



RESEARCH & DEVELOPMENT

Improving Customer Service at LPA Offices Final Report: Volume II

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Finding Information Online: Online Customer Service Survey of North Carolina License Plate Agencies and Website Usability Study

Final Report

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PREFACE

This report covers the scope of the North Carolina A&T State University Team regarding assessment of the various websites that consumers use to find information about handling their transactions at License Plate Agencies in North Carolina, and it identifies from the customers' perspective, the best methods of delivering the information to them, and uncovers the satisfaction levels reported at the LPAs. The report has two main sections 1) Website Usability Study, and 2) Online Customer Survey.

LICENSE PLATE AGENCY CUSTOMER SURVEY REPORT

PURPOSE

1. To understand the depth of the problem in terms of the level of satisfaction customers feel with the service of North Carolina LPA offices.
2. To identify customers' preferred method of receiving information about the documents they need to bring with them to the LPA office.

METHOD

A survey was developed and administered to current and past LPA customers on-line using the survey platform, Qualtrics. Respondents were asked to participate if they have visited an LPA in the last six months. The first section of the survey asked respondents about the transactions they needed on their visit to the LPA and whether they got through them in one visit. If they did not get through in one visit, then which transactions were incomplete. They were then to indicate what they attribute the incompleteness to.

Based on the previous study and conversations about the problems with incomplete transactions, we asked respondents which documents they did not have with them for the incomplete transactions. Respondents were asked how they obtained information about the documents they should bring with them, and whether there were other sources that would have been more effective. Those who indicated that they used a website were required to indicate which website they used and to rate it in terms of its accuracy and usability. Those who indicated that they got the information by calling the LPA were asked to rate their phone interaction with the employee or the message service.

In the third section (Contact Methods), all respondents were asked to rank ten different methods of communication in terms of their effectiveness to 1) attract their attention to DMV matters, 2) help them remember which documents to bring, and 3) drive them to a website to obtain information regarding the documents. These data were analyzed by age group to determine whether different strategies would be more suited to different age groups of customers. We also asked two questions with semantic scales to determine whether respondents had concerns regarding the security of a private website versus a government website for information pertaining to licensing matters.

The fourth section (Satisfaction) asked respondents about their level of satisfaction with their experience at the DMV using two satisfaction scales and items adapted from SERVQUAL scale (Parasuraman, Berry, and Zeithaml 1991; Parasuraman, Zeithaml, and Berry 1988) for components of tangibles, reliability, responsiveness, empathy, and assurance. We also asked respondents to indicate how long they spent in line, and how long they spent at the counter for their transactions. This allows for comparison of wait times for generally satisfied versus dissatisfied customers, and for a baseline comparison of LPAs for future studies. A multivariate regression of these service components was run on the satisfaction items in order to present a guide for improving customer satisfaction. The components that had a significant effect on the satisfaction items are the ones that LPAs should strive to maintain or improve.

The final section captured demographics such as age group, gender, whether they were active duty military personnel, self-rating of tech-savviness, which LPA location they visited, and whether they had experiences at LPAs outside of North Carolina.

Refer to text copy of online survey (Appendix 2).

DATA COLLECTION

The data for the customer survey was collected in four phases, yielding a sample of 707 responses:

Phase 1 – Raffle Flyer Drop off

- Flyers were distributed to the focal LPAs in the study for consumers to pick up at the counter. The locations included Boone, Yancey, Waynesville, Rockingham, Whiteville, Raleigh, Winston-Salem, Robbins, Lexington, Mount Airy, Tarboro, Jacksonville, Henderson, and Havelock. Refer to recruitment cards (Appendix 3).

Phase 2 – Handing out raffle flyers and Email blast (see Appendix 4) to TransferMyAuto list (n = 71)

- Flyers were handed out to customers as they left the LPA and the survey was briefly explained.
- Ten \$50 gift cards were raffled at the end of Phase 2

Phase 3 – Surveys through Mturk (n = 191)

- Respondents were recruited on Mturk.com and paid a nominal fee to complete the survey. Respondents were filtered to be NC residents and car owners.

Phase 4 – Student Responses and Distribution (n = 445)

- Snowball sampling was used in two classes (a graduate and an undergraduate class), in exchange for course credit.

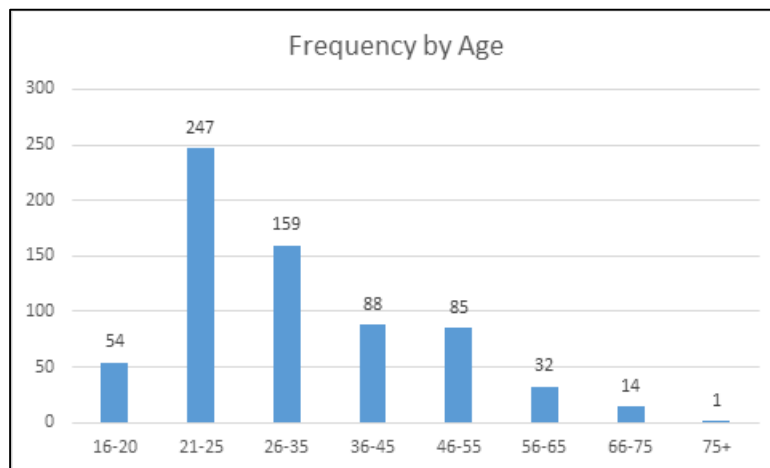
Because Phases 3 and 4 were open to all of North Carolina, many of the responses are from a wide cross-section of LPAs in the State, though the highest frequencies were from Greensboro, Raleigh, and Winston-Salem.

Though we cannot say whether those who opted not to participate in the survey are less tech-savvy than those who did, the results of the survey include the artifact of being completed by individuals who are open to engaging with the Internet. This argument is supported in the literature by several researchers. For more on this issue of nonresponse in online surveys, see Manfreda et al. (2008), for a review. Furthermore, the preferences regarding communication and retrieval of information may vary with age, and therefore we analyzed that portion of the results below, by age (see Contact Methods section).

SURVEY RESULTS

Demographic Profile

Figure 1 shows the age demographics of the respondents in the sample.



In the sample, 64% were female, and only 1.5% were active duty military personnel.

Figure 1: Age of Online Survey Respondents

Tech-Savviness

The following scale was used to assess how comfortable respondents were with using devices to search for information. A seven-point semantic scale with four items was used (see Table 1 below for the scale anchors). As shown in the table below, the sample rated themselves highly tech-savvy, and this was consistent as shown by the low standard deviation.

Table 1: Tech-Savviness Scale

When it comes to using digital devices to search for information, I would consider myself:

| Semantic scale from 1 to 7 | Mean | SD |
|---------------------------------------|------|------|
| Not knowledgeable: Very knowledgeable | 6.04 | 1.52 |
| Inexperienced: Experienced | 5.97 | 1.57 |
| Uninformed: Informed | 5.90 | 1.59 |
| A novice: An expert | 5.63 | 1.58 |

Transaction Data

Reason for recent LPA Visit

Respondents were asked to check all the transactions they required on their visit to the LPA. This information is important, since it helps to give context when we asked which transactions were incomplete. As expected from the previous study and conversations with LPA owners, the most common transactions in the data were renewals (n = 398) and transfers from other states (n = 111) as shown in Figure 2 below.

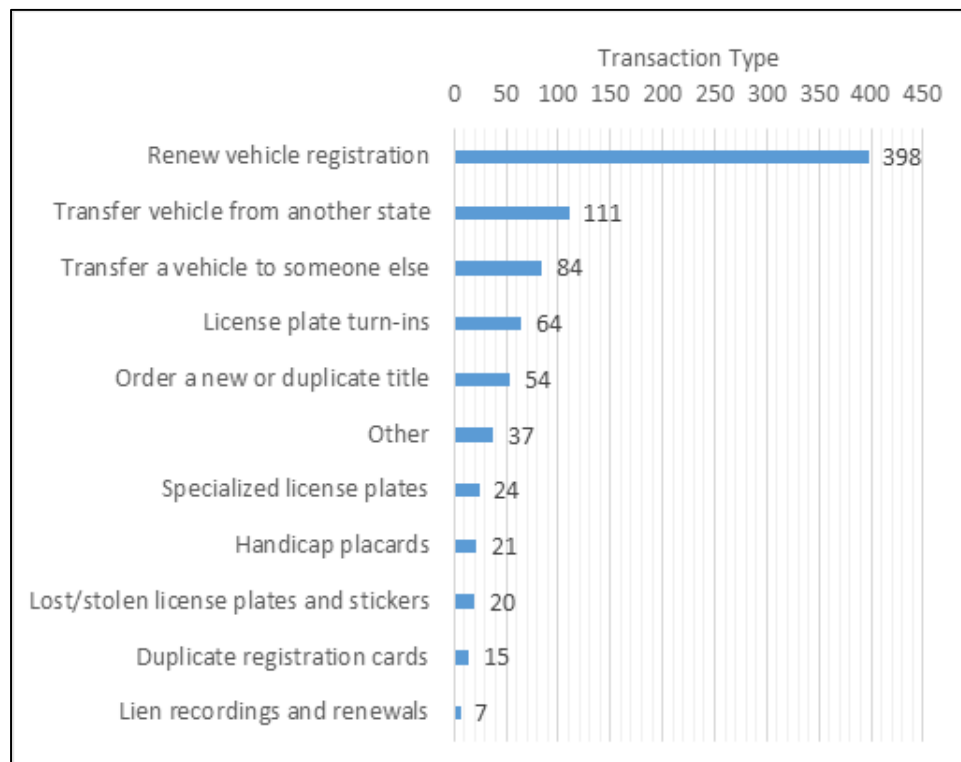


Figure 2: Frequency of Transactions in the Sample

Incomplete Transactions

As shown below in Figure 3, the most frequent incomplete transactions were out-of-state transfers, followed by renewals. The higher percentage of incompletes for transfers from other states ($22/111 = 19.8\%$), compared to renewals ($19/398 = 4.8\%$), reveals how much more problematic transfers are for customers.

Likewise, the percentage of incompletes for transferring to someone else (16.8%) was more than three times higher than that of renewals.

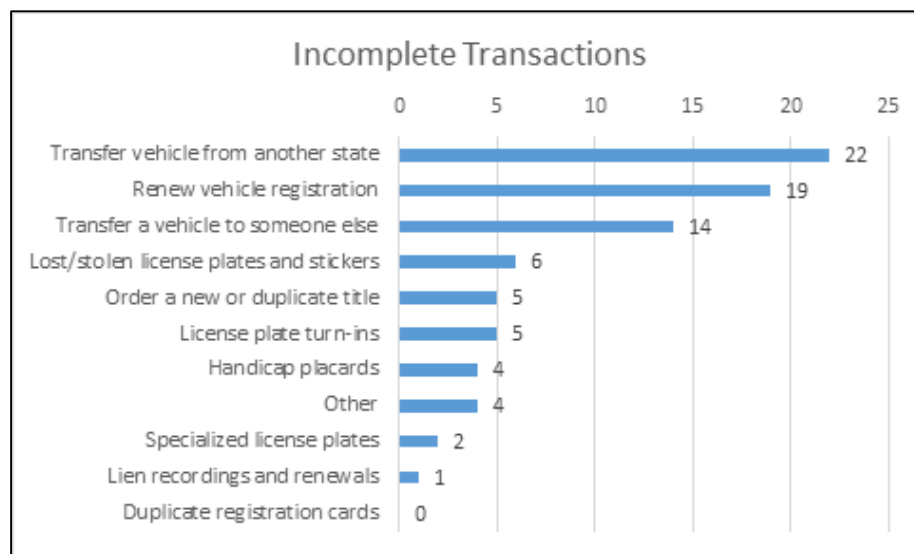


Figure 3: Frequency of Incomplete Transactions in the Sample

Reason for Incomplete Transactions

We asked then respondents to indicate why they were unable to complete all their transactions in one visit. Frequently cited reasons will point the LPAs to the problems that needs to be addressed. Note that while uncertainty regarding which papers to bring was the most problematic (n = 27), wait time was also an issue (n = 17). See Figure 4 below.

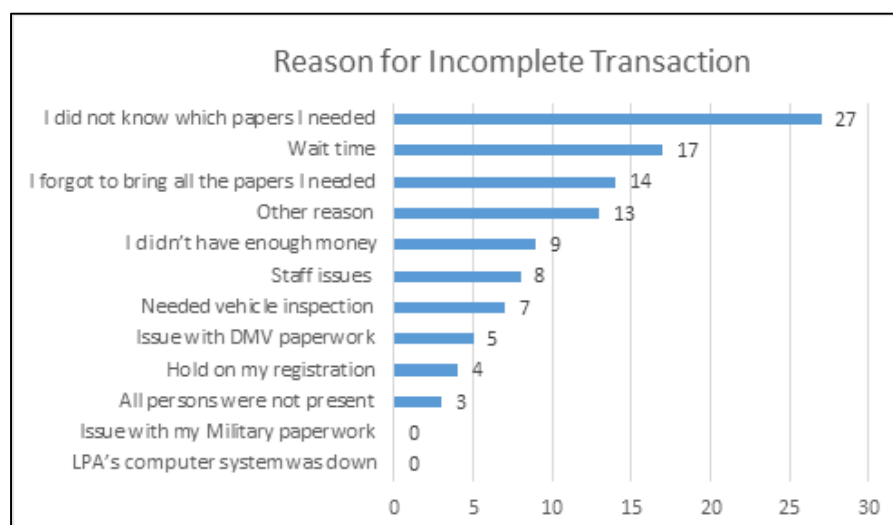


Figure 4: Reason for Incomplete Transactions

Open-ended responses included (Other category): needing a hearing officer, all persons on the title were not present, lacking insurance documentation, and issues with the title.

Missing Documents

Building on the previous question, for those who indicated that they either did not know which papers to bring or forgot to bring the necessary papers, we asked them to indicate which papers were missing. The purpose of asking this was to identify if there are particular papers that need more emphasis in communication on the website, so that customers will be more aware and remember to bring them on their visit to the LPA. See Figure 5 below.

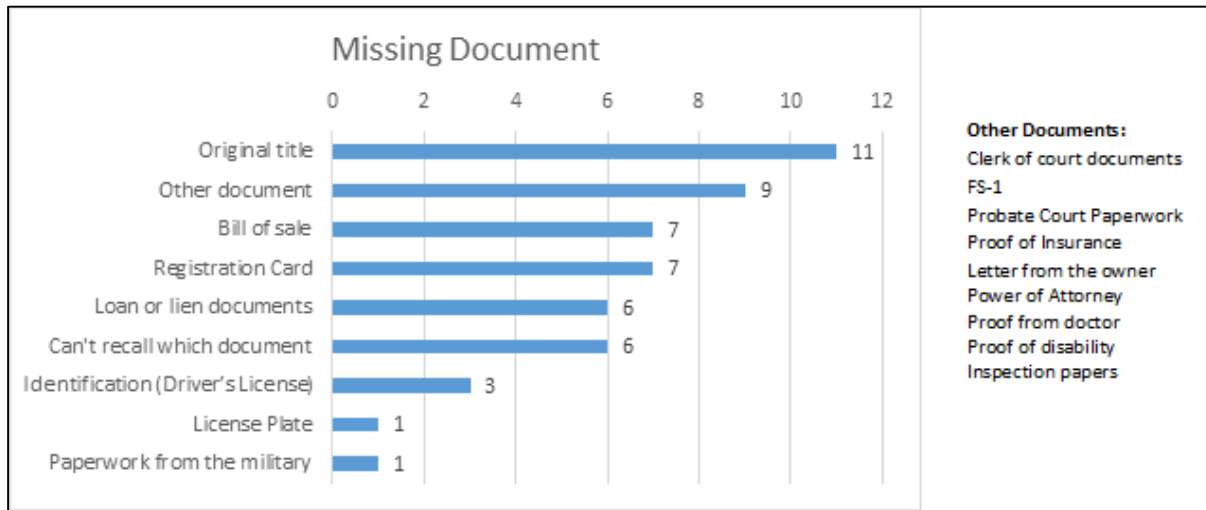


Figure 5: Frequency of Missing Documents

Information Source regarding Documents

Most respondents went to a website to find out which documents to bring. Other sources were mailed notices, trips to the LPA to ask questions, car dealerships, financing companies, insurance companies, or family members. See Figure 6 below for details.

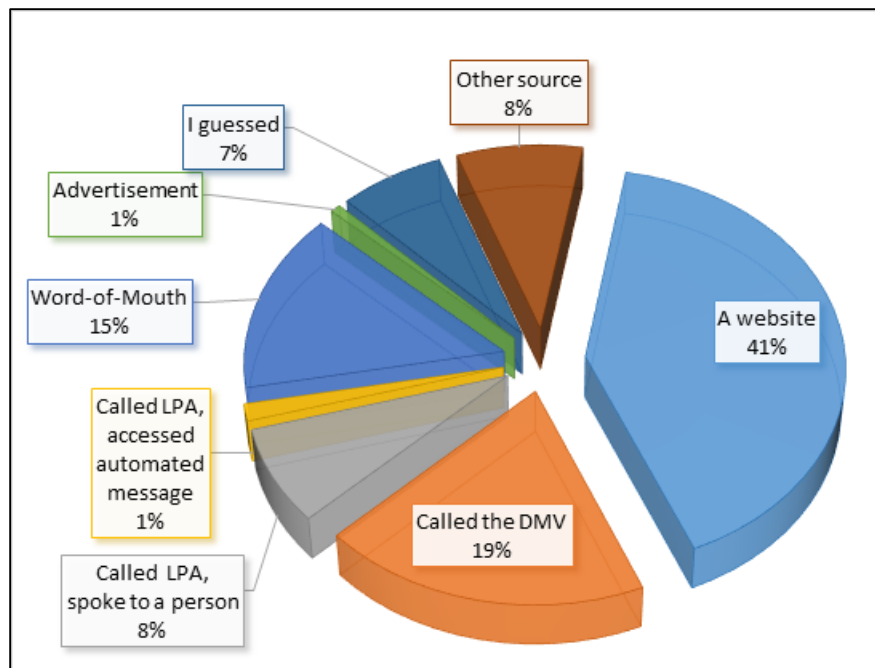


Figure 6: Source of Information Regarding Documents

Respondents were asked a follow-up question, for them to identify a better source of information for documents than the one they used. The following is a list of the responses:

- A list sent with notice would have been helpful
- Wasn't sure if site was "official" (**concern**)
- Easy to find link/website (**needed**)
- Call helpdesk/live person (**needed**)
- Mail, include the list
- DMV website hard to navigate (**concern**)
- Need a quick link on website specifically for what documents to bring

Website Ratings

Figure 7 displays the results of the ratings respondents gave regarding only the website they used to access the information pertaining to their visit to the LPA.

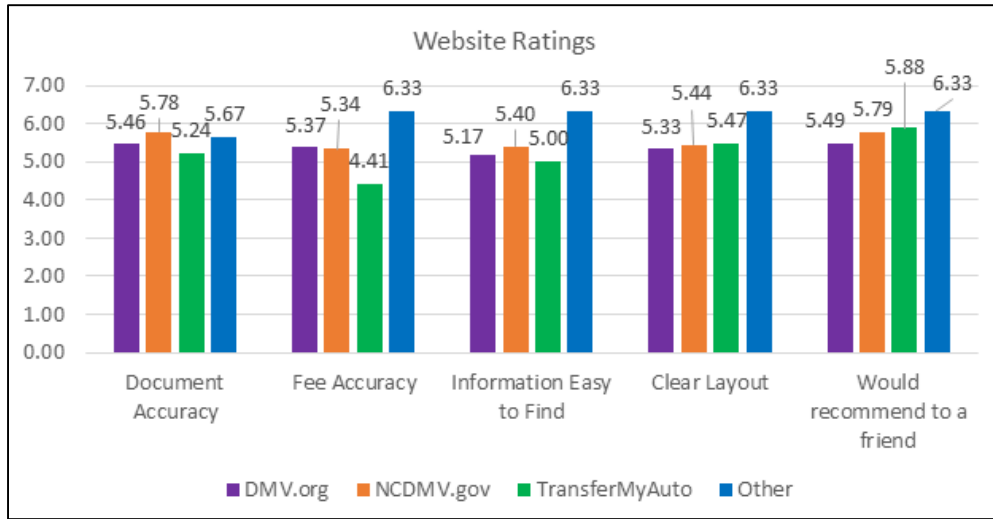


Figure 7: Website Ratings

In terms of the accuracy of the information provided by the websites, all websites were about equal; however, TransferMyAuto was rated significantly lower on Fee Accuracy compared to the DMV website.

