)	3% (4)	6% (2)	7% (13)	0% (0)	9% (9)	19% (19)	11% (28)
Not Important	0% (0)	3% (4)	6% (2)	3% (6)	0% (0)	1% (1)	4% (4)	2% (5)
				Ligh	iting			
Extremely important	33% (11)	33% (33)	44% (14)	35% (58)	30% (14)	17% (16)	14% (13)	18% (43)
Very Important	36% (12)	26% (26)	9% (3)	25% (41)	26% (12)	19% (18)	18% (17)	20% (47)
Important	18% (6)	30% (30)	31% (10)	28% (46)	33% (15)	46% (43)	51% (49)	45% (107)
Less Important	12% (4)	10% (10)	13% (4)	11% (18)	9% (4)	15% (14)	18% (17)	15% (35)
Not Important	0% (0)	0% (0)	3% (1)	1% (1)	2% (1)	3% (3)	0% (0)	2% (4)
		-	Sr	noothness/feel o	of the road surf	ace	-	-
Extremely important	26% (10)	21% (25)	23% (9)	22% (44)	35% (18)	21% (21)	15% (15)	21% (54)
Very Important	55% (21)	37% (44)	43% (17)	41% (82)	35% (18)	43% (43)	29% (30)	36% (91)
Important	16% (6)	36% (43)	30% (12)	31% (61)	29% (15)	35% (35)	50% (51)	40% (101)
Less Important	3% (1)	6% (7)	5% (2)	5% (10)	2% (1)	1% (1)	6% (6)	3% (8)
Not Important	0% (0)	1% (1)	0% (0)	1% (1)	0% (0)	0% (0)	0% (0)	0% (0)
	r	Ph	vsical condition of	of the road surfa	ce (i.e., numbe	of potholes/o	racks)	1
Extremely important	51% (20)	34% (41)	45% (18)	40% (79)	51% (26)	36% (36)	28% (29)	36% (91)
Very Important	38% (15)	43% (51)	48% (19)	43% (85)	37% (19)	40% (40)	35% (36)	37% (95)
Important	10% (4)	20% (24)	8% (3)	16% (31)	10% (5)	23% (23)	30% (31)	23% (59)
Less Important	0% (0)	2% (2)	0% (0)	1% (2)	2% (1)	1% (1)	7% (7)	4% (9)
Not Important	0% (0)	1% (1)	0% (0)	1% (1)	0% (0)	0% (0)	0% (0)	0% (0)
- · · · · ·	240((42)	270((22)	222((12)	Width (of lanes	222((22)	200((20)	222((25)
Extremely important	31% (12)	27% (32)	33% (13)	29% (57)	45% (23)	32% (33)	28% (29)	33% (85)
Very Important	44% (17)	33% (40)	30% (12)	35% (69)	41% (21)	41% (42)	31% (32)	37% (95)
Important	26% (10)	37% (44)	33% (13)	34% (67)	14% (7)	25% (26)	30% (31)	25% (64)
Less Important	0% (0)	3% (4)	5% (2)	3% (6)	0% (0)	1% (1)	11% (11)	5% (12)
Not important	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	1% (1)	0% (0)	<1%(1)
Extromoly important	220/ (12)	249/ (28)	259/ (10)	FIOW 0		249/ (24)	109/ (10)	259/ (62)
Voru Important	33% (13)	24% (28)	25% (10)	20% (51)	37% (19)	24% (24)	19% (19)	25% (02)
Important	45% (10)	52% (50) 40% (47)	25% (10)	34% (00) 27% (72)	47% (24)	50% (50) 42% (42)	17% (17)	29% (71)
Important	10% (7)	40% (47)	45% (16)	57% (72) 49/ (7)	14%(7)	42% (42)	45% (44)	57% (95) 70/ (10)
Not Important	5% (2) 0% (0)	3% (4) 0% (0)	376 (1) 2% (1)	4 /6 (7)	0% (0) 2% (1)	270 (2)	2% (2)	7% (18)
Not important	078 (0)	078 (0)	570(1)	1/0 (1)	2/0 (1)	270 (2)	278 (2)	278 (3)
Extremely important	50% (19)	41% (49)	46% (18)	44% (86)	48% (25)	40% (40)	23% (24)	35% (89)
Very Important	30% (15)	34% (41)	23% (9)	33% (65)	35% (18)	40% (40)	25% (24)	37% (94)
Important	8% (3)	21% (25)	23% (3)	20% (39)	15% (8)	19% (19)	32% (33)	23% (60)
Less Important	3% (1)	21% (23) 4% (5)	3% (1)	20% (33) 4% (7)	2% (1)	2% (2)	10% (10)	5% (13)
Not Important	0% (0)	4% (J) 0% (D)	0% (0)	4% (7) 0% (0)	270 (1) 0% (0)	2% (2) 0% (0)	0% (0)	0% (0)
Not important	070 (0)	078 (0)	078 (0)	Conditio	n of signs	078 (0)	078 (0)	070 (0)
Extremely important	28% (11)	28% (33)	35% (14)	29% (58)	40% (21)	20% (20)	15% (15)	22% (56)
Very Important	45% (18)	38% (45)	28% (11)	37% (74)	31% (16)	49% (49)	27% (26)	36% (91)
