



RESEARCH & DEVELOPMENT

A Study of the Usage of LPAs by the North Carolina Division of Motor Vehicles: Final Report - Phase II

**James B. Martin, PE et al
Institute for Transportation Research and Education
North Carolina State University**

**Joyendu Bhadury, PhD et al
Bryan School of Business and Economics
University of North Carolina at Greensboro**

NCDOT Project 2014-36

FHWA/NC/2014-36

September 2014

This page intentionally left blank.

A Study of the Usage of LPAs by NCDMV

Final Report
Phase II
September 19, 2014

Prepared for the
North Carolina
Department of
Transportation
and North Carolina
Division of Motor Vehicles

Technical Report Documentation Page

1. Report No. FHWA/NC/2014-36	2. Government Accession No.	3. Recipient's Catalog No.	
4. Title and Subtitle A Study of the Usage of LPAs by NCDMV Phase II		5. Report Date September 19, 2014	
		6. Performing Organization Code	
7. Author(s) James B. Martin, PE; Joyendu Bhadury, PhD; Steven A. Bert, MPP; Kwasi Amoako-Gyampah, PhD		8. Performing Organization Report No.	
9. Performing Organization Name and Address Institute for Transportation Research and Education North Carolina State University Centennial Campus Box 8601, Raleigh, NC 27695-8601 Bryan School of Business and Economics University of North Carolina at Greensboro PO Box 26170, Greensboro, NC 27402-6170		10. Work Unit No. (TRAI5)	
		11. Contract or Grant No.	
12. Sponsoring Agency Name and Address North Carolina Department of Transportation Research and Analysis Group 1 South Wilmington Street Raleigh, North Carolina 27601		13. Type of Report and Period Covered Final Report November 2013 to October 2014	
		14. Sponsoring Agency Code 2014-36	
Supplementary Notes:			
16. Abstract This final report was prepared to assist NCDMV in meeting the requirements of S.B. 402, Sec. 34.17, which mandates that NCDOT in collaboration with NCDMV "shall evaluate current contractual models and compensation" for license plate agency (LPA) contractors. An interim report from Phase I of the study was submitted to NCDMV in February 2014. Phase II of the study was authorized to collect and analyze customer transaction and wait time data at a sample of LPAs across North Carolina, as well as comparative operational and transactional data from other states. A summary of the report's recommendations are: <ol style="list-style-type: none"> 1. NCDMV should implement a uniform, term-limited, performance-based contract for all LPA offices and follow the transition plan outlined in the Phase I report of this study. 2. Also outlined in the Phase I report, NCDMV should fully utilize and implement technology to improve customer service and customer satisfaction, and incentivize. NC citizens to perform more online transactions. 3. The largest LPAs and state-run offices should maintain extended hours on peak days and mid-month days to accommodate peak loads while maintaining reasonable wait times. 4. LPA transaction compensation rates should be increased by 2.3%, and the Vehicle Property Tax (VPT) transaction compensation rate should be increased to \$1.08 per transaction, to adjust for inflation. 5. NCDMV should develop and implement a statewide system to measure wait times, performance and customer satisfaction. Standards need to be developed along with objective methods to enforce them. 6. Given the substantial number of incomplete transactions observed, a detailed and independent study should be conducted to determine both the causes and solutions to this problem. 7. Given inordinate customer service issues observed at LPA offices that serve military personnel, an independent and in-depth study should be conducted to investigate the root causes and solutions to these issues. 8. NCDMV should consider evidence-based models that examine demand data, current LPA locations, and residual capacities to derive the "optimal" number and locations of LPA offices for better utilization of resources across the state. Wherever feasible, this model should prescribe opportunities for co-location with existing DMV offices. 9. NCDMV should conduct a more in-depth study of the operational practices and procedures in Missouri and of additional states such as Florida and Ohio, among others, to identify additional best practices for adoption. 			
17. Key Words Motor vehicle, registration, driver license		18. Distribution Statement	
19. Security Classif. (of this report) Unclassified	20. Security Classif. (of this page) Unclassified	21. No. of Pages 52	22. Price

Form DOT F 1700.7 (8-72)

Reproduction of completed page authorized

DISCLAIMER

The contents of this report reflect the views of the author(s) and not necessarily the views of the University. The author(s) are responsible for the facts and the accuracy of the data presented herein. The contents do not necessarily reflect the official views or policies of either the North Carolina Department of Transportation or the Federal Highway Administration at the time of publication. This report does not constitute a standard, specification, or regulation.

This page intentionally left blank.

Contents

EXECUTIVE SUMMARY	9
1. BACKGROUND	11
2. DATA COLLECTION METHODOLOGY	11
2.1. COLLECTION OF INTERACTION AND WAIT TIMES.....	11
2.2. SURVEY DATA COLLECTION FROM OTHER DMV OFFICES.....	16
3. DATA ANALYSIS	17
3.1. ANALYSIS OF CUSTOMER INTERACTION TIME DATA	18
3.1.1. CUSTOMER INTERACTION TIMES AND SIZE OF LPA.....	18
3.1.2. CUSTOMER INTERACTION TIMES AND TIME OF DAY	19
3.1.3. CUSTOMER INTERACTION TIMES AND DAY OF WEEK.....	20
3.1.4. CUSTOMER INTERACTION TIMES AND TYPE OF CONTRACT.....	21
3.1.5. CUSTOMER INTERACTION TIMES AND LPAs LOCATED NEAR MILITARY BASES.....	22
3.1.6. KEY OBSERVATIONS FROM ANALYSIS OF CUSTOMER INTERACTION TIME DATA	22
3.2. ANALYSIS OF WAIT TIME DATA.....	23
3.2.1. WAIT TIMES AND SIZE OF LPA	23
3.2.2. WAIT TIMES AND TIME OF DAY.....	24
3.2.3. WAIT TIMES AND DAY OF WEEK	25
3.2.4. WAIT TIMES AND TYPE OF CONTRACT	26
3.2.5. WAIT TIMES AND LPAs LOCATED NEAR MILITARY BASES.....	27
3.2.6. KEY OBSERVATIONS FROM ANALYSIS OF CUSTOMER WAIT TIME DATA.....	27
3.3. ANALYSIS OF DATA FROM INCOMPLETE TRANSACTIONS.....	28
3.3.1. OVERVIEW	28
3.3.2. INCOMPLETE TRANSACTIONS AND SIZE OF LPA	29
3.3.3. INCOMPLETE TRANSACTIONS AND TIME OF DAY AND DAY OF WEEK	30
3.3.4. INCOMPLETE TRANSACTIONS AND TYPE OF CONTRACT	31
3.3.5. INCOMPLETE TRANSACTIONS AND LPAs LOCATED NEAR MILITARY BASES.....	32
3.3.6. KEY OBSERVATIONS FROM ANALYSIS OF INCOMPLETE TRANSACTION DATA.....	32
3.4. ANALYSIS OF NON-INTERACTION TIME DATA	33
3.4.1. OVERVIEW	33
3.4.2. NON-INTERACTION TIME AND SIZE OF LPA.....	33
3.4.3. KEY OBSERVATIONS FROM ANALYSIS OF NON-INTERACTION TIME DATA	34
3.5. ANALYSIS OF TRANSACTION TIMES AND COMPENSATION RATES.....	35
3.6. ANALYSIS OF DATA FROM OTHER DMV OFFICES	38
3.6.1. ANALYSIS OF DATA FROM NATIONAL SURVEY	38
3.6.2. KEY OBSERVATIONS FROM MISSOURI AND INDIANA.....	40
4. CONCLUSIONS AND RECOMMENDATIONS.....	45
APPENDICES.....	49

This page intentionally left blank.

Executive Summary

This report is the culmination of a study undertaken on behalf of the North Carolina Division of Motor Vehicles (NCDMV) by the Institute for Transportation Research and Education (ITRE) at North Carolina State University, in collaboration with the University of North Carolina at Greensboro. The study was undertaken in response to the state Appropriations Act of 2013, (NC Senate Bill 402, Section 34.17) where the North Carolina General Assembly mandated that the NC Department of Transportation, in collaboration with NCDMV, “shall evaluate current contractual models and compensation” for North Carolina license plate agencies (LPAs).¹ The first concluding report from Phase I of the study was submitted to NCDMV on February 27, 2014.

Phase II of the study was subsequently authorized to be devoted primarily to collection and analysis of customer transaction and wait time data at a representative sample of LPAs across the state, as well as comparative operational and transactional data from other departments/divisions of motor vehicles (DMV) offices in the United States.

The primary recommendations from this second phase of the study are summarized below. Please note that the first two recommendations were also made in the Phase I report, and the Phase II study strongly reiterates the basis to make them again.

- I0.** NCDMV should implement a uniform, term-limited, performance-based contract for all LPA offices and follow the transition plan outlined in the Phase I report of this study. Suggestions for metrics to be used for measuring the performance of LPA offices include:
 - a. Average wait time;
 - b. Average interaction time;
 - c. Percentage of customers who are served within an acceptable time limit;
 - d. Error rates;
 - e. Customer service as measured by number of complaints and/or scores on an externally conducted consumer survey.

- II.** NCDMV should fully utilize and implement technology to improve customer service and customer satisfaction. Some examples include: updating/replacing the State Titling and Registration System (STARS) with a modern, web-enabled computer system that allows easy integration with other NCDMV information technology systems; using full-service kiosks and smart phone applications to allow customers to serve themselves. Additionally, North Carolina citizens should be incentivized to perform more online transactions. Registration renewals and vehicle property tax collection are transactions that are the most amenable for being conducted online. A more customer-focused outreach campaign should be implemented to increase the rate of online registration renewals from the current rate of approximately 13%.

¹ S.B. 402 Sec. 34.17

- 12.** The largest LPA offices—referred to as Tier 4 and Tier 5 in this report—and state-run offices in Raleigh and Charlotte should maintain extended hours on peak days, such as Wednesdays through Fridays, and mid-month days to accommodate peak loads while maintaining reasonable wait times. Suggested time of operations may be 8:00 AM until 6:00 PM.
- 13.** It is recommended that the transaction compensation rates be increased by 2.3% to account for inflation. Additionally, the Vehicle Property Tax (VPT) transaction compensation rate should also be adjusted for inflation, increasing the current \$1.06 rate to \$1.08 per transaction.
- 14.** NCDMV should develop and implement a statewide system for measurement of wait times, performance and customer satisfaction. Standards need to be developed along with objective methods to enforce them.
- 15.** Given the substantial number of incomplete transactions, it is strongly recommended that a detailed and independent study be conducted to determine both the causes and solutions to this problem. The scope and magnitude of this problem and its potential for causing substantial customer dissatisfaction warrant that this study be conducted as soon as feasible.
- 16.** Given the inordinate customer service issues faced by LPA offices that serve military personnel, an independent and in-depth study should be conducted to investigate the root causes of the same, along with solutions and how to implement them. The scope and magnitude of this problem and its potential for causing substantial dissatisfaction among military customers warrant that this study be conducted as soon as feasible. Additionally it is also recommended that:
 - a. LPA offices which serve military personnel should maintain extended hours of operation during peak days.
 - b. In collaboration with the North Carolina Department of Revenue, a more streamlined process should be developed to identify tax-exempt military personnel so that vehicle registration and titling can be completed in a single visit to an LPA.
- 17.** Given the vastly different amounts of non-interaction times across all LPA offices, NCDMV should consider evidence-based models that examine demand data, as well as current locations and residual capacities of existing LPA offices, to derive the “optimal” number and locations of LPA offices in North Carolina so there is a better utilization of resources on the aggregate across the state. Wherever feasible, this model should prescribe opportunities for co-location with existing DMV offices since doing so can improve customer service by creating “one-stop service centers,” which adds to the convenience of NCDMV customers and may result in overhead cost savings.
- 18.** NCDMV should conduct a more in-depth study of the operational practices and procedures in Missouri and of additional states such as Florida and Ohio, among others, to identify additional best practices for adoption.

1. Background

This report details the work undertaken in the second and final phase of the project entitled “A Study of the Usage of LPAs by NCDMV.” This second phase was devoted primarily to collection and analysis of transaction and wait time data at a representative sample of North Carolina license plate agencies (LPAs) across the state, as well as comparative operational and transactional data from other departments/divisions of motor vehicles (DMV) offices in the United States. The charge given to the research team for the second phase was as follows:

1. Identify the most frequently occurring transactions as well as a representative sample of LPA offices for data collection (transaction times and customer wait times) and develop a sampling plan.
2. Develop and implement a data collection plan across all selected LPA offices.
3. Analyze transaction and wait time data.
4. Collection and analysis of benchmarking data from other DMV offices in the U.S. via a survey conducted through the American Association of Motor Vehicle Administrators (AAMVA). Additionally, a closer study of two peer states (Missouri and Indiana) with more detailed data exchange, phone interviews, and onsite visits by the study team.
5. Development and submission of a final report for Phase 2 of the project that includes recommendations on the appropriateness of current LPA compensation rates.

² “Outliers and Re-expressing Data,” (PowerPoint Presentation, University of Texas at Austin, 2006),

2. Data Collection Methodology

Three kinds of data were needed to complete the second phase of this project: (i) customer interaction times for the different transactions conducted in LPA offices in North Carolina; (ii) wait times of customers in these offices; and (iii) comparative operational and transactional data on vehicle titling and registration practices of other DMV offices in the U.S.

2.1. Collection of Interaction and Wait Times

Customer interaction times and wait times were collected by the research team through direct observations in 27 different LPA offices in North Carolina between April 7, 2014 and June 27, 2014. The rationale for office selection is presented later in this section. The research team recorded 18,969 customer interactions, which included 5,388 incomplete interactions. The team also recorded 19,343 customer wait times. The research team then removed outliers, adhering to statistical best-practice. The Interquartile Range (IQR) times 1.5 method was used to remove statistically irrelevant outliers so that central tendency was accurately described by the research team’s recorded observations.² After removing outliers, the research team conducted data analysis on 17,367 customer interactions including 4,947 incomplete interactions. The team also conducted data analysis on 17,517 wait time interactions. A complete list of the 27 LPA offices participating in the study is shown in Table I.

Online:http://www.utexas.edu/courses/schwab/sw388r6_fall_2007/powerpoint/Outliers%20and%20Re-expressing%20Data.ppt

Table 1. North Carolina LPA Offices Participating in the Study.

