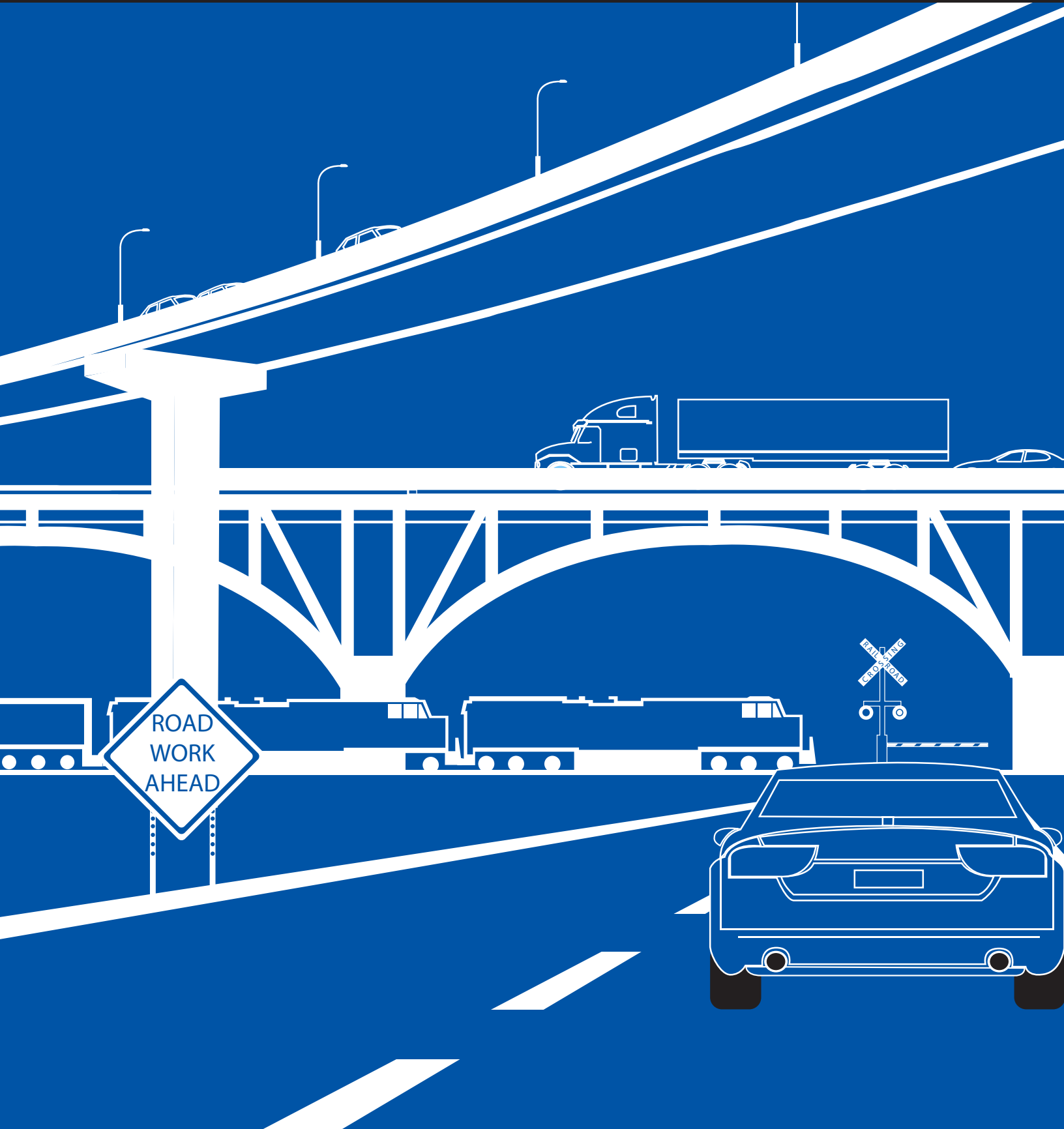# Developing a Baseline for Customer Satisfaction in the Kentucky Transportation Cabinet's Department of Vehicle Regulation

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Developing a Baseline for Customer Satisfaction in the Kentucky Transportation Cabinet's Department of Vehicle Regulation

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16. Abstract

Among the Kentucky Transportation Cabinet's (KYTC) business units, the Department of Vehicle Regulation (DVR) has the most interactions with members of the public and other government agencies. Given its high profile and public visibility, it is critical for the department to provide high-quality customer service. Lacking data on customer perceptions of DVR's level of service, the department commissioned researchers at the Kentucky Transportation Center (KTC) to conduct a baseline and rebaseline customer satisfaction surveys. Along with administering surveys to external customers, KTC's research team also polled DVR staff to gauge employee morale and identify areas which could be improved. Approximately 90% of departmental staff believe that DVR provides a high level of customer service, and most viewed the department's divisions favorably. Staff, however, noted the importance of fostering an open, equitable, and collaborative workspace as well as the importance of having up-to-date technological tools to perform daily job functions. With respect to the baseline and rebaseline external customer surveys, this study measured a slight decline in overall customer satisfaction. In the baseline survey, 81% of respondents were very or somewhat satisfied with the service they received; in the rebaseline survey 77% said the same. Regression modeling found a strong negative relationship between number of call escalations (i.e., call transfers) and customer satisfaction; call duration had a smaller but negative impact on customer satisfaction. Survey respondents expressed a growing preference for using electronic means (email, website) to interact with DVR. Moving forward, it will be critical for DVR to dedicate resources to improving its website and streamlining other modes of electronic communication, reducing the number of call escalations, and shortening average call durations – particularly hold times.

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Table of Contents

List of Figures

List of Tables

Executive Summary

Due to its ongoing interactions with individual residents, companies, and government agencies, the Department of Vehicle Regulation (DVR) is the most publicly visible unit of the Kentucky Transportation Cabinet (KYTC). Major functions that fall under the department's purview include administration of the state's driver licensing and motor vehicle licensing programs as well as state and federal regulations related to commercial vehicles. For many people, DVR is the public face of the Cabinet. Therefore, it is important to understand whether the department is succeeding in its mission to provide high-quality customer service and identify changes that can improve its performance. With this in mind, KYTC asked researchers at the Kentucky Transportation Center (KTC) to develop and implement methods to measure and track DVR's level of service as well as employee attitudes and morale. The Cabinet also requested that the Center develop a detailed narrative of DVR's organizational structure and the responsibilities of each division, section, and branch housed within it. To complete its research assignment, KTC researchers drew on a suite of methods, including a review of literature on customer satisfaction, interviews with departmental staff, qualitative analysis, and the design and administration of surveys consisting of multiple-choice and open-ended question. This summary reports on the research team's key findings, with a primary focus on information collected through the surveys it administered to staff and customers.

Perspectives of DVR Employees
The research team asked staff if they believe DVR provides a high level of customer service – 47% strongly agreed with this sentiment, while 39% somewhat agreed. Employees tend to view the division in which they work more favorably than other divisions, however, despite some variability in responses, overall staff view all divisions in a positive light. Most of the respondents feel the division they work in is very concerned with the quality of service provided to customers and that leaders are receptive to suggestions from staff and open to change. Many participants in the survey commented on the importance of having more opportunities related to cross-training and job rotations, promoting teamwork, and improving inter-departmental communication. Staff also would like to see enhancements to the technological tools they use to perform essential job functions. Although most respondents are content with workplace dynamics, it is critical to foster open, equitable, and collaborative workspaces free of hostility, favoritism, and prejudice. As part of its examination of DVR practices, the research team also analyzed recordings of phone interactions between customer service professionals and customers. Staff consistently behaved courteously toward customers and were knowledgeable about the issues discussed.