Trustworthiness of Website

We asked six questions on semantic scales to determine if there were any concerns regarding the trustworthiness of a hypothetical private website versus the official DMV website. The results show that respondents feel significantly safer using an official DOT website and felt it would be more reliable than a private website (Table 2). All differences below are significant ($p < 0.001$).

Table 2: Trustworthiness of DOT Website vs. a Hypothetical Private Website

| Semantic Scale from 1 to 7 | DOT Website | | Private Website | |
|----------------------------|-------------|------|-----------------|------|
| Item | Mean | SD | Mean | SD |
| Safe : Unsafe | 2.45 | 1.47 | 4.01 | 1.90 |
| Trustworthy: Untrustworthy | 2.48 | 1.42 | 4.08 | 1.85 |
| Accurate : Inaccurate | 2.29 | 1.31 | 3.77 | 1.79 |
| Harmless : Harmful | 2.75 | 1.49 | 4.21 | 1.83 |
| Efficient : Inefficient | 2.42 | 1.38 | 3.76 | 1.81 |
| Reliable: Unreliable | 2.43 | 1.34 | 3.91 | 1.81 |

CONTACT METHODS

The following results relate to how respondents prefer to receive information from the DMV, and how they would be most likely to remember which documents to carry to the LPA, and which methods would most likely encourage them to visit a website for the information. In the three tables below, lower numbers reflect

higher ranking. The methods that indicate minimal differences in ranking across age groups represent opportunities for efficiency, particularly if they are highly ranked.

Ranking of Media to Attract Attention to DMV Matters

(See Appendix 1 for Table 3)

The highest ranked message channel for each age group is in red. As shown in the table below, the highest rated method for drawing attention to DMV matters was email for nearly all age groups (Overall Mean Rank = 3.43), with text message with link as a close second (Mean Rank = 3.62). For 21-35 year olds, email and text messages were tied as the preferred method. Taking the entire sample, paired t-test indicated that email was rated higher than text messages ($p < .05$).

Chi-squared test revealed no significant differences by age in the ranking of email, newspaper ads, text message, and car inspection personnel. There were marginal differences in the ranking of banner ads, and significant differences in the ranking of social media ads, billboards, regular mail, internet search and other (most common was word-of-mouth). A few of the notable differences included that respondents between 16 and 25 years old ranked ads on social media higher than those between 26-65 years old (Mean Rank = 5.33 vs. 6.48, $p < .05$). In addition, the youngest group (16-20) reported that were more likely to pay attention to billboards than the rest of the sample ($p < .05$).

Helpful Sources to Remember all Documents

(See Appendix 1 for Table 4)

Chi-squared tests revealed similar results to the previous question on sources that help one remember which documents to bring. Overall, the highest rated among most age groups was email (Mean Rank = 3.22), followed by text message with link (Mean Rank = 3.35). The two youngest groups (16-25) indicated that text message with link would be more likely to remind them than emails. However, as a whole, paired t-tests indicated that text messages with link and emails tied as methods that were most helpful to remember all documents.

There were no significant differences by age in the ranking of billboards, email, text message, banner ads, and car inspection personnel. There were significant differences in the ranking of newspaper ads, social media ads, regular mail, internet search and other (most common was word-of-mouth).

Ranking of media most useful to direct customers to a website for the information

(See Appendix 1 for Table 5)

The results for this question were similar to the previous questions in that email was the highest rated method to get them to visit a website for DMV related information, followed by text message.

Device Used to Access Website

In order to understand how consumers navigate the website, it may be useful to know which device they used in order to find the information they needed. The navigation experience on a computer is often different from on a mobile device, which is why several websites modify the display for mobile access, or develop mobile applications. See Figure 8 for the distribution of devices used to access whichever website the respondent chose to access.

Computer usage (i.e., laptop and desktop) to find the website was most common, but as the pie chart shows, one-third of respondents used a smartphone, which is suitable for the text message with link option. Of that third who used a smartphone, 60% were in 16-25 age group. The device data skewed towards using a laptop or desktop among age groups over 25 years old.

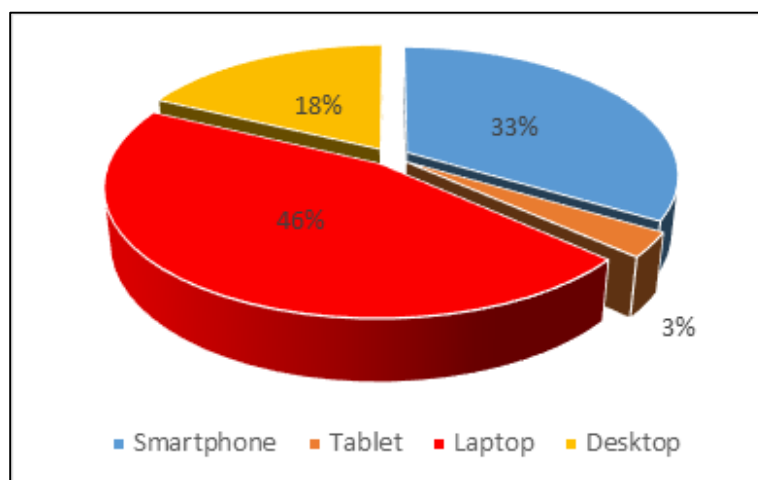


Figure 8: Device used to Access Website

SATISFACTION WITH SERVICE AT LPAs

The purpose of this section is to evaluate customers' satisfaction levels and the features of the LPAs that drive those levels. First, summary data is presented for the entire sample with respect to satisfaction rating, and customer factors that contribute to overall satisfaction (Tables 6-9). Then, a cluster analysis was performed based on six satisfaction items (Table 6) to classify high versus low customer satisfaction experiences. Therefore, each LPA could have both high and low groups represented, but this separation allows us to assess ratings and wait time differences that trigger different levels of satisfaction. A multivariate regression analysis was performed to identify which variables had significant effects on each of the satisfaction items. These results are summarized in Table 10 below.

Table 6: Satisfaction Scale (1= strongly disagree to 7 = strongly agree)

| Label | Question | Mean | SD |
|--------|---|------|------|
| Satis1 | The LPA I visited takes care of all my vehicle-licensing transactions promptly. | 5.03 | 1.78 |
| Satis2 | It was easy to do all my vehicle transactions at this LPA. | 5.18 | 1.67 |
| Satis3 | Any vehicle title or licensing issues are quickly resolved at this LPA. | 4.79 | 1.75 |
| Satis4 | Overall, I am satisfied with the service I received from the LPA. | 5.08 | 1.77 |
| Satis5 | I feel pleased with the service this LPA provided to me. | 5.15 | 1.72 |
| Satis6 | The service of this LPA met my vehicle licensing/title needs well. | 5.31 | 1.65 |

Note: Satis1-Satis3 adapted from Seiders et al. (2005), Satis3-Satis6 adapted from Hui et al. (2004)

Table 7: Tangibles Scale (1= terrible to 5 = excellent)

| | Mean | SD |
|---|------|------|
| Restroom availability | 3.06 | 1.04 |
| Cleanliness | 3.46 | 0.91 |
| Attractiveness of office | 3.13 | 0.95 |
| Ease of access, e.g., traffic and parking | 3.37 | 0.98 |
| Comfortable temperature | 3.55 | 0.88 |
| Seating or accommodation for elderly | 2.99 | 1.12 |
| Adequate signs in the office to Inform you about the documents needed | 3.30 | 1.03 |

Table 8: Communication Scale (1= terrible to 5 = excellent)

| | Mean | SD |
|---|------|------|
| Listened carefully to understand your needs | 3.71 | 0.96 |
| Communicated clearly | 3.76 | 0.96 |
| Staff helpfulness | 3.73 | 1.01 |
| Staff pleasantness | 3.58 | 1.07 |
| Speed of service (at counter) | 3.51 | 1.08 |

Table 9: Phone interaction Scale (1= terrible to 5 = excellent)

| | Mean | SD |
|--|------|------|
| Easy to reach LPA by phone | 2.98 | 1.15 |
| Helpfulness of phone menu of options | 3.09 | 1.06 |
| Helpfulness of the information obtained by phone | 3.24 | 1.11 |

Table 10 summarizes the regression of the service components on the satisfaction variables.

Table 10: Summary of Regression Results

| | Satis1 | Satis2 | Satis3 | Satis4 | Satis5 | Satis6 |
|--|------------------------|------------------------|------------------------|------------------------|------------------------|------------------------|
| Restroom availability | | | | | | Marginally Significant |
| Office Attractiveness | Marginally Significant | | | | | |
| Comfortable temperature | | | | Marginally Significant | | |
| Listened carefully to understand your needs | Significant | Significant | Significant | | | |
| Communicated clearly | | | | | Marginally Significant | |
| Staff helpfulness | Marginally Significant | Significant | | Significant | Significant | Significant |
| Speed of service (at counter) | | | Significant | Significant | Marginally Significant | |
| Easy to reach LPA by phone | | | | | | Marginally Significant |
| Helpfulness of phone menu | Marginally Significant | Marginally Significant | | Marginally Significant | | |
| Helpfulness of the information obtained by phone | Significant | Significant | Marginally Significant | Significant | Significant | Significant |

Notes:

- The items for tangibles, communication, phone ratings, and wait times (column on left) were regressed (multivariate linear model) on the items for satisfaction (top row).
- The table identifies the effects that were significant. Items that were not significant on any of the six satisfaction items (cleanliness, ease of access, seating for elderly, adequate signage, staff pleasantness) were removed from the summary, for simplicity.
- The model included wait time in line and wait time at counter, but neither was significant.

Wait Times

A t-test was performed to compare the wait-times among LPAs with high and low levels of satisfaction. The wait times were the respondents' estimates of how long they waited in line and how long it took them to get through their transactions at the counter. The results revealed that the high satisfaction group had

significantly lower line wait times (an average of 10 minutes less). Although the difference in transaction time was relatively small (3 minutes), the difference was statistically significant (Table 11).

Table 11: Wait Times

| | | N | Mean (in minutes) | Std. Deviation | Std. Error Mean | Difference significance (<i>p</i> -value) |
|------------------|----------------------|-----|-------------------------|-------------------|-----------------------|--|
| Line Wait time | Low Satisfaction | 291 | 32.13 | 30.016 | 1.760 | 0.000 |
| | High Satisfaction | 416 | 22.57 | 21.784 | 1.068 | |
| Transaction time | Low Satisfaction | 286 | 12.91 | 13.207 | 0.781 | 0.005 |
| | High Satisfaction | 414 | 10.39 | 9.115 | 0.448 | |

Incomplete Transactions and Satisfaction

Furthermore, the rate of incomplete transactions was much higher for the low satisfaction group, as shown in the Table 12. This reinforces the need to reduce the number of incomplete transactions to increase overall customer satisfaction at the LPAs.

Table 12: Rate of Transaction Completion – Low vs High Customer Satisfaction

| | | Completed Transactions in one visit | | | |
|--------------|------|-------------------------------------|----|-------|--------------------------|
| | | Yes | No | Total | Percentage Incomplete |
| Satisfaction | Low | 234 | 57 | 291 | 24.4% |
| | High | 397 | 19 | 416 | 4.8% |
| Total | | 631 | 76 | 707 | |

Cluster Membership Frequency by LPA

Table 12 indicates the proportions of customers who fall in the high vs. low satisfaction groups in the sample. This table represents a baseline for comparison over time. If an LPA engages in staff training or makes service improvements, then a similar survey would reveal the effect of the improvements by increases in the proportion falling in the high satisfaction group. It also may help to identify locations for future studies.

The rows labeled “count” are the number of respondents that fall in the cluster of high or low satisfaction. The row labeled “% within cluster” indicates the proportion of the sample that falls within that cluster of high or low satisfaction. The row labeled “% within location” indicates the proportion of respondents at that location who were in that particular cluster of high or low satisfaction. Note that the latter adds up to 100% for the location. The higher the percentage in the high satisfaction cluster, the better the location is doing, according to respondents.

CONCLUSIONS

Incomplete Transactions

The online customer service survey helped to identify the key transactions that tend to have incompletes and reasons. The most common ones were out-of-state transfers (n=#) and renewals (n=#). However, based on the higher percentage of incomplete out-of-state transfers (19.8%) compared to incomplete renewals (4.8%), the data show that LPAs and the DMV need to improve clarity on the out-of-state transfer process. A number of other transactions were in the 15% range in terms of incomplete transactions (e.g. transfers to others and lost or stolen license plates).

Website Ratings

Most of the sample used the DMV website, and despite a few comments regarding difficulty of use, respondents rated all three websites about evenly based on document accuracy, ease of finding information and layout. However, respondents rated TransferMyAuto significantly lower on Fee Accuracy compared to the DMV website. A few consumers suggested that the DMV site could include more quick links to make it easier to find the information. Many customers also indicated that they had no problems with using the DMV website. TransferMyAuto seemed to be favorable in terms of likelihood of recommending to a friend.

Method for Directing Customers to Website

The results of the survey indicated that email was the most preferred method for directing customers to the DMV website for most age groups, followed by text message with a link. Notably, a third of the sample accessed the website using their phone, which suggests that text message may be useful to drive traffic to the website. This is particularly useful to target younger consumers (18-25 age group). For most age groups,

text message with link was a close second in ranking, behind email. Consumers, who are over 60 years old, may be open to mail as a means of getting the information regarding documents to carry, but it is not likely that it will drive them to the website to search for the information. To drive customers to the website, a format that demands the least effort (e.g. a single click on a link rather than having to type in a web address) is required.

Satisfaction Ratings

At all LPAs, there were customers who were satisfied and those who were dissatisfied with the customer service. The results of the survey indicated that on average a 10-minute difference in line wait time and a 3-minute difference in transaction time separated the high and low satisfaction customer groups. Respondents in the high satisfaction group rated all the tangible, communication, and phone interaction items higher than did those in the low satisfaction group. The multivariate analysis showed that helpfulness on the phone (speaking with a person) significantly added to all satisfaction items. When it comes to the perception of transaction ease, the most important characteristics to consumers were the staff member's willingness to listen carefully to understand their needs, helpfulness, and speed of transaction (at the counter). Overall satisfaction with the LPA was driven by helpfulness of the staff; speed at the counter; and among those who called – helpfulness of the information received over the phone. The study also confirms the need to reduce the number of incomplete transactions. Satisfied consumers indicated a lower proportion of incomplete transactions than dissatisfied consumers did (satisfied = 4.8% vs. dissatisfied = 24.4%).

WEBSITE USABILITY STUDY

INTRODUCTION

North Carolina has been experiencing a high rate of incomplete transactions with license plate agency (LPA) offices across the state. One means of investigating the factors that may be contributing to these numbers is through a usability study of the NC DOT and other related websites to determine how well customers are able to find the information necessary to successfully complete their LPA transactions.

METHODOLOGY

To accomplish this, a within-subject mixed method design was used to investigate website navigation associated with the location of common LPA transaction information. Vehicle registration renewal (A), vehicle title transfer between individuals (B), and vehicle transfer from out-of-state (C) were the tasks performed. These tasks were determined to be the most common transactions that take place within the LPA office based on the survey study. During the study, both the order of the tasks performed and the order of the websites presented within tasks were randomized for each study participant.

Three state DOT websites were assessed in this study: the NC DOT, Ohio DOT, and Florida DOT. According to the National DMV Satisfaction Survey conducted by DMV.com in 2014, North Carolina ranked number 32 among the 37 state DMVs for which sufficient data was collected. Since this is towards the bottom of the list, two additional states were included in the usability study for comparison. Ohio was selected because its DMV ranked number 1 based on the survey and Florida was selected because it ranked in the middle of the scale (18 out of 37). In addition to the state DOT websites, other websites such as DMV.org and TransferMyAuto.com were used in the assessment since they do not cater to any particular state.

The following is a list of the websites evaluated for each task:

Task A: Renew Vehicle Registration

1. North Carolina Department of Transportation
 - Website: www.ncdot.gov
2. Ohio Department of Transportation
 - Website: www.dot.state.oh.us
3. Florida Department of Transportation / DMV Florida
 - Website: www.dmvflorida.org
4. DMV.org
 - Website: www.dmv.org

Task B: Vehicle Title Transfer between Individuals

1. North Carolina Department of Transportation
 - Website: www.ncdot.gov
2. DMV.org
 - Website: www.dmv.org
3. TransferMyAuto
 - Website: www.transfermyauto.com

Task C¹: Vehicle Transfer from Out-of-State

1. North Carolina Department of Transportation
 - Website: www.ncdot.gov
2. DMV.org
 - Website: www.dmv.org
3. TransferMyAuto
 - Website: www.transfermyauto.com

METHOD

Eleven participants (ages 18 to 65 years) participated in the study. Even though the number of participants may appear small, based on notable usability experts, this number of participants was sufficient. For

¹ Note: Within this task, participants were assigned to either a military or a non-military group prior to initiating the task.

instance, Jakob Nielsen (notable usability researcher) stated that "Testing with 5 people lets you find almost as many usability problems as you'd find using many more test participants (Nielsen, 2012)." However, Faulkner (2003) found that usability studies with only 5 users revealed an average of 85% of the usability problems associated with an interface while groups of 10 users did much better, finding on average 95% of the problems. Therefore, a population of 11 was expected to reveal almost all of the usability problems associated with the websites being evaluated.

Prior to participation, participants were required to sign volunteer consent form. The experiment commenced with a preliminary survey to provide general demographic information and determine familiarity with the registration and title transfer process. The preliminary survey (see Appendix 5) was administered through the Morae software used to conduct the usability study. Morae is a TechSmith software program that can be used to perform real-time usability studies of websites and computer programs. The software allows researchers to set up usability tasks on one computer station for the participants and observe their actions from another computer station. The software captures and records the actions taken by the participant on the screen as well as their physical and verbal responses. The recordings can be analyzed in more detail after the experimental session is complete. In addition, experimenters have the ability to log sessions and set markers throughout the session to make note of areas of interest that were observed while the experiment was taking place.

For the current website usability study, the Morae software was set up on two laptop computers located in a quiet room in 402 Craig Hall on the campus of North Carolina Agricultural and Technical State University. One laptop contained the Morae Recorder and Morae Manager components of the software. The other laptop contained the Morae Observe component of the software. The participants performed the usability tasks using the computer on which the Recorder and Manager software were installed and the researcher observed the session from the computer on which the Observer software was loaded. All texts, keystrokes, webpage changes, and mouse clicks were captured automatically by the software during the tasks. In addition, a webcam was set up to capture participants' facial expressions and vocal feedback during each task.

Prior to beginning the first task, participants were briefed on the tasks to be performed and given an opportunity to familiarize themselves with the computer interface. During the study, participants were presented with a series of tasks to complete using specific websites. The objective was to navigate each website and locate the requisite information for completing the transaction as quickly as possible. If during this process, the participant felt lost or confused, he were encouraged to speak his concerns or frustrations aloud while troubleshooting so his thought processes could be captured by the webcam. The actions performed on the screen, mouse navigation and clicks, as well as video and audio data were recorded.

Immediately after completing the task for a given site, participants were presented with a 15-item usability survey designed to assess their ability to complete the given task based on the necessary information found and to rate the website based on a set of usability attributes. Brief breaks, not to exceed 5 minutes, were offered between conditions, if requested. After all experimental conditions were evaluated, participants were debriefed and dismissed. The study did not exceed two hours in overall duration. The overall study procedure can be seen in Figure 9.