LPA Branch Name	Branch Number	Tier Number	Annual Transactions	Operator Type	Contract Type	Geographic Region of NC	Serving Military Location	Data Collection Dates	Customer Interactions Analyzed	Customer Wait-Times Analyzed
Plymouth	72	Tier 1	21,000	Contractor	Indefinite	East	Non-Military	6/2/14-6/5/14	248	222
Robbins	154	Tier 1	23,000	Town	Term-limited	Central	Non-Military	5/20/14-5/23/14	262	144
Windsor	103	Tier 1	23,000	Chamber	Indefinite	East	Non-Military	6/2/14-6/5/14	215	141
Yancey County	189	Tier 1	35,000	County	Term-limited	West	Non-Military	6/24/14-6/27/14	332	381
Madison	183	Tier 1	39,000	Contractor	Term-limited	West	Non-Military	6/17/14-6/20/14	195	241
Siler City	181	Tier 2	54,000	Town	Term-limited	Central	Non-Military	5/20/14-5/23/14	298	325
Edgecombe County	166	Tier 2	64,000	County	Term-limited	East	Non-Military	5/6/14-5/9/14	449	468
Watauga County	63	Tier 2	65,000	County	Term-limited	West	Non-Military	6/24/14-6/27/14	172	472
Havelock	104	Tier 2	68,000	Contractor	Indefinite	East	Military	5/27/14-5/30/14	552	419
Waynesville	161	Tier 2	74,000	Contractor	Term-limited	West	Non-Military	6/23/14-6/26/14	401	520
Zebulon	109	Tier 3	79,000	Chamber	Indefinite	Central	Non-Military	5/6/14-5/9/14	680	547
Whiteville	186	Tier 3	87,000	Contractor	Term-limited	East	Non-Military	5/13/14-5/16/14	904	615
Henderson	21	Tier 3	96,000	Contractor	Indefinite	Central	Non-Military	5/9/14-5/14/14	578	566
Mount Airy	168	Tier 3	107,000	Contractor	Term-limited	West	Non-Military	6/17/14-6/20/14	192	745
Spindale	180	Tier 3	112,000	Contractor	Term-limited	West	Non-Military	6/23/14-6/26/14	673	657
Kinston	26	Tier 4	117,000	Contractor	Indefinite	East	Non-Military	5/12/14-5/15/14	1448	947
Lexington	177	Tier 4	122,000	Contractor	Term-limited	Central	Non-Military	6/10/14-6/13/14	905	1056
Wilson	60	Tier 4	122,000	Contractor	Indefinite	East	Non-Military	5/12/14-5/15/14	928	1034
Rockingham	64	Tier 4	138,000	Contractor	Term-limited	Central	Non-Military	5/27/14-5/30/14	625	568
Hickory	23	Tier 4	146,000	Contractor	Indefinite	West	Non-Military	6/9/14-6/12/14	775	739
Wilmington	59	Tier 5	158,000	Contractor	Indefinite	East	Non-Military	5/13/14-5/16/14	1174	1286
Hendersonville	22	Tier 5	160,000	Contractor	Term-limited	West	Non-Military	6/23/14-6/26/14	883	867
Jacksonville	16	Tier 5	176,000	Contractor	Indefinite	East	Military	5/27/14-5/30/14	456	729
Winston-Salem	61	Tier 5	277,000	Contractor	Indefinite	Central	Non-Military	6/17/14-6/20/14	1158	1506
Holly Park	115	Tier 5	285,000	Contractor	Indefinite	Central	Non-Military	4/11/14-4/15/14	1339	637
Charlotte ³	9	HQ	191,000	State HQ	N/A	West	Non-Military	6/10/14-6/13/14	853	915
Raleigh ³	907	HQ	241,000	State HQ	N/A	Central	Non-Military	4/7/14-4/15-14	672	770
TOTALS									17,367	17,517

³ The annual number of transactions quoted for the Charlotte and Raleigh offices, operated by NCDMV state headquarters (HQ), offices does not include the 1.6 million transactions that were conducted online in 2013.

Figure 1. Geographic Distribution of LPA Offices in the Study.

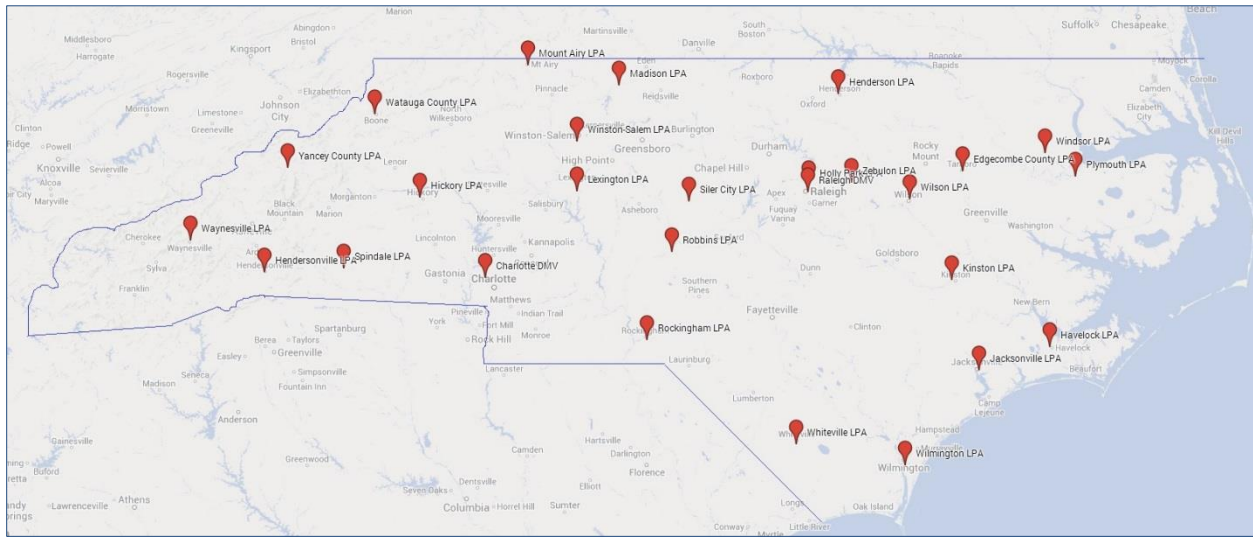


Figure 1 identifies the locations of the LPA offices in the study. The offices chosen were representative of disparate attributes including:

- State-operated versus non state-operated;
- Term-limited contracts (13 among the selected offices) versus Indefinite contracts (12 among the selected offices);
- Privately operated LPA offices (18 among the selected offices) versus those operated by Chamber of Commerce / County / Town (7 among selected offices);
- Volume of annual transactions.

In addition, these offices represented an equitable geographical spread across North Carolina with eight among the selected offices from the East, nine from Central region and eight from the West.

Customer interaction time for the study was measured as the elapsed time from when a customer approached the LPA service counter until the time that customer's interaction with the LPA employee ended. Interaction time data were collected utilizing video technology. At each LPA office, one or two video cameras with digital video recorders—as determined by LPA volume of

annual transactions—were temporarily installed (see Figure 2) to record transactions for all office hours during 2 or 3 consecutive days in a week. Each camera was mounted such that two service windows (i.e., employee workstations) could be captured on video (see Figure 3). The video recorders were synchronized with the time of day reported by the State Titling and Registration System (STARS) computer system at each LPA office, and programmed to record from the beginning to the end of each office's business day.

The research team used the Resource Access Control Facility (RACF) daily logs (see Figure 4) of the employees that were video recorded to determine which customer interactions yielded complete transactions and which yielded incomplete transactions. Completed transactions were keyed into the STARS system and appeared on the RACF daily logs, whereas incomplete transactions were not keyed in and do not appear in the log. By pairing video footage time-stamps with the time-stamps on the RACF logs the research team was able to determine if transactions were complete or incomplete.

Figure 2. Video Camera and Recorder Installation at an LPA Office in the Study.



Figure 3. Example Screen Shot from Video Recorded at an LPA Office in the Study.



Figure 4. Excerpt from a RACF Daily Log used in the Study.

VF96 VB84		BRANCH ACTIVITY		05/14/14 12:18:29		
USER:T1C0210 -		BR:021-HENDERSON #021		PAGE: 3		
CUSTOMER		SUPP SRV TITLE/PLATE NO.		HUT	TOTAL FEES	STX
		TRP	PLT 0092SI	12:49	38.00	
		VPT	PLT 0092SI	12:49	16.92	
		TIP	PLT CFD9472	12:42	0.00	*
		DUT	778576141298021	12:33	15.00	*
		IPS	PLT CJJ9954	12:32	28.00	
		VPT	PLT CJJ9954	12:32	374.52	
		MCT	778575141299021	12:32	520.00	*
		RPS	PLT BHH5822	12:23	28.00	*
		VPT	PLT BHH5822	12:23	145.86	
		RPS	PLT CJJ9953	12:19	28.00	*
		VPT	PLT CJJ9953	12:19	18.71	
		RPS	PLT CD34007	12:18	19.00	*
		VPT	PLT CD34007	12:18	5.60	
		RPS	PLT BK56623	12:17	19.00	*
		VPT	PLT BK56623	12:17	14.39	
		RPS	PLT DC7617	12:16	59.70	*
		VPT	PLT DC7617	12:16	70.35	

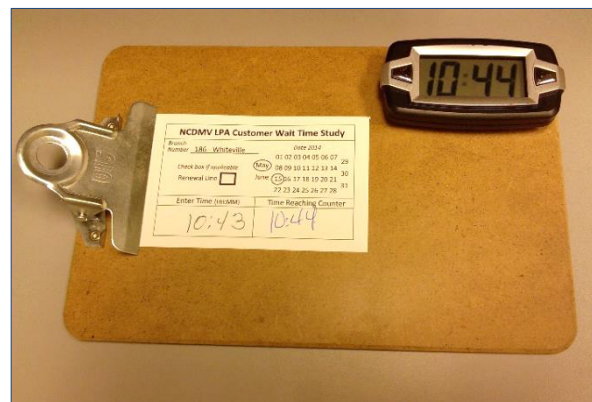
The RACF logs also provided the three-letter STARS codes denoting transaction types. The research team was able to pair the video footage time-stamps with the RACF log time stamps to determine the types of transactions occurring.

Customer wait time for the study was measured as the elapsed time from when a customer enters the LPA until s/he begins the interaction at the service window. Wait time measurement was coordinated and occurred on the same days that customer interaction data was being video recorded. Wait time observations were conducted by NCDMV field supervisors and staff after receiving training on the methodology from the research team. One field supervisor was sufficient in the smaller LPA offices, and additional staff were provided by NCDMV to assist with wait time collection at the busier offices.

When a customer entered an office, NCDMV personnel recorded the time of day on a time card using a digital LED clock which was synchronized with the STARS system time of day. The customer was then asked to hold the card until they reached the front of the line.

The card was collected from the customer when s/he stepped up to the service window to begin the interaction, and the time of day was recorded again on the card. The difference between these two times of day is the calculated wait time of the customer. Digital LED clocks attached to clipboards were provided to NCDMV personnel for recording time of day and other data on the time card. Figure 5 shows an example of the time card and items used to collect wait time data. A sample of the wait time card is included as Appendix A of the report.

Figure 5. Example of Time Card and Items used to collect Wait Time Data.



2.2. Survey Data Collection from other DMV Offices

Operational and transactional data were collected from other DMV offices in the U.S. using an online survey administered by the research team with assistance from the American Association of Motor Vehicle Administrators (AAMVA). The survey was developed to extract data on the practices of DMV offices in other states regarding vehicle registration and titling services. Qualtrics online survey services,⁴ licensed by North Carolina State University, was used to prepare and distribute the survey. The survey is included as Appendix B of the report.

The survey was launched on March 13, 2014 and distributed electronically to an email list of AAMVA members in 49 states (excluding North Carolina) and the District of Columbia. Between March 13 and April 21, 2014, each person in the distribution list received an initial email invitation, and up to four reminder invitations, to participate in the survey. The survey was open to receive responses for a period of 10 weeks. All response data was downloaded on May 22, 2014 for analysis.

During the survey period, the research team provided assistance to DMV administrators in six states (California, Florida, Indiana, New York, Texas, and Wyoming) who requested help with the survey web link or clarification on the survey questions. Administrators in three other states (Colorado, Michigan, and Nevada) followed up by email with additional detail to be included in their survey responses.

DMV administrators in 31 states (AL, AZ, CA, CO, CT, DE, FL, IA, IL, IN, KY, LA, ME, MI, MN, MO, MS, NE, NM, NV, NY, OK, OR, RI, SD, TX, UT, VT, WI, WV, WY) completed the survey. Administrators in five additional states (GA, HI, KS, MT, ND) started the survey but answered few questions. No response was received from DMV administrators in the remaining 13 states and District of Columbia. Therefore the survey had an overall response rate of 62%, which lends credibility to the conclusions drawn from the data collected. However, one caveat is that of those who responded, administrators in only two states—Missouri and Wisconsin—indicated that their state uses private contractors to deliver titling and registration services.

As a result, the survey yielded sparse data on the use of private contractors to compare with DMV LPA operations in North Carolina. In addition to the above survey, the research team conducted personal face-to-face interviews with senior managers of DMV offices in two states, Missouri and Indiana, to collect in-depth information about their processes and quality control procedures. The two states were chosen in consultation with and approval from NCDMV.

⁴ <http://www.qualtrics.com>

3. Data Analysis

In keeping with the categorization of data introduced in Section 2 above, the analysis of the data is accordingly presented. To begin, it is useful to give the precise definition of the two different types of times measured in this study. The first of these is “transaction time” which, henceforth, is referred to as “*Customer Interaction Time*” and includes the entire time taken to process ALL the transaction(s) sought by a customer. This distinction in nomenclature is made since it is rare for a customer to request only a singular transaction, and the overwhelming majority of customer interactions are comprised not of single transaction types but of clusters or combinations thereof, e.g., Renew Plate Sticker (RPS) and Vehicle Property Tax (VPT). As for the second measure, “wait time,” as mentioned before, is defined as the time elapsed between the entry of a customer into an office and when s/he starts the interaction at a service counter. Thus the total time spent by a customer in an office is the sum of his/her customer interaction time and wait time.

As outlined in the Phase I interim report for this study, for the purposes of the analysis shown in the figures below, each LPA “Tier” is defined by the following annual transaction volumes:

- Tier 1: 1–40,000 annual transactions;
- Tier 2: 40,001–75,000 annual transactions;
- Tier 3: 75,001–115,000 annual transactions;
- Tier 4: 115,001–150,000 annual transactions;
- Tier 5: 150,001 or more annual transactions;
- HQ: State-operated LPA offices (annual transactions are comparable to or greater than Tier 5)

The analysis presented below is illustrated in each case with an accompanying graph; wherever applicable, $n=number$ denotes the number of offices observed in each category.

3.1. Analysis of Customer Interaction Time Data

3.1.1. Relationship between Customer Interaction Times and Size of LPA (as measured by annual number of transactions)

Figure 6. Average Customer Interaction Time by LPA Annual Transaction Volume.

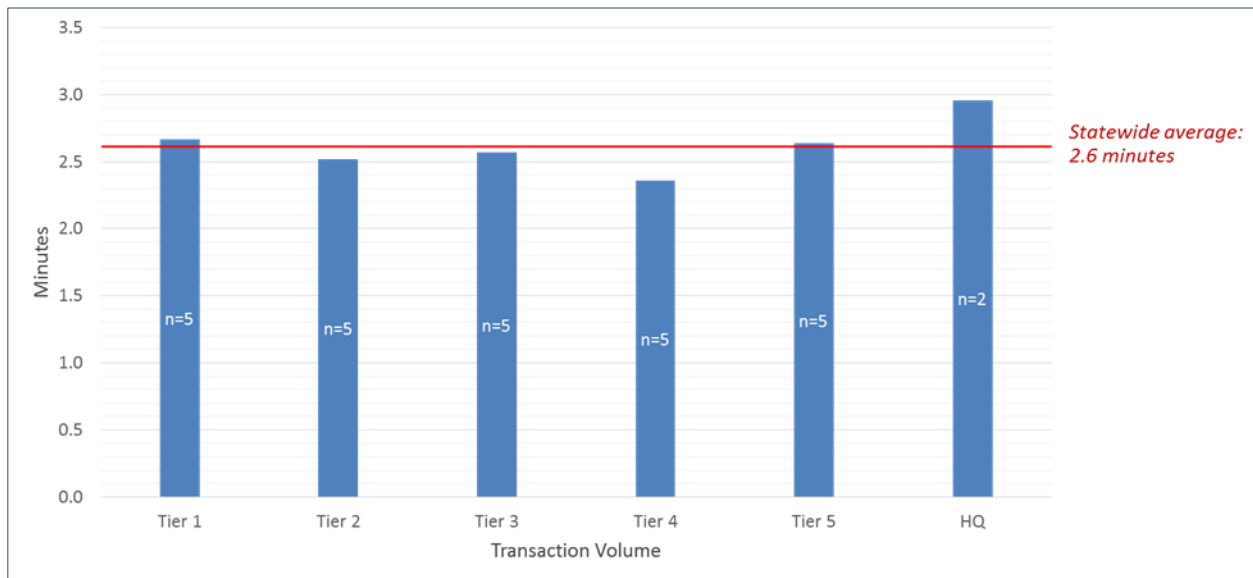


Figure 6 shows the average customer interaction time on a statewide basis is 2.6 minutes. Anecdotally, there are interactions that greatly exceed statewide average. These exceedingly long interactions tend to be the ones mostly likely discussed by customers and staff. However, the statewide average does not appear to be excessive. Also there is no great variation of customer interaction time versus annual transaction volume. This indicates that processes and procedures involved in providing titling and registration services across the LPA offices have been well standardized.