Online Services and Survey of Online Vehicle Registration Renewal Process
A growing number of DVR customers prefer to interact with the department on electronic platforms (e.g., websites, email, Motor Carrier Portal [MCP]). For example, online filings for the Kentucky Weight Distance (KYU) tax and Kentucky Intrastate Tax (KIT) have increased dramatically since 2012. In participating counties, residents now have the option to renew their vehicle registrations online. Wanting to measure customer satisfaction among users of the online registration renewal process, the research team developed and administered a brief survey. An overwhelming percentage of respondents (93%) said they were very or somewhat satisfied with the online renewal service, with similar percentages reporting the site is easy to use and that they completed their transactions successfully. One area DVR should address, however, is the online processing fee. While roughly 90% of respondents felt they received adequate value in return for paying this fee, many commented that it was important for the website to display a more prominent notification stating that customers are responsible for the processing fee. Respondents also requested greater transparency in how the fee is calculated, and even suggested the website include a calculator or other app that lets users estimate what they will owe.

Baseline and Rebaseline Customer Satisfaction Surveys
The baseline survey was administered in spring 2017, while the follow-up rebaseline survey was conducted in fall 2018. Multiple-choice questions about elements of customer service generally asked respondents to provide a rating from 1 (very dissatisfied) to 5 (very satisfied). During the baseline survey, the research team polled customers who interacted with the Division of Customer Service (DCS) Phone Center, DriveKY, MCP, Division of Driver Licensing (DDL) field offices, and the One Stop Shop in Frankfort. However, the rebaseline survey only looked at customers of the DCS Phone Center, DriveKY, and MCP since the baseline survey elicited few responses for the in-person surveys (i.e., DDL field offices and One Stop Shop). Customers who visited these locations were very positive about the customer service they received. Over 92% of respondents at DDL field offices and the One Stop Shop reported being

very satisfied with the experience. These locations also received the highest ratings on employee knowledgeability, staff courteousness, problem resolution, and ease of obtaining information.

Table E1 summarizes the overall customer satisfaction ratings for the platforms evaluated during both surveys. Overall customer satisfaction dropped slightly. The percentage of respondents who felt very or somewhat satisfied declined from 81% to 77%. Reductions in customer satisfaction are attributable to the slightly worse performance of the DCS Phone Center and DriveKY. These declines were offset somewhat by the improvement in satisfaction reported by MCP users. Other metrics (employee efficiency, employee knowledge, employee courteousness, and ease of obtaining the information to resolve a problem) showed comparable declines in average scores. Despite the very modest decline in overall customer satisfaction, it is imperative to recall that over 75% of customers in both surveys felt broadly satisfied with their experiences.

Table E1 Comparison of Baseline and Rebaseline Survey – Average Customer Satisfaction Scores

	Baseline Mean	Rebaseline Mean	% Change
All	4.31	4.18	− 3.15%
DCS Phone	4.35	4.10	− 5.83%
DriveKY	3.92	3.70	− 5.45%
MCP	4.18	4.45	+ 6.40%

The declines are likely due in part to the different composition of respondent pools in the two surveys. The baseline sample contained more individuals and fewer business representatives. A larger fraction of those polled during the baseline survey conducted routine business with DVR, which may account for some of the changes observed. Given that MCP functionality improved between surveys, it is understandable that respondents had a more favorable view of it. Table E2 elaborates on these point a bit more by providing statistics on call transfers, queue time, and call duration. While the percentage of calls transferred from a CSP to a more experienced staff member held steady in both surveys at roughly 67%, average queue time and call duration increased significantly, which may have been the result of fewer staff being on hand to answer calls.

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Table E2 Comparison of Baseline and Rebaseline Survey – Transfers, Queue Times, Call Durations

Factor	Units	Baseline Mean	Rebaseline Mean	Difference
Transfer	% Transferred	67.619	67.682	+ 0.063
Queue	Seconds	46.188	404.408	+ 358.220
Duration	Seconds	598.023	995.645	+ 397.622

Compared to the baseline survey, a larger percentage of customers who participated in the rebaseline survey preferred electronic platforms for interacting with DVR (e.g., email, website). To understand what drives trends in customer satisfaction, the research team developed several regression models using data from both surveys. This modeling found that number of call escalations has the most significant negative effect on overall customer satisfaction ratings, while call duration has a smaller but also negative influence.

DVR can avail itself of many strategies in the coming years and months to improve customer satisfaction (a full list can be found on pp. 49-50). Key priorities include reducing the number of call escalations, lowering average call times, enhancing website and MCP functionality, being responsive to customer needs, and quickly resolving problems when they arise. At two- to three-year intervals, DVR should perform an external survey to monitor trends in customer satisfaction levels and identify emerging issues that need to be addressed. The department should also continue to survey its personnel on a regular basis as survey responses can uncover areas in which workplace dynamics can be improved. The business operations of other departments and divisions within KYTC can benefit from routine surveys of its staff and customers as well. KTC researchers can aid Cabinet stakeholders through survey design, data analysis, and developing process improvement recommendations.

Chapter 1. Introduction

Every day the Kentucky Transportation Cabinet's (KYTC) Department of Vehicle Regulation (DVR) interacts with many people, agencies, and companies, providing to them a wealth of services. The department collaborates with many other partners – circuit court clerks; county clerks; state, district, and circuit courts; Kentucky State Police; and other governmental entities. Major functions of DVR include administration of the state's driver licensing and motor vehicle licensing programs as well as state and federal regulations related to commercial vehicles. Given DVR's high volume of interactions with the public, it is critical to understand the level of service it provides to its customers. Our Kentucky Transportation Center research team was tasked with developing and implementing methods for measuring level of service that can be adopted to track changes in DVR's performance over time. Several objectives guided our work:

- Document DVR's organizational structure and summarize core business functions of each division and branch.
- Identify metrics or data collected by the department to assess its level of service as well as employee performance and satisfaction.
- Develop and administer a baseline survey that evaluates DVR customer satisfaction. Survey findings will inform future efforts to track the department's performance.
- Develop and administer a survey to measure level of customer satisfaction with the new online vehicle registration renewal process.
- Prepare recommendations to help DVR strengthen its performance and improve employee morale.
- Conduct a second – rebaseline – survey and compare its results to the baseline survey to assess the effectiveness of implemented recommendations and identify potential explanations for changes in performance.

Our team relied on a number of methods to conduct research for this project, including interviews with DVR staff, qualitative analysis of phone interactions between customer service representatives and callers, surveys consisting of multiple choice and open-ended questions to document employee and customer satisfaction, and data mining. What follows in the main body of this report is a high-level summary of our team's findings. It is purposefully brief to attract a wide readership (an initial draft of this report was nearly 200 pages). Appendices contain more detailed information and supplemental charts and graphs which expand upon the content presented in the next 50 pages. We are confident that readers consulting only the main body of the report – or even the executive summary – will come away with a fuller understanding of DVR's level of service and trends in customer satisfaction. Table 1 summarizes how the remainder of the report is structured and the contents of each chapter. If readers are interested in a specific topic, we encourage them to flip to the chapter which addresses it.