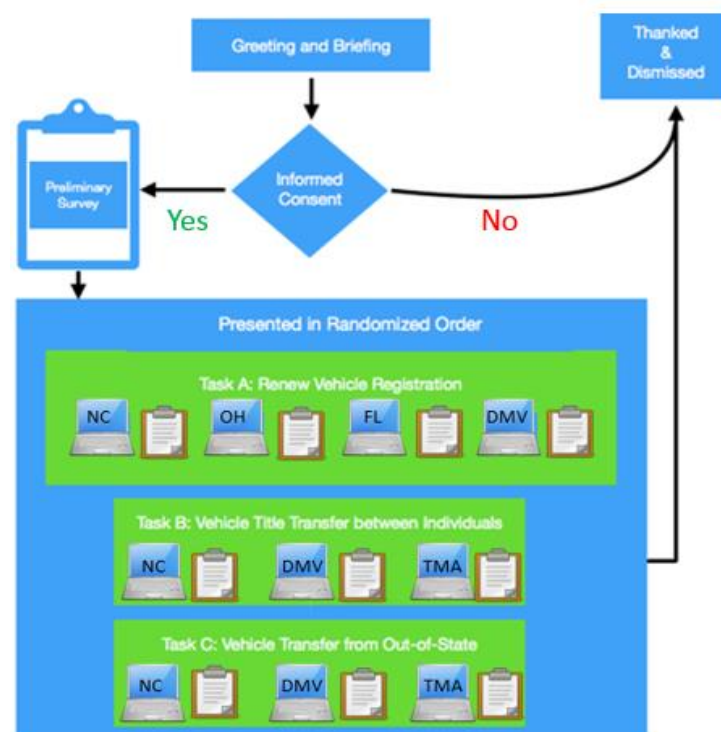


Figure 9: License plate agency (LPA) website usability experimental procedure

In cases where participants got stuck on a task and were unable to progress, prompts were used to help them move forward so they could complete the task. Appendix 6 describes the methods used for prompting participants.

TASK DESCRIPTIONS

The following sections describe participant instructions displayed in the Morae software for each of the tasks participants were instructed to perform. Note that each task included a specific participant profile description to provide some context for the participant completing the task. Summaries of the results for each task are described in the Results section.

Task A: Renew Vehicle Registration

Using the following link, navigate the website until you have identified what documents and fees are required to complete the following task. Once located, highlight the text to indicate to the observer that you have located the desired information.

Task: Renew vehicle registration at a LPA office.

Profile: As a non-military personal, you intend to renew the registration on a vehicle in which you are currently making payments. Although an online renewal process can be more convenient, you intend to complete the task at the local LPA office.

Objectives:

1. Identify the documents/forms required to renew your vehicle registration in-person.
2. Identify the fees associated with a vehicle registration renewal.
3. Identify any special cases or exemptions associated with a vehicle registration renewal.

Reminders:

1. Read the text **CAREFULLY!**
2. Locating the online registration renewal site noteworthy but is NOT the task.
3. Note the information necessary to complete the task (e.g., downloadable forms, fees, payment methods, etc.)
4. **You are being recorded!** Feel free to speak your confusion and frustrations aloud.

Instructions:

1. Click Link - (Specific Website): ncdot.gov | dot.state.oh.us | dmvflorida.org | dmv.org
2. Wait for website to load.
3. Click "Start Task" when ready to begin.

Navigate the website to locate the documents and fees needed to complete the above task.

Task B: Vehicle Title Transfer between Individuals

Using the following link, navigate the website until you have identified what documents and fees are required to complete the following task. Once located, highlight the text to indicate to the observer that you have located the desired information.

Task: Vehicle title transfer between individuals at a LPA office.

Profile: As a parent, you intend to donate a vehicle to your child. The vehicle is paid-off (owned) and registered in your name. Upon visiting the local LPA office, you intend to transfer the vehicle's title to your child and register it under their name in Greensboro, NC.

Objectives:

1. Identify the documents/forms required to transfer a vehicle to your child.
2. Identify the fees associated with transferring a vehicle.
3. Identify any special cases or exemptions associated with a vehicle transfer.

Reminders:

1. Read the text **CAREFULLY!**
2. Note the information necessary to complete the task (e.g., downloadable forms, fees, payment methods, etc.)
3. **You are being recorded!** Feel free to speak your confusion and frustrations aloud.

Instructions:

1. Click Link - (Specific Website): transfermyauto.com | ncdot.gov | dmv.org
2. Wait for website to load.
3. Click "Start Task" when ready to begin.
4. Navigate the website to locate the documents and fees needed to complete the above task.

Special Instructions (TransferMyAuto):

- First Name: Aggie
- Last Name: Pride
- Email: LPAstudy@gmail.com
- Note: No other services are required!
- On the Desktop, select the file "LPA Study" then open the file labeled – Task B

Task C: Vehicle Transfer from Out-of-State

Using the following link, navigate the website until you have identified what documents and fees are required to complete the following task. Once located, highlight the text to indicate to the observer that you have located the desired information.

Task: Vehicle transfer from out-of-state at a LPA office.

Profile 1 - Military: As active duty military personnel, you intend to transfer your vehicle to the location of your deployment. You currently own a vehicle registered to you in Atlanta, GA. Upon visiting the LPA office, you intend to transfer the vehicle's title and registration to Greensboro, NC.

Profile 2 - Non-Military: As a non-military personnel, you intend to transfer your vehicle to the location of your new employment. You currently own a vehicle registered to you in Atlanta, GA. Upon visiting the LPA office, you intend to transfer the vehicle's title and registration to Greensboro, NC.

Objectives:

1. Identify the documents/forms required to transfer a vehicle from out-of-state.
2. Identify the fees associated with transferring a vehicle.
3. Identify any special cases or exemptions associated with a vehicle transfer.

Reminders:

1. Note the information necessary to complete the task (e.g., downloadable forms, fees, payment methods, etc.)
2. **You are being recorded!** Feel free to speak your confusion and frustrations aloud.

Instructions:

1. Click Link - (Specific Website): transfermyauto.com | ncdot.gov | dmv.org
2. Wait for website to load.

3. Click "Start Task" when ready to begin.
4. Navigate the website to locate the documents and fees needed to complete the above task.

Special Instructions (TransferMyAuto):

- First Name: Aggie
- Last Name: Pride
- Email: LPAstudy@gmail.com
- Note: No other services are required!
- On the Desktop, select the file "LPA Study" then open the file labeled – Task C (Non-Military or Military)

RESULTS

Overall, when considering all tasks and websites evaluated, no participant was able to identify all requirements across all conditions. On average, a completion percentage (defined as the number of correct items identified out of the total number of items necessary to complete a given task for each website) were 40% for Task A: Vehicle Registration, 64% for Task B: Transfer Vehicle between Individuals, and 59% for Task C: Transfer Vehicle from out of State, respectively. Completion percentage per task and averages per task for each website are displayed in Figure 10, while the completion percentage for specific participants can be seen in Appendix 7.

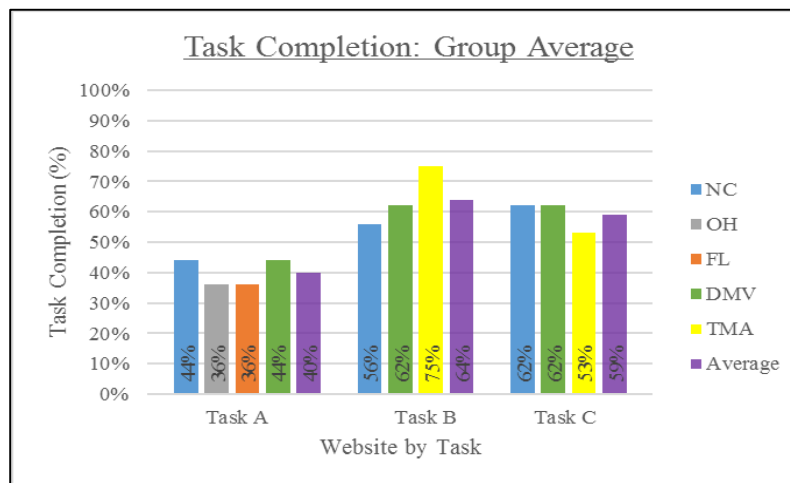


Figure 10: Group averages reported as completion percentage for each task performed for each website

In terms of completion percentage for the registration task, participants identified the document/fees needed to complete this transaction best with the NCDOT.gov and DMV.org websites. However, participants were able to identify the documents/fees needed to transfer a vehicle to another individual best when using the TransferMyAuto.com website and worse with the NCDOT.gov website. When identifying the information required to transfer a vehicle to NC from another state, the websites with which participants performed best were the NCDOT.gov and DMV.org websites.

Average time on task was 5.01 min. for Task A, 5.63 min. for Task B, and 4.83 min. for Task C. The average number of prompts provided to participants were 0.7, 0.6, and 0.2 for Task A, Task B, and Task C, respectively. The average number clicks participants made during the tasks were 18.6, 21.3, and 21.2 for Task A, Task B, and Task C, respectively. Group averages for time on task, prompts, and clicks are displayed in Figure 11, while participant-based usability metrics can be seen in Appendix 8.

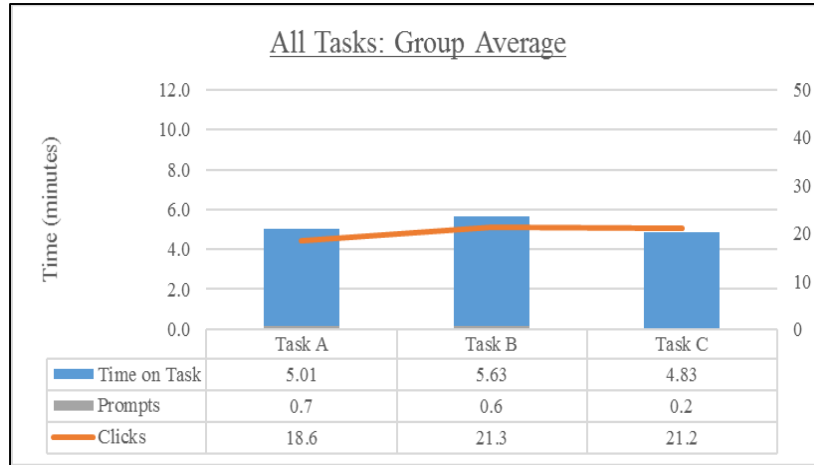


Figure 11: Group averages reported as time on task, prompts, and clicks for each task average across websites

The following sections will include a discussion of the usability study results by task based on each website evaluated.

Task A Results

When tasked with renewing a vehicle registration (Task A), the average completion percentage was 40% across websites. Only participant (9%) was able to identify all of the necessary information required to complete the task and that was using the DMV.org website. As can be seen in Figure 10, the average percentage of completion for each website for Task A was 44% for the NCDOT, 36% for Ohio, 36% for Florida, and 44% for the DMV website. Based on this, the NCDOT and DMV websites yielded the best performance. Completion percentages per participant per task are reported in Appendix 7. Eight participants, spread across all websites, were unable to find any of the required information to complete the task. As can be seen in Figure 12, overall average time on task was 5.01 minutes, the average number of prompts across websites was 0.7, and the average number of clicks were 18.6. Based on this study, the NCDOT website performed second best in terms of the time on task, number of prompts, and number of clicks (lower is better). The DMV website performed best. Usability metric results for Task A are reported in Appendix 9.

Participants were asked to rate each website based on its “look and feel,” “organization of the content,” “ease of finding information,” “content (clarity of language used, spelling, grammar, etc.),” and “relevance

of the information”. A usability score was calculated based on the number of participant responses for each criteria multiplied by the weight associated with the each response option. The overall possible score was 275 points. For this task, the following websites had the best overall usability scores: (1) DMV: 230, (2) NCDOT: 215, (3) Florida: 158, and (4) Ohio: 148, respectively. Additional details based on survey results for each website follows. Appendix 9 contains the summary of these findings per website.

Usability Details – NCDOT website

The three most commonly unidentified items for Task A that should have been selected for the NCDOT website were: (1) vehicle renewal application, (2) registration renewal fee, and (3) no registration stops or ‘blocks.’ For this website, the average time on task was 4.37 min., average prompts were 0.4, and average clicks were 16.4 (see Figure 12). This website required the second least amount of prompts compared to the other websites with nine participants indicating that they were able to find the information. Eight participants indicated that they were able to find the information quickly and one indicated he could not find the information he was looking for on the website. The search box was used by five participants, while three indicated that the search yielded the desired information. Eleven participants located the online registration page. Eight participants located the fee chart and seven identified the renewal late fee. Five participants indicated the acceptable forms of payment while no participants identified the “Cash Only” requirement for on-site notarization. With regards to usability attributes, the NCDOT website received an overall score of 215 (out of 275) comprising of “Very Poor” (0), “Poor” (5), “Reasonable” (8), “Good” (29), and “Very Good” (13). Ten participants indicated that they would recommend this website to family, friends, and/or co-workers.

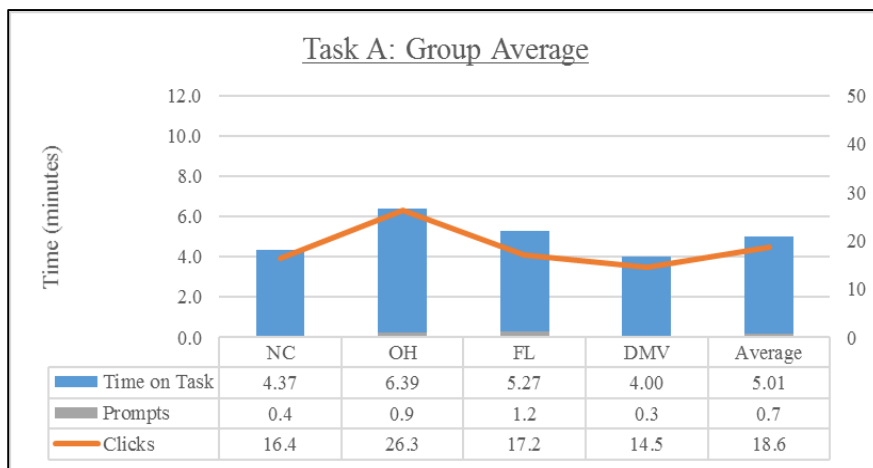


Figure 12: Group averages reported as time on task, prompts, clicks, and average by website for Task A

Usability Details – Ohio DOT Website

The three most commonly unidentified items for Task A for the Ohio website were: (1) vehicle renewal application, (2) registration renewal fee, and (3) proof of insurance. For the Ohio DOT website, the average time on task was 6.4 min., average prompts were 0.9, and average clicks were 26.3 (see Figure 12). This website required the second highest amount of prompts compared to the other websites with six participants indicating that they were able to find the information. Two indicated that they were able to find the information quickly and two participants indicated they were unable to find the information they were seeking. The search box was used by five participants, while three indicated that the search yielded the desired information. Ten participants located the online registration. Seven participants located the fee chart and six identified the renewal late fee. Two participants indicated the acceptable forms of payment while no participants identified the “Cash Only” requirement for on-site notarization. In terms of usability attributes, the Ohio website received an overall score of 148 (out of 275) comprising of “Very Poor” (11), “Poor” (11), “Reasonable” (18), “Good” (14), and “Very Good” (1). Four out of 11 participants indicated that they would recommend this website to family, friends, and/or co-workers.

Usability Details – Florida DOT Website

The three most commonly unidentified items for Task A for the Florida website were: (1) vehicle renewal application, (2) registration renewal fee, and (3) a valid state issued driver’s license. For this website, the average time on task was 5.3 min., average prompts were 1.2, and average clicks were 17.2 (see Figure 12). This website required the highest number of prompts compared to the other websites with three participants indicating they were able to find the information. One participant indicated that they were able to find the information quickly and two were unable to find the information they were seeking. The search box was used by two participants while only one indicated that the search yielded the desired information. Six participants located the online registration, three located the fee chart, and three identified the renewal late fee. Two participants indicated the acceptable forms of payment while no participants identified the “Cash Only” requirement for on-site notarization. With regards to usability attributes, the Florida website received an overall score of 158 comprising of “Very Poor” (5), “Poor” (23), “Reasonable” (13), “Good” (14), and “Very Good” (0). Four out of 11 participants indicated that they would recommend this website to family, friends, and/or co-workers.

Usability Details – DMV Website

The to three most commonly unidentified items for Task B that should have been selected for the DMV website were: (1) registration renewal fee, (2) license plate number and vehicle renewal application, and (3) a valid state-issued driver license (which tied for third place with vehicle inspection). For this website, the average time on task was 4 min., average prompts were 0.3, and average clicks were 14.5 (see Figure 12). The DMV website required the lowest amount of prompts compared to the other websites with ten participants indicating that they were able to find the information. Nine indicated that they were able to find

the information quickly and two were unable to find the information they were seeking. One participant reported using the search box and indicated that it yielded the desired information. Eleven participants located the online registration. Seven participants located the fee chart and seven identified the renewal late fee. Four participants indicated the acceptable forms of payment while no participants identified the “Cash Only” requirement for onsite notarization. With regards to usability attributes, the DMV website received an overall score of 230 comprising of “Very Poor” (1), “Poor” (1), “Reasonable” (8), “Good” (22), and “Very Good” (23). Ten out of 11 participants indicated that they would recommend this website to family, friends, and/or co-workers.

Task B Results

For task B, the relationship of the individuals between which the title was being transferred was parent and child. This particular profile was used is because it was the only option available for the Transfer My Auto website. When tasked with transferring a vehicle title between parent and child (Task B), the average completion percentage was 64% across all websites (Figure 10). Two participants (18%) were able to identify all of the necessary information required to complete the task but only when using the DMV website. As can be seen in Figure 10, the average percentage of completion for each website for Task B was 56%, 62%, and 75% for the NCDOT, DMV, and Transfer My Auto websites, respectively. Based on this, the Transfer My Auto website yielded the best performance for this particular task. Completion percentages per participants per task are reported in Appendix 7. Regardless of website, every participant was able to find some of the information necessary to complete the task; however, a lowest individual participant completion percentage of 16% was reported for the NCDOT and DMV websites. The lowest individual participant completion percentage for the Transfer My Auto website was 33%. As can be seen in Figure 13, the overall average time on task was 5.63 minutes, overall average prompts were 0.6, and overall average clicks were 21.3. Usability metric results for Task B are reported in Appendix 10.

In terms of usability survey results, participants were asked to rate each website based on its “look and feel”, “organization of the content”, “ease of finding information”, “content (clarity of language used, spelling, grammar, etc.)”, and “relevance of the information.” A usability score was calculated in the same way as for Task A. For Task B, the following websites had the best usability score (out of 275): (1) Transfer My Auto: 244, (2) NCDOT: 220, and (3) DMV: 212, in that order. Additional details based on survey results for each website follows. Appendix 10 contains the summary of these findings per website.

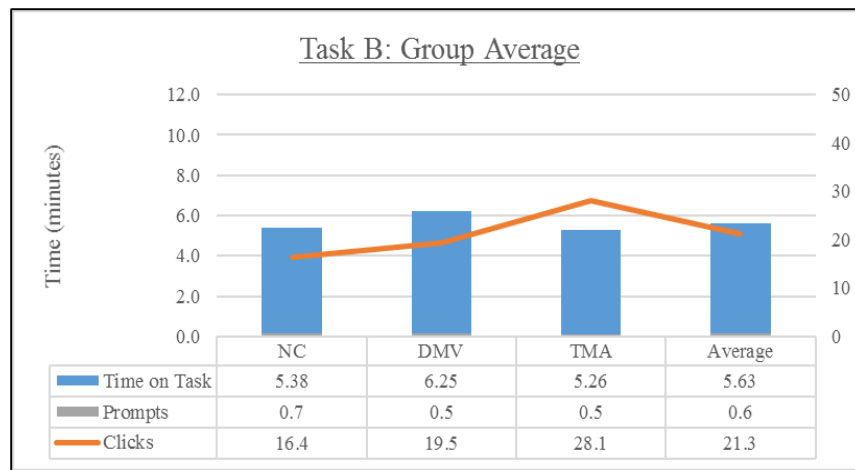


Figure 13: Group averages reported as time on task, prompts, and clicks for each website for Task B

Usability Details – NCDOT Website

The three most commonly unidentified items for Task B that should have been selected for the NCDOT website were: (1) odometer disclosure statement, (2) damage disclosure statement, and (3) notarized vehicle title transfer application. For this website, the average time on task was 5.38 minutes, average prompts were 0.7, and average clicks were 16.4 as can be seen in Figure 4. This website required the highest number of prompts compared to the other websites. Nine participants indicated that they were able to find the information they were looking for, while eight indicated that they were able to find the information quickly. Seven participants reported using the search box, all of who indicated that the search yielded the desired information. Only four participants correctly identified the “Highway Use Fee” exemption specific to parent/child title transfers and only five participants correctly indicated that the website did not provide an address to return old license plates. All eleven participants indicated that they were able to locate the fee chart. Most participants found the acceptable forms of payment, while the exception of the “cash-only” requirement for onsite notarization was found by none of the participants. With regards to usability attributes, the NCDOT website received an overall score of 220 comprising of “Very Poor” (0), “Poor” (1), “Reasonable” (8), “Good” (31), and “Very Good” (14). Nine out of 11 participants reported that they would recommend this website to family, friends, and/or co-workers.