Important	18% (7)	27% (32)	28% (11)	25% (50)	27% (14)	30% (30)	50% (49)	37% (93)
Less Important	10% (4)	6% (7)	8% (3)	7% (14)	2% (1)	2% (2)	8% (8)	4% (11)
Not Important	0% (0)	3% (3)	3% (1)	2% (4)	0% (0)	0% (0)	0% (0)	0% (0)
			· ··· ··· ·· ·· ·· ·· ·· ·· ·· ·· ·· ··	Nidth of outside	(right) shoulde	rs		
Extremely important	20% (8)	18% (21)	25% (10)	20% (39)	24% (12)	17% (18)	13% (13)	17% (43)
Very Important	58% (23)	32% (37)	23% (9)	35% (69)	53% (27)	37% (38)	25% (25)	35% (90)
Important	18% (7)	35% (40)	40% (16)	32% (63)	24% (12)	43% (44)	50% (51)	42% (107)
Less Important	5% (2)	13% (15)	10% (4)	11% (21)	0% (0)	3% (3)	13% (13)	6% (16)
• · · ·			• • •	• • •		• • •	• • •	• • •



Not Important	0% (0)	2% (2)	3% (1)	2% (3)	0% (0)	0% (0)	0% (0)	0% (0)	
				Width of inside	(left) shoulders				
Extremely important	11% (4)	15% (17)	23% (9)	16% (30)	20% (10)	14% (13)	11% (10)	14% (33)	
Very Important	57% (21)	30% (34)	28% (11)	35% (66)	48% (24)	32% (30)	23% (22)	32% (76)	
Important	19% (7)	38% (42)	33% (13)	33% (62)	30% (15)	42% (40)	49% (47)	43% (102)	
Less Important	14% (5)	13% (15)	10% (4)	13% (24)	2% (1)	11% (10)	17% (16)	11% (27)	
Not Important	0% (0)	4% (4)	5% (2)	3% (6)	0% (0)	2% (2)	0% (0)	1% (2)	
	-		Туре о	f right shoulder (gravel, paveme	nt, etc.)	•	•	
Extremely important	23% (9)	14% (15)	21% (8)	17% (32)	18% (9)	8% (8)	8% (8)	10% (25)	
Very Important	31% (12)	24% (27)	21% (8)	25% (47)	33% (17)	25% (25)	20% (19)	25% (61)	
Important	28% (11)	39% (43)	34% (13)	36% (67)	43% (22)	53% (52)	55% (53)	51% (127)	
Less Important	13% (5)	20% (22)	18% (7)	18% (34)	6% (3)	13% (13)	16% (16)	13% (32)	
Not Important	5% (2)	4% (4)	5% (2)	4% (8)	0% (0)	1% (1)	1% (1)	1% (2)	
Mowing & trimming along guard rails									
Extremely important	3% (1)	6% (7)	13% (5)	7% (13)	8% (4)	8% (8)	7% (6)	8% (18)	
Very Important	21% (8)	14% (16)	13% (5)	15% (29)	21% (11)	18% (18)	11% (10)	16% (39)	
Important	46% (18)	56% (65)	50% (19)	53% (102)	52% (27)	46% (46)	53% (46)	50% (119)	
Less Important	21% (8)	21% (24)	16% (6)	20% (38)	19% (10)	29% (29)	25% (22)	25% (61)	
Not Important	10% (4)	3% (4)	8% (3)	6% (11)	0% (0)	0% (0)	3% (3)	1% (3)	
			Mo	owing & trimmin	g of all other ar	eas			
Extremely important	5% (2)	5% (6)	10% (4)	6% (12)	8% (4)	7% (7)	7% (7)	7% (18)	
Very Important	24% (9)	16% (19)	15% (6)	18% (34)	22% (11)	25% (25)	10% (10)	18% (46)	
Important	37% (14)	54% (63)	54% (21)	51% (98)	55% (28)	47% (47)	55% (54)	52% (129)	
Less Important	29% (11)	20% (23)	13% (5)	20% (39)	16% (8)	22% (22)	27% (26)	22% (56)	
Not Important	5% (2)	5% (6)	8% (3)	6% (11)	0% (0)	0% (0)	1% (1)	<1% (1)	
				Cleanliness (lack	of litter/debris)			
Extremely important	16% (6)	17% (19)	18% (7)	17% (32)	15% (8)	15% (15)	13% (13)	14% (36)	
Very Important	39% (15)	30% (35)	23% (9)	31% (59)	23% (12)	23% (23)	16% (16)	20% (51)	
Important	29% (11)	40% (46)	44% (17)	39% (74)	58% (30)	48% (48)	54% (55)	53% (133)	
Less Important	16% (6)	10% (12)	10% (4)	11% (22)	4% (2)	12% (12)	17% (17)	12% (31)	
Not Important	0% (0)	3% (3)	5% (2)	3% (5)	0% (0)	2% (2)	0% (0)	1% (2)	
				Overall condition	n of this highwa	y			
Extremely important	34% (13)	29% (33)	36% (14)	31% (60)	50% (26)	32% (32)	28% (29)	34% (87)	