Table 1 Report Organization and Chapter Overview

Chapter 2	• High-level descriptions of DVR's organizational structure and responsibilities of each division
Chapter 3	• Brief literature review of customer satisfaction research and survey development
Chapter 4	• Discussion of internal performance measures, including statistics on DVR-customer interactions, review of recorded telephone conversations between DVR and customers, and employee satisfaction survey
Chapter 5	• Baseline customer satisfaction survey results
Chapter 6	• Findings of online vehicle registration renewal customer survey
Chapter 7	• Recommended improvements to enhance DVR business practices and boost employee satisfaction
Chapter 8	• Rebaseline customer satisfaction survey results and comparison to baseline survey
Chapter 9	• Concluding thoughts and recommendations

Chapter 2. Organization of DVR

Our research team documented DVR's current organizational structure; investigated key functions of its divisions, branches, and sections; and developed detailed summaries of departmental operations. In this chapter we present a high-level overview of its five divisions. Readers should consult Appendix A if they are interested in learning about the responsibilities of individual branches and sections or in viewing statistics on customer interactions.

No other Cabinet department interacts with the public the same degree as DVR. The department administers the state's driver licensing and motor vehicle licensing programs and oversees activities related to the taxation, credentialing, and regulation of commercial vehicles. Key services include: issuing driver licenses, administering commercial driver license (CDL) regulations and issuing CDLs, preparing driver history reports, issuing identification cards, traffic school registration and attendance verification, motor vehicle registrations, maintaining registration records, and handling commercial motor vehicle-related taxes, credentials, and permits. Figure 1 illustrates DVR's organization.
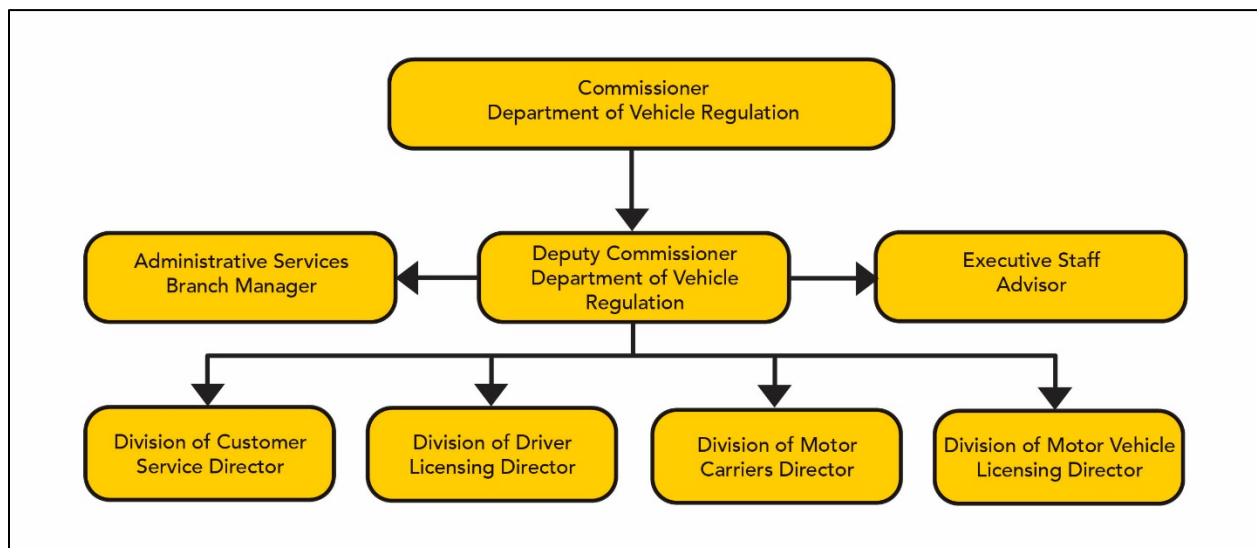
Figure 1 DVR Organizational Structure

2.1 Commissioner's Office
The Commissioner's Office oversees DVR and is led by the Commissioner and Deputy Commissioner. A Medical Review Board is located in this office, however, our study addressed only the Administrative Services Branch as it is the branch responsible for interacting with internal customers as well as the partners in the county and district court clerk offices.

2.2 Division of Driver Licensing (DDL)
Three branches are located in DDL: 1) Court Records/CDL, 2) Hearings and Fraud Verification, and 3) Education/Records/Fees. Activities of the Court Records/CDL branch include verifying and maintaining records on driver license status and obtaining information from court systems inside and outside of Kentucky to change information on driver licenses. The Hearings and Fraud Verification branch processes requests for driver histories, accepts payments for state traffic school as well as license reinstatement fees, and processes license data from circuit court clerks' offices. The Education/Records/Fees branch manages issues related to educational programs, processes bulk requests for and modifies driver history records, distributes local road funds, and provides a monthly report to the Department of Local Government Finance.

2.3 Division of Customer Service (DCS)
One branch is located in DCS: Customer Service. When DVR receives a call or email, Customer Service Professionals (CSP) in DCS handle them. These agents spend most of their time fielding phone calls and trying to resolve customer questions or issues. When a CSP cannot resolve an issue, they transfer the call to a subject-matter expert (SME).

2.4 Division of Motor Vehicle Licensing (DMVL)
DMVL has two branches: 1) Registration and 2) Titles. Activities in the Registration branch include helping the public and county clerks with questions about processing titles and registrations, maintaining the division's website, fielding inquiries to DMVL's Help Desk, managing processes related to rebuilt titles, handling money collected by county clerks from vehicle registration and title fees, and processing license plate orders. The Titles branch conducts research on title histories and verifies title applications submitted by county clerks and businesses.

2.5 Division of Motor Carriers (DMC)
DMC encompasses three branches: 1) Licensing and Registration, 2) Qualification and Permitting, and 3) Tax and Financial Processing. The Licensing and Registration branch manages the One Stop Shop, which is located at KYTC's office in Frankfort and is where customers from the trucking industry can pay fuel taxes and registration fees, acquire decals and permits, and obtain apportioned plates. The general public can also visit the One Stop Shop to pick up titles, title histories, and driving histories; reinstate their licenses; schedule hearings; and obtain ignition interlock devices. It also processes applications and renewals for the International Registration Plan (IRP). The Qualification and Permits branch distributes licenses and permits for Kentucky's weight distance tax (KYU); issues licenses, permits, and decals for the International Fuel Tax Agreement (IFTA) and the Kentucky Intrastate Tax (KIT); collects UCR registration fees; issues Kentucky Intrastate For-Hire Authority; and processes overweight and over-dimensional (OW/OD) applications. The Tax and Financial Processing branch is responsible for collecting IFTA, KIT, KYU and U-Drive-It taxes; canceling, revoking, suspending, and reinstating tax licenses; and processing tax returns.

Chapter 3. Literature Review

Before putting our internal and external surveys together, we reviewed two bodies of literature: the first on customer satisfaction, the other on survey design. This chapter briefly summarizes key findings, highlighting those points that most influenced how we approached the measurement of employee and customer satisfaction.

3.1 Customer Satisfaction

Many definitions of customer satisfaction have been advanced by researchers. Farris et al. (2010) suggested that customer satisfaction is a measure of whether an organization's products and services meet or surpass customer expectations. This idea has its foundations in the marketing industry, where customer satisfaction is regarded as an important metric to guide business management and improvement initiatives (Beard, 2014). Factors such as timeliness, accuracy, courteousness, and knowledgeability can affect customer satisfaction. Any survey instrument attempting to measure customer satisfaction should incorporate questions related to these factors.