Usability Details – DMV Website

The three most commonly unidentified items for Task B that should have been selected for the DMV website were: (1) odometer disclosure statement, (2) damage disclosure statement, and (3) notarized vehicle title transfer application. Two participants correctly identified all the correct information necessary to complete this task using this website. For this website, the average time on task was 6.25 minutes, average prompts were 0.5, and average clicks were 19.5 as can be seen in Figure 13. This website tied with Transfer My Auto in terms of requiring the least amount of prompts with nine participants reporting that they were

able to find the information. Six of which were able to find the information quickly. Four participants indicated the use of the search box with three reporting that the search yielded the desired information. Six participants correctly identified the “Highway Use Fee” exemption and two reported that the website provided an address to return old license plates. Six participants indicated that they were able to locate the fee chart and four participant correctly identified the acceptable forms of payment. No participants identified the “cash-only” requirement for onsite notarization. In terms of usability attributes, the DMV website received an overall score of 212 comprising of “Very Poor” (0), “Poor” (16), “Reasonable” (30), “Good” (76), and “Very Good” (90). Nice participants indicated that they would recommend this website to family, friends, and/or co-workers.

Usability Details – TMA Website

The three most commonly unidentified items for Task B that should have been selected for the Transfer My Auto website were: (1) damage disclosure statement, 2) notarized vehicle title documentation, and 3) notarized vehicle title transfer application. For this website, the average time on task was 5.26 minutes, average prompts were 0.5, and average clicks were 28.1. This website tied with DMV in regards to requiring the least amount of prompts. All eleven participants reported that they were able to find the information and quickly. Two participants reported using the search box while only one participant indicated that the search yielded the desired information. Nine participants correctly identified the “Highway Use Fee” exemption and ten reported that the website provided an address to return old license plates. The fee chart was located by nine participants while, only two participants correctly identified the acceptable forms of payment. No participants identified the “cash-only” requirement for onsite notarization. In regards to usability attributes, the Transfer My Auto website received an overall score of 244 comprising of “Very Poor” (0), “Poor” (0), “Reasonable” (18), “Good” (76), and “Very Good” (150). All eleven participants indicated that they would recommend this website to family, friends, and/or co-workers.

Task C Results

For Task C, participants were required to transfer a vehicle to North Carolina from another state. For this task, six participants were assigned the non-military profile and five were assigned the military profile. When tasked with transferring a vehicle from out-of-state (Task C), the average completion percentage was 59% across websites while a total of three participants (27%) were able to identify all of the correct information using either the NCDOT website (two participants), DMV website (one participant), or Transfer My Auto website (one participant). One participant correctly identified the necessary information on both the DMV and Transfer My Auto websites. As can be seen in Figure 10, the average percentage of completion for each website was 62%, 62%, and 53% for the NCDOT, DMV, and Transfer My Auto websites, respectively. Based on this, the NCDOT and DMV websites yielded the best performance. However, the lowest individual participant completion percentage was 0% for the DMV website while the

lowest individual participant completion percentages for the NCDOT and Transfer My Auto websites were 33% and 17%, respectively. Completion percentage per participant per task are reported in Appendix 7. All participants, regardless of website, were able to find at least some of the required information. As can be seen in Figure 14, the overall average time on task was 4.83 minutes, overall average prompts were 0.2, and overall clicks were 21.2. Usability metric results for Task C are reported in Appendix 11.

In regards to usability survey results, participants were asked to rate each website based on its “look and feel”, “organization of the content”, “ease of finding information”, “content (clarity of language used, spelling, grammar, etc.)”, and “relevance of the information”. A usability score was calculated based on the number of participant responses for each criteria with an overall possible score of 275 points. For this task, the following websites had the best usability score: (1) Transfer My Auto: 257, (2) NCDOT: 231, and (3) DMV: 230, in that order. Appendix 11 contains the summary of these findings per website.

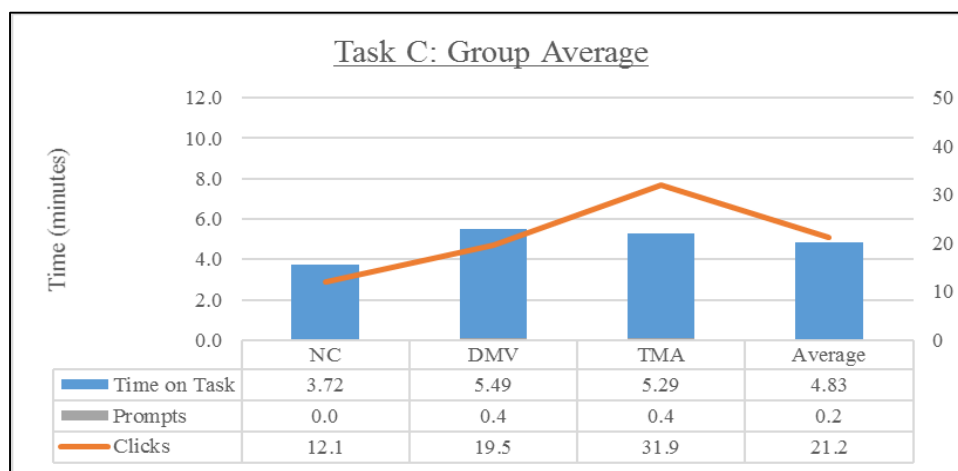


Figure 14: Group averages reported as time on task, prompts, and clicks for each website for Task C

Usability Details – NCDOT Website

The three most commonly unidentified items for Task C for the NCDOT website were: (1) damage disclosure statement, (2) notarized vehicle title transfer application, and (3) notarized vehicle title documentation. For this website, average time on task was 3.72 minutes, average prompts were 0.0, and average clicks were 12.1 as can be seen in Figure 14. This website required the fewest number of prompts and clicks compared to the other websites. Ten participants reported that they were able to find the information they were seeking and nine indicated that they were able to find the information quickly. Five participants reported using the search box and all five indicated that the search yielded the desired results. Three of the six participants assigned to the non-military profile correctly indicated the “Highway Use Fee” exemption. Three of the five participants assigned to the military profile correctly indicated that a valid state issued driver’s license is not required with a valid military identification. Ten participants were able

to locate the fee chart while, four participants were able to correctly identify the acceptable forms of payment. None of the participants identified the “cash-only” requirement for on-site notarization. Four participants incorrectly reported that the website provided an address to return old license plates. With regards to usability attributes, the NCDOT website received an overall score of 231 comprising of “Very Poor” (0), “Poor” (0), “Reasonable” (6), “Good” (32), and “Very Good” (17). Nine out of 11 participants reported that they would recommend this website to family, friends, and/or co-workers.

Usability Details – DMV Website

The three most commonly unidentified items for Task C for the DMV website were: (1) damage disclosure statement, (2) notarized vehicle title transfer application, and (3) notarized vehicle title documentation. For this website, the average time on task was 5.5 minutes, average prompts were 0.4, and average clicks were 19.5 as can be seen in Figure 14. This website required the same number of prompts but fewer clicks than the Transfer My Auto website. Ten participants reported that they were able to find the information they were seeking and eight indicated that they were able to find the information quickly. Only one participant correctly identified all the necessary information for completing the task. Five participants reported using the search box, three of which indicated that the search yielded the desired information. For participants assigned the non-military profile, three correctly indicated the “Highway Use Fee” exemption. For participants assigned the military profile, only one participant correctly indicated that a valid state issued driver’s license is not required with a valid military identification. Only three participants correctly identified all the acceptable forms of payment; however, no participants identified the “cash-only” requirement for onsite notarization. Three out of 11 participants incorrectly reported that the website provided an address to return old license plates. In terms of usability attributes, the DMV website received an overall score of 230 comprising of “Very Poor” (1), “Poor” (2), “Reasonable” (5), “Good” (25), and “Very Good” (22). Nine out of 11 participants reported that they would recommend this website to family, friends, and/or co-workers.

Usability Details – TMA Website

The three most commonly unidentified items for Task C that should have been selected for the Transfer My Auto website were: (1) valid registration, (2) damage disclosure statement, and (3) notarized vehicle title transfer application. For this website, average time on task was 5.3 minutes, average prompts were 0.4, and average clicks were 31.9 as can be seen in Figure 14. The TMA website required more prompts than the NCDOT website but required the same number as the DMV website. Overall, the Transfer my Auto website required the most clicks to complete the task. All eleven participants reported that they found the information they were looking for and that they found the information quickly. Only one participant was able to find all of the information necessary to complete the task. Two participants reported using the search box and both indicated the search yielded the desired information. Of the six participants assigned to the non-military profile, three correctly identified the “Highway Use Fee” exemption. Of the five participants

assigned to the military profile, only one correctly indicated that that a valid state issued driver's license is not required with a valid military identification. Seven participants reported that they were able to locate the fee chart while only two correctly identified all of the acceptable forms of payment. None of the participants identified the "cash-only" requirement for on-site notarization. Ten out of 11 participants correctly reported that the website provided an address to return old license plates. With regards to usability attributes, the Transfer My Auto website received an overall score of 257 comprising of "Very Poor" (0), "Poor" (0), "Reasonable" (1), "Good" (16), and "Very Good" (38). Ten participants indicated that they would recommend this website to family, friends, and/or co-workers.

CONCLUSIONS

The results of the usability study indicate there is a need to improve the way customers identify what is required to complete their LPA transactions. As shown in the results, very few of the participants in the study were able to correctly identify all of the information/documents needed to complete the specific LPA tasks assigned. In terms of the vehicle registration task (Task A), none of the participants were able to identify all of the information required regardless of the websites. On average, participants identified less than 50% of the information needed to complete the task. For all four websites, the registration renewal fee ranked among the top three items most commonly unidentified by the study participants. The vehicle renewal application was among the top three missed items for three of the four websites. The fact that these items are primary items needed to complete the registration process indicates a need to make the requirements more transparent and easily accessible. The usability scores suggest the NCDOT website is more user friendly than the Florida and Ohio DOT websites; however, the DMV website, which is not owned by any specific state DOT, had the highest usability score for this task.

On average, Task B (parent/child title transfer) required more time and more clicks to complete; however, usability study results were more promising. In this case, all of the websites had an average completion greater than 50% with the Transfer My Auto website having the highest completion percentage of 75%. The damage disclosure statement and notarized vehicle title transfer application were among the top three required pieces of information/documents that were most commonly overlooked for all three websites. The odometer disclosure statement was among the top three commonly unidentified for two of the three websites. Based on the usability scores, the Transfer My Auto website was the best overall with the highest scores for each usability criteria. The NCDOT website was the second best out of the three. It is important to note, however, that the Transfer My Auto website does not cover as broad a range of potential transportation-related interactions and the title transfer between parent and child is the one transaction that it was designed to address. This likely accounts for the higher usability score for this task. It should also be noted that even though the Transfer My Auto website had the highest usability score, no participant identified all of the information required to complete the task using that website.

The usability results for Task C (vehicle transfer from out-of-state) were relatively equivalent across websites. In terms of percent completion, all websites had an average percent completion greater than 50%. The NCDOT and DMV websites resulted in the same group average while the Transfer My Auto website had a slightly lower completion percentage. However, the Transfer My Auto website had the highest usability score with the other two websites scoring within one point of each other. The damage disclosure statement and notarized vehicle title transfer application were among the top three commonly unidentified pieces of information across all websites. The notarized vehicle title documentation was also one of the most commonly unidentified required items for all three websites. Two participants were able to identify all of the required information using the NCDOT website, one using the DMV website, and one using the Transfer My Auto website.

Overall, for the tasks for which the Transfer My Auto website could be used, it appears to be the most user friendly with the highest usability scores and 100% recommendation rate. None of the other websites evaluated in this study received a 100% recommendation rate. While the NCDOT website did not fare poorly overall, there are likely some areas of improvement that can be gleaned from the Transfer My Auto Website.

OVERALL RECOMMENDATIONS

The results of the online customer survey indicated that email was the highest rated method for receiving information about DMV matters, the most useful to help remember which documents to take to the LPA, and the most likely to encourage them to visit a website for information regarding the documents. Based on this finding, TransferMyAuto is well-positioned to fulfill the information need in the mode that consumers prefer. However, relatively few consumers used TransferMyAuto in the survey, which raises the issue of limited brand awareness, which could be corrected by investing more in search engine optimization. Additionally, there is relative consumer skepticism regarding the trustworthiness of private websites for DMV-related information. This issue is unavoidable as consumers are increasingly aware of privacy concerns on the Internet.

Based on the website usability study, the TransferMyAuto site appears to be the most user friendly of the ones tested; however, TransferMyAuto can only be used to identify what is required for certain types of transactions. This coupled with the fact that the fees provided on the TransferMyAuto website may not be accurate calls into question its usefulness in some cases. This concern regarding fee accuracy was also seen in the online customer survey. None of the websites tested in the usability study provided consistently high task completion rates when assessing how well users can identify the information needed to complete their transactions at the LPA. This indicates the need to improve the ease with which customers are able to locate the information required for their transactions. If customers are going to continue to be directed to the

TransferMyAuto website for title transfer transactions, more stringent processes should be put in place to ensure the information provided on the website remains up-to-date at all times.

In terms of informing the public about the necessary documents to take the LPA, a method that the DMV may consider is to send consumers a text message with a link to the website. Since consumers have to get their car inspected before registration, they could coordinate with inspection stations to ask consumers if they wish to receive the link by text or email from the DMV. This may involve some database management and computing resources to send the messages. It may be worthwhile for the DMV to consider this method as a way to inform consumers, and ultimately, to reduce incomplete transactions due to missing documents or not having the correct fees. The text message with link method is likely to be especially useful to reach consumers who are 25 years old and younger. For customers older than 55, additional information on renewal notices might be a useful improvement, though they also indicated a preference for email notification.

In closing, we hope these insights provide direction regarding improvements in overall customer satisfaction at the LPAs, through improvements in website usability, and being able to attract customers to the website via email and text messages with the link to the website.

APPENDIX 1: ADDITIONAL ONLINE CUSTOMER SERVICE SURVEY TABLES

Table 3: Ranking of Media to Attract Attention to DMV Matters

| Age | Newspaper Ad | Outdoor signs | Text message with link | Email | Regular Mail | Internet banner ads | Person who does car inspection | Ad on social media | Other | Internet search |
|-------|--------------|---------------|------------------------|-------------|--------------|---------------------|--------------------------------|--------------------|-------|-----------------|
| 16-20 | 5.11 | 4.61 | 3.63 | 3.43 | 5.74 | 5.33 | 6.76 | 5.33 | 5.13 | 9.93 |
| 21-25 | 5.81 | 5.08 | 3.50 | 3.55 | 5.28 | 5.68 | 6.09 | 5.75 | 4.79 | 9.47 |
| 26-35 | 6.15 | 5.40 | 3.53 | 3.55 | 4.75 | 6.30 | 5.67 | 6.48 | 4.13 | 9.04 |
| 36-45 | 6.22 | 5.32 | 3.67 | 3.10 | 4.51 | 6.53 | 5.77 | 6.38 | 4.67 | 8.82 |
| 46-55 | 5.60 | 5.42 | 4.08 | 3.55 | 3.81 | 6.29 | 5.67 | 6.74 | 4.81 | 9.01 |
| 56-65 | 6.16 | 5.97 | 3.66 | 2.72 | 3.56 | 6.75 | 5.81 | 7.13 | 5.63 | 7.63 |
| 66-75 | 5.29 | 5.14 | 3.57 | 3.00 | 3.07 | 6.86 | 5.43 | 8.21 | 7.29 | 7.14 |
| 75+ | 5.00 | 6.00 | 1.00 | 2.00 | 3.00 | 7.00 | 8.00 | 9.00 | 10.00 | 4.00 |
| Total | 5.86 | 5.24 | 3.62 | 3.43 | 4.78 | 6.06 | 5.93 | 6.21 | 4.75 | 9.12 |

Table 4: Ranking of Source Helpfulness to Remember All Documents

| Age | Newspaper Ad | Outdoor signs | Text message with link | Email | Regular Mail | Internet banner ads | Person who does car inspection | Ad on social media | Other | Internet search |
|-------|-----------------|------------------|---------------------------|-------------|-----------------|------------------------|--------------------------------------|-----------------------|-------|--------------------|
| 16-20 | 5.04 | 4.87 | 3.09 | 3.54 | 5.15 | 5.65 | 6.59 | 6.11 | 5.07 | 9.89 |
| 21-25 | 5.53 | 5.28 | 3.15 | 3.39 | 5.05 | 5.90 | 6.28 | 5.83 | 5.14 | 9.43 |
| 26-35 | 6.04 | 5.75 | 3.35 | 3.18 | 4.45 | 6.53 | 5.79 | 6.66 | 4.23 | 9.03 |
| 36-45 | 6.74 | 5.56 | 3.28 | 2.90 | 3.94 | 6.34 | 5.97 | 6.69 | 4.78 | 8.80 |
| 46-55 | 6.20 | 5.65 | 4.06 | 3.13 | 3.68 | 6.12 | 5.73 | 6.85 | 4.99 | 8.60 |
| 56-65 | 6.06 | 6.34 | 3.38 | 2.88 | 3.84 | 6.13 | 6.28 | 6.97 | 6.03 | 7.09 |
| 66-75 | 5.43 | 5.71 | 3.79 | 3.14 | 3.14 | 6.36 | 5.86 | 7.93 | 6.71 | 6.93 |
| 75+ | 6.00 | 4.00 | 3.00 | 2.00 | 1.00 | 8.00 | 7.00 | 9.00 | 10.00 | 5.00 |
| Total | 5.88 | 5.50 | 3.35 | 3.22 | 4.50 | 6.14 | 6.07 | 6.39 | 4.94 | 9.02 |

Table 5: Ranking of Media Most Useful to Direct Customers to a Website for the Information

| Age | Newspaper Ad | Outdoor signs | Text message with link | Email | Mail | Internet banner ads | Car Inspection Personnel | Ad on social media | Other | Internet search |
|-------|-----------------|------------------|---------------------------|-------|------|------------------------|--------------------------------|-----------------------|-------|--------------------|
| 16-20 | 4.76 | 4.7 | 3.52 | 4.15 | 5.39 | 5.11 | 6.56 | 5.2 | 5.72 | 9.89 |
| 21-25 | 5.42 | 5.12 | 3.57 | 3.48 | 5.16 | 5.52 | 6.27 | 5.6 | 5.38 | 9.48 |
| 26-35 | 6.05 | 5.53 | 3.9 | 3.58 | 4.65 | 6 | 5.62 | 6.09 | 4.54 | 9.03 |
| 36-45 | 6.42 | 5.83 | 3.89 | 3.13 | 4.57 | 5.76 | 5.77 | 5.9 | 4.82 | 8.92 |
| 46-55 | 5.79 | 5.53 | 4.34 | 3.12 | 3.66 | 6.35 | 5.61 | 6.75 | 5.05 | 8.8 |
| 56-65 | 5.72 | 6.53 | 3.06 | 2.69 | 3.63 | 6.44 | 6.06 | 7.03 | 6.22 | 7.63 |
| 66-75 | 4.79 | 5.64 | 3.43 | 3 | 3.14 | 7.07 | 6.07 | 8 | 6.86 | 7 |
| 75+ | 6 | 4 | 2 | 1 | 3 | 7 | 8 | 9 | 10 | 5 |
| Total | 5.69 | 5.4 | 3.75 | 3.41 | 4.68 | 5.81 | 5.98 | 5.99 | 5.17 | 9.1 |