Very Important	45% (17)	43% (49)	21% (8)	39% (74)	31% (16)	46% (46)	27% (28)	35% (90)	
Important	21% (8)	26% (30)	44% (17)	29% (55)	17% (9)	23% (23)	36% (37)	27% (69)	
Less Important	0% (0)	3% (3)	0% (0)	2% (3)	2% (1)	0% (0)	8% (8)	4% (9)	
Not Important	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	
			0	verall appearan	ce of this highwa	ay	• • • •	• • • •	
Extremely important	13% (5)	17% (20)	20% (8)	17% (33)	23% (12)	15% (15)	22% (22)	19% (49)	
Very Important	58% (22)	29% (34)	23% (9)	34% (65)	35% (18)	39% (39)	23% (23)	32% (80)	
Important	29% (11)	49% (57)	48% (19)	45% (87)	37% (19)	43% (43)	42% (42)	41% (104)	
Less Important	0% (0)	4% (5)	10% (4)	5% (9)	6% (3)	4% (4)	11% (11)	7% (18)	
Not Important	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	1% (1)	<1% (1)	
				Feeling of safety	on this highway	/			
Extremely important	57% (21)	43% (51)	51% (20)	47% (92)	65% (34)	48% (49)	41% (41)	49% (124)	
Very Important	32% (12)	33% (39)	26% (10)	31% (61)	23% (12)	36% (37)	23% (23)	28% (72)	
Important	11% (4)	23% (28)	23% (9)	21% (41)	10% (5)	15% (15)	27% (27)	18% (47)	
Less Important	0% (0)	1% (1)	0% (0)	1% (1)	2% (1)	1% (1)	9% (9)	4% (11)	
Not Important	0% (0)	1% (1)	0% (0)	1% (1)	0% (0)	0% (0)	1% (1)	<1% (1)	



8.12. Appendix L: Importance Ratings for Piedmont Region

	Piedmont Region							
		Burlington Charlotte						
	Interstate	Primary	Secondary	All	Interstate	Primary	Secondary	All
			Roadway	markings (center	line and roadw	ay striping)		
Extremely important	48% (37)	35% (27)	25% (15)	37% (79)	42% (22)	45% (47)	32% (33)	40% (102)
Very Important	39% (30)	39% (30)	37% (22)	38% (82)	52% (27)	38% (39)	46% (47)	44% (113)
Important	12% (9)	26% (20)	34% (20)	23% (49)	6% (3)	13% (14)	21% (21)	15% (38)
Less Important	1% (1)	0% (0)	3% (2)	1% (3)	0% (0)	4% (4)	1% (1)	2% (5)
Not Important	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
				Raised paver	nent markers			
Extremely important	33% (25)	18% (13)	6% (3)	20% (41)	44% (22)	12% (11)	10% (9)	18% (42)
Very Important	32% (24)	47% (35)	20% (11)	34% (70)	32% (16)	31% (29)	27% (25)	30% (70)
Important	30% (23)	27% (20)	52% (28)	35% (71)	18% (9)	34% (32)	34% (31)	31% (72)
Less Important	5% (4)	7% (5)	20% (11)	10% (20)	2% (1)	18% (17)	21% (19)	16% (37)
Not Important	0% (0)	1% (1)	2% (1)	1% (2)	4% (2)	4% (4)	8% (7)	6% (13)
		•		Ligh	ting			
Extremely important	25% (19)	7% (5)	4% (2)	13% (26)	27% (13)	27% (25)	25% (24)	26% (62)
Very Important	42% (32)	34% (25)	35% (19)	37% (76)	27% (13)	32% (30)	28% (27)	29% (70)
Important	32% (24)	37% (27)	31% (17)	33% (68)	27% (13)	29% (27)	30% (29)	29% (69)
Less Important	1% (1)	18% (13)	26% (14)	14% (28)	17% (8)	11% (10)	16% (15)	14% (33)
Not Important	0% (0)	4% (3)	4% (2)	2% (5)	2% (1)	2% (2)	1% (1)	2% (4)
		I	Sn	noothness/feel o	of the road surfa	ace	1	1
Extremely important	26% (20)	7% (5)	13% (7)	15% (32)	33% (17)	17% (17)	14% (14)	19% (48)
Very Important	44% (34)	37% (28)	27% (15)	37% (77)	42% (22)	35% (35)	38% (39)	38% (96)
Important	29% (22)	53% (40)	48% (27)	43% (89)	25% (13)	43% (43)	43% (44)	39% (100)
Less Important	1% (1)	4% (3)	13% (7)	5% (11)	0% (0)	5% (5)	6% (6)	4% (11)
Not Important	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
	0.000	Ph	vsical condition of	of the road surfa	ce (i.e., numbei	of potholes/c	cracks)	