Other studies of the public and private sectors have found that organizational processes and orientation significantly impact customer satisfaction (Mahler and Hennessey, 1996; Dianne et al., 2008; Sulek et al., 1995; Johnson and Ashforth, 2008; Chi and Leslie, 2015; Gupta and Zeithaml, 2006). In the private sector, customer satisfaction is closely linked to profitability, customer retention, and trust (Sulek et al., 1995; Gupta and Zeithaml, 2006; Dianne, 2008), whereas in the public sector responsiveness to constituents and effectiveness of services influence levels of customer satisfaction (Wilson, 1989).

Previous research has demonstrated that organizations do not have an unlimited ability to influence customer satisfaction. For example, one study of a business completing a customer service overhaul and store redesign found that the former impacted customer satisfaction but the latter had no effect (Sulek et al., 1995). Another study revealed that consumers were more trustful of and loyal to websites with local content compared to websites that catered to a national audience (Dianne, 2008). Studies of government agencies have turned up similar findings. A survey of analysts using Bureau of Labor Statistics Current Employment Statistics indicated users placed more value on the data itself than the customized guided user interface designed to display the data (Chi and Leslie, 2015). Perception affects customer satisfaction as well. Boetsch et al. (2011) found that branding was a more successful predictor of airline satisfaction than price, product features, service quality, or journey time. How employees are presented to the public matters as well. It is important to convey to customers that an employee embodies the organizational ethos of their employer. One study found that where an employee's temporary status was apparent, customer satisfaction ratings tended to decline (Johnson and Ashforth, 2008). Frequency of customer transactions, the relationship an organization builds with its customers, and the kind of product or service offered influences the dynamics of customer satisfaction. A recent study demonstrated that investing in loyal, repeat customers yields greater returns on investment than focusing on low-tier customers (Homburg et al., 2008). Encouraging staff to build strong interpersonal relationships with their customers also positively influences customer satisfaction (Yim et al., 2008). Other attributes of customers (e.g., demographics, behavior) may be consequential as well. A study of mobile phone users showed that age, income, and gender all affect customer satisfaction (Serenko et al., 2006). Younger customers had fewer expectations than older customers, while lower-income customers were more likely to lodge complaints about basic customer satisfaction issues.

When surveys are used to measure customer satisfaction, the order of questions as well as the thoughts and feelings they elicit in the respondent can influence answers (Malhotra, 2008). Factors like age and educational attainment can modulate the effects of question ordering and latency. People who frequently take surveys are more likely to employ mental shortcuts when answering questions than those who rarely take surveys; they are also less likely to process and respond to questions in the ideal manner envisioned by researchers (Toepoel et al., 2008; Callegaro et al., 2009). It is important to design surveys that minimize the likelihood that participants will take shortcuts to complete a survey quickly.

Based on our reading of customer satisfaction literature, we arrived at a few key principles that guided the design of our DVR surveys:

- The survey must ask about various elements of customer service to determine which are most important to DVR customers. Responsiveness and efficiency are two key dimensions. The survey must ask how well the department responds to the specialized customer needs and how quickly and effectively it resolves issues.

- As a growing number of customers prefer to interact with organizations online, it is critical for DVR's survey to ask customers about the department's website and whether it enhances customer satisfaction.

- Customer demographics and behavior are important predictors of customer satisfaction. Survey questions need to focus on areas that will provide the most revealing information. Customer type (individual, business, or agency) is the demographic attribute of greatest interest. Key behavioral interests are method of interaction and frequency of interaction.

- The survey design must avoid biasing outcomes. Mitigating response latency and ensuring that respondents feel obligated to critically reflect on questions – rather than unthinkingly answering them – is critical.

3.2 Survey Design Research
Researchers work to reduce the four main sources of surveying error: coverage error, sampling error, nonresponse error, and measurement error (Dillman et al., 2014):

- Coverage error occurs when the respondent pool is not representative of the population being surveyed.
- Sampling error refers to the difference in opinions between people who are surveyed and the entire population.
- Nonresponse error is the difference between sampling estimates obtained from respondents and the estimates that would be derived if everyone surveyed responded.
- Measurement error is the difference between the population value and estimates that result from customers giving inaccurate answers.

Using a mixed-mode survey can mitigate these sources of error. A mixed-mode survey is administered in different formats (e.g., online, phone). Because each mode has distinct strengths and weaknesses, offering a survey in more than one mode can allay the particular weaknesses of a single mode. For DVR, the most cost-effective approach was to offer a web-based survey and an automated phone survey and let respondents choose a mode based on which technology best suited their needs. We expected most respondents with internet access would prefer a web survey as it has several advantages over other survey modes, such as information permanence (i.e., a question is available for longer than the amount of time it takes to hear or read it) and the presence of visual cues that can make it easier to understand questions (Dillman et al., 2014).

How questions are worded is another focal point when designing surveys. Researchers should choose questions that will help them meet study objectives. They must consider survey goals, how question design meets those goals, and how design could impact responses. For example, respondents to a phone survey may choose the last option read to them if they have difficulty remembering all the answers. Recognizing the importance of generating commensurate responses for the web- and phone-based surveys, question design was tailored to both modes.

Typically, close-ended questions (e.g., multiple choice) demand less cognitive effort from respondents and can be answered more quickly than open-ended questions. Our research team decided that asking open-ended questions on the phone survey would be too challenging. Thus, the phone survey consisted entirely of multiple-choice questions, while the web-based survey included open-ended questions to solicit more detailed opinions from customers and gather information about other issues specific to DVR. We accounted for several other concepts when developing and wording questions:

- It is important to include both the positive and negative question stem to avoid biasing the respondent in favor of the positive sentiment.

- Nominal questions should include all reasonable possible answers and mutually exclusive categories (e.g., is the respondent an individual, business, or government agency).

- Selecting the appropriate scale for a question (e.g., unipolar, bipolar) is critical. Unipolar scales measure level of magnitude; bipolar scales measure level of magnitude and direction. Measuring data across both dimensions can be useful. For example, a question about efficiency can have both a direction and level of magnitude, whereas a question about employee knowledgeability may only require level of magnitude.

- Begin with a question that is relevant to all respondents. A question about overall customer satisfaction should appear first on a customer satisfaction survey. The goal is to avoid influencing overall perceptions by asking detailed questions first (Solomon 2014). Summary evaluations can be upwardly biased if a question about overall customer satisfaction comes after specific factor or domain questions (Dillman et al., 2014).

- Questions should be grouped together thematically for logical consistency and ensure that survey question order does not contribute to response effects (Dillman et al., 2014).

Chapter 4. DVR Performance Measures and Internal Survey

Even though customer satisfaction is a primary focus of this study, to contextualize the results of the customer baseline and re-baseline surveys, it was critical to document what strategies DVR adopts internally to track its performance as well as the perceptions and morale of staff. Most DVR branches do not employ performance measures, however, DCS uses metrics to track call center productivity, website traffic on drive.ky.gov, and online tax filing services. These data serve as a benchmark for understanding the department's interactions with customers. This chapter discusses performance measures currently used in DVR, describes our review of recorded phone interactions, and presents the results of a survey administered to staff which asked them to comment on their own job satisfaction and identify areas in which DVR operations can be improved. Appendix B includes supplemental materials for this chapter.

4.1 Division of Customer Service

DCS performance measures are grounded in quantitative data generated from its HEAT system, which measures customer service phone interactions. Branch Managers receive daily reports that include data on the DVR division, name of the CSP or SME who fielded the call, number of calls answered, returned calls, ready time (the time in which the agent was available to take the call), handling time, not ready time (the CSP's time away from their desk or completing a ticket), transfers, and incidents resolved. The daily report also includes a report on the status of all tickets created during the previous day. Branch managers can view the subject skills, customer type (email, business, individual, and clerk), division, incidents created that day, and number of calls that were resolved. Incidents achieve resolution when the agent provides the customer with a response which indicates a request has been fulfilled. Along with the daily reports, DCS circulates a weekly HEAT report summarizing total interactions and incident statuses.