3.1.2. Relationship between Customer Interaction Times and Time of Day

Figure 7. Average Customer Interaction Time by Time of Day.

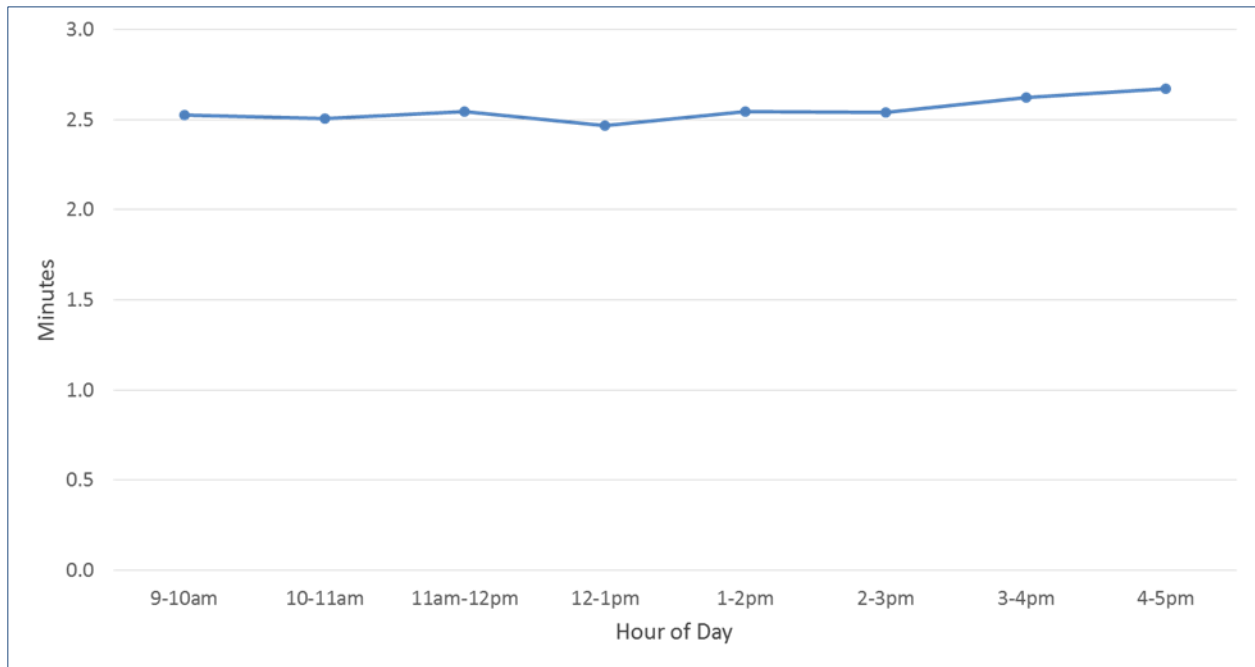


Figure 7 shows the time taken to serve the average customer is fairly constant by time of day as shown above. As previously noted, this is primarily due to the consistency provided by standardized transaction procedures.

3.1.3. Relationship between Customer Interaction Times and Day of Week

Figure 8 (top). Average Customer Interaction Time by Day of Week.
Figure 9 (bottom). Average Customer Interaction Time on 15th of Month.

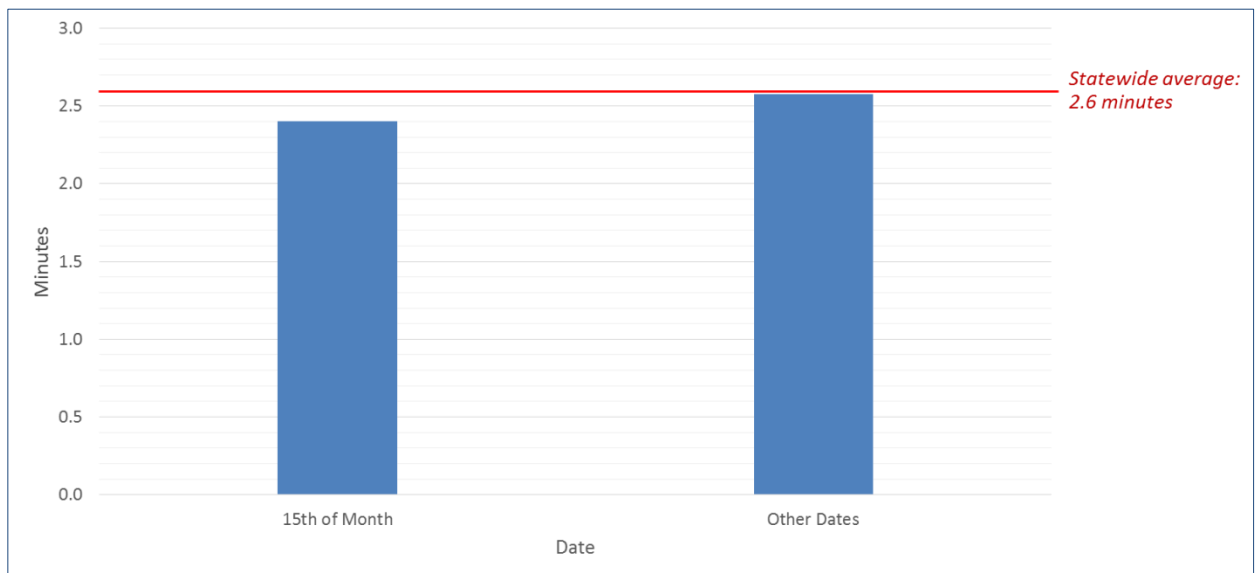
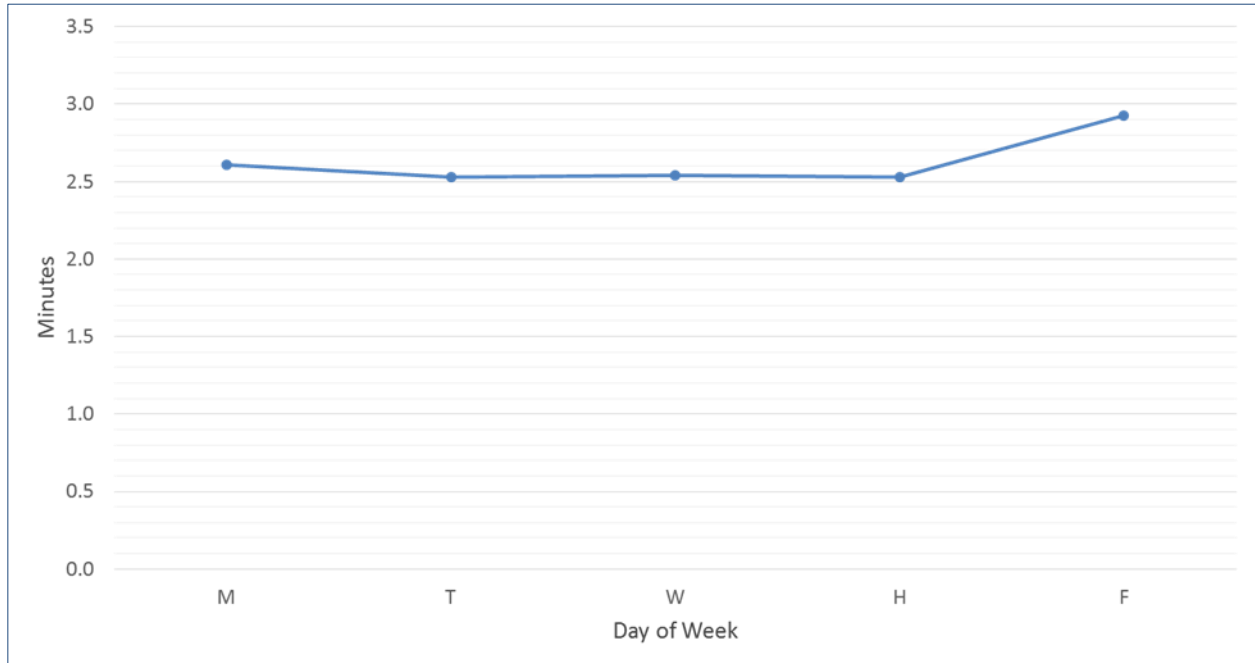


Figure 8 shows the time taken to serve the average customer is fairly constant Monday through Thursday. However, there is a slight uptick on the time to serve customers on Fridays. There is no clear explanation for this phenomenon, but even on Friday the statewide average interaction time does not exceed three minutes. Figure 9 shows that the time taken to serve the average customer does not differ on the 15th of the month from the other days of the month. For this study, wait times on June 13th were treated as the 15th of the month because June 15th fell on a Sunday when LPA offices were closed.

3.1.4. Relationship between Customer Interaction Times and Type of Contract

Figure 10. Average Customer Interaction Time by LPA Contract Type.

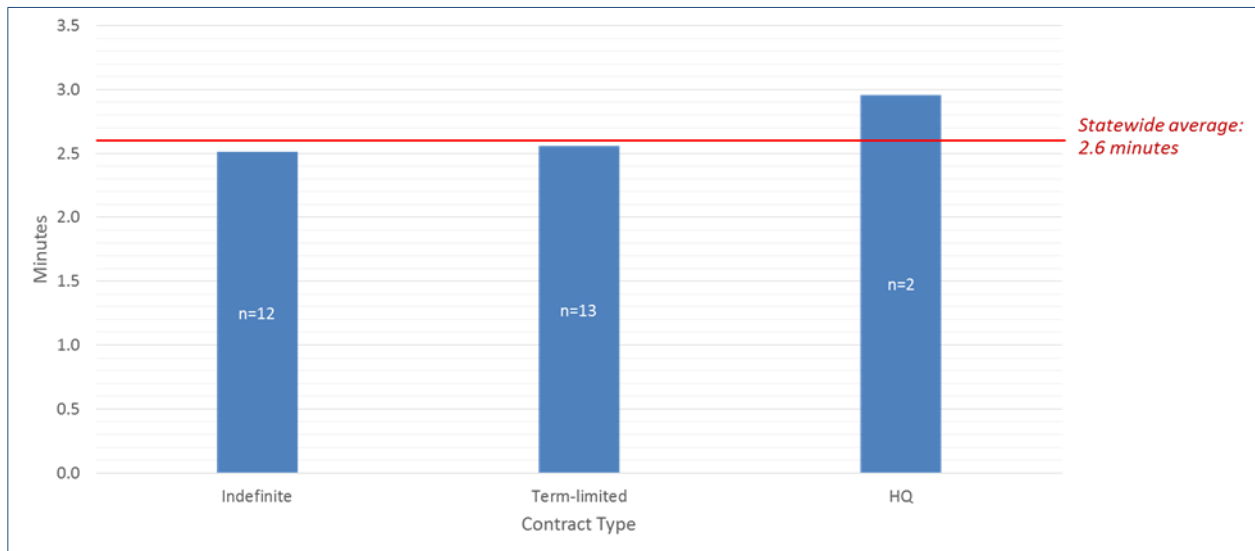
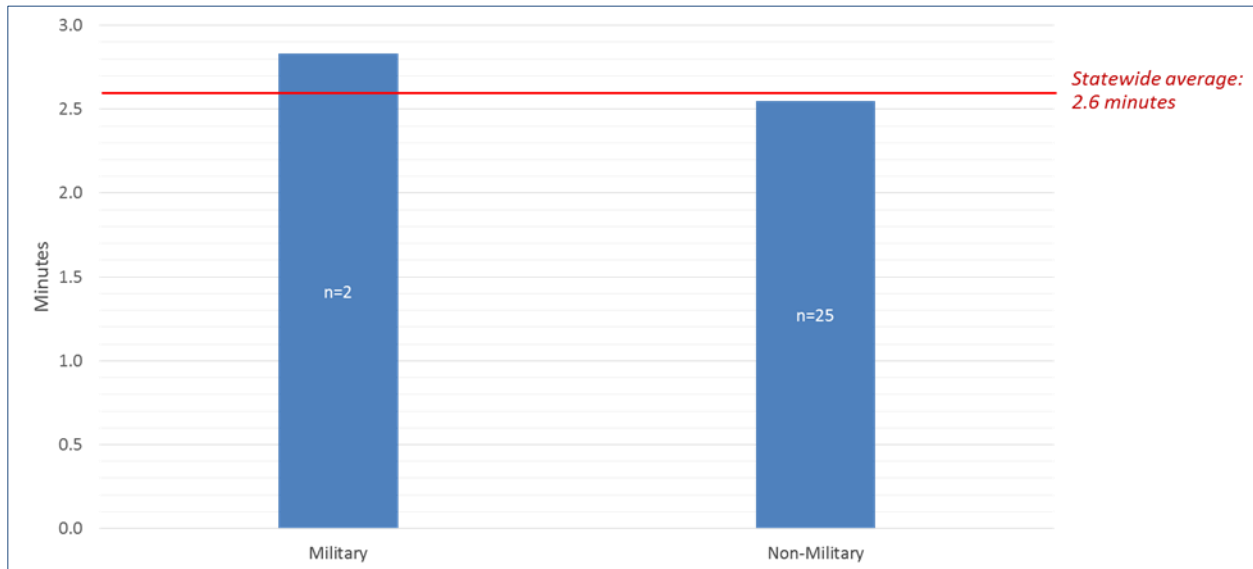


Figure 10 shows no statistical difference in the average time to serve a customer within the LPA offices that hold the two different types of LPA contracts: Indefinite and Term-limited. However, state-run offices in Raleigh and Charlotte take slightly longer to serve the average customer. Further statistical analysis of the transaction data was unable to attribute this to any differences in the type or complexity of transactions conducted in Raleigh or Charlotte as compared to the other LPAs.

3.1.5. Relationship between Customer Interaction Times and LPAs Located Near Military Bases

Figure 11. Average Customer Interaction Time at Military vs. Non-Military LPA Locations.



As shown in Figure 11, LPA offices located near military bases spend, on average, a slightly longer time servicing their customers. This is perhaps indicative of a higher complexity of transactions conducted at these offices. Anecdotal information was provided to the research team, speculating that vehicle property tax exemptions given to military personnel may account for some of the longer service times. However, further study is required to fully understand what is causing the differences in service times for LPA offices located near military bases. The offices near a military base included in this study were Havelock and Jacksonville.

3.1.6. Key Observations from Analysis of Customer Interaction Time Data

The analysis of customer interaction time data presented above leads to the following salient observations:

1. The average interaction time is fairly constant across all LPA offices in North Carolina at 2.6 minutes, which is reflective of the high degree of standardization in the offering of the services. The only uptick in these interaction times occurs on Fridays.
2. State-run offices (Raleigh and Charlotte) have an average interaction time that is higher than the other LPA offices.
3. Offices that serve military personnel have a higher average interaction time than other LPA offices.

3.2. Analysis of Wait Time Data

As background for this information it is noteworthy that during the time of data collection, there was a statewide STARS computer outage for approximately 30 minutes on May 15, 2014, at the Kinston, Wilmington, and Whiteville LPA offices. For the purposes of analysis presented below, transaction and wait time data that was impacted by this computer outage was not included.

3.2.1. Relationship between Wait Times and Size of LPA (as measured by annual number of transactions)

Figure 12. Average Customer Wait Time by LPA Annual Transaction Volume.