Extremely important	37% (28)	19% (15)	17% (10)	25% (53)	44% (23)	27% (28)	23% (24)	29% (75)
Very Important	46% (35)	52% (40)	38% (22)	46% (97)	44% (23)	44% (46)	45% (47)	45% (116)
Important	16% (12)	26% (20)	41% (24)	27% (56)	12% (6)	24% (25)	28% (29)	23% (60)
Less Important	1% (1)	3% (2)	3% (2)	2% (5)	0% (0)	5% (5)	4% (4)	3% (9)
Not Important	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
Extromoly important	259/ (10)	129/ (10)	110/ (6)			210/ (22)	120/ (14)	200/ (51)
Extremely important	25% (19)	13% (10)	11% (0)	17% (35)	29% (15)	21% (22)	13% (14)	20% (51)
very important	59% (44) 16% (12)	45% (34)	38% (21)	48% (99) 21% (CE)	48% (25)	42% (43)	54% (50) 26% (27)	48% (124)
Important	10% (12)	56% (29) 4% (2)	43% (24)	51% (05)	21% (11)	52% (55) E% (E)	20% (27)	27% (71) E9/ (12)
Not Important	0% (0)	4% (3)	9% (J) 0% (D)	478 (8)	276 (1)	3% (3) 0% (0)	0% (0)	0% (13)
Not important	078 (0)	078 (0)	078(0)	50% (0)	traffic	078 (0)	078 (0)	078 (0)
Extremely important	26% (19)	9% (7)	10% (6)	15% (32)	29% (15)	20% (21)	18% (19)	21% (55)
Very Important	53% (39)	28% (21)	21% (12)	35% (72)	55% (28)	36% (37)	40% (41)	41% (106)
Important	21% (15)	61% (46)	55% (32)	45% (93)	16% (8)	38% (40)	35% (36)	33% (84)
Less Important	0% (0)	3% (2)	12% (7)	4% (9)	0% (0)	6% (6)	7% (7)	5% (13)
Not Important	0% (0)	0% (0)	2% (1)	<1% (1)	0% (0)	0% (0)	0% (0)	0% (0)
	0,1 (0)	C/2 (C)	-/- (-/	Visibility	of signs	0,1 (0)	0,1 (0)	
Extremely important	47% (36)	22% (17)	14% (8)	29% (61)	29% (15)	29% (30)	18% (19)	25% (64)
Very Important	35% (27)	47% (36)	39% (22)	40% (85)	47% (24)	33% (34)	38% (40)	38% (98)
Important	18% (14)	31% (24)	39% (22)	29% (60)	22% (11)	37% (38)	41% (43)	36% (92)
Less Important	0% (0)	0% (0)	7% (4)	2% (4)	2% (1)	0% (0)	2% (2)	1% (3)
Not Important	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
-		•	•	Conditio	n of signs	•	•	•
Extremely important	26% (20)	14% (11)	14% (8)	18% (39)	18% (9)	17% (17)	13% (13)	15% (39)
Very Important	48% (37)	45% (34)	43% (25)	45% (96)	43% (22)	27% (27)	17% (17)	26% (66)
Important	25% (19)	41% (31)	38% (22)	34% (72)	33% (17)	44% (44)	60% (61)	48% (122)
Less Important	1% (1)	0% (0)	5% (3)	2% (4)	6% (3)	13% (13)	10% (10)	10% (26)
Not Important	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)
			١	Nidth of outside	(right) shoulde	rs		
Extremely important	24% (18)	8% (6)	6% (3)	13% (27)	24% (12)	16% (16)	12% (12)	16% (40)
Very Important	44% (33)	44% (33)	35% (19)	42% (85)	51% (26)	45% (46)	34% (34)	42% (106)
Important	31% (23)	41% (31)	44% (24)	38% (78)	25% (13)	32% (33)	40% (40)	34% (86)
Less Important	1% (1)	7% (5)	15% (8)	7% (14)	0% (0)	7% (7)	14% (14)	8% (21)



Not Important	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	0% (0)	1% (1)	<1% (1)	
				Width of inside	(left) shoulders				
Extremely important	21% (16)	7% (5)	6% (3)	13% (24)	16% (8)	12% (11)	9% (8)	12% (27)	
Very Important	41% (31)	39% (26)	26% (13)	36% (70)	39% (19)	29% (27)	23% (20)	29% (66)	
Important	32% (24)	45% (30)	52% (26)	42% (80)	39% (19)	43% (40)	41% (36)	41% (95)	
Less Important	5% (4)	6% (4)	12% (6)	7% (14)	6% (3)	15% (14)	25% (22)	17% (39)	
Not Important	0% (0)	3% (2)	4% (2)	2% (4)	0% (0)	2% (2)	2% (2)	2% (4)	
			Type of	f right shoulder (gravel, paveme	nt, etc.)			