We examined data for the week of July 18, 2016, through July 22, 2016. CSPs generated 9,250 HEAT tickets during this period, and approximately 32.5% of tickets were resolved on the first call, meaning they were not elevated to SMEs. Nearly 50% of tickets were resolved by an SME. During this week, DDL created the largest number of tickets (3,593), followed by the DMC (2,201) and DMVL (1,482). Most newly created tickets were resolved. DCS staff noted Branch Managers give little feedback on HEAT reports, although they emphasized that the HEAT system can generate numerous metrics. Managers are encouraged to request reports outside of the regular distribution periods, and some Branch Mangers share the reports with employees daily.

4.1.1 Voice and Subject Skills Reports

Each DVR division receives monthly voice and subject skills reports. Voice skills refer to the percent of calls that are sent to SMEs, while subject skills are linked to the topic covered in a knowledge article (articles CSPs consult to answer questions). The HEAT system routes calls to SMEs based on the knowledge article subject matter. Generally, section supervisors have a lower voice skill percentage than their staff members, but supervisors field more calls during peak call periods. A call escalated from a from a second-tier SME to a third-tier SME (section supervisor) is answered by the appropriate supervisor. A boomerang subject skill list notes individuals who will answer the call when nobody else is available. Daily metrics on subject and voice skills indicate some people are taking more calls than others and that some branches operate on a call-back-only basis. DCS wants to see more cross-training among branches. Similarly, Branch Managers and section supervisors want to improve cross training among divisions.

4.2 Online Traffic from DVR Website

DCS manages DriveKY (drive.ky.gov), which offers a number of services, and the Motor Carrier Portal (MCP), which lets motor carriers and service providers file taxes, obtain permits, and purchase credentials. Recent data confirm that customers are increasingly gravitating to online services. For example, a 2016 DVR advertising campaign significantly bolstered website hits (Table 2). Following the campaign, unique hits on DriveKY jumped 169%. The most impressive changes recorded were for the MCP (labeled *Online Services* in the table), with 387% growth in unique visitors.

Table 2 Changes in Online Traffic After DVR Ad Campaign

Online Site	Pre-Campaign September 26 - 30		Post-Campaign October 3 - 7		% Change	
	Total	Unique	Total	Unique	Total	Unique
DriveKY	21,347	16,447	60,117	44,166	182%	169%
Online Services	1,312	923	6,569	4,492	401%	387%
License and ID	665	543	3,182	2,576	378%	374%
Registration Renewal	1,385	1,116	1,516	1,234	9%	11%

4.3 Phone Interaction Performance Measures
It is important to qualify why some divisions perform better than others, and key questions must be asked to fairly assess their performance. Many of these questions were based on the issues addressed by employees in the initial interviews.

4.3.1 Analysis of Phone Interactions
The HEAT system divides interactions into three categories:

- Calls answered (the call was answered following escalation by CSP agent),
- Interactions returned (the SME did not answer the call, and it was returned to the queue to be answered by a SME with the same voice skills, and
- Transfers originated (a SME transferred the call to another SME).

Interactions returned is the most problematic as it means the call was not answered because 1) the SME did not answer during the allotted number of rings or 2) the SME hit the hang up button on their dashboard. We collected data on 2016 phone interactions to identify trends and trouble spots (Table 3). DCS is the central point of contact and therefore recorded the most interactions (488,018). It answered 78% of these calls; 22% were transferred to other SMEs. DDL had the highest number of interactions returned (7,248), however, these made up a small percentage of its calls. Graphs in Appendix B give detailed breakdowns for each division and their respective sections.

Table 3 2016 DVR Interactions

Division	Calls Answered		Interactions Returned		Transfers Originated		Total Interactions
	Number	Percent	Number	Percent	Number	Percent	Number
Customer Service	378,822	78%	1,746	0%	107,450	22%	488,018
Driver Licensing	160,044	92%	7,248	4%	7,351	4%	174,643
Motor Vehicle Licensing	58,921	87%	4,114	6%	4,616	7%	67,651
Motor Carriers	33,892	82%	6,283	15%	916	2%	41,091
Total	631,679		19,391		120,333		771,403

4.4 DMC Tax and Financial Processing Performance Measures
DMC has added several online services for the motor carrier industry. Motor carriers can now file taxes online and pay registration fees for IRP, IFTA, KYI, and KIT. Use of these services has grown dramatically. IRP filings offer a case in point (Table 4). In June 2014, DMC did not yet allow customers to pay or create bills. Introducing online services proved transformative. By 2016, roughly half of all customers generated IRP bills online and more than half paid online.

Table 4 IRP Bills and Payments

Date Created / Paid	Bills Created			Bills Paid			Online Revenue Collected
	Total	Online	Percent Online	Total	Online	Percent Online	
June 2014	838	0	0%	824	0	0%	$0
June 2015	777	96	12%	781	282	36%	$1,018,351.98
June 2016	842	380	45%	834	447	54%	$1,433,093.98

KYU online tax filings have followed a similar trend. Since the option to file online became available in 2005, filings have increased, with the most pronounced jump occurring between 2011 and 2012, which coincided with activation of the tax wizard. From 2012, to 2017, filings increased by 25% while the total revenue generated increased nearly $12 million (Figure 2)
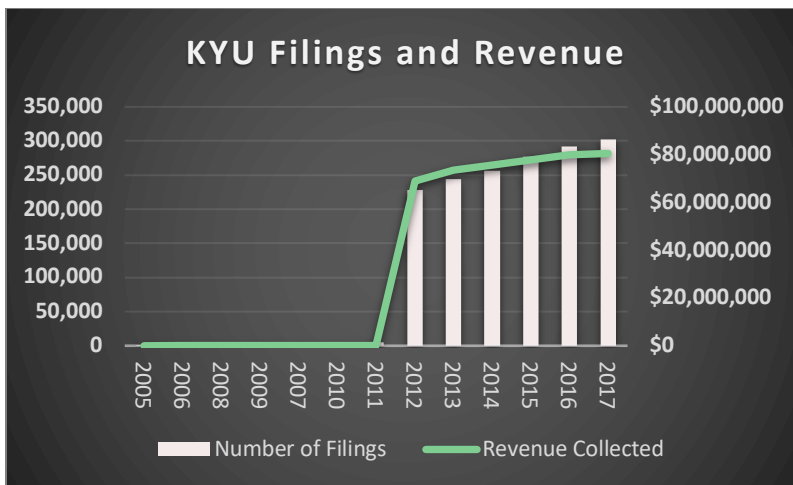
Figure 2 KYU Filings and Revenue