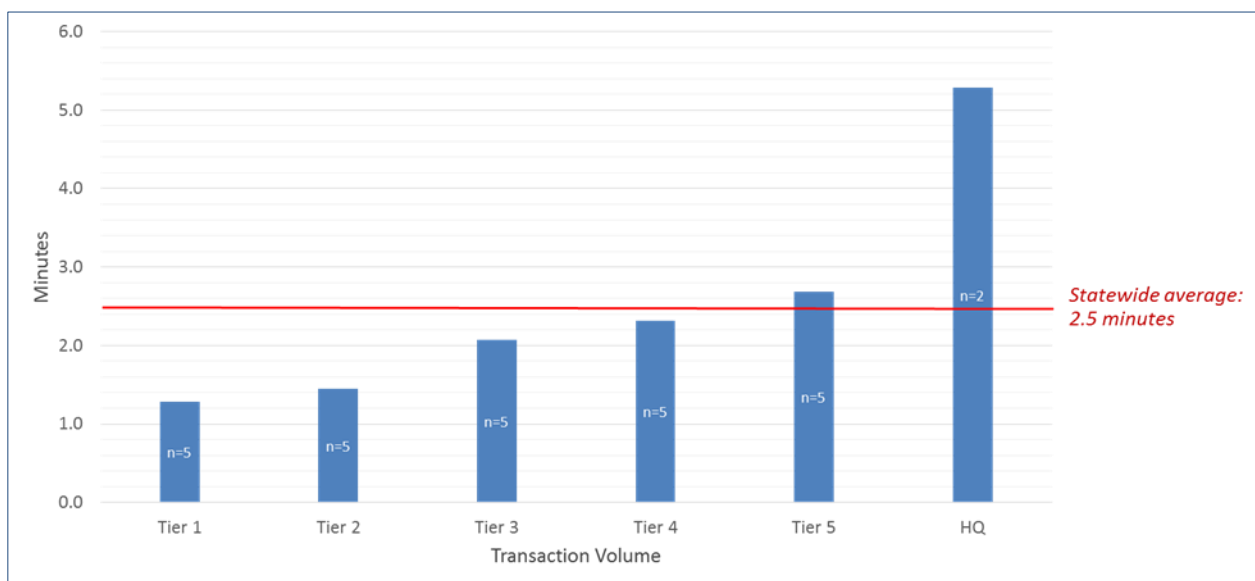


Figure 12 illustrates the relationship between LPA size, as measured by annual transaction volume, and average customer wait time. As is evident from the figure, there is a relationship between wait time and LPA size—the larger an office in terms of the annual number of transactions, the higher the average wait time. Statistical analysis revealed that, overall, approximately 26% of wait time is related to transaction volume and that, on the average, wait time increases by about 4 seconds for every 10,000 unit increase in annual transactions.

As is also evident from the figure, average wait time at the state-run offices (Raleigh and Charlotte) are more than twice the statewide average. The inordinately higher average wait time observed at the two state-operated offices may be explained in part by a staff reduction at the Charlotte office (some staff were temporarily transferred to Huntersville during the study period.)

3.2.2. Relationship between Wait Times and Time of Day

Figure 13. Average Customer Wait Time by Time of Day.

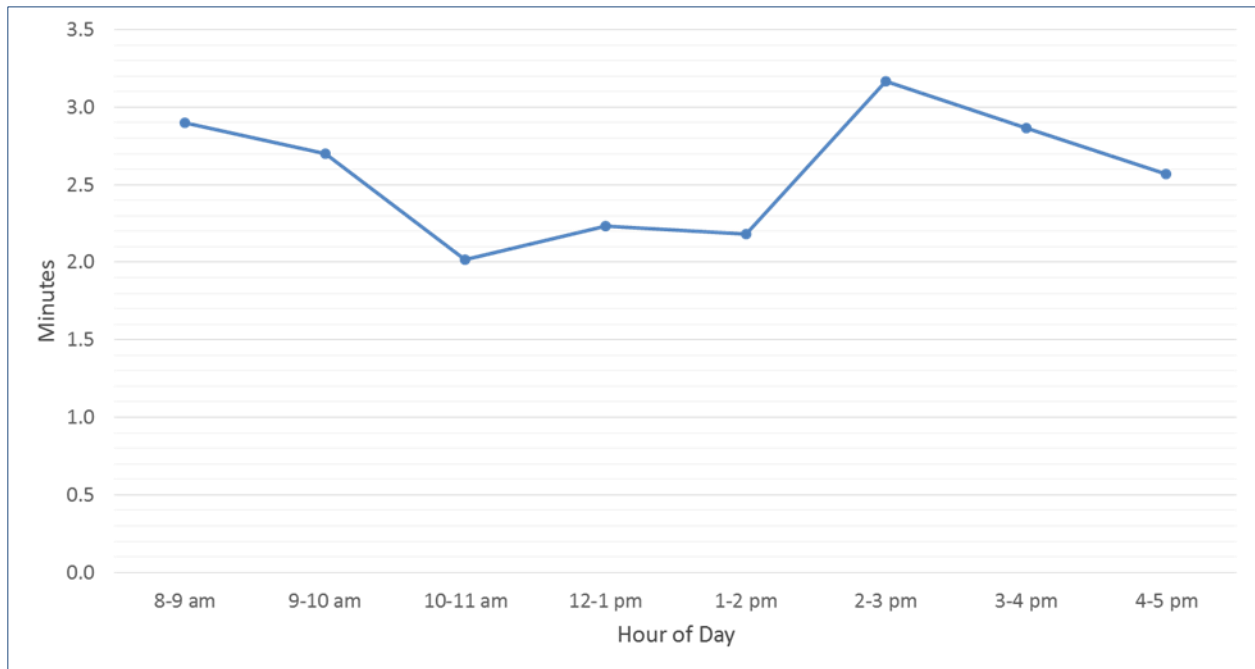


Figure 13 shows customer wait times vary throughout the course of the day. Wait times tend to be highest at mid-afternoon and second highest during early hours of the day. Higher wait times at the beginning of the day are most likely explained by customers waiting in line prior to the opening of an office. Pent-up demand at these offices can account for the longer wait time at opening. The research team speculates that higher wait times from 2:00–3:00 PM may be due to customer mindset, where customers aspiring to beat the end-of-day rush converge at this same time and experience a peak wait time. However, further study is required to fully understand customer arrival patterns in the late afternoon.

3.2.3. Relationship between Wait Times and Day of Week

Figure 14 (top). Average Customer Wait Time by Day of Week.
Figure 15 (bottom). Average Customer Wait Time on 15th of Month.

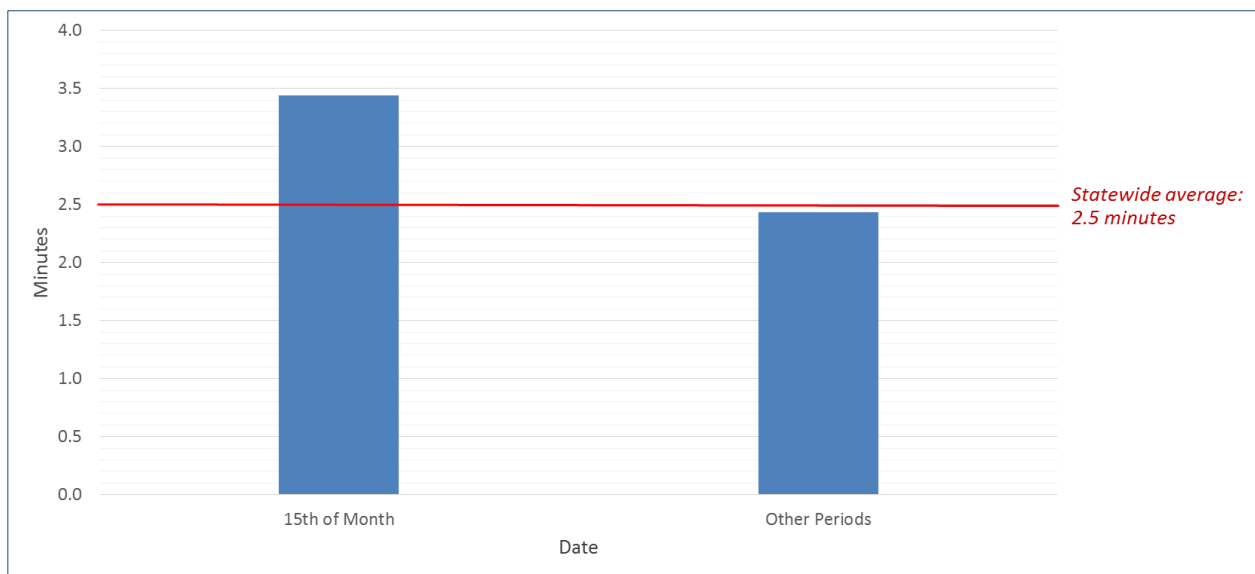
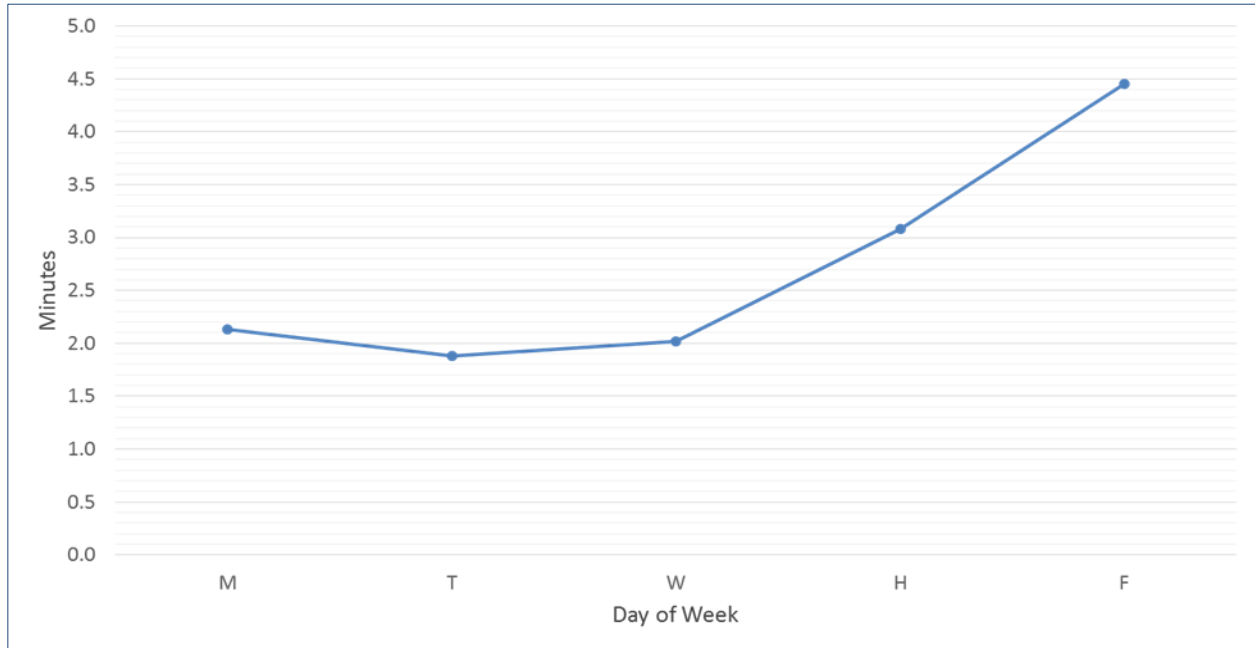
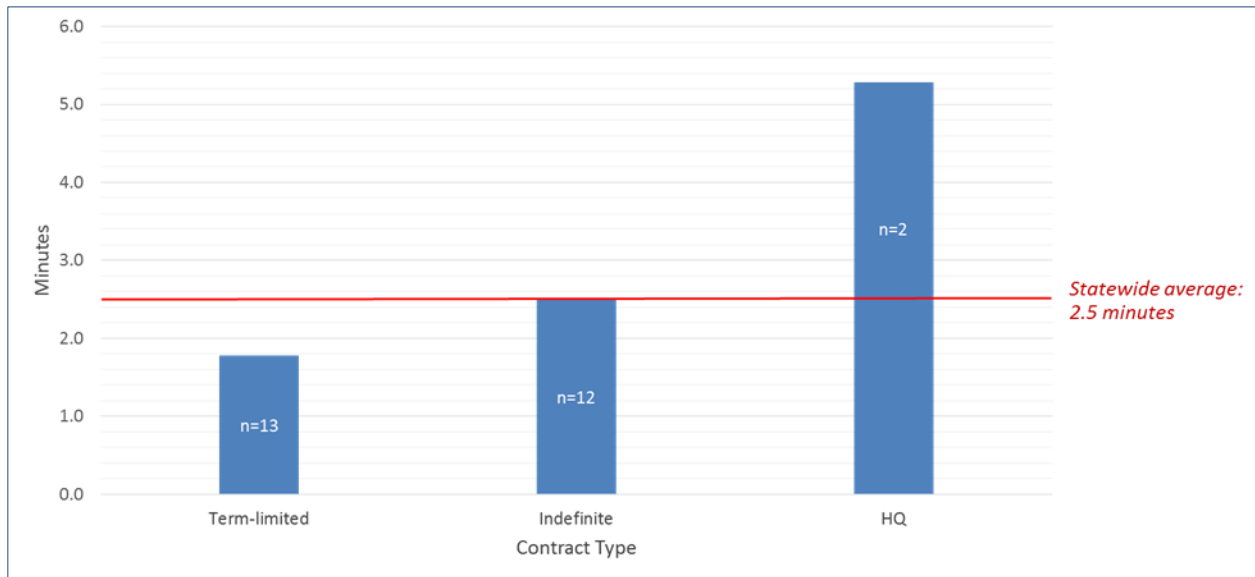


Figure 14 shows wait times become progressively higher from Wednesday through Friday and are inordinately high on Friday. This may be explained, in part, by an increase in customer volume during the latter part of the week. In conjunction with higher customer interaction times, the conclusion is that Fridays are the “worst” days for customers regarding wait times and transaction times. Figure 15 shows that customer wait times are significantly longer on the 15th of the month compared to all other days of the month. For this study, wait times on June 13th were treated as the 15th of the month because June 15th fell on a Sunday when LPA offices were closed.

3.2.4. Relationship between Wait Times and Type of Contract

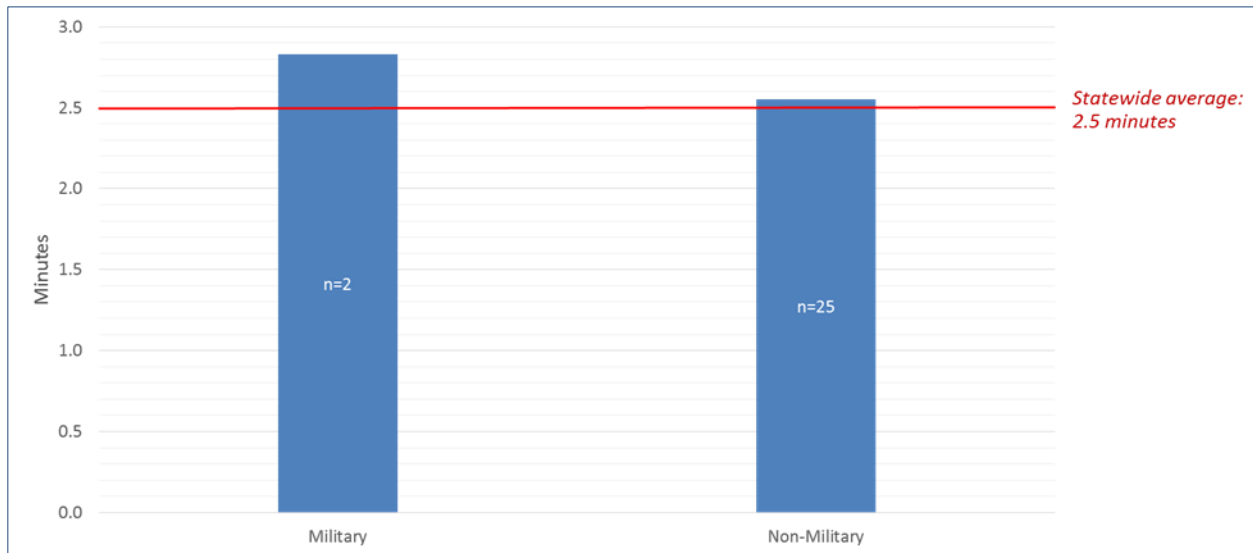
Figure 16. Average Customer Wait Time by LPA Contract Type.