Extremely important	15% (11)	7% (5)	2% (1)	8% (17)	12% (6)	7% (7)	7% (7)	8% (20)	
Very Important	35% (26)	20% (15)	24% (13)	27% (54)	33% (16)	24% (24)	13% (12)	21% (52)	
Important	43% (32)	54% (40)	50% (27)	49% (99)	51% (25)	44% (44)	48% (46)	47% (115)	
Less Important	7% (5)	18% (13)	20% (11)	14% (29)	4% (2)	22% (22)	29% (28)	21% (52)	
Not Important	1% (1)	1% (1)	4% (2)	2% (4)	0% (0)	2% (2)	2% (2)	2% (4)	
Mowing & trimming along guard rails									
Extremely important	9% (7)	3% (2)	6% (3)	6% (12)	8% (4)	4% (4)	2% (2)	4% (10)	
Very Important	24% (18)	9% (7)	7% (4)	14% (29)	16% (8)	11% (11)	12% (12)	13% (31)	
Important	43% (33)	54% (41)	54% (29)	50% (103)	53% (27)	55% (53)	51% (50)	53% (130)	
Less Important	21% (16)	30% (23)	26% (14)	26% (53)	24% (12)	28% (27)	31% (31)	28% (70)	
Not Important	3% (2)	4% (3)	7% (4)	4% (9)	0% (0)	2% (2)	4% (4)	2% (6)	
	Mowing & trimming of all other areas								
Extremely important	9% (7)	4% (3)	5% (3)	6% (13)	6% (3)	1% (1)	2% (2)	2% (6)	
Very Important	24% (18)	9% (7)	7% (4)	14% (29)	17% (9)	13% (13)	11% (11)	13% (33)	
Important	46% (35)	60% (46)	58% (32)	54% (113)	60% (31)	60% (61)	59% (58)	59% (150)	
Less Important	18% (14)	23% (18)	24% (13)	22% (45)	17% (9)	25% (25)	26% (26)	24% (60)	
Not Important	3% (2)	4% (3)	5% (3)	4% (8)	0% (0)	2% (2)	2% (2)	2% (4)	
				Cleanliness (lack	of litter/debris)	•	•	
Extremely important	16% (12)	6% (5)	12% (7)	11% (24)	8% (4)	8% (8)	7% (7)	7% (19)	
Very Important	20% (15)	14% (11)	12% (7)	16% (33)	19% (10)	15% (15)	18% (18)	17% (43)	
Important	52% (39)	61% (47)	56% (32)	56% (118)	63% (33)	57% (58)	60% (61)	60% (152)	
Less Important	11% (8)	14% (11)	18% (10)	14% (29)	10% (5)	19% (19)	15% (15)	15% (39)	
Not Important	1% (1)	4% (3)	2% (1)	2% (5)	0% (0)	2% (2)	0% (0)	1% (2)	
			(Overall condition	n of this highwa	y	•	•	
Extremely important	27% (21)	15% (11)	18% (10)	20% (42)	37% (19)	22% (22)	16% (16)	23% (57)	
Very Important	48% (37)	43% (32)	40% (23)	44% (92)	49% (25)	44% (44)	45% (45)	45% (114)	
Important	25% (19)	39% (29)	39% (22)	33% (70)	14% (7)	30% (30)	34% (34)	28% (71)	
Less Important	0% (0)	3% (2)	4% (2)	2% (4)	0% (0)	4% (4)	5% (5)	4% (9)	
Not Important	0% (0)	1% (1)	0% (0)	<1% (1)	0% (0)	0% (0)	0% (0)	0% (0)	
			0	verall appearan	ce of this highwa	ау			
Extremely important	20% (15)	14% (11)	12% (7)	16% (33)	25% (13)	11% (11)	9% (9)	13% (33)	
Very Important	44% (33)	14% (11)	25% (14)	28% (58)	38% (20)	29% (29)	24% (24)	29% (73)	
Important	31% (23)	59% (45)	46% (26)	45% (94)	35% (18)	50% (50)	54% (55)	48% (123)	
Less Important	5% (4)	11% (8)	18% (10)	11% (22)	2% (1)	9% (9)	14% (14)	9% (24)	
Not Important	0% (0)	1% (1)	0% (0)	<1% (1)	0% (0)	2% (2)	0% (0)	1% (2)	
				Feeling of safety	on this highway	/		•	
Extremely important	47% (36)	31% (24)	21% (12)	34% (72)	46% (24)	37% (38)	31% (31)	36% (93)	