Table 13: Cluster Membership Frequency by LPA

| | | Golden Gate (Greensboro) | Raleigh | Winston- Salem | Monroe | Charlotte | Durham | Lexington | Henderson | Fayetteville | Rockingham |
|-------------------------|----------------------|-----------------------------|---------|-------------------|--------|-----------|--------|-----------|-----------|--------------|------------|
| Satisfaction Cluster | Count | 80 | 42 | 34 | 21 | 14 | 8 | 8 | 2 | 8 | 3 |
| | % within Cluster | 27.9% | 14.6% | 11.8% | 7.3% | 4.9% | 2.8% | 2.8% | 0.7% | 2.8% | 1.0% |
| | % within Location | 48.2% | 39.3% | 50.0% | 65.6% | 48.3% | 28.6% | 53.3% | 14.3% | 57.1% | 27.3% |
| | Count | 86 | 65 | 34 | 11 | 15 | 20 | 7 | 12 | 6 | 8 |
| | % within Cluster | 20.8% | 15.7% | 8.2% | 2.7% | 3.6% | 4.8% | 1.7% | 2.9% | 1.4% | 1.9% |
| | % within Location | 51.8% | 60.7% | 50.0% | 34.4% | 51.7% | 71.4% | 46.7% | 85.7% | 42.9% | 72.7% |
| Total | Count | 166 | 107 | 68 | 32 | 29 | 28 | 15 | 14 | 14 | 11 |
| | % within Cluster | 23.7% | 15.3% | 9.7% | 4.6% | 4.1% | 4.0% | 2.1% | 2.0% | 2.0% | 1.6% |

| | | High Point | Durham - Greenwood | Greensboro Market Street | Mount Airy | Jacksonville | Edgecombe | Watuaga | Whiteville | Wilson | Yancey |
|-------------------------|----------------------|---------------|-----------------------|-----------------------------|---------------|--------------|-----------|---------|------------|--------|--------|
| Satisfaction Cluster | Count | 6 | 4 | 4 | 4 | 3 | 6 | 1 | 3 | 3 | 2 |
| | % within Cluster | 2.1% | 1.4% | 1.4% | 1.4% | 1.0% | 2.1% | 0.3% | 1.0% | 1.0% | 0.7% |
| | % within Location | 54.5% | 36.4% | 36.4% | 40.0% | 33.3% | 85.7% | 14.3% | 50.0% | 50.0% | 40.0% |
| | Count | 5 | 7 | 7 | 6 | 6 | 1 | 6 | 3 | 3 | 3 |
| | % within Cluster | 1.2% | 1.7% | 1.7% | 1.4% | 1.4% | 0.2% | 1.4% | 0.7% | 0.7% | 0.7% |
| | % within Location | 45.5% | 63.6% | 63.6% | 60.0% | 66.7% | 14.3% | 85.7% | 50.0% | 50.0% | 60.0% |
| Total | Count | 11 | 11 | 11 | 10 | 9 | 7 | 7 | 6 | 6 | 5 |
| | % within Cluster | 1.6% | 1.6% | 1.6% | 1.4% | 1.3% | 1.0% | 1.0% | 0.9% | 0.9% | 0.7% |

APPENDIX 2: ONLINE SURVEY

Q1 Dear Customer, Researchers from North Carolina State University and North Carolina A&T State University are conducting a survey to help us understand how to reduce unfinished transactions in License Plate Agency (LPA) offices. We would greatly appreciate it if you would take a few minutes to complete this survey. In gratitude for your participation in the survey, once you have completed it, you will have the opportunity to provide your contact information to participate in a raffle for a \$50 gas card. Your responses will be kept in strict confidence. All data will be reported in aggregate with no identifying information tied to any respondent. If you have any questions, please contact me (Omar Woodham at North Carolina A&T State University: phone (336) 285-3397, email: opwoodha@ncat.edu). Please confirm the following questions, and then click >> to participate in the survey.

- ☐ I am willing to participate in the survey (1)
- ☐ I have visited a License Plate Agency in North Carolina within the last 3 months (2)

Q2 Section 1 - Transactions

1. The purpose of your recent visit to an LPA was to complete the following type(s) of transaction(s) (please select all that apply):

- ☐ Transfer vehicle from another state (1)
- ☐ Transfer a vehicle to someone else (2)
- ☐ Renew vehicle registration (3)
- ☐ Order a new or duplicate title (5)
- ☐ Duplicate registration cards (6)
- ☐ Lost/stolen license plates and stickers (7)
- ☐ Handicap placards (8)
- ☐ Specialized license plates (9)
- ☐ Lien recordings and renewals (10)
- ☐ License plate turn-ins (11)
- ☐ Other (please describe the transaction) (12) _____

Q3 Were you able to do all your transactions in one visit to the LPA?

- ☐ Yes (1)
- ☐ No (2)

Display This Question:

If Were you able to do all your transactions in one visit to the LPA?; No Is Selected

Carry Forward Selected Choices from Section 1 – Transactions.

The purpose of your recent visit to an LPA was to complete the following type(s) of transaction(s) (please select all that apply):

Q4 Which transactions were you unable to complete on your visit?

- ☐ Transfer vehicle from another state (1)
- ☐ Transfer a vehicle to someone else (2)
- ☐ Renew vehicle registration (3)
- ☐ Order a new or duplicate title (4)
- ☐ Duplicate registration cards (5)
- ☐ Lost/stolen license plates and stickers (6)
- ☐ Handicap placards (7)
- ☐ Specialized license plates (8)
- ☐ Lien recordings and renewals (9)
- ☐ License plate turn-ins (10)
- ☐ Other (please describe the transaction) (11) _____

Display This Question:

If Were you able to do all your transactions in one visit to the LPA?; No Is Selected

Q5 What are the reasons you were unable to finish all your business in one visit? (Check all that apply)

- ☐ I didn't have enough money to pay for the transaction (1)
- ☐ I did not know which papers I needed for my transaction (2)
- ☐ I forgot to bring all the papers I needed (3)
- ☐ There was a hold on my registration (e.g., based on insurance) (4)
- ☐ There is an issue with my paperwork from the DMV (5)
- ☐ There is an issue with my paperwork from the Military (6)
- ☐ I did not have my vehicle inspected yet (7)
- ☐ LPA's computer system was down (8)
- ☐ I could not wait any longer (9)
- ☐ Staff issues (e.g., customer service person did not know what to do) (10)
- ☐ Other reason (11) _____

Display This Question:

If What are the reasons you were unable to finish all your business in one visit? (Check all that apply) I did not know which papers I needed for my transaction Is Selected

Or What are the reasons you were unable to finish all your business in one visit? (Check all that apply) I forgot to bring all the papers I needed Is Selected

Or What are the reasons you were unable to finish all your business in one visit? (Check all that apply) There was a hold on my registration (e.g., based on insurance) Is Selected

Or What are the reasons you were unable to finish all your business in one visit? (Check all that apply) There is an issue with my paperwork from the Military Is Selected

Or What are the reasons you were unable to finish all your business in one visit? (Check all that apply) There is an issue with my paperwork from the DMV Is Selected

Or What are the reasons you were unable to finish all your business in one visit? (Check all that apply) Other reason Is Selected

Q6 Which papers were you missing for the transaction?

- ☐ Original title (1)
- ☐ Bill of sale (2)
- ☐ License Plate (3)
- ☐ Registration Card (4)
- ☐ Identification (Driver's License) (5)
- ☐ Paperwork from the military (6)
- ☐ Loan or lien documents (7)
- ☐ Other document (8) _____
- ☐ Can't recall which document (9)

Q7 Approximately how much time did you spend in line before getting to the counter? (Not including time at the counter). Please indicate number of minutes.

Q8 How long did your transactions take (time at the counter/window)? Please indicate number of minutes.

Q9 Before going to the License Plate Agency, how difficult or easy was it to find out what documents you needed to bring with you?

- ☐ Extremely easy (1)
- ☐ Moderately easy (2)
- ☐ Slightly easy (3)
- ☐ Neither easy nor difficult (4)
- ☐ Slightly difficult (5)
- ☐ Moderately difficult (6)
- ☐ Extremely difficult (7)

Q10 How did you find information about which documents you should bring with you? (Check all that apply)

- ☐ A website (1)
- ☐ Called the DMV (2)
- ☐ Called the LPA I intended to go to, and spoke to a person (3)
- ☐ Called the LPA I intended to go to, and accessed automated message (4)
- ☐ Word-of-Mouth (from a friend/acquaintance) (5)
- ☐ Advertisement (6)
- ☐ Other source not listed above (please type it in the box) (7) _____
- ☐ I guessed which documents would be needed (8)

Q11 Is there a way you would have preferred to get the information about which documents to carry? _____

The following 9 questions display if website is selected for Q10.

Q12 Which website did you visit (or find most useful if you visited more than one)?

- ☐ www.dmv.org (1)
- ☐ www.ncdot.gov (2)
- ☐ www.transfermyauto.com (3)
- ☐ Other (please type the URL in the space provided) (4) _____

Q13 Did the website you visited provide a list of documents you would need for your transaction?

- ☐ Yes (1)
- ☐ No (2)

Display This Question:

If Did the website you visited provide a list of documents you would need for your transaction? Yes
Is Selected

Q15 Please indicate your level of agreement with the following statements:

The list helped me to remember all the documents that you needed to bring.

- ☐ Strongly disagree (1)
- ☐ Disagree (2)
- ☐ Somewhat disagree (3)
- ☐ Neither agree nor disagree (4)
- ☐ Somewhat agree (5)
- ☐ Agree (6)
- ☐ Strongly agree (7)

Q42 Please indicate your level of agreement with the following statements:

The website provided accurate information about the documents I needed to bring to the LPA for my transaction(s).

- ☐ Strongly disagree (1)
- ☐ Disagree (2)
- ☐ Somewhat disagree (3)
- ☐ Neither agree nor disagree (4)
- ☐ Somewhat agree (5)
- ☐ Agree (6)
- ☐ Strongly agree (7)

Q43 The website provided accurate information about the fees for my transaction(s).

- ☐ Strongly disagree (1)
- ☐ Disagree (2)
- ☐ Somewhat disagree (3)
- ☐ Neither agree nor disagree (4)
- ☐ Somewhat agree (5)
- ☐ Agree (6)
- ☐ Strongly agree (7)

Q44 The information on the documents I needed was easy to find on the website.

- ☐ Strongly disagree (1)
- ☐ Disagree (2)
- ☐ Somewhat disagree (3)
- ☐ Neither agree nor disagree (4)
- ☐ Somewhat agree (5)
- ☐ Agree (6)
- ☐ Strongly agree (7)

Q45 The website clearly laid out the information I needed to prepare for my LPA visit.

- ☐ Strongly disagree (1)
- ☐ Disagree (2)
- ☐ Somewhat disagree (3)
- ☐ Neither agree nor disagree (4)
- ☐ Somewhat agree (5)
- ☐ Agree (6)
- ☐ Strongly agree (7)

Q16 How likely would you recommend that website to a friend if they needed to do business at an LPA?

- ☐ Extremely unlikely (1)
- ☐ Moderately unlikely (2)
- ☐ Slightly unlikely (3)
- ☐ Neither likely nor unlikely (4)
- ☐ Slightly likely (5)
- ☐ Moderately likely (6)
- ☐ Extremely likely (7)

Q46 Which device did you use to access the website?

- ☐ smartphone (1)
- ☐ tablet or 2-in-one (2)
- ☐ laptop (3)
- ☐ desktop computer (4)

Q17 Section 2 – Satisfaction

Please indicate your level of agreement with each statement below:

| | Strongly disagree (1) | Disagree (2) | Somewhat disagree (3) | Neither agree nor disagree (4) | Somewhat agree (5) | Agree (6) | Strongly agree (7) |
|--|--------------------------|-----------------------|-----------------------|-----------------------------------|-----------------------|-----------------------|-----------------------|
| 1. The LPA I visited takes care of all my vehicle licensing transactions promptly. (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 2. It was easy to do all my vehicle transactions at this LPA. (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 3. Any vehicle title or licensing issues are quickly resolved at this LPA. (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 4. Overall I am satisfied with the service I received from the LPA. (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 5. I feel pleased with the service this LPA provided to me. (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| 6. The service of this LPA met my vehicle licensing/title needs well. (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q40 Researchers have found that the type of landscape people prefer affects how they see physical features in a customer service setting. Please take a look at the following landscapes and identify the one you like. Instead of choosing that one, choose the beach scene to show that you are paying attention.

- ☐ Image:Woods1 (1)
- ☐ Image:Field2 (2)

- ☐ Image:Beach1 (3)
- ☐ Image:Field1 (4)
- ☐ Image:Desert1 (5)
- ☐ Image:Farm1 (6)

Q19 On this particular visit, please rate the LPA on the following physical features:

| | Terrible (1) | Poor (2) | Average (3) | Good (4) | Excellent (5) |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Restroom availability (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Cleanliness (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Attractiveness of office (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Ease of access, e.g., traffic and parking (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Comfortable temperature (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Seating or accommodation for elderly (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Adequate signs in the office to Inform you about the documents needed (7) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q20 Please rate the LPA staff on the following service qualities:

| | Terrible (1) | Poor (2) | Average (3) | Good (4) | Excellent (5) |
|---|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Listened carefully to understand your needs (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Communicated clearly (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Staff helpfulness (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Staff pleasantness (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Speed of service (at counter) (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Display This Question:

If source Called the LPA I intended to go to, and spoke to a person Is Selected

Or source Called the LPA I intended to go to, and accessed automated message Is Selected

Or source Called the DMV Is Selected

Q21 Please rate your phone interaction with the LPA on the following:

| | Terrible (1) | Poor (2) | Average (3) | Good (4) | Excellent (5) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Easy to reach LPA by phone (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Helpfulness of phone menu of options (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Helpfulness of the information obtained by phone (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q22 Section 3 – Contact Methods The following list includes common ways that people get information every day. Please rank them according to how much you rely on each for your information or news on a daily basis (1 = rely on the most to 10 = rely on the least). Please click and drag to arrange the items.

- _____ Internet search (1)
- _____ social media (2)
- _____ text messaging (3)
- _____ Email (4)
- _____ Regular mail (10)
- _____ watching TV (5)
- _____ reading newspaper (6)
- _____ reading blogs on the internet (7)
- _____ reading news on the Internet (8)
- _____ watching videos (9)

Q23 Which of the following social media platforms do you use most?

- ☐ Twitter (1)
- ☐ FaceBook (2)
- ☐ SnapChat (3)
- ☐ Vine (4)
- ☐ Pinterest (5)
- ☐ Instagram (6)
- ☐ YouTube (7)
- ☐ Google+ (8)
- ☐ Tumblr (9)
- ☐ LinkedIn (10)
- ☐ I don't use any social media (11)
- ☐ I use one that is not listed (12) _____

Q24 Suppose, before you visit the LPA office, the DMV needed to give you important information about which documents you will need for your transaction. Please rank the likelihood that each of these methods to get your attention regarding the documents. Please click and drag to arrange the items.

- _____ Ad in the newspaper (1)
- _____ Outdoor signs/billboards (2)
- _____ Text message with link (3)
- _____ Email (4)
- _____ Regular Mail (5)
- _____ Internet banner ads (e.g., at the sides of your Email inbox or while browsing) (6)
- _____ Person who does car inspection (7)
- _____ Ad on social media (e.g., FaceBook, Twitter, SnapChat) (8)
- _____ I would do an Internet search (9)
- _____ Other (please describe) (10)

Q49 To confirm that you are paying attention, please choose the color that begins with the letter O.

- ☐ Red (1)
- ☐ Orange (2)
- ☐ Yellow (3)
- ☐ Green (4)
- ☐ Blue (5)
- ☐ Indigo (6)
- ☐ Violet (7)

Q25 Please rank the following in order from 1 (most effective) to 10 (least effective) when it comes to ensuring that you remember all the documents you need before visiting the LPA. Please click and drag to arrange the items.

- _____ Ad in the newspaper (1)
- _____ Outdoor signs/billboards (2)
- _____ Text message with link (3)
- _____ Email (4)
- _____ Mail (5)
- _____ Internet banner ads (e.g., at the sides of your Email inbox or while browsing) (6)
- _____ Person who does car inspection (7)
- _____ Ad on social media (e.g., FaceBook, Twitter, SnapChat) (8)
- _____ I would do an Internet search (9)
- _____ Other (please describe) (10)

Q26 Imagine that there is an official NC Department of Transportation (NCDOT) website that could provide you with a customized checklist of items you need to bring to complete your transactions at the LPA. However, you will need to provide your name and email address. Please use the scales below to describe your perception of the website.

| | Strongly agree (1) | Agree (2) | Somewhat agree (3) | Neither agree nor disagree (4) | Somewhat disagree (5) | Disagree (6) | Strongly disagree (7) |
|-----------------|-----------------------|-----------------------|-----------------------|--------------------------------|-----------------------|-----------------------|-----------------------|
| Safe (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Trustworthy (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Accurate (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Harmless (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Efficient (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Reliable (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q41 Researchers have found that the type of landscape people prefer affects how they see physical features in a customer service setting. Please take a look at the following landscapes and identify the one you like. Instead of choosing that one, choose the forest scene to show that you are paying attention.

- ☐ Image:Woods1 (1)
- ☐ Image:Field2 (2)
- ☐ Image:Beach1 (3)
- ☐ Image:Field1 (4)
- ☐ Image:Desert1 (5)
- ☐ Image:Farm1 (6)

Q27 Imagine that there is a private, independently owned website that could provide you with a customized checklist of items you need to bring to complete your transactions at the LPA. However, you will need to provide your name and email address which may be shared with a number of limited trusted partners, who may send offers to you. Please use the scales below to describe your perception of this independent website.

| | Strongly agree (1) | Agree (2) | Somewhat agree (3) | Neither agree nor disagree (4) | Somewhat disagree (5) | Disagree (6) | Strongly disagree (7) |
|-----------------|-----------------------|-----------------------|-----------------------|--------------------------------|-----------------------|-----------------------|-----------------------|
| Safe (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Trustworthy (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Accurate (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Harmless (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Efficient (5) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Reliable (6) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q28 Please rank the following in order from 1 (most effective) to 10 (least effective) based on their ability to encourage you to visit a website to find out which documents to bring with you for future LPA visits. Please click and drag to arrange the items.

- _____ Ad in the newspaper (1)
- _____ Outdoor signs/billboards (2)
- _____ Text message with link (3)
- _____ Email (4)
- _____ Mail (5)
- _____ Internet banner ads (e.g., at the sides of your email inbox or while browsing) (6)
- _____ Person who does car inspection (7)
- _____ Ad on social media (e.g., FaceBook, Twitter, SnapChat) (8)
- _____ I would do an Internet search (9)
- _____ Other (please type) (10)

Q47 When it comes to using digital devices to search for information, I would consider myself:

| | 1 (1) | 2 (2) | 3 (3) | 4 (4) | 5 (5) | 6 (6) | 7 (7) |
|--|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Not knowledgeable:Very knowledgeable (1) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Inexperienced:Experienced (2) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| Uninformed:Informed (3) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |
| A novice:An expert (4) | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> | <input type="radio"/> |

Q48 If you needed to look up information at any given time of the day, how quickly would you access the Internet: (Choose one)

- ☐ Within seconds (4)
- ☐ Within a few minutes (5)
- ☐ Within 1-2 hours (6)
- ☐ Within 3-6 hours (7)
- ☐ Much later that day (8)
- ☐ Sometime later in the week (9)
- ☐ I don't have easy access to the Internet (10)

Q29 Your responses in this survey have been based on your recent visit to which LPA office?