As shown in Figure 16, average wait time is highest for state-run offices, followed by Indefinite contract LPAs and, thereafter, Term-limited contract LPAs. Further analysis of the wait time data by contract type was unable to attribute this difference to lower annual transaction volumes at the Term-limited LPA offices, leading to the observation that per our data, LPA offices with Term-limited contracts provide measurably lower wait times for their customers than do LPA offices with Indefinite contracts.

3.2.5. Relationship between Wait Times and LPAs Located Near Military Bases

Figure 17. Average Customer Wait Time at Military vs. Non-Military LPA Locations.



As shown in Figure 17, customers at LPA offices located near military bases have, on average, a longer wait time than at other LPAs. The same was observed for customer interaction times. This is indicative of an increased challenge for LPA offices that primarily serve military personnel, which may contribute to a lower level of customer service at these LPA offices. Further study is required to fully understand what is occurring for the discrepancies in these offices.

3.2.6. Key Observations from Analysis of Customer Wait Time Data

The analysis of wait time data presented above leads to the following salient observations:

1. The statewide average wait time for customers at all LPA offices is 2.5 minutes. The average wait time at the two state-run offices (Raleigh and Charlotte) is significantly higher. Between the contracted LPA offices, those on Term-limited contracts have a lower average wait time than those on Indefinite contracts.
2. The most important factor affecting wait times at an LPA office is its size as measured by the annual number of transactions conducted at that office; the larger the office, the higher the average wait time.
3. Average wait time is highest at the start of the day and in the post-lunch period of 2:00–3:00 PM. Average wait time tends to grow significantly from Wednesdays to Fridays with the average on Fridays reaching 4.5 minutes. In conjunction with higher customer interaction times, the conclusion is that wait times become progressively worse from Wednesday to Friday, with Fridays being the “worst” days for customers regarding wait times and transaction times at LPA offices. This issue is further compounded when Fridays fall on the 15th of a month. Such inordinately long wait times at these peak periods is a cause for customer dissatisfaction.
4. Average wait time at LPA offices located near military bases is higher than the other LPA offices. In conjunction with the higher customer interaction times at such military-serving LPA offices, this may contribute to a lower level of service at offices that primarily serve military personnel.

3.3. Analysis of Data from Incomplete Transactions

3.3.1. Overview

The research team observed that 28.5% of customer interactions resulted in incomplete transactions. Alarming, this was the second largest interaction type observed. Incomplete transactions took 1.57 minutes on average and, therefore, may be one of the largest reasons for poor customer satisfaction in North Carolina.

At present, data on the causes and nature of incomplete transactions are unavailable. Anecdotally, many suggest that “Tax and Tag” implementation has contributed significantly to the number of incomplete transactions. Independent verification of that fact has not been done; however, an interview with NCDMV staff identified the following as common reasons for incomplete transactions:

- Inadequate funds to pay for required transactions;
- Documents are missing or not filled out properly;
- Customer does not have the proper form of ID, e.g., driver license, etc.;
- Miscellaneous “blocks” placed on a vehicle or customer, e.g., inspection, insurance, license and theft, etc.;
- Incorrect form of payment, e.g., starter checks, wrong credit card, etc.
- Most military personnel are tax-exempt, proof of which must be first obtained from the County tax office. However, many visit the LPA on their first attempt without such proof, resulting in an incomplete transaction.

Lack of data on incomplete transactions makes it impossible to draw statistically valid conclusions on the causes and nature of the problem. However, anecdotal evidence indicates that the frequent occurrence of incomplete transactions may have been caused in some part by the recent implementation of the “Tax and Tag” program. More detailed study and monitoring is recommended to address this issue.

3.3.2. Relationship between Incomplete Transactions and Size of LPA (as measured by the annual number of transactions)

Figure 18. Percentage of Incomplete Transactions by LPA Annual Transaction Volume.

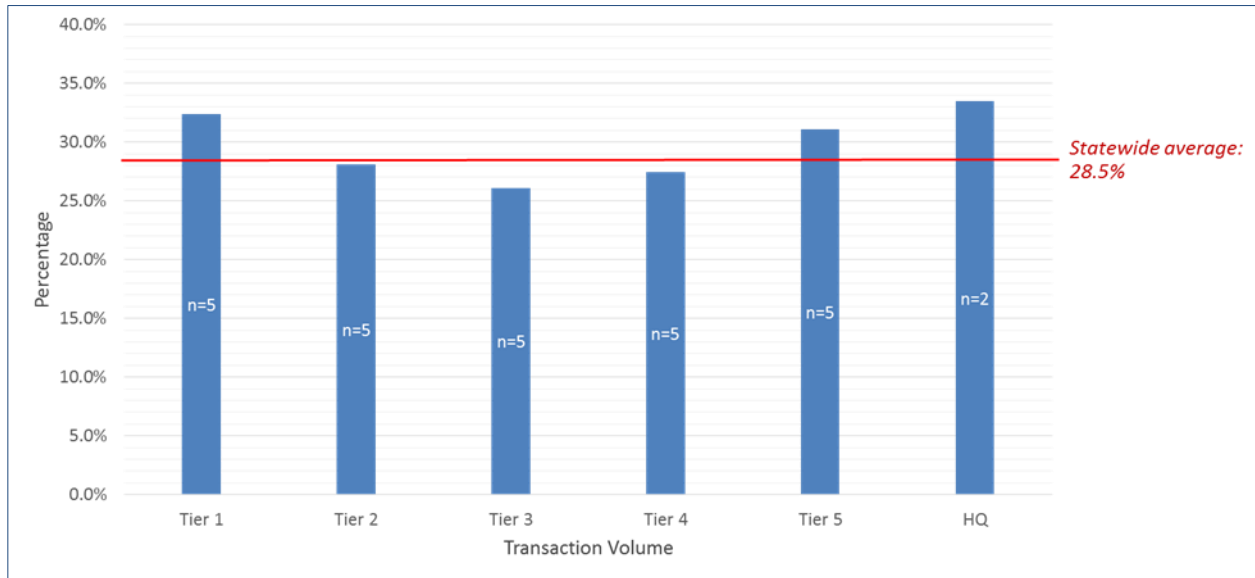
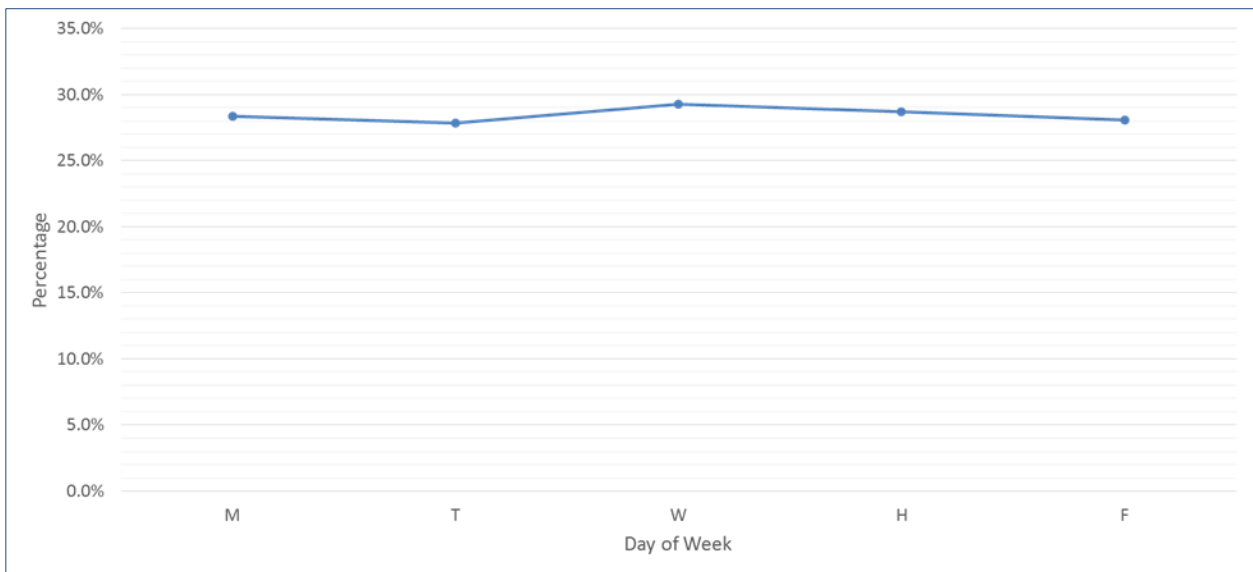
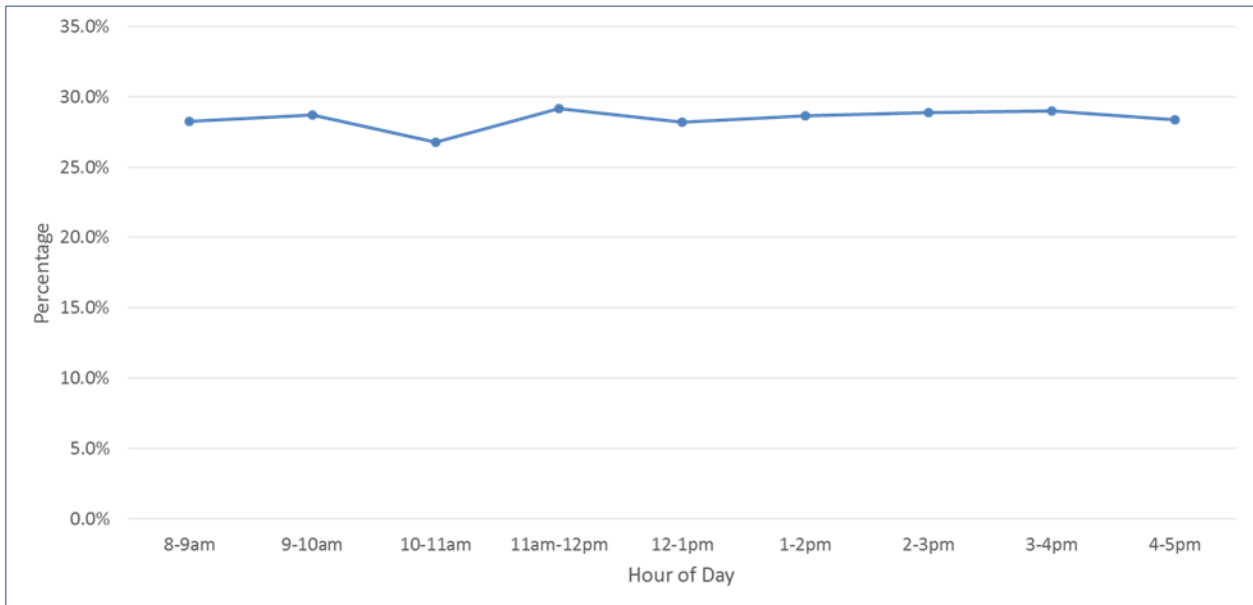


Figure 18 shows incomplete transactions occur at a statistically consistent rate in offices of all transaction volumes. However, there are slightly fewer incomplete transactions in the middle volume offices. It is noted that slightly higher rates are seen at both the high and low end offices by volume. More detailed study and data is required to understand this variation.

3.3.3. Relationship between Incomplete Transactions and Time of Day and Day of Week

Figure 19 (top). Percentage of Incomplete Transactions by Time of Day.
Figure 20 (bottom). Percentage of Incomplete Transactions by Day of Week.



As shown in Figures 19 and 20, the percentage of incomplete transactions remains constant throughout the time of day and the day of week. No statistically significant variation is observed in either analysis.

3.3.4. Relationship between Incomplete Transactions and Type of Contract

Figure 21. Percentage of Incomplete Transactions by LPA Contract Type.

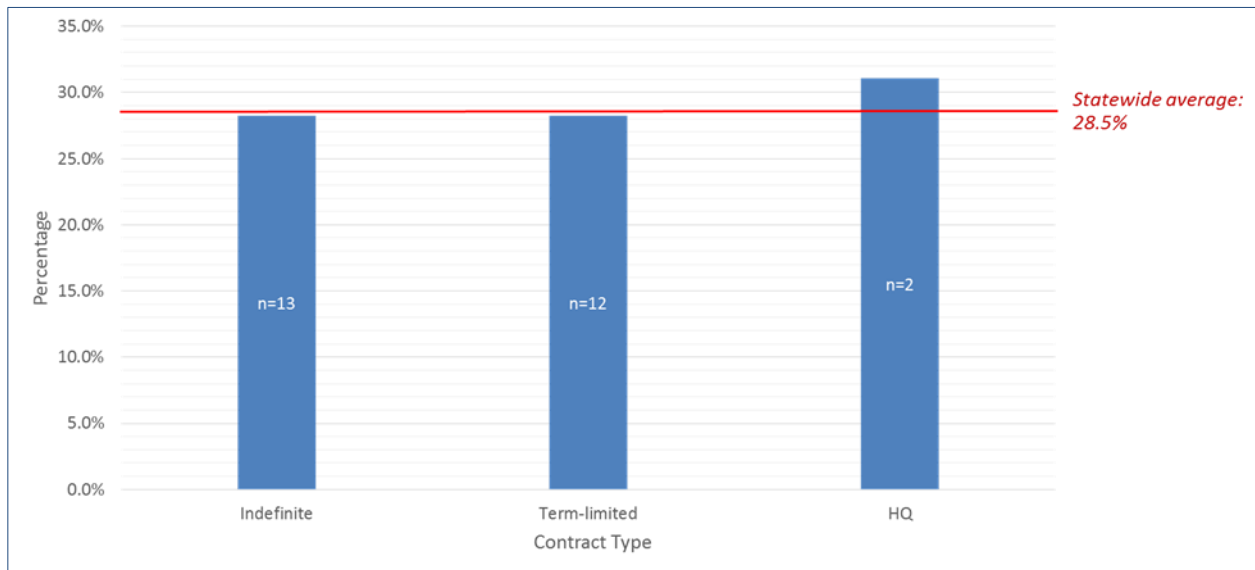


Figure 21 shows the percentage of incomplete transactions remains almost constant regardless of contract type, and is slightly higher at state-run offices (Raleigh and Charlotte).

3.3.5. Relationship between Incomplete Transactions and LPAs Located Near Military Bases

Figure 22. Percentage of Incomplete Transactions at Military vs. Non-Military LPA Locations.