Kentucky's intrastate motor carriers have embraced the KIT online tax wizard (Figure 3). During its first five years of operation, the KIT e-file application consistently generated between $1.14 and $1.26 million in revenue. Shifting to online tax filing is a win-win for industry and government – motor carriers are able to complete their returns more quickly, while DMC no longer has to manually enter calculations.
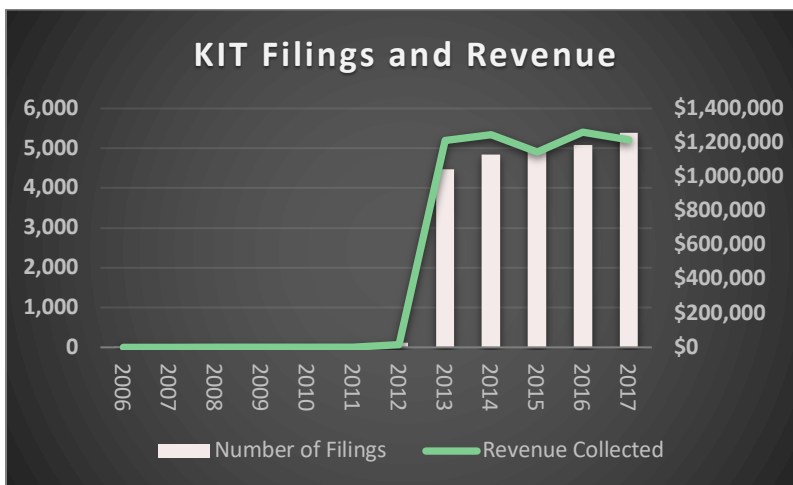
Figure 3 KIT Filings and Revenue

4.5 Customer Service Call Recordings

CSPs are the first-tier customer service agents. If a CSP cannot answer a caller's question, it is escalated to second-tier agents – SMEs. Third-tier subject experts are section supervisors but they generally field calls only when call volumes are high or a call needs to be elevated. DCS records incoming and outgoing calls to DVR for quality assurance purposes.

4.5.1 Review of Customer Service Center (CSC) Call Recordings

Our team listened to a sample of phone interactions (mostly first- and second-tier interactions). Two CSC teams – Team Alpha and Team Awesome – handled the first-tier interactions we reviewed; 17 other program sections in DVR addressed second-tier interactions. We analyzed calls from the week of July 18–22, 2016. That week, DVR received 16,098 calls; our team pulled a sample of 103 calls to evaluate. Of these calls, 93 were incoming and 10 were outgoing. All calls were fielded by a CSP or an SME.

DCS fielded the most calls (56%), followed by DDL (21%), DMVL (12%), and DMC (11%). Over 80 percent of the calls lasted seven minutes or less – which exceeds the DCS target call length of four minutes. Of the 103 sampled calls, the longest lasted just over 24 minutes; more than 85 percent of the calls lasted less than 10 minutes. Table B2 in Appendix B lists the number of calls each section received as well as the number of calls from each section included in our sample. We reviewed each sample call in its entirety, adopting a coding method based on established DCS performance measures, and a created spreadsheet in which to record data. The spreadsheet also contained a space for recording observations unrelated to the more objective analytical categories.

4.5.2 Customer Greeting

When first answering a call CSPs and SMEs are to provide a greeting that identifies which branch has picked up (cf. Geraghty 2013). In our sample, 93% of the CSPs and SMEs offered a greeting when they answered the call. For six percent of the sample, the recordings began after the initial pick up, the call was dropped, or the call was outgoing.

4.5.3 Courteousness

On 93% of the sample calls, the representative was professional and courteous. Only 2% of the calls featured agents who did not reciprocate a customer's courteous behavior. Five percent of the call recordings had no interaction because the SME reached voicemail or the caller hung up before speaking with an agent.

4.5.4 Knowledgeability

We measured knowledgeability based on whether a CSP answered a caller's question or had to route them to a SME. In 85 of the 103 calls, CSPs were sufficiently knowledgeable to answer the caller's question. In nine cases, no interaction occurred between the customer and agent. Several calls were complicated due to the agent not possessing the necessary knowledge.

4.5.5 Suggestions for Improving the DCS Phone Center

Based on our review of call recordings, we developed recommendations for improving phone exchanges:

- CSPs should tell the customer their incident number in case the call is dropped.
- Because dropped calls are possible, CSPs and SMEs should always ask for and verify a call-back number.
- CSPs and SMEs should always verify identification numbers customers provide (e.g., driver license number, VIN number, KYU number, USDOT number).
- To encourage their use, CSPs should walk customers through online services, such as the MCP.
- Customer satisfaction may improve if DCS reduces phone wait times and eliminates some of the calls that SMEs must handle.
- Agents should work to project a welcoming tone when they greet the callers.

4.6 Internal Survey

DVR management asked our team to survey employees on issues such as efficiency, department workflows, knowledgeability, division strengths and weaknesses, quality of supervision, and communication. Our team prepared the survey in consultation with the SAC, which had 17 multiple-choice questions (mandatory) and 7 open-ended questions (optional). Survey administration was done with Qualtrics. We received 152 completed surveys – a 71.4% response rate (Table B5 in Appendix B includes a detailed breakdown of response rates by division).

4.7 Survey Results – Interdivision Multiple Choice Questions
Appendix B contains the five (5) multiple choice questions that asked respondents to share their perceptions of *other divisions* (i.e., divisions other than the one they work in). Key findings are summarized in this section.

4.7.1 Overall Level of Service
Nearly half (47%) of respondents strongly agreed that DVR provides a high level of service to its customers, while 39% somewhat agreed with that statement. Only a small number (1%) strongly disagreed, although a more substantial minority (9%) somewhat disagreed. DDL had the best performance on this question, with 62% of respondents expressing satisfaction with its service. The remaining divisions had satisfaction rates between 42% and 58%. On the whole, dissatisfaction rates were low, although DCS (30%) and DMC (18%) had modestly higher dissatisfaction rates than other divisions.

Table 5 offers a fine-grained analysis of these responses. Interpreting the table is straightforward. To discern the attitudes of a particular division, first locate its name in the *Respondent Division* column. The six columns to the right capture the percentage of that division's respondents who are satisfied with the performance of other divisions (itself included). Taking the example of DMC, we find that 56% of respondents employed in that division were satisfied with CO and that 79% of respondents were satisfied with the level of service DMC provides.

Table 5 Division-to-Division Satisfaction with Overall Service

Respondent Division	Evaluated Division – Overall Satisfaction					
	CO	AS	DCS	DDL	DMC	DMVL
CO/AS (4)	100%	75%	75%	75%	25%	50%
DCS (16)	50%	19%	75%	69%	6%	44%
DDL (41)	56%	54%	51%	85%	22%	24%
DMC (39)	56%	41%	23%	38%	79%	41%
DMVL (29)	69%	55%	41%	48%	41%	72%
None (12)	50%	50%	42%	75%	42%	58%
Total (141)	59%	47%	44%	62%	42%	45%

4.7.2 Division Efficiency
DDL was named as the most efficient division, with 68% of respondents rating it as somewhat or very efficient. For the other divisions, between 41% and 54% said their employees are very or somewhat efficient.

4.7.3 Division Knowledgeability
Most respondents viewed their colleagues somewhat or very knowledgeable about their job functions (56%). A small fraction of respondents (14%) perceived their coworkers as just slightly knowledgeable or not knowledgeable at all in this regard. DCS is an outlier, with 43% of respondents saying its staff are very or somewhat knowledgeable and 43% characterizing its staff as just slightly knowledgeable or not knowledgeable at all. One explanation for this is that many of the division's CSPs are temporary employees who are less experienced than SMEs. As subject-matter generalists they are expected to know a little about the policies and processes in all three major divisions.

4.7.4 Division Communication
Just shy of half the respondents (46%) said the divisions are very or somewhat effective in communicating with the rest of the department, while only 16% felt communication is either somewhat or very ineffective. Although 49% felt that DCS has somewhat or very effective communication, 26% reported that it has somewhat or very ineffective communication. DMC and DMVL were also characterized by a significant minority of respondents as having very inefficient or somewhat efficient communication practices – 18% and 19%, respectively.