Very Important	35% (27)	30% (23)	34% (20)	33% (70)	46% (24)	37% (38)	34% (34)	38% (96)	
Important	18% (14)	36% (28)	40% (23)	31% (65)	8% (4)	23% (24)	29% (29)	22% (57)	
Less Important	0% (0)	1% (1)	5% (3)	2% (4)	0% (0)	3% (3)	5% (5)	3% (8)	
Not Important	0% (0)	1% (1)	0% (0)	<1% (1)	0% (0)	0% (0)	2% (2)	1% (2)	



8.13. Appendix M: Importance Ratings for Coastal Region

	Coastal Region							
		Rock	Rocky Mount Wilmington					
	Interstate	Primary	Secondary	All	Interstate	Primary	Secondary	All
			Roadway	markings (cente	rline and roadw	ay striping)		
Extremely important	42% (45)	43% (46)	42% (45)	43% (136)	46% (27)	49% (57)	33% (19)	44% (103)
Very Important	33% (35)	37% (40)	23% (24)	31% (99)	36% (21)	34% (40)	50% (29)	39% (90)
Important	22% (23)	19% (21)	28% (30)	23% (74)	19% (11)	16% (19)	17% (10)	17% (40)
Less Important	3% (3)	1% (1)	4% (4)	3% (8)	0% (0)	0% (0)	0% (0)	0% (0)
Not Important	0% (0)	0% (0)	3% (3)	1% (3)	0% (0)	0% (0)	0% (0)	0% (0)
		•		Raised paver	nent markers	•		•
Extremely important	34% (35)	28% (29)	26% (25)	29% (89)	38% (22)	42% (49)	25% (14)	37% (85)
Very Important	24% (25)	26% (27)	18% (18)	23% (70)	36% (21)	35% (41)	41% (23)	37% (85)
Important	32% (33)	34% (35)	39% (38)	35% (106)	19% (11)	18% (21)	25% (14)	20% (46)
Less Important	10% (10)	13% (13)	11% (11)	11% (34)	7% (4)	4% (5)	9% (5)	6% (14)
Not Important	0% (0)	0% (0)	6% (6)	2% (6)	0% (0)	0% (0)	0% (0)	0% (0)
				Ligh	iting			
Extremely important	42% (43)	39% (39)	33% (32)	38% (114)	31% (17)	41% (45)	27% (15)	35% (77)
Very Important	25% (26)	31% (31)	22% (22)	26% (79)	16% (9)	16% (18)	27% (15)	19% (42)
Important	22% (22)	26% (26)	32% (31)	26% (79)	38% (21)	32% (35)	30% (17)	33% (73)
Less Important	10% (10)	4% (4)	10% (10)	8% (24)	13% (/)	10% (11)	13% (7)	11% (25)
Not Important	1% (1)	0% (0)	3% (3)	1% (4)	2% (1)	1% (1)	4% (2)	2% (4)
Estremely increases	200(/21)	249((25)	Sn 200(/20)	nootnness/feel	of the road surf		1.00((0)	220((51)
Extremely important	29% (31)	24% (25)	28% (30)	27% (86)	28% (16)	23% (26)	16% (9)	22% (51)
very important	30% (32)	37% (39)	27% (29)	31% (100)	41% (24)	44% (51)	47% (26)	44% (101)
Important	37% (39)	36% (38)	39% (42)	37% (119)	28% (16)	32% (37)	35% (19)	32% (72)
Less Important	4% (4) 0% (0)	3% (3) 1% (1)	5% (5) 1% (1)	4% (12)	3% (2) 0% (0)	1% (1)	2% (1)	2% (4)
Not important	078(0)	1/0 (1) Dh		1/0 (2)		r of notholes/	(0) (0)	078 (0)
Extremely important	36% (38)	32% (35)	30% (32)	33% (105)	40% (23)	13% (50)	37% (18)	30% (01)
Very Important	34% (36)	32% (33) 44% (47)	34% (36)	37% (103)	40% (23)	35% (41)	49% (28)	40% (93)
Important	26% (28)	22% (24)	31% (33)	27% (85)	19% (11)	20% (23)	19% (11)	19% (45)
Less Important	4% (4)	1% (1)	3% (3)	3% (8)	0% (0)	2% (2)	0% (0)	1% (2)
Not Important	0% (0)	1% (1)	1%(1)	1% (2)	0% (0)	0% (0)	0% (0)	0% (0)