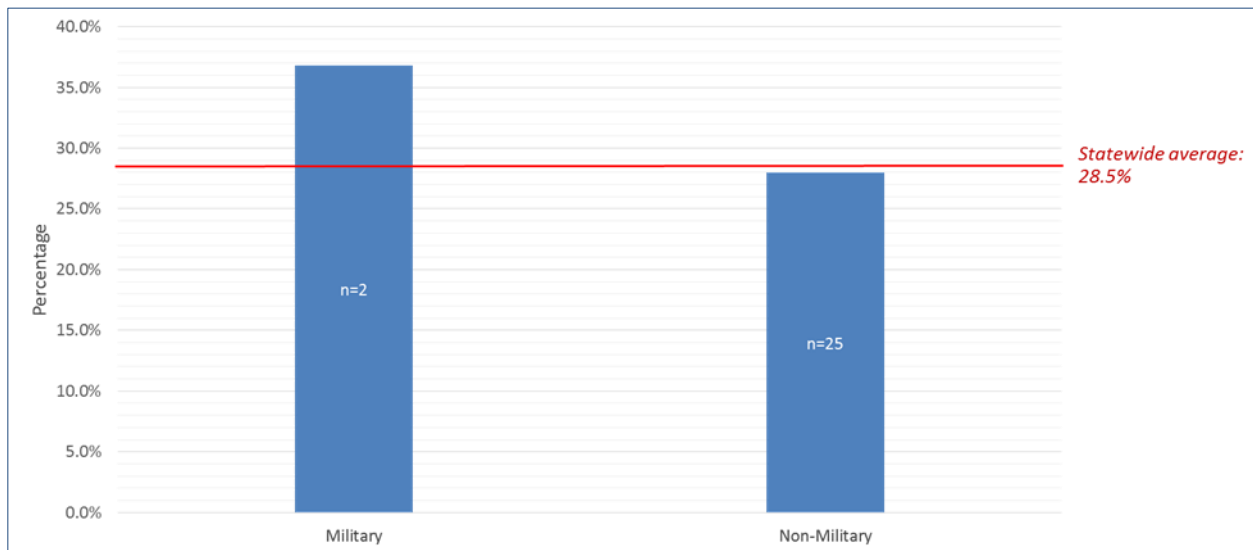


Figure 22 shows customers at LPA offices located near military bases experience a much higher percentage of incomplete transactions. This may be another indicator of a lower level of customer service provided at LPA offices serving large numbers of military personnel in North Carolina. Further study is required to fully understand what is occurring in these offices.

3.3.6. Key Observations from Analysis of Incomplete Transaction Data

The analysis of data pertaining to incomplete transactions presented above leads the following salient observations:

1. Incomplete transactions represent a significant customer service problem for NCDMV as well as a major cause of lost productivity. North Carolina loses over five person-years due to incomplete transactions, even without accounting for travel time by customers visiting the LPA offices. Incomplete transactions occur at relatively constant frequency throughout the day and through the week and at similar rates across all LPA offices. This underscores the ubiquitous nature of the problem and, therefore, the need to investigate causes and possible solutions.
2. In keeping with observations about average interaction time and average wait time, it is observed that the percentage of incomplete transactions is higher at LPA offices located near military bases. This may be yet another indicator of the lower level of customer service available to military personnel at LPA offices in North Carolina.

3.4. Analysis of Non-Interaction Time Data

3.4.1. Overview

This section focuses on the data collected regarding the total amount of time that elapses in an LPA office where the employee is not engaged in serving a customer. The data analysis provided the opportunity to make a coarse approximation of what is described as non-interaction time. In the service industry this time is often called “idle time.”

Since presumably the employees of the LPA offices are engaged in other activities pertaining to the office, this time is a surrogate for what may be considered “overhead” in terms of labor at an LPA office. Given that the Program Evaluation Division (PED) Report⁵ pointed to labor as the largest component of operational costs of the LPA office, this estimate of non-interaction time provides the only insight into the annual costs of operating an LPA office.

3.4.2. Relationship between Non-Interaction Time and Size of LPA (as measured by the annual number of transactions)

Figure 23. Non-Interaction Hours per Day by LPA Annual Transaction Volume.

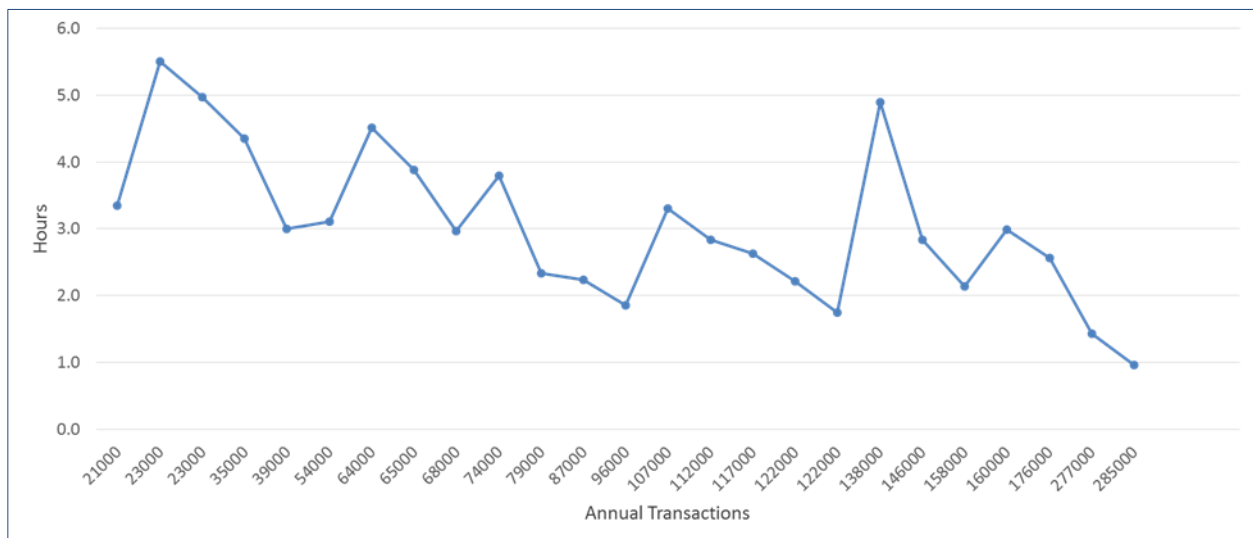


Figure 23 shows non-interaction time in an assumed eight-hour work day. Non-interaction time was derived from the *non-interaction time quotient* for each office.⁶ Not surprisingly, the non-interaction time on the average decreases as transaction volumes increase.

⁵ Program Evaluation Division. “Contract Agency Vehicle Registration and Titling Services Are Cost Efficient, but Contracts Need Performance Terms.” Final Report to the Joint Legislative Program Evaluation Oversight Committee, 2012.

⁶ Non-interaction time quotient is calculated by the following method: customer interaction time was divided by customer non-interaction time observed for each office. This provided the non-interaction time quotient. This quotient was then used to determine how much time in an eight-hour day comprised non-interaction time and how much time in an eight-hour day comprised interaction time.

Figure 24. Non-Interaction vs. Interaction Time by LPA Annual Transaction Volume.

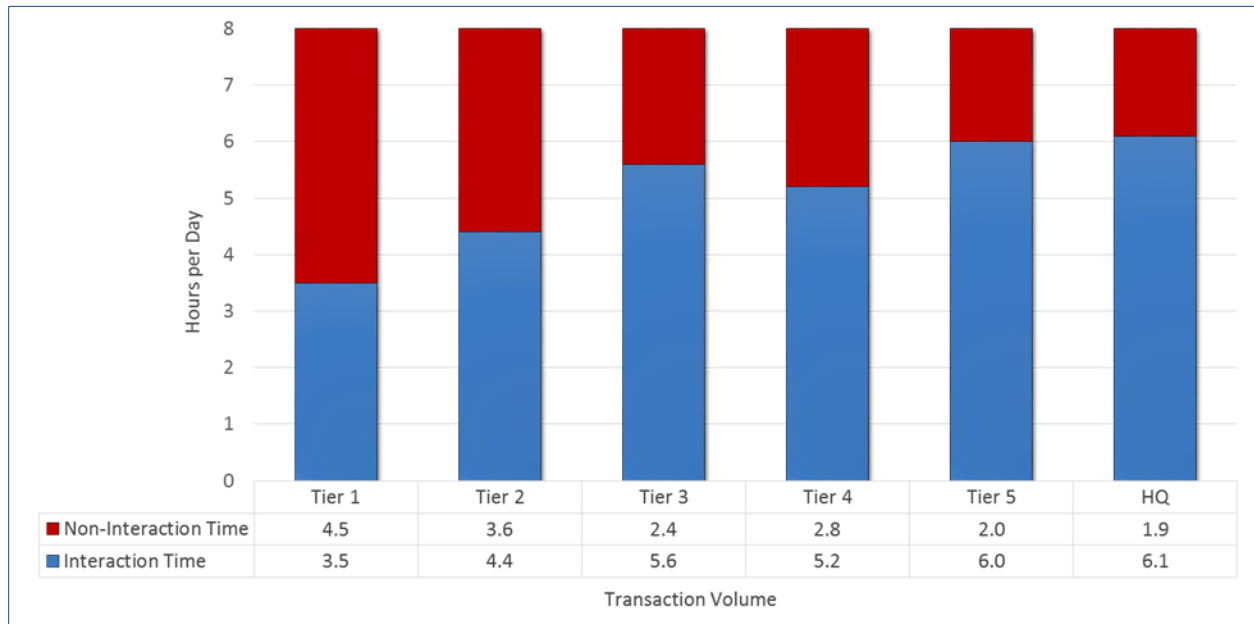


Figure 24 provides a more refined analysis of the conclusion presented in the previous figure. It demonstrates how non-interaction time varies across the five tiers. The chart illustrates excess capacity particularly at Tier 1 and 2 offices. This suggests an opportunity to consolidate and better locate offices utilizing facility location theory.

3.4.3. Key Observations from Analysis of Non-Interaction Time Data

The analysis of data pertaining to non-interaction time presented above leads to the following salient observation: Non-interaction time tends to be higher at smaller LPA offices where annual transaction volumes are lower than at larger offices. This suggests that NCDMV has an opportunity to consider evidence-based analytical models that examine demand data, as well as current locations and residual capacities of LPA offices, to derive the “optimal” number and locations of LPA offices so there is better utilization of resources on the aggregate across the state. Wherever feasible, this model should prescribe opportunities for co-location with existing DMV offices. Co-location can improve NCDMV customer service by creating “one-stop service centers” which adds convenience for NCDMV customers and may result in overhead cost savings.

3.5. Analysis of Transaction Times and Compensation Rates

Table 2. Most Common Transactions.

Transaction Type/Cluster (per Customer Interaction)	Average of Customer Interaction Time	Count	Percentage of Completed Transactions
RPS VPT	02:11	8013	64.52%
TIP	01:16	1003	8.08%
VPT	02:09	471	3.79%
IPS VPT	03:36	416	3.35%
IPS VPT NCT HUT	05:24	350	2.82%
DOC	03:23	262	2.11%
PLI	02:58	201	1.62%
RPS	01:56	157	1.26%
NCT HUT	05:35	140	1.13%
IPS VPT OCT HUT	05:50	115	0.93%
REP	03:38	83	0.67%
RPS VPT TIP	02:49	66	0.53%
DUP	02:23	65	0.52%
IPS NCT HUT	05:13	54	0.43%
NCT HUT TPL	05:44	48	0.39%

CODE KEY FOR MOST COMMON TRANSACTIONS	
RPS VPT	Renew Plate Sticker – Vehicle Property Tax
TIP	Turn In Plate
IPS VPT	Issue Plate Sticker – Vehicle Property Tax
IPS VPT NCT HUT	Issue Plate Sticker – Vehicle Property Tax – NC Title – Highway Use Tax
DOC	Document Fee Collection
PLI	Issue Handicap Placard
RPS	Replace Plate Sticker
NCT HUT	NC Title – Highway Use Tax
IPS VPT OCT HUT	Issue Plate Sticker – Vehicle Property Tax – Out of State Certificate of Title – Highway Use Tax
REP	Replace Plate/Sticker
RPS VPT TIP	Renew Plate Sticker – Vehicle Property Tax – Turn In Plate
DUP	Duplicate Registration
IPS NCT HUT	Issue Plate Sticker - NC Title – Highway Use Tax
NCT HUT TPL	NC Title – Highway Use Tax – Transfer Plate

Table 2 shows the fifteen most commonly occurring customer interactions, which account for over 92% of all completed transactions. In the vast majority of the customer interactions observed, a customer conducted a combination (cluster) of transactions during a single interaction with an LPA or NCDMV employee. For example, a Renew Plate Sticker (RPS) and Vehicle Property Tax (VPT) combination was the most common customer interaction, occurring in nearly 65% of the completed transactions.

Table 3. Compensation per Interaction.*

Transaction Type/Cluster	Compensation Total	Compensation/Minute
RPS VPT	\$2.49	\$1.14
TIP	\$1.43	\$1.12
VPT	\$1.06	\$0.49
IPS VPT	\$2.49	\$0.69
IPS VPT NCT HUT	\$4.76	\$0.88
DOC	\$1.43	\$0.42
PLI	\$1.43	\$0.48
RPS	\$1.43	\$0.74
NCT HUT	\$3.70	\$0.66
IPS VPT OCT HUT	\$4.76	\$0.82
REP	\$1.43	\$0.39
RPS VPT TIP	\$2.49	\$0.88
DUP	\$2.44	\$0.60
IPS NCT HUT	\$3.70	\$0.91
NCT HUT TPL	\$3.70	\$0.83

* Compensation listed in this table does not include Notary Fees collected by the LPA offices.

Figure 25. Compensation Rates by Interaction Time.

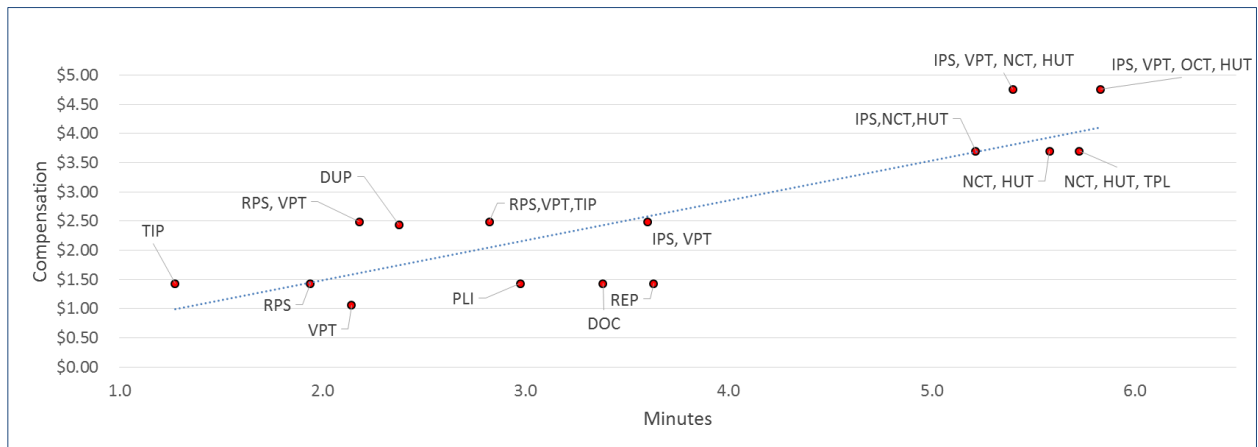
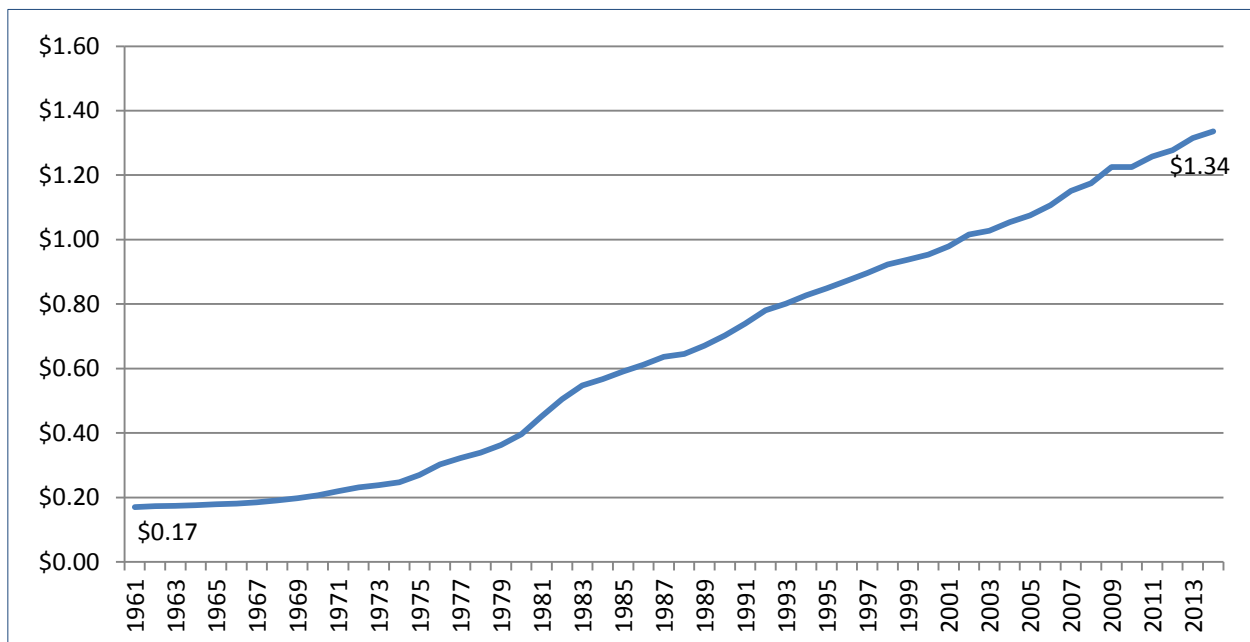


Table 3 shows a calculation of the compensation rate per minute for each transaction or cluster. When viewed together, the data in Tables 2 and 3 show that the two most commonly occurring transaction clusters (RPS VPT, and TIP) account for over 72% of all LPA transactions and are compensated at an average of \$1.14 per minute and \$1.12 per minute respectively. The remaining common transaction clusters are compensated at varying lower rates but their frequency of occurrence is also low. Given that each customer requiring an interaction is unique—as are the LPA employees serving them—it is reasonable to expect that interaction times with different customers will vary even when the vast majority of these interactions falls into the same categories (e.g., RPS VPT, and TIP). Hence, further statistical analysis was performed to see how well, on average, the compensation provided by NCDMV to LPA offices for the fifteen most common transaction clusters correlated to the time spent on each transaction. The results of this analysis (Figure 25) indicate there is a strong statistical correlation between the

compensation rate and the average time spent on each transaction.⁷ This analysis provides a substantial validation of the consistency of the current LPA compensation rates, although it does not make any judgments about the appropriateness of these rates.