- ☐ Edgecombe (1)
- ☐ Golden Gate (Greensboro) (16)
- ☐ Havelock (2)
- ☐ Henderson (3)
- ☐ Holly Park (4)
- ☐ Jacksonville (5)
- ☐ Lexington (6)
- ☐ Mount Airy (7)
- ☐ Yancey (8)
- ☐ Raleigh (9)
- ☐ Robbins (10)
- ☐ Rockingham (11)
- ☐ Watuaga (12)
- ☐ Waynesville (13)
- ☐ Whiteville (14)
- ☐ Winston-Salem (15)
- ☐ Other _____

Q30 How often have you visited an LPA in NC?

- ☐ First time (1)
- ☐ 2-3 times (2)
- ☐ 4 or more times (3)

Q31 How did you find out about this particular LPA?

- ☐ Called the DMV (1)
- ☐ Internet search (2)
- ☐ Map application (such as Google Maps) (3)
- ☐ Phone book (4)
- ☐ Saw an ad in the newspaper (5)
- ☐ Heard an ad on the radio (6)
- ☐ From a friend/acquaintance (7)
- ☐ Happened to see it while driving (8)
- ☐ Other (9) _____

Q32 Have you been to LPA offices (or DMV offices for vehicle licensing) in other states?

- ☐ If yes, which state(s)? (1) _____
- ☐ No (2)

Display This Question:

If Have you been to LPA offices (or DMV offices for vehicle licensing) in other states? If yes, Is Selected on previous question.

Q33 Has your experience at the LPA been better than your experiences in other states?

- ☐ Yes (1)
- ☐ No (2)

Q34 Are you an active duty member of the military?

- ☐ Yes (1)
- ☐ No (2)

Q35 Please indicate your age range.

- ☐ 16-20 (1)
- ☐ 21-25 (2)
- ☐ 26-35 (3)
- ☐ 36-45 (4)
- ☐ 46-55 (5)
- ☐ 56-65 (6)
- ☐ 66-75 (7)
- ☐ over 75 (8)

Q36 Which gender is listed on your driver's license?

- ☐ Male (1)
- ☐ Female (2)

Q37 Is there anything that the LPA could have done better that was not discussed in this survey?

APPENDIX 3: RAFFLE CARD

ENTER TO WIN A \$50 GIFT CARD

The North Carolina Department of Transportation is sponsoring a project to improve customer service at state license plate agency offices.

- Please tell us about your customer service experience by completing a 10-15 minute online survey.
- To access the survey, please go to the following URL address:
<http://tinyurl.com/lpacust>.
- Your survey responses will be anonymous.

Upon completion of the survey:

- You will have the opportunity to enter a raffle for one of ten (10) \$50 gift cards.
- Only customers who have visited a North Carolina License Plate Agency office in the last 3 months are eligible to participate in this study.
- Drawing will include only those responses received by **August 1, 2017**.



APPENDIX 4: EMAIL BLAST

Dear \${m://FirstName},

How would you like to win an extra \$50 this summer?

The North Carolina Department of Transportation is sponsoring a project to improve customer service at state license plate agency offices. Please tell us about your customer service experience by completing a 10-15 minute online survey.

To access the survey, please go to the following

URL address: <http://tinyurl.com/lpacust>. Your survey responses will be anonymous.

Upon completion of the survey, you will have the opportunity to enter a raffle for one of ten (10) \$50 gift cards. **Only individuals who have visited a North Carolina License Plate Agency office in the last 3 months are eligible to participate in this study.**

Please participate by August 15 to enter for the gift cards.

Follow this link to the Survey:

[\\${l://SurveyLink?d=Take the Survey}](#)

Or copy and paste the URL below into your internet browser:

[\\${l://SurveyURL}](#)

Thank you in advance for your participation!

Omar Woodham, Ph.D.
Associate Professor of Marketing
North Carolina A&T State University
opwoodha@ncat.edu

APPENDIX 5: PRELIMINARY SURVEY

1. What gender is listed on your driver's license?
 - Males: 8
 - Females: 3
2. Please indicate your age range.
 - (16 – 20): 1
 - (21 – 25): 8
 - (56 – 65): 2
3. Are you an active duty member of the military?
 - Yes: 1
 - No: 10
4. Have you ever visited a License Plate Agency (LPA) office?
 - Yes: 6
 - North Carolina (4)
 - Maryland (1)
 - Michigan (1)
 - No: 5
5. Have you ever visited a North Carolina License Plate Agency (LPA) office?
 - Yes: 4
 - In the past year
 - No: 7
6. Prior to visiting the LPA office, did you look up the requirements of your transaction?
 - Yes: 1
 - How did you find the information? / How long did it take to find the information (minutes)?
 1. “On the official DMV website” / “30minutes”
 - No, why not?: 10
 - “Because my parents told me everything I needed to bring to the office.”
 - “I don’t know”
 - “I didn’t think of looking for the requirements because I knew what they were.”
7. Before going to the LPA, how difficult was it to find out what information or documents you needed.
 - a. Moderately Easy: 2
 - b. Slightly Easy: 2
 - c. Neither: 1
 - d. Not Applicable: 6
8. What was the LPA task(s) to be completed? (Select all that apply)
 - a. Renew Vehicle Registration: 5
 - b. Lost/Stolen License: 1
 - c. Transfer a vehicle to someone else: 1
 - d. No Applicable: 5
9. Were you able to complete all your transactions in one visit to the LPA?
 - a. Yes: 5
 - b. No, which transactions were you unable to complete on your visit?
 - Renew registration & Lost/Stolen license
 - “The staff took over two hours to help one customer.”
10. What are the reasons you were unable to complete the task in one visit?
 - I forgot to bring all the information needed
 - Staff issues (e.g., customer service person did not know what to do.)
 - Not Applicable: 5

APPENDIX 6: PROMPTING METHOD

Task Completion Categories: (1) Unassisted Task and (2) Assisted Task

Note:

- Assisting/prompting the participant only occurred as a last resort.
- If assisted/prompted, the task was considered “unsuccessful” and marked as an ‘Assisted Task’.

When to prompt:

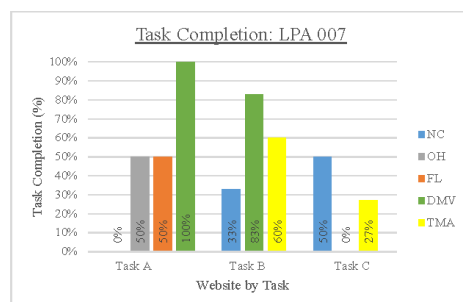
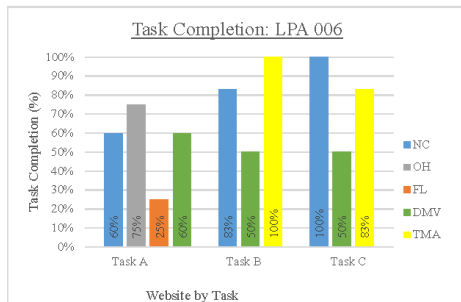
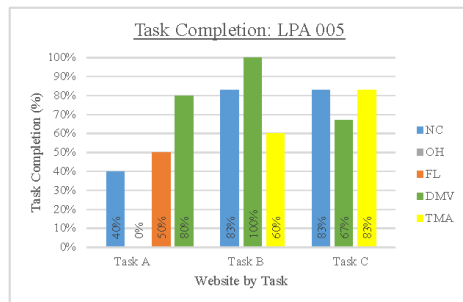
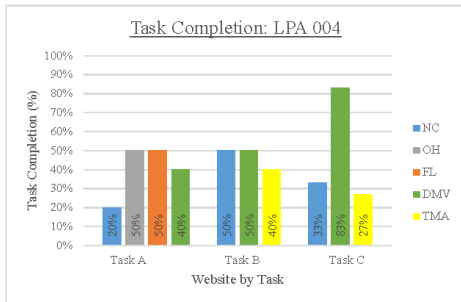
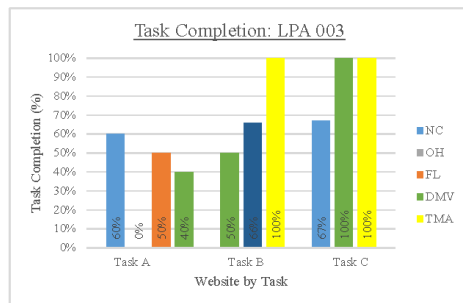
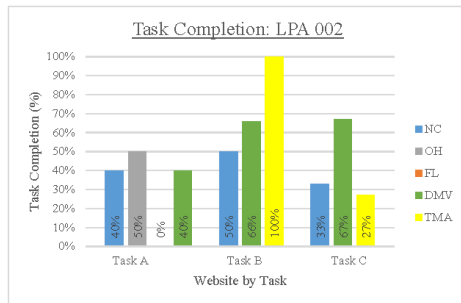
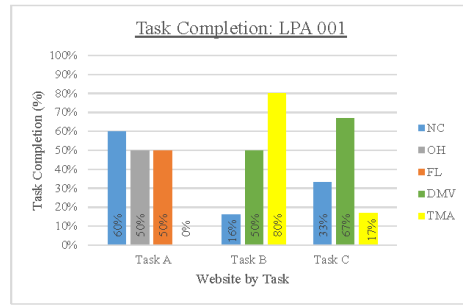
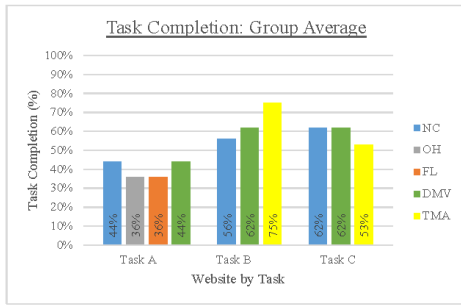
- When a participant is noticeably lost, confused, and/or frustrated.
 - ‘Frustration Levels’ expressed by the participant served as the indicator.
 - Prior to beginning the study, participants were asked, “On a scale from 1 to 5, how frustrated must you be before you start to give up?”
 - During the study, participants were given a prompt if they stated that their frustration level is at or about to exceed said limit.
- When a participant is noticeably wondering the website for more than 5 minutes.
 - ‘Time Benchmarks’ was used as the indicator.
 - During the study, participants were given a prompt if they exceed the time limit and report an undesired frustration level.
- Note: In the case were a participant exceeds the ‘Time Benchmark’ but not the ‘Frustration Level’, they were not given a prompt until both measures had been exceeded.

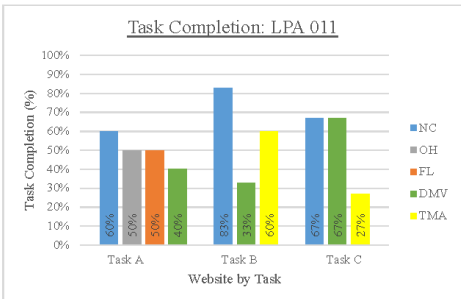
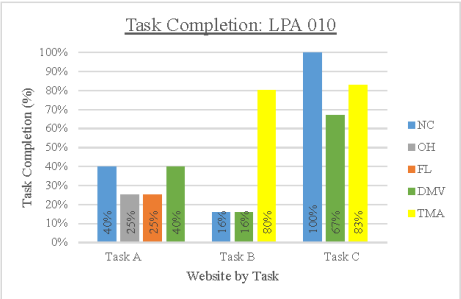
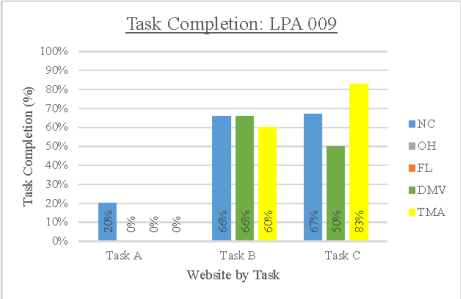
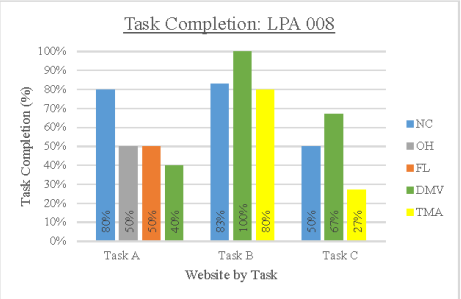
Prompts:

1. “Please re-read the task instructions”
2. “ Be sure to read the website text very carefully”
3. “Have you tried looking for...?”
4. “Try looking for...”

Reference: Rubin, J. (1994). Handbook of usability testing: how to plan, design, and conduct effective tests. John Wiley & Sons.

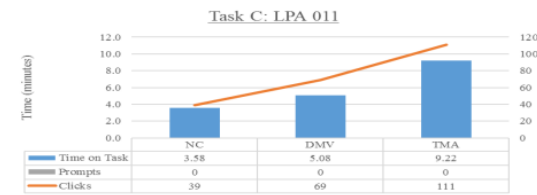
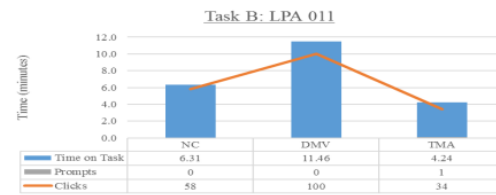
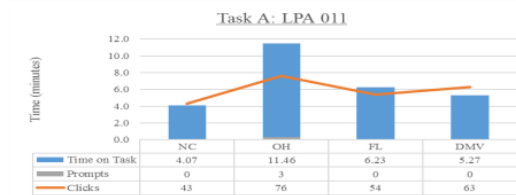
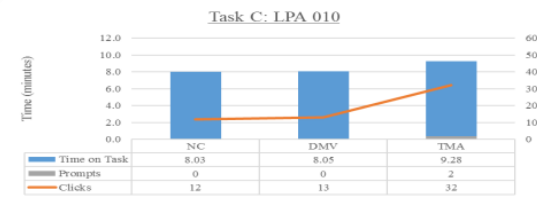
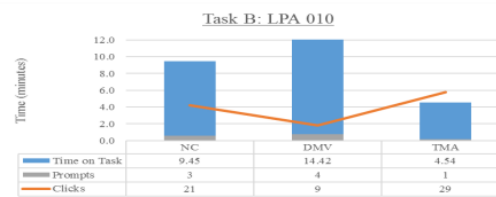
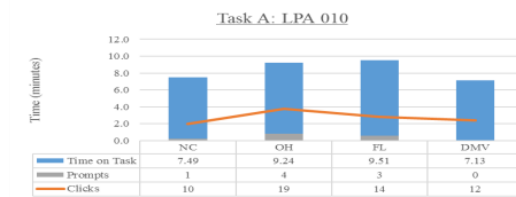
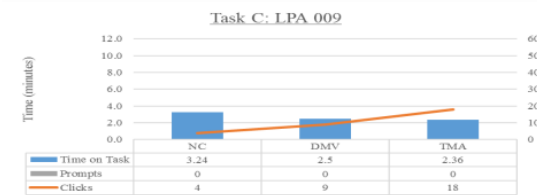
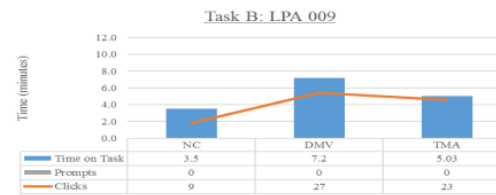
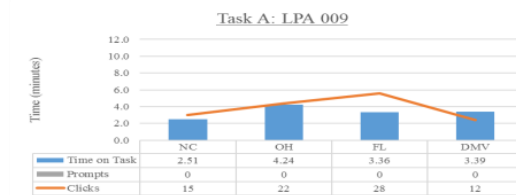
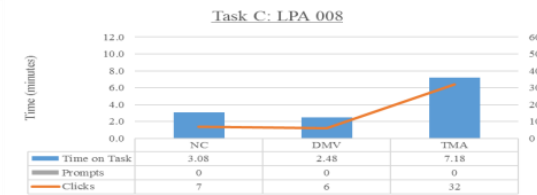
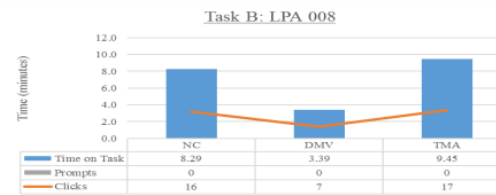
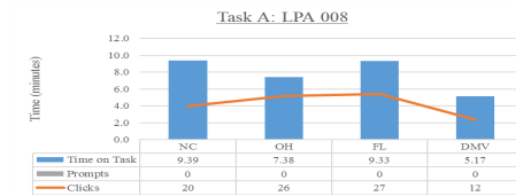
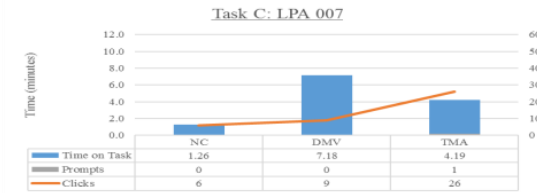
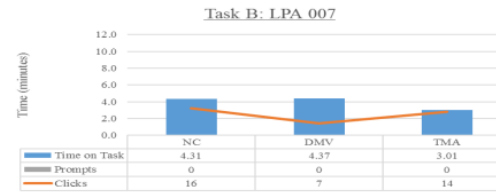
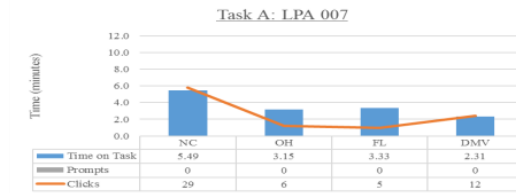
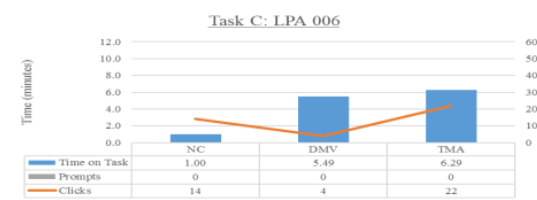
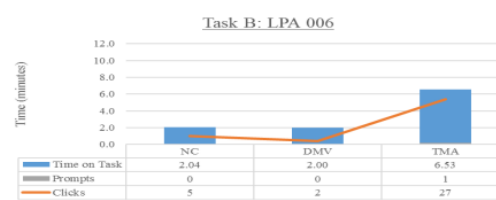
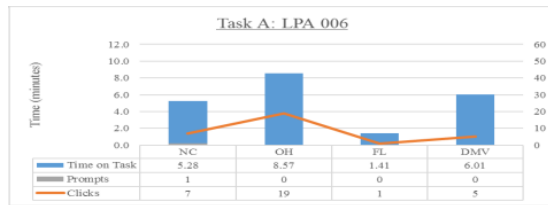
APPENDIX 7: PARTICIPANT COMPLETION PERCENTAGE





APPENDIX 8: PARTICIPANT USABILITY METRICS





APPENDIX 9: TASK A - RENEW REGISTRATION SURVEY DETAILS

Task A – Renew Registration (NCDOT)

Usability Metrics:

| Participant Code | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | Average |
|------------------|------|------|------|------|------|------|------|------|------|------|------|---------|
| Time on Task | 3.06 | 4.37 | 3.48 | 0.42 | 2.46 | 5.28 | 5.49 | 9.39 | 2.51 | 7.49 | 4.07 | 4.37 |
| Clicks | 7 | 20 | 13 | 3 | 13 | 7 | 29 | 20 | 15 | 10 | 43 | 16.4 |
| Prompts | 0 | 2 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 0 | 0.4 |
| Completeness | 60% | 40% | 60% | 20% | 40% | 60% | 0% | 80% | 20% | 40% | 60% | 44% |

Usability Survey:

- Did you use the search box to find the information?
 - Yes: 5 out of 11
 - No: 6 out of 11
- Did the search yield the desired information?
 - Yes: 3 out of 11
 - No: 1 out of 11
 - Not Applicable: 7 out of 11
- Would you recommend this website to your family, friends, co-workers, etc.?
 - Yes: 10 out of 11
 - No: 1 out of 11

How would you rate this website on: (Number of responses)

| Criteria/Rating | Very Poor (1) | Poor (2) | Reasonable (3) | Good (4) | Very Good (5) |
|--|---------------|----------|----------------|----------|---------------|
| 4. Look and Feel | 0 | 1 | 2 | 7 | 1 |
| 5. Organization of the Content | 0 | 1 | 1 | 5 | 4 |
| 6. Ease of Finding Information | 0 | 1 | 3 | 4 | 3 |
| 7. Content (Clarity of language used, spelling, grammar, etc.) | 0 | 1 | 1 | 8 | 1 |
| 8. Relevance of the Information | 0 | 1 | 1 | 5 | 4 |
| Usability Score = 215 | 0 | 5 | 8 | 29 | 13 |

- Do you think you found the information you were looking for on this website?
 - Yes: 9 out of 11
 - No: 1 out of 11
 - To an extent: 1 out of 11
- Were you able to find the information quickly?
 - Yes: 8 out of 11
 - No: 3 out of 11
- Can you renew your registration online?
 - Yes: 11 out of 11 (100%)
 - No: 0 out of 11 (0%)

Task Requirements Results: (Underlines indicate correct responses)

12. What documents are required to renew your registration? (Select all that apply)

- A valid, unexpired state issued driver's license: 6 out of 11 (54%)
- Authorization to Register: 0 out of 11 (0%)
- License Plate Number: 1 out of 11 (9%)
- No Registration Stops or 'Blocks': 5 out of 11 (45 %)
- Proof of State Insurance: 9 out of 11 (81 %)
- Proof of Ownership (Vehicle Title Documentation): 0 out of 11 (0 %)
- Registration Renewal Fee: 2 out of 11 (18 %)
- Vehicle Inspection (Emission, Safety, etc.): 8 out of 11 (72%)
- Vehicle Renewal Application: 0 out of 11 (0%)
- Vehicle VIN Number Verification: 0 out of 11 (0%)

13. Did the website provide a fee chart?

- Yes: 8 out of 11 (72%)
- No: 3 out of 11 (27%)
- I do not know: 0 out of 11 (0%)

14. What forms of payment are acceptable? (Select all that apply)

- Cash: 7 out of 11 (63%)
- CashApp: 0 out of 11 (0%)
- Cash Only (On-site Notarization): 0 out of 11 (0%)
- Credit Card (Visa, MasterCard, & Discover): 10 out of 11 (90%)
- Debit Card: 10 out of 11 (90%)
- Money Order: 6 out of 11 (54%)
- Personal Check: 6 out of 11 (54%)

15. Is there a registration renewal late fee?

- Yes: 7 out of 11 (63%)
- No: 1 out of 11 (9%)
- I do not know: 3 out of 11 (27%)

Task A – Renew Registration (OHDOT)

Usability Metrics:

| Participant Code | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | Average |
|-------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----------------|
| Time on Task | 6.09 | 4.41 | 5.26 | 2.52 | 8.01 | 8.57 | 3.15 | 7.38 | 4.24 | 9.24 | 11.46 | 6.39 |
| Clicks | 14 | 15 | 23 | 16 | 53 | 19 | 6 | 26 | 22 | 19 | 76 | 26.3 |
| Prompts | 0 | 0 | 0 | 0 | 3 | 0 | 0 | 0 | 0 | 4 | 3 | 0.9 |
| Completeness | 50% | 50% | 0% | 50% | 0% | 75% | 50% | 50% | 0% | 25% | 50% | 36% |

Usability Survey:

1. Did you use the search box to find the information?
 - Yes: 5 out of 11
 - No: 6 out of 11
2. Did the search yield the desired information?
 - Yes: 3 out of 11
 - No: 2 out of 11
 - Not Applicable: 6 out of 11
3. Would you recommend this website to your family, friends, co-workers, etc.?
 - Yes: 4 out of 11
 - No: 7 out of 11

How would you rate this website on: (Number of responses)

| Criteria/Rating | Very Poor (1) | Poor (2) | Reasonable (3) | Good (4) | Very Good (5) |
|--|----------------------|-----------------|-----------------------|-----------------|----------------------|
| 4. Look and Feel | 2 | 1 | 5 | 3 | 0 |
| 5. Organization of the Content | 2 | 4 | 3 | 2 | 0 |
| 6. Ease of Finding Information | 3 | 4 | 3 | 1 | 0 |
| 7. Content (Clarity of language used, spelling, grammar, etc.) | 2 | 1 | 4 | 4 | 0 |
| 8. Relevance of the Information | 2 | 1 | 3 | 4 | 1 |
| Usability Score = 148 | 11 | 11 | 18 | 14 | 1 |

9. Do you think you found the information you were looking for on this website?
 - Yes: 6 out of 11
 - No: 2 out of 11
 - To an extent: 3 out of 11
10. Were you able to find the information quickly?
 - Yes: 2 out of 11
 - No: 9 out of 11
11. Can you renew your registration online?
 - Yes: 10 out of 11 (90%)
 - No: 1 out of 11 (10%)

Task Requirements Results: (Underlines indicate correct responses)

12. What documents are required to renew your registration? (Select all that apply)

- A valid, unexpired state issued driver's license: 8 out of 11 (72%)
- Authorization to Register: 0 out of 11 (0%)
- License Plate Number: 1 out of 11 (9%)
- No Registration Stops or 'Blocks': 2 out of 11 (18%)
- Proof of State Insurance: 6 out of 11 (54%)
- Proof of Ownership (Vehicle Title Documentation): 2 out of 11 (18%)
- Registration Renewal Fee: 2 out of 11 (18%)
- Vehicle Inspection (Emission, Safety, etc.): 5 out of 11 (45%)
- Vehicle Renewal Application: 0 out of 11 (0%)
- Vehicle VIN Number Verification: 0 out of 11 (0%)

13. Did the website provide a fee chart?

- Yes: 7 out of 11 (63%)
- No: 2 out of 11 (18%)
- I do not know: 2 out of 11 (18%)

14. What forms of payment are acceptable? (Select all that apply)

- Cash: 4 out of 11 (36%)
- Cash App: 0 out of 11 (0%)
- Cash Only (On-site Notarization): 0 out of 11 (0%)
- Credit Card (Visa, MasterCard, & Discover): 7 out of 11 (63%)
- Debit Card: 5 out of 11 (45%)
- Money Order: 2 out of 11 (18%)
- Personal Check: 2 out of 11 (18%)

15. Is there a registration renewal late fee?

- Yes: 6 out of 11 (54%)
- No: 2 out of 11 (18%)
- I do not know: 3 out of 11 (27%)

Task A – Renew Registration (FLDOT)

Usability Metrics:

| Participant Code | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | Average |
|-------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----------------|
| Time on Task | 4.14 | 5.20 | 9.59 | 0.31 | 5.58 | 1.41 | 3.33 | 9.33 | 3.36 | 9.51 | 6.23 | 5.27 |
| Clicks | 4 | 22 | 22 | 2 | 10 | 1 | 5 | 27 | 28 | 14 | 54 | 17.2 |
| Prompts | 0 | 3 | 4 | 0 | 3 | 0 | 0 | 0 | 0 | 3 | 0 | 1.2 |
| Completeness | 50% | 0% | 50% | 50% | 50% | 25% | 50% | 50% | 0% | 25% | 50% | 36% |

Usability Survey:

1. Did you use the search box to find the information?
 - Yes: 2 out of 11
 - No: 9 out of 11
2. Did the search yield the desired information?
 - Yes: 1 out of 11
 - No: 1 out of 11
 - Not Applicable: 9 out of 11
3. Would you recommend this website to your family, friends, co-workers, etc.?
 - Yes: 4 out of 11
 - No: 7 out of 11

How would you rate this website on: (Number of responses)

| Criteria/Rating | Very Poor (1) | Poor (2) | Reasonable (3) | Good (4) | Very Good (5) |
|--|----------------------|-----------------|-----------------------|-----------------|----------------------|
| 4. Look and Feel | 2 | 3 | 5 | 1 | 0 |
| 5. Organization of the Content | 1 | 3 | 3 | 4 | 0 |
| 6. Ease of Finding Information | 1 | 6 | 3 | 4 | 0 |
| 7. Content (Clarity of language used, spelling, grammar, etc.) | 0 | 6 | 1 | 4 | 0 |
| 8. Relevance of the Information | 1 | 5 | 1 | 4 | 0 |
| Usability Score = 158 | 5 | 23 | 13 | 17 | 0 |

9. Do you think you found the information you were looking for on this website?
 - Yes: 3 out of 11
 - No: 4 out of 11
 - To an extent: 4 out of 11
10. Were you able to find the information quickly?
 - Yes: 1 out of 11
 - No: 10 out of 11
11. Can you renew your registration online?
 - Yes: 6 out of 11
 - No: 2 out of 11
 - I do not know: 3 out of 11

Task Requirements Results: (Underlines indicate correct responses)

12. What documents are required to renew your registration? (Select all that apply)
- A valid, unexpired state issued driver's license: 6 out of 11 (54%)
 - Authorization to Register: 0 out of 11 (0%)
 - License Plate Number: 0 out of 11 (0%)
 - No Registration Stops or 'Blocks': 1 out of 11 (9%)
 - Proof of State Insurance: 8 out of 11 (72%)
 - Proof of Ownership (Vehicle Title Documentation): 4 out of 11 (36%)
 - Registration Renewal Fee: 2 out of 11 (18%)
 - Vehicle Inspection (Emission, Safety, etc.): 3 out of 11 (27%)
 - Vehicle Renewal Application: 0 out of 11 (0%)
 - Vehicle VIN Number Verification: 1 out of 11 (9%)
13. Did the website provide a fee chart?
- Yes: 3 out of 11 (27%)
 - No: 3 out of 11 (27%)
 - I do not know: 5 out of 11 (45%)
14. What forms of payment are acceptable? (Select all that apply)
- Cash: 4 out of 11 (36%)
 - CashApp: 0 out of 11 (0%)
 - Cash Only (On-site Notarization): 0 out of 11 (0%)
 - Credit Card (Visa, MasterCard, & Discover): 6 out of 11 (54%)
 - Debit Card: 5 out of 11 (45%)
 - Money Order: 3 out of 11 (27%)
 - Personal Check: 3 out of 11 (27%)
15. Is there a registration renewal late fee?
- Yes: 3 out of 11 (27%)
 - No: 1 out of 11 (9%)
 - I do not know: 7 out of 11 (63%)

Task A – Renew Registration (DMV)

Usability Metrics:

| Participant Code | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | Average |
|-------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----------------|
| Time on Task | 2.40 | 4.21 | 2.51 | 3.36 | 2.29 | 6.01 | 2.31 | 5.17 | 3.39 | 7.13 | 5.27 | 4.00 |
| Clicks | 4 | 17 | 4 | 11 | 8 | 5 | 12 | 12 | 12 | 12 | 63 | 14.5 |
| Prompts | 0 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.3 |
| Completeness | 0% | 40% | 40% | 40% | 80% | 60% | 100% | 40% | 0% | 40% | 40% | 44% |

Usability Survey:

1. Did you use the search box to find the information?
 - Yes: 1 out of 11
 - No: 10 out of 11
2. Did the search yield the desired information?
 - Yes: 1 out of 11
 - No: 0 out of 11
 - Not Applicable: 10 out of 11
3. Would you recommend this website to your family, friends, co-workers, etc.?
 - Yes: 10 out of 11
 - No: 1 out of 11

How would you rate this website on: (Number of responses)

| Criteria/Rating | Very Poor (1) | Poor (2) | Reasonable (3) | Good (4) | Very Good (5) |
|--|----------------------|-----------------|-----------------------|-----------------|----------------------|
| 4. Look and Feel | 0 | 0 | 3 | 4 | 4 |
| 5. Organization of the Content | 0 | 1 | 2 | 4 | 4 |
| 6. Ease of Finding Information | 1 | 0 | 2 | 2 | 6 |
| 7. Content (Clarity of language used, spelling, grammar, etc.) | 0 | 0 | 1 | 7 | 3 |
| 8. Relevance of the Information | 0 | 0 | 0 | 5 | 6 |
| Usability Score = 230 | 1 | 1 | 8 | 22 | 23 |

9. Do you think you found the information you were looking for on this website?
 - Yes: 10 out of 11
 - No: 1 out of 11
 - To an extent: 0 out of 11
10. Were you able to find the information quickly?
 - Yes: 9 out of 11
 - No: 2 out of 11
11. Can you renew your registration online?
 - Yes: 11 out of 11
 - No: 0 out of 11
 - I do not know: 0 out of 11

Task Requirements Results: (Underlines indicate correct responses)

12. What documents are required to renew your registration? (Select all that apply)

- A valid, unexpired state issued driver's license: 8 out of 11 (72%)
- Authorization to Register: 0 out of 11 (0%)
- License Plate Number: 3 out of 11 (27%)
- No Registration Stops or 'Blocks': 1 out of 11 (9%)
- Proof of State Insurance: 9 out of 11 (81%)
- Proof of Ownership (Vehicle Title Documentation): 2 out of 11 (18%)
- Registration Renewal Fee: 2 out of 11 (18%)
- Vehicle Inspection (Emission, Safety, etc.): 8 out of 11 (72%)
- Vehicle Renewal Application: 3 out of 11 (27%)
- Vehicle VIN Number Verification: 0 out of 11 (0%)

13. Did the website provide a fee chart?

- Yes: 7 out of 11 (63%)
- No: 3 out of 11 (27%)
- I do not know: 1 out of 11 (9%)

14. What forms of payment are acceptable? (Select all that apply)

- Cash: 9 out of 11 (81%)
- CashApp: 0 out of 11 (0%)
- Cash Only (On-site Notarization): 0 out of 11 (0%)
- Credit Card (Visa, MasterCard, & Discover): 7 out of 11 (63%)
- Debit Card: 5 out of 11 (45%)
- Money Order: 8 out of 11 (72%)
- Personal Check: 9 out of 11 (81%)

15. Is there a registration renewal late fee?

- Yes: 7 out of 11 (63%)
- No: 3 out of 11 (27%)
- I do not know: 1 out of 11 (9%)

APPENDIX 10: TASK B – VEHICLE TITLE TRANSFER BETWEEN INDIVIDUALS

SURVEY DETAILS

Task B – Vehicle Title Transfer between Individuals (NCDOT)

Usability Metrics:

| Participant Code | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | Average |
|------------------|------|------|------|------|------|------|------|------|-----|------|------|---------|
| Time on Task | 5.41 | 4.42 | 4.08 | 2.05 | 9.35 | 2.04 | 4.31 | 8.29 | 3.5 | 9.45 | 6.31 | 5.38 |
| Clicks | 8 | 28 | 3 | 6 | 10 | 5 | 16 | 16 | 9 | 21 | 58 | 16.4 |
| Prompts | 2 | 3 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 3 | 0 | 0.7 |
| Completeness | 16% | 50% | 50% | 50% | 83% | 83% | 33% | 83% | 66% | 16% | 83% | 56% |

Usability Survey:

1. Did you use the search box to find the information?
 - Yes: 7
 - No: 4
2. Did the search yield the desired information?
 - Yes: 7
 - No: 2
 - Not Applicable: 2
3. Would you recommend this website to your family, friends, co-workers, etc.?
 - Yes: 9
 - No: 2

How would you rate this website on: (Number of responses)

| Criteria/Rating | Very Poor (1) | Poor (2) | Reasonable (3) | Good (4) | Very Good (5) |
|--|---------------|----------|----------------|----------|---------------|
| 4. Look and Feel | 0 | 0 | 2 | 8 | 1 |
| 5. Organization of the Content | 0 | 0 | 2 | 6 | 3 |
| 6. Ease of Finding Information | 0 | 1 | 2 | 5 | 2 |
| 7. Content (Clarity of language used, spelling, grammar, etc.) | 0 | 0 | 1 | 5 | 5 |
| 8. Relevance of the Information | 0 | 0 | 1 | 7 | 3 |
| Usability Score = 220 | 0 | 1 | 8 | 31 | 14 |

9. Do you think you found the information you were looking for on this website?
 - Yes: 9
 - No: 0
 - To an extent: 2
10. Were you able to find the information quickly?
 - Yes: 8
 - No: 3

Task Requirements Results: (Underlines indicate correct responses)

11. What documents are required to complete this transaction? (Select all that apply)
- A valid, unexpired state issued driver's license: 9 out of 11 (81%)
 - Damage Disclosure Statement (Form: MVR-181): 4 out of 11 (36%)
 - Damage Disclosure Statement (Form: MVR-181, Notarized): 3 out of 11 (27%)
 - Lien holder / Lesser Mailing Address: 5 out of 11 (45%)
 - Odometer Disclosure Statement (Form: MVR-180): 2 out of 11 (18%)
 - Proof of State Insurance: 7 out of 11 (63%)
 - Vehicle Title Documentation (Power of Attorney, No Notarization): 0 out of 11 (0%)
 - Vehicle Title Documentation (Power of Attorney, Notarized): 7 out of 11 (63%)
 - Vehicle Title Transfer Application (Form: MVR-1): 5 out of 11 (45%)
 - Vehicle Title Transfer Application (Form: MVR-1, Notarized): 5 out of 11 (45%)
12. Did the website provide a fee chart?
- Yes: 11 out of 11 (100%)
 - No: 0 out of 11 (0%)
13. What forms of payment are acceptable? (Select all that apply)
- Cash: 10 out of 11 (90%)
 - CashApp: 0 out of 11 (0%)
 - Cash Only (On-site Notarization): 0 out of 11 (0%)
 - Credit Card (Visa, MasterCard, & Discover): 7 out of 11 (63%)
 - Debit Card: 7 out of 11 (63%)
 - Money Order: 8 out of 11 (72%)
 - Personal Check: 11 out of 11 (100%)
14. When transferring a title from parent to child, are you exempt from any fees?
- Highway Use Fee: 4 out of 11 (36%)
 - Property Tax: 0 out of 11 (0%)
 - Registration & Plate Fee: 1 out of 11 (9%)
 - Notary Fee: 3 out of 11 (27%)
 - I do not know: 3 out of 11 (27%)
15. Did the website provide an address to return your old license plates?
- Yes: 3 out of 11 (27%)
 - No: 5 out of 11 (45%)
 - I do not know: 3 out of 11 (27%)

Task B – Vehicle Title Transfer between Individuals (DMV)

Usability Metrics:

| Participant Code | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | Average |
|-------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----------------|
| Time on Task | 9.48 | 2.40 | 3.13 | 4.27 | 6.59 | 2.00 | 4.37 | 3.39 | 7.20 | 14.42 | 11.46 | 6.25 |
| Clicks | 17 | 5 | 12 | 21 | 7 | 2 | 7 | 7 | 27 | 9 | 100 | 19.5 |
| Prompts | 2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 4 | 0 | 0.5 |
| Completeness | 50% | 66% | 66% | 50% | 100% | 50% | 83% | 100% | 66% | 16% | 33% | 62% |

Usability Survey:

1. Did you use the search box to find the information?
 - Yes: 4
 - No: 7
2. Did the search yield the desired information?
 - Yes: 3
 - No: 2
 - Not Applicable: 6
3. Would you recommend this website to your family, friends, co-workers, etc.?
 - Yes: 9
 - No: 2

How would you rate this website on: (Number of responses)

| Criteria/Rating | Very Poor (1) | Poor (2) | Reasonable (3) | Good (4) | Very Good (5) |
|--|----------------------|-----------------|-----------------------|-----------------|----------------------|
| 4. Look and Feel | 0 | 1 | 2 | 5 | 3 |
| 5. Organization of the Content | 0 | 1 | 2 | 4 | 4 |
| 6. Ease of Finding Information | 0 | 3 | 2 | 2 | 4 |
| 7. Content (Clarity of language used, spelling, grammar, etc.) | 0 | 2 | 2 | 4 | 3 |
| 8. Relevance of the Information | 0 | 1 | 2 | 4 | 4 |
| Usability Score = 212 | 0 | 8 | 10 | 19 | 18 |