4.7.5 Division Courteousness
Overall, 57% of respondents felt DVR staff are very or mostly courteous; 16% labeled staff as somewhat courteous or not courteous at all. Variability exists among divisions – DDL and CO outperformed other divisions by 10 points

in the combined category of very or mostly courteous. DCS was characterized by the largest fraction of respondents (29%) as having staff that are somewhat courteous or not courteous at all.

4.8 Survey Results – Intradivision Multiple Choice Questions
Appendix B contains the multiple choice questions that asked respondents to share their perceptions of the division *in which* they work. Responses were generally positive, indicating respondents are generally more satisfied with their division than DVR in its entirety. Key findings are summarized below.

4.8.1 Quality of Service
Overall, 81% of respondents said quality of service is a very important consideration in their division; 12% commented it is somewhat important. DMVL had the lowest rating on this question, with just 59% of respondents contending quality of service is very important. The fraction of respondents saying that quality of service is very important, in other divisions, ranged from 75% to 100%.

4.8.2 Willingness of Leadership to Make Changes
When answering this question, respondents were asked to consider the behavior of directors, assistant directors, branch managers, and section supervisors collectively. Eighty-two percent of respondents said their division leaders are willing or sometimes willing to make changes. Leaders in DCS were viewed by the most respondents as willing to make changes (88%). All other divisions had an affirmative response rate above 75%.

4.8.3 Communication of Workplace Expectations
Overall, 80% of respondents felt division leaders clearly or somewhat clearly articulate expectations and task instructions. DCS personnel were the most satisfied on this measure, with 88% saying expectations are very clear or sometimes clear. In all other divisions, at least 75% of respondents indicated workplace expectations and class instructions are clear or somewhat clear.

4.8.4 Satisfaction with Cross-Training and Job Rotation Opportunities
In aggregate, 59% of respondents affirmed they are very or somewhat satisfied with the cross-training and job rotation opportunities division leaders offer. DDL had the best performance on this question, with 65% of respondents endorsing the division's approach to cross training and job rotation. Other divisions had positive response rates of 55% and 60%, suggesting room for improvement.

4.8.5 Effectiveness of Communications from Leadership
A sizable majority of respondents commented that division leaders are very or moderately effective at communicating with staff (69%). Another 20% felt leaders are slightly effective. DCS stands out on this question; 87% of respondents indicated that leadership is very or moderately effective at communicating. Performance in other divisions was slightly lower; between 55% and 70% of respondents said leaders are very or moderately effective at communicating with staff.

4.8.6 Satisfaction with Technology
Overall, 57% of respondents felt very or somewhat satisfied with the technological tools that are available to carry out daily tasks. However, there was considerable variability, with DMVL staff reporting high satisfaction rates (83%). In the remaining divisions, respondents were less favorably disposed toward available technology; satisfaction rates were between 43% and 60%. The highest dissatisfaction rates (i.e., very or somewhat dissatisfied) were reported by staff in DMC and DDL – 42% and 34%, respectively.

4.8.7 Approachability of Leaders
Respondents overall felt their division leaders are very or somewhat approachable when staff want to provide input on new ideas or process improvements (78%). A minority of respondents (19%) said leaders are somewhat or very unapproachable. Attitudes varied by division, with 88% of DCS respondents viewing leadership favorably. With the exception of CO/AS, over 70% respondents in each of the other divisions commented that leaders are very or somewhat approachable.

4.8.8 Commitment to Improving Services

Most respondents (75%) said divisions look for ways to improve services very or somewhat frequently. Perspectives varied significantly between divisions. For example, 100% of DCS respondents indicated the division seeks out methods to enhance services. Affirmative response rates in other divisions ranged from 59% (DMVL) to 82% (DMC).

4.8.9 Encouragement of Teamwork

Overall, 75% of respondents said that division leaders somewhat or very frequently promote teamwork. Affirmative response rates were between 65% (DMVL) and 88% (DCS). DMVL had the largest percentage of staff claim that team work is rarely or never encouraged (35%).

4.8.10 Ease of Information Sharing

A strong majority of respondents said it is very or somewhat easy for coworkers to share information within their division (71%). Variability between divisions is apparent. In DCS and DDL, a high percentage of respondents felt it was easy to get coworkers to share information – 88% and 78%, respectively. Results for other divisions appear less promising. For example, 38% of DMC respondents and 24% of DMVL staff claimed it is very or somewhat difficult to obtain information from coworkers.

4.9 Key Takeaways from Multiple Choice Survey Questions

- Respondents are broadly satisfied with the performance of divisions and their jobs.
- Several areas warrant improvements: communications from division leadership, opportunities for cross training and job rotation, and creating environments that foster teamwork.
- Many respondents voiced concerns about the technological tools available for them to do their jobs, but it appears these have little influence on overall job satisfaction.
- Division leaders will benefit from devising strategies to address areas needing improvement and working to nurture an open, equitable, and collaborative workplace.

4.9 Open-Ended Questions

To develop the open-ended questions, we reviewed literature on the use of open-ended questions in surveys (Dean, 2016; McNeely, 1990; Riiskj, 2012, Ingwer and Cornelia, 2012; Riiskj, 2012; McNeely, 1990; Poncheri, 2008; Rich, 2013; Poncheri, 2008). Management may be concerned about the number of negative comments in the open-ended survey, but it should not lose sight of the positive conclusions from the quantitative data. Response rates for each open-ended question are listed in Table 6.

Table 6 Response Rates for Open-Ended Questions

Question	Topic	Response Provided			Response Rate		
		Yes	No	Total	Yes %	No %	Total %
7	Communication	80	55	135	59.26	40.74	100.0
17	Resources	82	51	133	61.65	38.35	100.0
19	Good things	86	45	131	65.65	34.35	100.0
20	Unnecessary Tasks	69	62	131	52.67	47.33	100.0
21	Needed Services	62	69	131	47.33	52.67	100.0
22	What You Would Change	69	62	131	52.67	47.33	100.0
24	Any Other Issues	64	67	131	48.85	51.15	100.0

4.9.1 Methods for Analyzing Open-Ended Responses

After separating open-ended responses by division, we used discourse analysis to analyze their content. Discourse analysis identifies patterns in verbal and written data to arrive at general conclusions. Figure 4 depicts the process of discourse analysis – a primary focus is on identifying themes and subthemes.
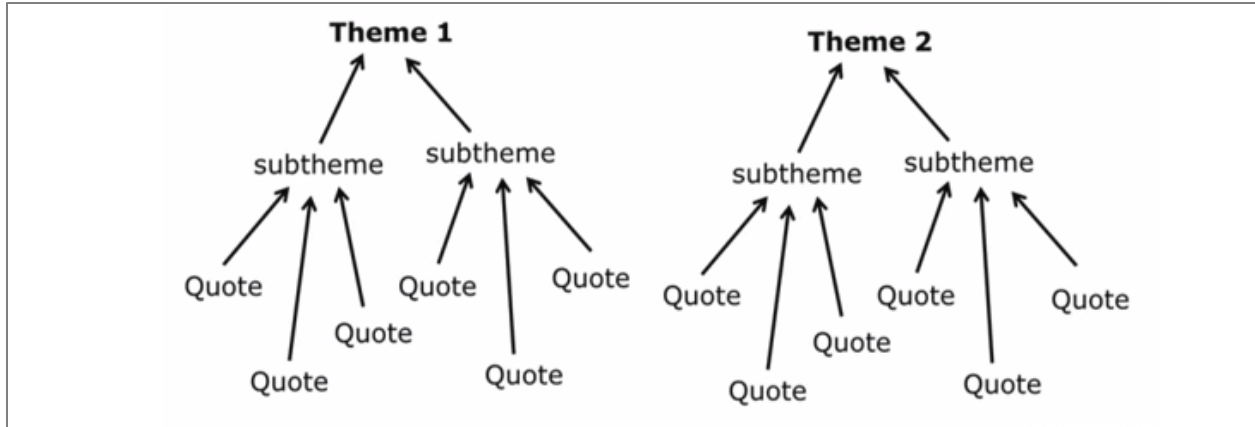
Figure 4 Qualitative Analysis Classification Tree