Without access to the operational cost data from North Carolina LPA offices, it is not possible for the research team to determine what constitutes fair compensation. However, based upon the analysis previously presented in Phase I of this study that indexed the average LPA compensation rate to inflation over time (Figure 26), the following recommendation for a rate adjustment can be made.

Figure 26. Average LPA Compensation Indexed to Inflation, 1961-2013.⁸



As shown in the above figure, if the first compensation rate of \$0.17 from 1961 had kept pace with inflation, then today's compensation rate would be \$1.34 per transaction. By contrast, data supplied by NCDMV for 2013 indicates that the average amount paid to a LPA contractor is \$1.31 per transaction. Thus, this analysis concludes that the current average compensation rate is 2.3% lower than its inflation-adjusted counterpart. Said differently, it is recommended that adjusting for inflation justifies that compensation rates be increased by 2.3% from their current values. If NCDMV wishes to adjust the increase to account for future inflation, then one commonly-used business practice would be to include future anticipated inflation into the current increase. For example, if compensation rates are expected to be level for the three-year period while transitioning all LPA offices to a uniform term-limited, performance-based contract (as recommended in Phase I of this study) then an additional 6.1% increase would ensure that compensation rates will stay in tandem with anticipated inflation over the transition period.⁹

⁷ The R-square value of the regression between the two variables shown in Figure 25 was approximately 0.7.

⁸ Inflation rate source: "U.S. Inflation Rate by Year," *Inflation Table*. <http://www.multpl.com/inflation/table>. Historic compensation rates source: North Carolina General Statutes § 20-63(h).

⁹ Assumes that the future U.S. inflation rate will be 2% for the next few years.

3.6. Analysis of Data from Other DMV Offices

This section contains the analysis of the qualitative and quantitative data from surveying other states in the U.S, as well as personal interviews with senior managers in DMV offices in Missouri and Indiana. The essential focus of the analysis presented below is on processes and procedures in NCDMV that are comparable in terms of benchmarking. Wherever applicable, the discussion of results also contains descriptions of best practices that merit consideration by NCDMV for implementation.

3.6.1. Analysis of Data from National Survey

The primary observation from the qualitative and quantitative data entered by the 31 states that responded to the national survey is that DMV offices across the country are organized in very different ways and handle vehicle titling and registration in different ways also. This makes it impossible to make direct comparisons across all U.S. states regarding processes and procedures. Nonetheless, certain trends and practices are discernible as described below. To begin with, in most states, vehicle titling and registration services are offered exclusively by DMV; in some others, these are provided primarily by counties or other political jurisdictions. And as noted in the PED Report, 18 states in the country use private contractors like North Carolina.

(A) Organizational Structure

Of the 31 states that responded to the survey, 24 (representing 77.4% of the sample) report that vehicle titling and registration is handled by a Department of Motor Vehicles and/or Department of Transportation. Other state departments that handle these services are: Department of Revenue (9 states, 29% of the sample) or Department of Secretary of State

(3 states, 9.67% of the sample). This indicates that North Carolina has an organizational structure for vehicle titling and registration that is similar to that of the overwhelming majority of U.S. states.

(B) Organizational Resources and Productivity

Among other data, the survey requested the states to provide information on the following: total number of employees engaged in providing vehicle titling and registration services; annual number of vehicle titling and registration transactions processed; annual expenditures related to vehicle titling and registration services in the state.

The overall conclusion is that these numbers vary tremendously across states depending on how vehicle titling and registration services are offered as noted in the introductory paragraph of this section. At the high end, states such as California and New York employ 4,855 and 1,712 employees, spend \$464 million and \$41 million respectively in processing 9 million and 6 million transactions annually in each of these two states. However, responses from each of these states indicate that these employees also provide other DMV related services in addition to vehicle titling and registration. At the low end, states such as South Dakota and Mississippi employ 40 and 50 employees, spend \$2.6 million and \$2.19 million respectively in processing 175,500 and 414,000 transactions annually in each of these two states—the responses from these two states indicate that the number of employees quoted pertains to those primarily involved in vehicle titling and registration. This leads to the overall conclusion that the data do not support a statistically credible direct comparison of operational performance among DMVs across the country. Nonetheless, one approach to compare North Carolina's vehicle titling and registration services to national benchmarks would be to look at two measures of productivity—*Labor Productivity* (as measured by annual number of

transactions processed per employee) and *Capital Productivity* (as measured by \$ spent by DMV per transaction). Both measures are presented below.

Labor Productivity

Because NCDMV uses private contractors to deliver most of the vehicle titling and registration services, this measure of productivity would not be considered useful for management purposes. However, since state employees process vehicle titling and registration at two large offices (Charlotte and Raleigh) it is interesting to compare the labor productivity of these two state-owned offices to the national median. According to the survey results, for states that use state employees to conduct titling and registration services, the median annual labor productivity is 11,309.52 transactions per employee per year. By comparison, NCDMV provided data indicates that the combined labor productivity of the Charlotte and Raleigh DMV offices is 12,358.11 transactions per employee per year. *This indicates that these two NCDMV offices exhibit a labor productivity rate that is higher than the national median.*

Capital Productivity

Because of the immense differences in how these services are offered across the different states, Capital Productivity measures across the country vary from as little as \$0.97 per transaction in Texas to a high of \$51.56 per transaction in California. Nonetheless, the survey results indicate that the median expenditure by a state per vehicle titling/registration transaction is \$5.72. According to the PED Report, NCDMV spends approximately \$2.12 per transaction with LPA contractors.¹⁰ Thus the survey data indicate that LPA contractors in North Carolina performed vehicle titling and registration at a per transaction expenditure rate that is lower than

¹⁰ Note that the PED study was conducted before implementation of the “Tax and Tag” program and therefore, the \$2.12 per transaction figure does not

the national median; said differently, *the average Capital Productivity of the LPA offices is higher than the national median.*

(C) Performance Measurement

Across the U.S., 69% of DMV offices have processes and procedures in place to measure the performance of vehicle titling and registration services. As expected, the two most common performance measures used are:

- Wait times (60% of states measure this); and
- Error rates (52% of states measure this).

By comparison, NCDMV measures error rates and works with LPA offices that exceed expected standards; however wait times are not measured in North Carolina at the moment.

Regarding wait times, two observations are interesting to note. First, several states also measure the number of days it takes for a customer to receive a new title or license plate as a measure of customer wait times. Second, some states, such as Louisiana, use the QMatic product to monitor and measure customer wait times in offices.¹¹

(D) Customer Satisfaction Measurement

At a basic level, every state has processes and procedures available to ensure that customer complaints regarding vehicle titling and registration services are handled in an appropriate manner. Unfortunately, for most states this is all that the DMV offices have implemented by way of improving customer satisfaction. The overall conclusion from the national survey is that *a sustained and systematic focus on measurement of customer satisfaction and implementing a continuous improvement system based on the same has not been institutionalized across the vast majority of DMV offices in the country.*

include the additional compensation provided to LPA offices for same.

¹¹ <http://www.identisys.com/products/category-details/-in-department/departments/customer-flow-management>

Nationally, only 48% of DMV offices currently measure customer satisfaction (at any level at all) with vehicle titling and registration services—this makes North Carolina among the 52% that does not. Even of the states that measure customer satisfaction, only 36% have an institutionalized system (e.g., a regularly administered survey or requiring it in the contracts issued to external contractors) in place to implement the same. Two exceptions noted are Indiana and Missouri—please see below for additional details on how these two states have implemented systems to improve customer satisfaction. Of the states that measure customer satisfaction, only 16% have established published benchmarks/metrics that are used as a part of the evaluation system—for example, Indiana uses 10 minutes of wait time as a benchmark for the performance of an office. Finally, the survey indicated that Florida is the only state where not only is customer satisfaction and office performance measured; these results are also made publicly available.¹²

3.6.2. Key Observations from Missouri and Indiana

As noted above, personal interviews were conducted with high-ranking DMV officials in Missouri and Indiana on July 28–29, 2014. The DMV offices in these two states were chosen in consultation with NCDMV and approved for the following reasons. Indiana has been an AAMVA award recipient for its implementation of policies and procedures regarding quality improvement. Missouri, on the other hand, uses private contractors to deliver vehicle titling and registration services just as it is done in North Carolina. The officials interviewed in these two states were as follows:

Missouri: Jackie Bemboom (Director of Motor Vehicle and Driver Licensing Division), Cathy Herigon (Administrator, License Offices Bureau),

Steven Hoskins (Administrator, Motor Vehicle Bureau), Steve Paneitz (Field Coordinator, License Offices Bureau), Terri Harris (license office contractor located in O’Fallon, MO).

Indiana: Donald Snemis (Commissioner, Indiana Bureau of Motor Vehicles), Shannon Dickson (Director of Vehicle Programs Policy and Programs).

Missouri: Summary of Interview Notes

In Missouri, the Motor Vehicle and Driver Licensing Division is a part of the Department of Revenue. The License Offices Bureau is a part of this division and is responsible for contract management and compliance regarding the private contractors who perform almost all of the vehicle titling and registration services in the state. A note of difference from North Carolina is that in addition to titling and registration, the private contractors also are required to offer driver license related services such as renewal of driver licenses. Annually, about 7.6 million titling and registration transactions are conducted in the state across 179 offices that are overseen by 14 field coordinators (12.78 offices/inspector). By comparison, North Carolina processes approximately 14.185 million transactions each year (from the PED Report), 13 million of which are handled by 118 private contractors who are overseen by 12 field service representatives (9.83 offices/inspector). As noted above, almost all titling and registration operations in Missouri are handled by private contractors. Prior to 2009, these contractors were appointed by the Governor; since then, competitive bidding has been used.

(A) Contract Administration

One of the best practices identified in Missouri is that they have a continuous improvement process in place which has been used to improve the contract administered based on the experiences gathered since 2009 when competitive bidding

¹² <http://services.flhsmv.gov/performance/dashboard/>

was first put in place. Ingrained within this is an emphasis on making the contract updates with a view to enhancing customer service—another exemplary practice. The new contract is extensive and runs 54 pages (without attachments and appendices) and is presently being rolled out as and when license offices come up for renewal. Per Ms. Herigon, this new contract has been responsible for a “*big culture turnaround*” in terms of service and performance by the contractors and its terms and provisions are determined entirely by the staff of the Division without requiring any legislative approval or action.

The term of each contract is now between 3.5 to 5.5 years and allows for a contractor to re-bid after the term is over. This contract is very explicit in terms of expectations of the state regarding customer service as well as performance. For example, the expectation is that wait times at an office will be less than 15 minutes and that customer complaints will be recorded and addressed with short turnaround times. The expectation of the Division is that even 2–3 complaints per year by customers against an office is too high (the interviewees identified only one office that readily came to mind with such a record).

It must also be pointed out that such high standards of service were in display when a member of the research team visited a license office in O’Fallon, MO—in the time spent making observations at this office, several customer service representatives and even the office manager were actively serving customers and the wait times observed were under one minute. As further evidence of customer service, this office has a special room that is reserved exclusively for meeting with customers whose titling/registration transactions are inordinately complex and such customers can make special appointments for the same—a practice that NCDMV should investigate for implementation in LPA offices that serve military personnel.

The field coordinator responsible for an office is also responsible for verifying reported wait times, service times, as well as reported resolutions of customer complaints. Additionally, the state sends out evaluation forms to 1000 vehicle owners each month when they receive their titles to gauge the level of their satisfaction with the services provided.

Regarding error rates, the expectation of the Division is that identified errors should be less than 5% of all examined records (just as in North Carolina, the Division examines only a sample of transactions for errors); if higher, fines (referred to as “Liquidated Damages” in the contract) are assessed to the contractor. Another way in which the contract enforces high customer service is by requiring that the contract manager be physically present in the office each week so that all contractors become intimately aware of the operations of their respective offices.

Another best practice identified in Missouri is the evaluation system used by the Division in assessing bids and awarding contracts. To begin with, the experience of the Division is that on the average they receive about 3 bids for every Request for Proposal (RFP), varying from 1–2 bids for the smaller offices and as many as 7 bids for the larger ones. The Division uses a 200-point system to evaluate these bids that is extensive and assesses each bidder on various dimensions some of which include:

- Does the contractor have prior experience relevant to the services required by the RFP?
- How many staff is the contractor proposing to employ, including office managers, assistant managers, and supervisors? How much time will management staff spend working directly with customers in the office?
- What kind of customer service features/ programs (such as curbside service,

weekend services, and extra services) is the contractor proposing to provide above and beyond what the RFP calls for?

- What percentage of the annual processing fees collected is the contractor willing to set aside and “Return to State”? This return rate is as high as 15% for some contractors.
- Preference is given to not-for-profit (as defined by IRS guidelines) organizations, political jurisdictions (e.g., counties, cities) and businesses owned by women and underrepresented minorities. In fact, of the 115 offices that are currently administered under the new contract, 29 or approximately 25%, are administered by not-for-profit organizations or political subdivisions.

(B) Equipment Used by License Offices

In contrast to North Carolina, the Division pays for all computer equipment used by the license office. However, each office is permitted to purchase additional equipment at their own expense to improve customer service and if it does so, it receives additional preference in the bid evaluation system.

(C) Leveraging Information Technology

The Division uses legacy systems that are programmed in COBOL¹³ for much of the vehicle titling and registration services. Because of the limited expandability of the system, various “bolt on” additional software has been custom developed to enhance the basic system and offer more advanced services. This lack of expandability is also one of the significant opportunities for improving the operations of the Division since it prevents system-wide integration that is necessary to provide high quality motor vehicle services in today’s world. For example, the inability to integrate information systems is a

major reason why the percentage of registration (license plates) renewals that is done online in Missouri is 6%–7%, which is lower than the corresponding rate in North Carolina (~13%).