9. Do you think you found the information you were looking for on this website?
 - Yes: 9
 - No: 1
 - To an extent: 1
10. Were you able to find the information quickly?
 - Yes: 6
 - No: 5

Task Requirements Results: (Underlines indicate correct responses)

11. What documents are required to complete this transaction? (Select all that apply)
- A valid, unexpired state issued driver's license: 9 out of 11 (81%)
 - Damage Disclosure Statement (Form: MVR-181): 4 out of 11 (36%)
 - Damage Disclosure Statement (Form: MVR-181, Notarized): 2 out of 11 (18%)
 - Lien holder / Lesser Mailing Address: 3 out of 11 (27%)
 - Odometer Disclosure Statement (Form: MVR-180): 2 out of 11 (18%)
 - Proof of State Insurance: 10 out of 11 (90%)
 - Vehicle Title Documentation (Power of Attorney, No Notarization): 1 out of 11 (9%)
 - Vehicle Title Documentation (Power of Attorney, Notarized): 8 out of 11 (72%)
 - Vehicle Title Transfer Application (Form: MVR-1): 4 out of 11 (36%)
 - Vehicle Title Transfer Application (Form: MVR-1, Notarized): 6 out of 11 (54%)
12. Did the website provide a fee chart?
- Yes: 6 out of 11 (54%)
 - No: 4 out of 11 (36%)
 - I do not know: 1 out of 11 (9%)
13. What forms of payment are acceptable? (Select all that apply)
- Cash: 9 out of 11 (81%)
 - CashApp: 0 out of 11 (0%)
 - Cash Only (On-site Notarization): 0 out of 11 (0%)
 - Credit Card (Visa, MasterCard, & Discover): 8 out of 11 (72%)
 - Debit Card: 7 out of 11 (63%)
 - Money Order: 6 out of 11 (54%)
 - Personal Check: 9 out of 11 (81%)
14. When transferring a title from parent to child, are you exempt from any fees?
- Highway Use Fee: 6 out of 11 (54%)
 - Property Tax: 1 out of 11 (9%)
 - Registration & Plate Fee: 1 out of 11 (9%)
 - Notary Fee: 1 out of 11 (9%)
 - I do not know: 3 out of 11 (27%)
15. Did the website provide an address to return your old license plates?
- Yes: 2 out of 11 (18%)
 - No: 5 out of 11 (45%)
 - I do not know: 4 out of 11 (36%)

Task B – Vehicle Title Transfer between Individuals (TMA)

Usability Metrics:

| Participant Code | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | Average |
|-------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----------------|
| Time on Task | 8.07 | 4.39 | 6.28 | 3.01 | 3.28 | 6.53 | 3.01 | 9.45 | 5.03 | 4.54 | 4.24 | 5.26 |
| Clicks | 32 | 39 | 40 | 24 | 30 | 27 | 14 | 17 | 23 | 29 | 34 | 28.1 |
| Prompts | 1 | 1 | 0 | 0 | 0 | 1 | 0 | 0 | 0 | 1 | 1 | 0.5 |
| Completeness | 66% | 83% | 83% | 33% | 50% | 83% | 66% | 83% | 50% | 66% | 50% | 75% |

Usability Survey:

1. Did you use the search box to find the information?
 - Yes: 2
 - No: 9
2. Did the search yield the desired information?
 - Yes: 1
 - No: 1
 - Not Applicable: 9
3. Would you recommend this website to your family, friends, co-workers, etc.?
 - Yes: 11
 - No: 0

How would you rate this website on: (Number of responses)

| Criteria/Rating | Very Poor (1) | Poor (2) | Reasonable (3) | Good (4) | Very Good (5) |
|--|----------------------|-----------------|-----------------------|-----------------|----------------------|
| 4. Look and Feel | 0 | 0 | 1 | 6 | 4 |
| 5. Organization of the Content | 0 | 0 | 0 | 6 | 5 |
| 6. Ease of Finding Information | 0 | 0 | 3 | 2 | 6 |
| 7. Content (Clarity of language used, spelling, grammar, etc.) | 0 | 0 | 1 | 2 | 8 |
| 8. Relevance of the Information | 0 | 0 | 1 | 3 | 7 |
| Usability Score = 244 | 0 | 0 | 6 | 19 | 30 |

9. Do you think you found the information you were looking for on this website?
 - Yes: 11
 - No: 0
10. Were you able to find the information quickly?
 - Yes: 11
 - No: 0

Task Requirements Results: (Underlines indicate correct responses)

11. What documents are required to complete this transaction? (Select all that apply)
- A valid, unexpired state issued driver's license: 10 out of 11 (90%)
 - Damage Disclosure Statement (Form: MVR-181): 6 out of 11 (54%)
 - Damage Disclosure Statement (Form: MVR-181, Notarized): 3 out of 11 (27%)
 - Lien holder / Lesser Mailing Address: 3 out of 11 (27%)
 - Odometer Disclosure Statement (Form: MVR-180): 1 out of 11 (9%)
 - Proof of State Insurance: 10 out of 11 (90%)
 - Vehicle Title Documentation (Power of Attorney, No Notarization): 4 out of 11 (36%)
 - Vehicle Title Documentation (Power of Attorney, Notarized): 6 out of 11 (54%)
 - Vehicle Title Transfer Application (Form: MVR-1): 3 out of 11 (27%)
 - Vehicle Title Transfer Application (Form: MVR-1, Notarized): 6 out of 11 (54%)
12. Did the website provide a fee chart?
- Yes: 9 out of 11 (81%)
 - No: 2 out of 11 (18%)
 - I do not know: 0 out of 11 (0%)
13. What forms of payment are acceptable? (Select all that apply)
- Cash: 8 out of 11 (72%)
 - CashApp: 0 out of 11 (0%)
 - Cash Only (On-site Notarization): 0 out of 11 (0%)
 - Credit Card (Visa, MasterCard, & Discover): 6 out of 11 (54%)
 - Debit Card: 6 out of 11 (54%)
 - Money Order: 2 out of 11 (18%)
 - Personal Check: 5 out of 11 (45%)
14. When transferring a title from parent to child, are you exempt from any fees?
- Highway Use Fee: 9 out of 11 (81%)
 - Property Tax: 2 out of 11 (18%)
 - Registration & Plate Fee: 2 out of 11 (18%)
 - Notary Fee: 1 out of 11 (9%)
 - I do not know: 1 out of 11 (9%)
15. Did the website provide an address to return your old license plates?
- Yes: 10 out of 11 (90%)
 - No: 1 out of 11 (9%)
 - I do not know: 0 out of 11 (0%)

APPENDIX 11: TASK C – VEHICLE TRANSFER FROM OUT-OF-STATE SURVEY DETAILS

Task C – Vehicle Transfer from Out-of-State (NCDOT)

Usability Metrics:

| Participant Code | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | Average |
|------------------|------|------|------|------|-------|------|------|------|------|------|------|---------|
| Time on Task | 3.36 | 1.34 | 3.22 | 1.46 | 11.35 | 1.00 | 1.26 | 3.08 | 3.24 | 8.03 | 3.58 | 3.72 |
| Clicks | 14 | 4 | 3 | 7 | 23 | 14 | 6 | 7 | 4 | 12 | 39 | 12.1 |
| Prompts | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0.0 |
| Completeness | 33% | 33% | 67% | 33% | 83% | 100% | 50% | 50% | 67% | 100% | 67% | 62% |

Usability Survey:

1. Did you use the search box to find the information?
 - Yes: 5
 - No: 6
2. Did the search yield the desired information?
 - Yes: 5
 - No: 0
 - Not Applicable: 6
3. Would you recommend this website to your family, friends, co-workers, etc.?
 - Yes: 9
 - No: 2

How would you rate this website on: (Number of responses)

| Criteria/Rating | Very Poor (1) | Poor (2) | Reasonable (3) | Good (4) | Very Good (5) |
|--|---------------|----------|----------------|----------|---------------|
| 4. Look and Feel | 0 | 0 | 2 | 8 | 1 |
| 5. Organization of the Content | 0 | 0 | 1 | 6 | 4 |
| 6. Ease of Finding Information | 0 | 0 | 3 | 5 | 3 |
| 7. Content (Clarity of language used, spelling, grammar, etc.) | 0 | 0 | 0 | 7 | 4 |
| 8. Relevance of the Information | 0 | 0 | 0 | 6 | 5 |
| Usability Score = 231 | 0 | 0 | 6 | 32 | 17 |

9. Do you think you found the information you were looking for on this website?
 - Yes: 10
 - No: 0
 - To an extent: 1
10. Were you able to find the information quickly?
 - Yes: 9
 - No: 2

Task Requirements Results: (Underlines indicate correct responses)

11. What documents are required to complete this transaction? (Select all that apply)
 - A valid, unexpired state issued driver's license: 10 out of 11 (90%)
 - Damage Disclosure Statement (Form: MVR-181): 2 out of 11 (18%)
 - Damage Disclosure Statement (Form: MVR-181, Notarized): 3 out of 11 (27%)
 - Lien holder / Lesser Mailing Address: 2 out of 11 (18%)
 - Proof of State Insurance: 8 out of 11 (72%)
 - Valid Registration: 6 out of 11 (54%)
 - Vehicle Title Documentation (Power of Attorney, No Notarization): 3 out of 11 (27%)
 - Vehicle Title Documentation (Power of Attorney, Notarized): 6 out of 11 (54%)
 - Vehicle Title Transfer Application (Form: MVR-1): 3 out of 11 (27%)
 - Vehicle Title Transfer Application (Form: MVR-1, Notarized): 5 out of 11 (45%)
12. Did the website provide a fee chart?
 - Yes: 10 out of 11 (90%)
 - No: 0 out of 11 (0%)
 - I do not know: 1 out of 11 (9%)
13. What forms of payment are acceptable? (Select all that apply)
 - Cash: 11 out of 11 (100%)
 - CashApp: 0 out of 11 (0%)
 - Cash Only (On-site Notarization): 0 out of 11 (0%)
 - Credit Card (Visa, MasterCard, & Discover): 9 out of 11 (81%)
 - Debit Card: 8 out of 11 (72%)
 - Money Order: 9 out of 11 (81%)
 - Personal Check: 9 out of 11 (81%)
14. (Non-Military) When transferring a title from parent to child, are you exempt from any fees? (Select all that apply)
 - Highway Use Fee: 3 out of 6 (50%)
 - Initial Vehicle Inspection: 2 out of 6 (33%)
 - Property Tax: 0 out of 6 (0%)
 - Registration & Plate Fee: 1 out of 6 (17%)
 - Notary Fee: 1 out of 6 (17%)
 - I do not know: 0 out of 6 (0%)
16. (Military) As military personnel with a valid military ID, is a valid state driver's license required?
 - Yes: 1 out of 5 (20%)
 - No: 3 out of 5 (60%)
 - I do not know: 1 out of 5 (20%)
17. Did the website provide an address to return your old license plates?
 - Yes: 4 out of 11 (36%)
 - No: 3 out of 11 (27%)
 - I do not know: 3 out of 11 (27%)

Task C – Vehicle Transfer from Out-of-State (DMV)

Usability Metrics:

| Participant Code | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | Average |
|-------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----------------|
| Time on Task | 4.34 | 7.38 | 10.11 | 2.54 | 5.25 | 5.49 | 7.18 | 2.48 | 2.50 | 8.05 | 5.08 | 5.49 |
| Clicks | 17 | 28 | 28 | 15 | 17 | 4 | 9 | 6 | 9 | 13 | 69 | 19.5 |
| Prompts | 0 | 3 | 0 | 0 | 1 | 0 | 0 | 0 | 0 | 0 | 0 | 0.4 |
| Completeness | 67% | 67% | 100% | 83% | 67% | 50% | 0% | 67% | 50% | 67% | 67% | 62% |

Usability Survey:

1. Did you use the search box to find the information?
 - Yes: 5
 - No: 6
2. Did the search yield the desired information?
 - Yes: 3
 - No: 2
 - Not Applicable: 6
3. Would you recommend this website to your family, friends, co-workers, etc.?
 - Yes: 9
 - No: 2

How would you rate this website on: (Number of responses)

| Criteria/Rating | Very Poor (1) | Poor (2) | Reasonable (3) | Good (4) | Very Good (5) |
|--|----------------------|-----------------|-----------------------|-----------------|----------------------|
| 4. Look and Feel | 0 | 1 | 2 | 6 | 2 |
| 5. Organization of the Content | 0 | 1 | 1 | 3 | 6 |
| 6. Ease of Finding Information | 1 | 0 | 1 | 5 | 4 |
| 7. Content (Clarity of language used, spelling, grammar, etc.) | 0 | 0 | 1 | 5 | 5 |
| 8. Relevance of the Information | 0 | 0 | 0 | 6 | 5 |
| Usability Score = 230 | 1 | 2 | 5 | 25 | 22 |

9. Do you think you found the information you were looking for on this website?
 - Yes: 10
 - No: 0
 - To an extent: 1
10. Were you able to find the information quickly?
 - Yes: 8
 - No: 3

Task Requirements Results: (Underlines indicate correct responses)

11. What documents are required to complete this transaction? (Select all that apply)
- A valid, unexpired state issued driver's license: 10 out of 11 (90%)
 - Damage Disclosure Statement (Form: MVR-181): 3 out of 11 (27%)
 - Damage Disclosure Statement (Form: MVR-181, Notarized): 1 out of 11 (9%)
 - Lien holder / Lesser Mailing Address: 3 out of 11 (27%)
 - Proof of State Insurance: 10 out of 11 (90%)
 - Valid Registration: 6 out of 11 (54%)
 - Vehicle Title Documentation (Power of Attorney, No Notarization): 2 out of 11 (18%)
 - Vehicle Title Documentation (Power of Attorney, Notarized): 6 out of 11 (54%)
 - Vehicle Title Transfer Application (Form: MVR-1): 3 out of 11 (27%)
 - Vehicle Title Transfer Application (Form: MVR-1, Notarized): 5 out of 11 (45%)
12. Did the website provide a fee chart?
- Yes: 10 out of 11 (90%)
 - No: 1 out of 11 (9%)
13. What forms of payment are acceptable? (Select all that apply)
- Cash: 11 out of 11 (100%)
 - CashApp: 0 out of 11 (0%)
 - Cash Only (On-site Notarization): 0 out of 11 (0%)
 - Credit Card (Visa, MasterCard, & Discover): 11 out of 11 (100%)
 - Debit Card: 5 out of 11 (45%)
 - Money Order: 9 out of 11 (81%)
 - Personal Check: 9 out of 11 (81%)
14. (Non-Military) When transferring a title from parent to child, are you exempt from any fees? (Select all that apply)
- Highway Use Fee: 3 out of 6 (50%)
 - Initial Vehicle Inspection: 2 out of 6 (33%)
 - Property Tax: 1 out of 6 (17%)
 - Registration & Plate Fee: 1 out of 6 (17%)
 - Notary Fee: 1 out of 6 (17%)
 - I do not know: 0 out of 6 (0%)
14. (Military) As military personnel with a valid military ID, is a valid state driver's license required?
- Yes: 1 out of 5 (20%)
 - No: 1 out of 5 (20%)
 - I do not know: 3 out of 5 (60%)
15. Did the website provide an address to return your old license plates?
- Yes: 3 out of 11 (27%)
 - No: 4 out of 11 (36%)
 - I do not know: 4 out of 11 (36%)

Task C – Vehicle Transfer from Out-of-State (TMA)

Usability Metrics:

| Participant Code | 001 | 002 | 003 | 004 | 005 | 006 | 007 | 008 | 009 | 010 | 011 | Average |
|-------------------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|------------|----------------|
| Time on Task | 4.35 | 4.28 | 4.41 | 3.53 | 3.10 | 6.29 | 4.19 | 7.18 | 2.36 | 9.28 | 9.22 | 5.29 |
| Clicks | 23 | 23 | 12 | 30 | 22 | 22 | 26 | 32 | 18 | 32 | 111 | 31.9 |
| Prompts | 0 | 0 | 0 | 1 | 0 | 0 | 1 | 0 | 0 | 2 | 0 | 0.4 |
| Completeness | 17% | 27% | 100% | 27% | 83% | 83% | 27% | 27% | 83% | 83% | 27% | 53% |

Usability Survey:

1. Did you use the search box to find the information?
 - Yes: 2
 - No: 9
2. Did the search yield the desired information?
 - Yes: 2
 - No: 1
 - Not Applicable: 8
3. Would you recommend this website to your family, friends, co-workers, etc.?
 - Yes: 10
 - No: 1

How would you rate this website on: (Number of responses)

| Criteria/Rating | Very Poor (1) | Poor (2) | Reasonable (3) | Good (4) | Very Good (5) |
|--|----------------------|-----------------|-----------------------|-----------------|----------------------|
| 4. Look and Feel | 0 | 0 | 1 | 5 | 5 |
| 5. Organization of the Content | 0 | 0 | 0 | 4 | 7 |
| 6. Ease of Finding Information | 0 | 0 | 0 | 4 | 7 |
| 7. Content (Clarity of language used, spelling, grammar, etc.) | 0 | 0 | 0 | 2 | 9 |
| 8. Relevance of the Information | 0 | 0 | 0 | 1 | 10 |
| Usability Score = 257 | 0 | 0 | 1 | 16 | 38 |

9. Do you think you found the information you were looking for on this website?
 - Yes: 11
 - No: 0
 - To an extent: 0
10. Were you able to find the information quickly?
 - Yes: 11
 - No: 0

Task Requirements Results: (Underlines indicate correct responses)

11. What documents are required to complete this transaction? (Select all that apply)
- A valid, unexpired state issued driver's license: 10 out of 11 (90%)
 - Damage Disclosure Statement (Form: MVR-181): 4 out of 11 (36%)
 - Damage Disclosure Statement (Form: MVR-181, Notarized): 3 out of 11 (27%)
 - Lien holder / Lesser Mailing Address: 2 out of 11 (18%)
 - Proof of State Insurance: 10 out of 11 (90%)
 - Valid Registration: 3 out of 11 (27%)
 - Vehicle Title Documentation (Power of Attorney, No Notarization): 2 out of 11 (18%)
 - Vehicle Title Documentation (Power of Attorney, Notarized): 8 out of 11 (72%)
 - Vehicle Title Transfer Application (Form: MVR-1): 4 out of 11 (36%)
 - Vehicle Title Transfer Application (Form: MVR-1, Notarized): 4 out of 11 (36%)
12. Did the website provide a fee chart?
- Yes: 7 out of 11 (63%)
 - No: 3 out of 11 (27%)
 - I do not know: 1 out of 11 (9%)
13. What forms of payment are acceptable? (Select all that apply)
- Cash: 6 out of 11 (54%)
 - CashApp: 0 out of 11 (0%)
 - Cash Only (On-site Notarization): 0 out of 11 (0%)
 - Credit Card (Visa, MasterCard, & Discover): 6 out of 11 (54%)
 - Debit Card: 4 out of 11 (36%)
 - Money Order: 4 out of 11 (36%)
 - Personal Check: 4 out of 11 (36%)
 - I do not know: 4 out of 11 (36%)
14. (Non-Military) When transferring a title from parent to child, are you exempt from any fees? (Select all that apply)
- Highway Use Fee: 3 out of 6 (50%)
 - Initial Vehicle Inspection: 1 out of 6 (17%)
 - Property Tax: 2 out of 6 (33%)
 - Registration & Plate Fee: 2 out of 6 (33%)
 - Notary Fee: 1 out of 6 (17%)
 - I do not know: 1 out of 6 (17%)
14. (Military) As military personnel with a valid military ID, is a valid state driver's license required?
- Yes: 3 out of 5 (60%)
 - No: 1 out of 5 (20%)
 - I do not know: 1 out of 5 (20%)
15. Did the website provide an address to return your old license plates?
- Yes: 10 out of 11 (90%)
 - No: 1 out of 11 (9%)
 - I do not know: 0 out of 11 (0%)

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