	0,0 (0)	1/0 (1)	1/0 (1)	Width	of lanes	0,0 (0)	0,0 (0)	0,0 (0)
Extremely important	33% (35)	27% (29)	33% (35)	31% (99)	22% (13)	27% (31)	27% (15)	26% (59)
Very Important	37% (39)	44% (48)	25% (26)	35% (113)	47% (28)	49% (56)	46% (26)	48% (110)
Important	27% (29)	29% (31)	36% (38)	31% (98)	24% (14)	20% (23)	16% (9)	20% (46)
Less Important	3% (3)	0% (0)	5% (5)	3% (8)	7% (4)	4% (5)	9% (5)	6% (14)
Not Important	0% (0)	0% (0)	1% (1)	<1% (1)	0% (0)	0% (0)	2% (1)	<1% (1)
	<u> </u>			Flow o	f traffic			-
Extremely important	29% (30)	19% (20)	23% (24)	23% (74)	19% (11)	23% (27)	11% (6)	19% (44)
Very Important	38% (40)	44% (48)	20% (21)	34% (109)	50% (29)	49% (57)	35% (20)	46% (106)
Important	29% (30)	35% (38)	46% (49)	37% (117)	26% (15)	24% (28)	46% (26)	30% (69)
Less Important	5% (5)	1% (1)	10% (11)	5% (17)	5% (3)	3% (3)	9% (5)	5% (11)
Not Important	0% (0)	1% (1)	1% (1)	1% (2)	0% (0)	1% (1)	0% (0)	<1% (1)
	r	n	1	Visibility	of signs	T	1	T
Extremely important	42% (45)	52% (56)	36% (39)	44% (140)	39% (23)	45% (52)	33% (19)	41% (94)
Very Important	30% (32)	30% (32)	26% (28)	29% (92)	37% (22)	34% (39)	40% (23)	36% (84)
Important	24% (25)	18% (19)	30% (32)	24% (76)	24% (14)	20% (23)	23% (13)	22% (50)
Less Important	4% (4)	1% (1)	7% (7)	4% (12)	0% (0)	1% (1)	4% (2)	1% (3)
Not Important	0% (0)	0% (0)	1% (1)	<1% (1)	0% (0)	0% (0)	0% (0)	0% (0)
				Conditio	n of signs			
Extremely important	40% (42)	44% (47)	27% (28)	37% (117)	20% (12)	29% (33)	21% (12)	25% (57)
very Important	30% (32)	31% (33)	25% (26)	29% (91)	36% (21)	3/% (42)	46% (26)	39% (89)
Important	27% (29)	24% (26)	42% (44)	31% (99)	39% (23)	30% (35)	32% (18)	33% (76)
Less Important	3% (3)	2% (2)	b% (b)	3% (11)	5% (3)	4% (5)	2% (1)	4% (9)
Not Important	0% (0)	0% (0)	1%(1)	<1% (1)	U% (U)	0% (0)	0% (0)	0% (0)
Extromoly important	270/ (21)	20% /201	25% (27)			13 210/ (22)	1/10/ /01	10% (44)
Very Important	36% (34)	20% (30)	23%(27)	23% (91)	22% (13) /1% (2/)	21% (23)	14% (8) /1% (72)	19% (44)
Important	30% (38)	37% (40)	32% (34)	33% (112)	41% (24) 21% (19)	33% (44)	41% (23) 30% (23)	40% (91) 33% (75)
Less Important	20/0 (32) 2% (2)	5% (52)	24/0 (20) 8% (9)	51/0 (100)	7% (10)	9% (10)	55/0 (22)	7% (13)
Less important	2/0 (2)	570 (5)	0/0 (0)	270 (T2)	//0 (4)	370 (10)	570 (5)	//0(1/)



Not Important	0% (0)	0% (0)	1% (1)	<1% (1)	0% (0)	0% (0)	0% (0)	0% (0)
		•		Width of inside	(left) shoulders		•	•
Extremely important	31% (33)	27% (29)	25% (26)	28% (88)	17% (10)	17% (19)	11% (6)	15% (35)
Very Important	29% (31)	33% (35)	28% (29)	30% (95)	22% (13)	25% (29)	38% (20)	27% (62)
Important	36% (38)	33% (35)	37% (38)	35% (111)	50% (29)	39% (45)	40% (21)	42% (95)
Less Important	4% (4)	7% (7)	9% (9)	6% (20)	10% (6)	17% (20)	11% (6)	14% (32)
Not Important	0% (0)	1% (1)	2% (2)	1% (3)	0% (0)	2% (2)	0% (0)	1% (2)
	Type of right shoulder (gravel, pavement, etc.)							