Indiana: Summary of Interview Notes

In the state of Indiana, motor vehicle services are almost exclusively offered by state employees working for the Bureau of Motor Vehicles (BMV). BMV is led by a Commissioner who reports directly to the Governor—an organizational structure that makes it relatively easier for the Commissioner to affect changes within the department. BMV performs 4.1 million vehicle titling and registration transactions annually, making it much smaller in operational scope than North Carolina. Almost all of these titling and registration services are offered by offices administered directly by BMV; however, a small group of external contractors—such as Computerized Vehicle Registration (CVR), DealerTrack, EnviroTest, and Express Motor Vehicle Association—also provide such services to auto dealers.

As attested to by the awards it has received from AAMVA as well as verified by the research team through the interview, the Indiana BMV maintains an excellent reputation for the quality of the services as reported by its customers. However, this wasn’t always the case and prior to 2006, wait times in the offices were inordinately high (around 30 minutes). Since that time, led by then Governor Mitch Daniels and Commissioner Ron Stiver, the Bureau embarked on a journey of quality improvement and the results have been impressive. One indicator of this, albeit anecdotal, is that in the past, the American Automobile Association (AAA) provided titling and registration services to the citizens of Indiana in addition to BMV and attracted many customers because of the poor quality of service received at

¹³ Common Business Oriented Language

BMV offices. However, AAA has recently decided to stop offering such services, presumably because customer demand at its offices has declined in light of service improvements made by BMV.

(A) Performance Assessment and Assurance

This is clearly a best practice identified by the research team that is implemented by BMV in Indiana. Per the interviewees, BMV has instituted detailed guidelines for performance and customer service assessment for every office on measures such as wait times, transaction error rates, employee productivity (as measured by number of error-free transactions performed annually) and every office is evaluated and held to these standards by senior management of BMV. Among the procedures used by BMV to assess performance and ensure that standards are maintained are the following:

- System programming that enables BMV to report a “scorecard” of various performance metrics for the branch offices. Additionally, this programming allows BMV to monitor the wait times on a real time basis and intervene quickly if and when an office starts exhibiting exceptionally high wait times.
- A SharePoint platform-based system where the manual containing all regulations, processes and procedures used by BMV for vehicle titling and registration is available online in a user-friendly manner to all employees including the offices. This platform has a simple but powerful search capability which minimizes calls made to the Help Desk. Further, the manual is updated when necessitated by change in procedures, rules or nature of issues faced by the offices.
- BMV has instituted a process by which field offices are not responsible for processing complex vehicle titles (for example, those involving liens or special inquiries). Instead, BMV has centralized the processing of all

these complex titles in its main office at Indianapolis. Per the interviewees, this has made the processing of routine titling and registration services at the branch offices much more efficient.

- Managers of BMV perform regular audits of the offices to ensure assurance of performance standards.
- To ensure one-stop shop service, BMV has instituted a “*One Call, One Resolution*” program where all customers call one central number at BMV if they have questions or complaints. BMV also uses an “Escalated Callback Tracking System” to monitor call back statistics and response times.
- To minimize inventory costs, BMV has instituted a centralized process of fulfillment for license plates throughout the state. The individual offices do not store license plates; instead, once issued by BMV, the vendor is informed and is responsible for shipping the license plate directly to the customer. Since its inception five years ago, this has resulted in substantial savings in inventory costs for BMV.
- BMV employees are routinely encouraged to submit recommendations for continuous improvement in operational performance of its processes and procedures. The state also has a system of awarding bonuses to employees whose ideas for continuous improvement are judged to be among the best. It was clear during the interview that BMV maintains an operational framework that is grounded in the principles of continuous improvement.

(B) Measurement of Customer Satisfaction

This is another national level best practice that is implemented at BMV. The Bureau use a third party to administer a quarterly survey of all of its customers to gauge their satisfaction with the

services they have received from its offices. The third-party firm is also responsible for analyzing the customer satisfaction data to highlight important trends or opportunities for improvement—for example, the latest report (June 2014) identifies that wait times are the single greatest predictor of customer satisfaction and that younger customers report less satisfaction than older ones. Overall, BMV scores high in terms of customer satisfaction in these surveys per the interviewees, BMV customers have reported satisfaction levels in excess of 90% consistently in the recent past.

(C) Leveraging Information Technology

It is clear that one of the critical success factors of BMV, as well as being a national level best practice, has been its ability to leverage information technology (IT) to improve its internal operational performance as well as the quality of service it provides to its customers. In the opinion of the research team, this is largely facilitated by the fact that BMV has its own IT employees which make it easier for the IT personnel to understand BMV procedures and therefore use technology to implement improvements.

A prime indicator of success exhibited by leveraging IT is that presently 50% of transactions by customers of BMV are done online, with about 5% being completed via mobile applications; their internal data showing that while a face-to-face transaction at BMV costs approximately \$8.30, and online transaction costs much less at \$1.37 per transaction.¹⁴ Another example of successfully leveraging IT is the description above of the performance assessment and assurance systems (for example, real-time scorecards of performance metrics) used by BMV since those are enabled by technology.

¹⁴ It also must be noted that, when initiated, BMV incentivized online transactions by giving a \$5 discount

One final example of successfully using technology is that BMV sends renewal reminders via email rather than through the postal service—a move that saves them over \$150,000 annually. However, one area where BMV would like to see improvements based on technology is the usage of “customer service kiosks,” especially for those customers that choose to perform their transactions in cash. Past deployment of such kiosks was not successful and in the current year, BMV has contracted with a third-party provider to field test two kiosks at different locations in the state.

(D) Other Salient Management Issues

When asked about the most important management issues currently being faced by the Commissioner, the first one identified was “rightsizing” the number of BMV offices primarily through closure and consolidation of smaller and rural offices. State departments in Indiana, including BMV, are discussing the piloting of the concept of “State Service Centers” that would co-locate all state agencies within one building complex to serve an entire region, thus reducing overhead. Per the Commissioner, the savings obtained by such co-locations far outweigh the relocation costs; quoting an example of one BMV office, he offered that while the cost of relocation was only \$25,000, the savings accrued in one year alone were \$40,000 in direct costs and an additional \$20,000 in overhead costs.

The second salient management issue identified by the Commissioner was an ability to increase the compensation of his employees but based strictly on performance as measured by objective metrics such as productivity, process turnaround times, wait times, transaction completion times, and error rates.

for online renewals. The incentive scheme was discontinued after adoption rates increased.

4. Conclusions and Recommendations

1. LPA Performance

- On average, a customer in the state of North Carolina waits 2.5 minutes at an LPA, and the total interaction takes 2.6 minutes. The customer's total average is approximately 5.1 minutes, which is significantly less than the "10-minute" standard.
- Both Term-limited and Indefinite contract LPA offices, provide good performance regarding wait times and interaction times. However, Term-limited LPA offices exhibit lower average wait times than Indefinite contract LPA offices.
- Wait times become progressively worse from Wednesday to Friday, with Fridays being the "worst" days for customers regarding wait times and transaction times at LPA offices. This issue is further compounded when Fridays fall on the 15th of a month or coincide with payroll days of military personnel being served. Inordinately long wait times at these peak periods is a cause for customer dissatisfaction.
- State-run offices have significantly higher wait times and slightly higher interaction times than LPA offices.

Recommendation: The largest LPA offices (Tier 4 and Tier 5) and state-run offices in Raleigh and Charlotte should maintain extended hours on peak days, such as Wednesdays through Fridays, and mid-month days to accommodate peak loads while maintaining reasonable wait times. Suggested time of operations may be 8:00 AM until 6:00 PM.

2. Productivity of Vehicle Titling and Registration Services

- In comparison to other DMV offices, labor productivity (number of transactions per employee) at state-run offices (Raleigh and Charlotte) is higher than the national median.
- Total cost per transaction of LPA offices is lower than the national median.

3. Appropriateness of Compensation

- NCDMV provides cost-effective vehicle titling and registration services through the usage of LPAs at a per-transaction cost that is significantly below the national median.
- The current compensation rates strongly correlate with the time taken to process transactions. However, the average compensation rate in 2013 is 2.3% below where it should be if it had kept pace with inflation.
- Any increase in LPA compensation should be implemented along with a new and uniform performance-based contract for all offices. As one possible example of such a contract, NCDMV should examine the one used in Missouri.

Recommendation: It is recommended that the transaction compensation rates be increased by 2.3% to account for inflation. Additionally, the Vehicle Property Tax (VPT) transaction compensation rate should also be adjusted for inflation, increasing the current \$1.06 rate to \$1.08 per transaction.

4. Customer Service Monitoring

- While 60% of DMV offices in the U.S. measure and monitor wait times, NCDMV does not. By contrast, NCDMV is similar to the 52% of states where customer satisfaction is not presently assessed in a systematic manner.

Recommendation: NCDMV should develop and implement a statewide system for measurement of wait times, performance and customer satisfaction. Standards need to be developed along with objective methods to enforce them.

5. Performance-Based Contracts

- The team continues to find strong basis to recommend that NCDMV implement a uniform, term-limited, performance-based contract for all LPAs.

Recommendation: NCDMV should implement a uniform, term-limited, performance-based contract for all LPA offices and follow the transition plan outlined in the Phase I report of this study. Suggestions for metrics to be used for measuring the performance of LPA offices include:

- a. Average wait time;
- b. Average interaction time;
- c. Percentage of customers who are served within an acceptable time limit;
- d. Error rates;
- e. Customer service as measured by number of complaints and/or scores on an externally conducted consumer survey.

6. Incomplete Transactions

- Incomplete transactions account for 28.5% of all customer interactions. This has tremendous time loss and cost implications for NCDMV, LPA offices, and citizens of North Carolina.
- This is likely a significant source of customer dissatisfaction.

Recommendation: It is strongly recommended that a detailed and independent study be conducted to determine both the causes and solutions to this problem of incomplete transactions. The scope and magnitude of this problem and its potential for causing substantial customer dissatisfaction warrant that this study be conducted as soon as feasible.

7. LPA Offices Located Near Military Bases

- Wait times, interaction times, and percentage of incomplete transactions are higher at LPA offices that are located near military bases.

Recommendations:

- a. The causes of the above should be determined through an independent in-depth study and analysis, along with solutions and how to implement them. The scope and magnitude of this

problem and its potential for causing substantial dissatisfaction among military customers warrant that this study be conducted as soon as feasible.

- b. LPA offices which serve military personnel should maintain extended hours of operation during peak days.
- c. In collaboration with the North Carolina Department of Revenue, a more streamlined process should be developed to identify tax-exempt military personnel so that vehicle registration and titling can be completed in a single visit to an LPA.

8. Needs-Based Rationale for Office Location

- Non-interaction time tends to be higher at the smaller offices where annual transaction volumes are lower than at larger ones.

Recommendation: NCDMV should consider evidence-based models that examine demand data, as well as current location and residual capacities of existing LPA offices, to derive the “optimal” number and locations of LPA offices in North Carolina so there is a better utilization of resources on the aggregate across the state. Wherever feasible, this model should prescribe opportunities for co-location with existing DMV offices since doing so can improve customer service by creating “one-stop service-centers” which adds to the convenience of NCDMV customers and may result in overhead cost savings.

9. Technology Adoption for Modernization

- It is evident that utilization of modern technology such as full-service kiosks, smart phone applications, modern, web-enabled computer systems etc. should be an integral part of any effort by NCDMV to improve service to its customers. An excellent model in this regard is Indiana’s Bureau of Motor Vehicles.

Recommendations:

- a. NCDMV should fully utilize and implement technology to improve customer service and customer satisfaction. Some examples include: updating/replacing STARS with a modern, web-enabled system that allows easy integration with other NCDMV information technology systems; using full-service kiosks and smart phone applications to allow customers to serve themselves.
- b. North Carolina citizens should be incentivized to perform more online transactions. In particular, registration renewals and vehicle property tax collection are transactions that are the most amenable for being conducted online. A more customer-focused outreach campaign should be implemented to increase the rate of online registration renewals from the current rate of approximately 13%.

10. Review Additional States for Best Practices

Recommendation: NCDMV should conduct a more in-depth study of the operational practices and procedures in Missouri and of additional states such as Florida and Ohio, among others, to identify additional best practices for adoption.

This page intentionally left blank.

Appendices

The following reference documents are included with this report:

- A. LPA Customer Wait Time Data Collection Card
- B. Survey of U.S. DMV Offices on Operational Practices and Transactional Data for Vehicle Registration and Titling Services

A. LPA Customer Wait Time Data Collection Card

NCDMV LPA Customer Wait Time Study	
<p><i>Branch Number</i> _____</p> <p><i>Check box if applicable</i></p> <p>Renewal Line <input type="checkbox"/></p>	<p style="text-align: right;"><i>Date 2014</i></p> <p>01 02 03 04 05 06 07 29</p> <p>May 08 09 10 11 12 13 14 30</p> <p>June 15 16 17 18 19 20 21 31</p> <p>22 23 24 25 26 27 28</p>
Enter Time (HH:MM)	Time Reaching Counter

B. Survey of U.S. DMV Offices on Operational Practices and Transactional Data for Vehicle Registration and Titling Services

1. In what U.S. state do you work?
2. What is the highest-level organizational department in your state that oversees motor vehicle Titling / Registration services? Please check all that apply.
 - Department of Motor Vehicles
 - Department of Transportation
 - Department of Public Safety
 - Department of Revenue
 - Department of Secretary of State
 - Other State Department (please specify)
 - Other County, City, or Local Government Agency(ies) (please specify)
 - Other Privately-owned Contracted Agency(ies) (please specify)
 - Other Type of Agency(ies) (please specify)
3. For the organization(s) you listed in Question 2, if possible please provide the following details specific to motor vehicle Titling / Registration services in your state:
 - Total Number of Employees engaged in providing Titling / Registration services
 - Total Annual Revenues of the organization(s) related to Titling / Registration services
 - Total Annual Expenditures of the organization(s) related to Titling / Registration services

If your state uses a privately-owned Contracted Agency(ies) to provide motor vehicle Titling / Registration services, please provide as many of the following details as possible.

4. Total number of motor vehicle Titling / Registration contractors currently operating in your state?
5. Total number of motor vehicle Titling / Registration transactions processed annually by the contractor(s)?
6. How is the contractor compensated for completed transactions? Please choose all that apply.
 - Flat rate per transaction
 - Fixed fee plus escalating cost basis
 - Percentage of gross revenue
 - Other compensation method(s) (please specify)
7. Does your state measure the performance of its motor vehicle Titling / Registration contractor(s)?

If you answered YES to Question 7, please describe how your state measures:

- Service (transaction completion) times
- Transaction error rates
- Customer satisfaction
- Other performance measures (please specify)

8. Please describe how Customer Complaints about your state's motor vehicle Titling / Registration contractor(s) are handled.
9. How many different types of contract agreements does your state use for motor vehicle Titling / Registration contractors? Please choose all that apply.
 - Term-limited contract with automatic renewal
 - Term-limited contract without automatic renewal
 - Perpetually renewing annual contract
 - Other contract type(s) (please specify)

10. Please describe how a contract is awarded to a motor vehicle Titling / Registration contractor (e.g., competitive bid process, other process or criteria).

11. May we obtain a sample of your contract document(s) to review for our research project?

If you answered YES to Question 11, please provide contact information to request the sample contract document.

12. Does your state have a Standard Operating Procedure Manual for motor vehicle Titling / Registration contractors?

If you answered YES to Question 12, may we obtain a sample of your manual to review for our research project?

If YES, please provide contact information to request the sample manual.

If your state does not use a privately-owned Contracted Agency(ies) to provide motor vehicle Titling / Registration services, please provide the following details.

13. Total number of motor vehicle Titling / Registration transactions processed annually by your state?

14. Does your state measure the performance of its motor vehicle Titling / Registration services?

If you answered YES to Question 14, please describe how your state measures:

- Service (transaction completion) times
- Transaction error rates
- Customer satisfaction
- Other performance measures (please specify)

15. Please describe how Customer Complaints about your state's motor vehicle Titling / Registration services are handled.