Extremely important	27% (29)	25% (26)	22% (23)	25% (78)	18% (10)	15% (17)	9% (5)	14% (32)
Very Important	26% (28)	26% (28)	18% (19)	24% (75)	37% (21)	29% (33)	30% (17)	31% (71)
Important	38% (40)	37% (39)	45% (47)	40% (126)	30% (17)	35% (40)	45% (25)	36% (82)
Less Important	8% (9)	11% (12)	10% (10)	10% (31)	16% (9)	17% (19)	13% (7)	15% (35)
Not Important	0% (0)	1% (1)	5% (5)	2% (6)	0% (0)	5% (6)	4% (2)	4% (8)
			M	owing & trimmir	ng along guard r	ails		
Extremely important	14% (15)	16% (17)	13% (12)	15% (44)	11% (6)	9% (11)	7% (4)	9% (21)
Very Important	25% (26)	25% (26)	18% (16)	23% (68)	21% (12)	19% (22)	19% (11)	20% (45)
Important	43% (45)	39% (41)	48% (43)	43% (129)	49% (28)	44% (51)	46% (26)	46% (105)
Less Important	18% (19)	18% (19)	17% (15)	18% (53)	18% (10)	24% (28)	21% (12)	22% (50)
Not Important	0% (0)	1% (1)	3% (3)	1% (4)	2% (1)	3% (4)	7% (4)	4% (9)
			Mo	wing & trimmin	g of all other ar	eas		
Extremely important	12% (13)	14% (15)	12% (12)	13% (40)	12% (7)	7% (8)	7% (4)	8% (19)
Very Important	25% (26)	29% (31)	24% (24)	26% (81)	19% (11)	19% (22)	19% (11)	19% (44)
Important	46% (49)	39% (42)	46% (47)	44% (138)	44% (25)	50% (58)	47% (27)	48% (110)
Less Important	17% (18)	18% (19)	16% (16)	17% (53)	23% (13)	20% (23)	21% (12)	21% (48)
Not Important	0% (0)	1% (1)	3% (3)	1% (4)	2% (1)	4% (5)	5% (3)	4% (9)
				Cleanliness (lack	of litter/debris)		
Extremely important	19% (20)	22% (24)	17% (18)	19% (62)	13% (7)	18% (21)	13% (7)	15% (35)
Very Important	22% (23)	32% (34)	23% (24)	25% (81)	32% (18)	28% (33)	23% (13)	28% (64)
Important	46% (48)	35% (37)	45% (48)	42% (133)	45% (25)	42% (49)	54% (30)	46% (104)
Less Important	13% (14)	10% (11)	14% (15)	13% (40)	11% (6)	10% (12)	9% (5)	10% (23)
Not Important	0% (0)	1% (1)	1% (1)	1% (2)	0% (0)	1% (1)	2% (1)	1% (2)
	Overall condition of this highway							
Extremely important	37% (39)	34% (37)	28% (30)	33% (106)	24% (14)	37% (43)	19% (11)	29% (68)
Very Important	38% (40)	40% (43)	27% (29)	35% (112)	52% (30)	41% (48)	53% (30)	47% (108)
Important	22% (23)	22% (24)	37% (39)	27% (86)	22% (13)	22% (25)	25% (14)	23% (52)
Less Important	4% (4)	3% (3)	6% (6)	4% (13)	2% (1)	0% (0)	2% (1)	1% (2)
Not Important	0% (0)	1% (1)	2% (2)	1% (3)	0% (0)	0% (0)	2% (1)	<1% (1)
		•	0	verall appearan	ce of this highw	ay	• • • •	
Extremely important	29% (31)	28% (30)	22% (23)	26% (84)	19% (11)	24% (27)	14% (8)	20% (46)
Very Important	35% (37)	34% (36)	24% (25)	31% (98)	38% (22)	35% (40)	29% (17)	34% (79)
Important	30% (32)	35% (37)	44% (47)	36% (116)	43% (25)	38% (43)	45% (26)	41% (94)
Less Important	6% (6)	4% (4)	9% (10)	6% (20)	0% (0)	4% (4)	10% (6)	4% (10)
Not Important	0% (0)	0% (0)	1% (1)	<1% (1)	0% (0)	0% (0)	2% (1)	<1% (1)
·				Feeling of safety	on this highway	v		
Extremely important	50% (53)	51% (55)	41% (44)	48% (152)	47% (27)	51% (59)	37% (21)	47% (107)
Very Important	30% (32)	29% (31)	18% (19)	26% (82)	29% (17)	35% (40)	39% (22)	34% (79)
Important	17% (18)	18% (19)	33% (35)	23% (72)	24% (14)	14% (16)	23% (13)	19% (43)
Less Important	3% (3)	1% (1)	7% (8)	4% (12)	0% (0)	0% (0)	0% (0)	0% (0)
Not Important	0% (0)	1% (1)	1% (1)	1% (2)	0% (0)	0% (0)	2% (1)	<1% (1)