4.9.2 Improving Communication in DVR

Question 7 addressed how to improve communication in DVR. Twenty-one respondents said DVR needs to more proactively inform staff of changes in DVR policies, statutes, regulations, and staffing, because lacking knowledge in these areas can result in uncomfortable exchanges with customers. A large number of respondents noted that it is important for supervisors to treat all staff equitably, abstain from gossip, be inclusive, act professionally, and not engage in racially charged behavior. Employees noted poor connections within DVR, making it difficult to reach out to other divisions for information. Lack of pay raises and communication issues also contribute to low morale. A smaller number of respondents observed that cross-training and quarterly meetings among the divisions could promote teamwork and diffuse conflict. Developing an FAQ-type document outlining the responsibilities for each division and points of contact was also cited as beneficial. Respondents also said that training on phone etiquette, state government operations, and managerial practices could be useful. Most respondents commented that the county and circuit court clerks will benefit from additional training as this will reduce the number of questions they submit to DVR

4.9.3 Additional Resource Needs

Question 17 asked employees to list resources they need to provide the highest level of customer service. Thirty-three respondents said improved technologies; 10 pointed to additional training. Frequently cited technological enhancements were: increase the use of scanners to replace fax machines; improved phone system; updated desktops; 24/7 permitting for motor carries; greater continuity among DMC databases; replace KDLIS; expand DMC's online services; and having the ability to check driver license status online. Respondents highlighted the importance of county and circuit court clerks receiving more training because clerks often contact them with questions regarding tasks and procedures. Offering clerks better training would save time and decrease call volume. Respondents suggested creating a document that lists division staff members, their roles, their tasks, and appropriate contacts for each subject-matter area.

4.9.4 Employee Assessment of Customer Service

Question 19 asked staff to rate the quality of customer service provided in their division. Most respondents (29) viewed their division as customer-centric, while 16 said their coworkers are knowledgeable and/or willing to seek out information. Respondents generally believed their divisions are responsive to customers. Many respondents also felt their divisions excel at communication; viewed their coworkers as being courteous; or characterized their divisions as efficient, professional, and collegial.

4.9.5 Unnecessary Tasks

Question 20 asked respondents to identify unnecessary departmental tasks whose elimination could bolster efficiency. Sixteen respondents commented that too many duplicate procedures exist, or outdated technologies force them to manually process materials. Seven respondents claimed that everything they do is necessary. Several respondents observed that they receive a large number of inquiries from county and circuit court clerks. Examples of tasks which clerks should be equipped to handle include: directing questions about No Pass/No Drive to the appropriate agencies rather than DDL and scanning documents that should have been scanned by the clerk before issuing a document.

Respondents cited problems with the phone system (e.g., frequently dropped calls) and computers; the latter forces SMEs to log back in to answer calls. Updating or replacing the mainframe would increase automation and eliminate manual processes. Staff felt that expanding payment options (e.g., accepting online payments, letting SMEs and CSPs accept debit and credit cards) will increase efficiency. Growing the Department's portfolio of online services could yield benefits as well. Examples of online services and practices include communicating via email unless email does not work, providing information on graduated license classes that includes schedules, adding a live chat feature, and being able to check driver license status and VIN inquiries.

4.9.6 Additional Services
Question 20 asked staff to identify services their divisions should offer but currently do not. Twenty respondents advised expanding online services and options (e.g., posting information on DVR's website about graduated license classes; communicating with drivers via email; accepting phone payments; opening up an online service for permitting and credentialing commercial vehicles). Six wanted the roles of CSPs to expand, which would require giving them access to databases they cannot access currently (e.g., KBOS (Kentucky Business One Stop), MCP). Additionally, supplying CSPs with screenshots of DVR webpages would be useful for helping customers who have difficulty navigating them. A few respondents also suggested empowering CSPs to accept small fees (e.g., reinstatement fees). Other respondents mentioned staffing issues and workload, the importance training circuit court clerks, and increasing field office workers familiarity with Central Office activities. Three respondents contended that improving the efficiency of services should be a priority.

SMEs located in DMC highlighted services they would like to offer the motor carrier industry (e.g., email permits for commercial vehicles, allow drivers to purchase temporary permits at weigh stations). Two other items mentioned were providing online training to help motor carriers understand tax and credentialing requirements and letting calls to DMC bypass the CSC.

4.9.7 Work Processes
Question 22 asked staff to recommend changes that would improve their workplace. Thirteen respondents highlighted the importance of adjusting work procedures (e.g., no longer requesting personal information of callers before answering questions). Staff advocated more frequent use of email and text messages as they are more efficient and reliable than traditional mail services. Other ideas would require modifying statutes and regulations (e.g., eliminating the bonds and penalties for commercial motor vehicle taxes, changing the IRP requirement to renew apportioned certificates because it is confusing for customers and inconvenient).

Several respondents urged that DVR review job descriptions and duties to determine if other sections could handle some tasks more efficiently. Other respondents mentioned hiring more staff to ease workloads. Ten respondents mentioned technology issues; many of these comments echoed those mentioned previously, although respondents also said the DMVL should adopt e-titling to improve efficiency. One respondent argued for simplifying MCP as customers go through too many steps to find information.

Other respondents commented that CSPs are capable of doing more work than they are currently asked or allowed to. Several recommended converting temporary workers to full-time merit employees to reduce turnover and improve training. Respondents also said that many questions escalated to Tier 2 could be answered by CSPs and that they could accept payments instead of requiring SMEs to collect money.

4.9.8 Additional Feedback
Respondents were also asked to talk about issues not covered in the survey. Twenty-six respondents brought up interpersonal issues between staff and/or management. Some employees were frustrated with management and lack of professionalism, noting that some managers gossip about workers; are prone to favoritism; do not consistently enforce policy; behave in an unfriendly manner; and are unapproachable, racist, or unwilling to consider employee input. DCS workers also expressed dissatisfaction with their current roles in DVR. CSPs often suffer the brunt of customer frustrations, especially when customers are not called back for several days. Several respondents also suggested converting temporary workers into merit employees.

4.10 Key Takeaways from Open-Ended Questions
Our analysis identified several practices DVR can adopt to improve efficiency and bolster morale:

- Make cross-training routine to promote teamwork and foster efficiency.
- Provide circuit and county clerks with additional training. Training will help them build the expertise required to handle routine business tasks and decrease their reliance on DVR to answer questions.
- Have managers attend trainings on employee engagement to help them build more trust with staff members and assuage the issues uncovered by the open-ended responses.
- Increase online services to reduce call volumes and increase customer convenience.

We identified several additional recommendations. However, given KYTC's budgetary constraints, it is unclear how viable they are:

- Replace the mainframe system.
- Hire CSPs into full-time merit positions.
- Conduct a full review of the phone system to identify why calls are dropped, locate the source(s) of misrouting, and analyze the login process for the SMEs when they answer calls.

Chapter 5. DVR Baseline Survey of External Customers

Our team used a mixed-mode survey to perform a baseline assessment of customer satisfaction. This type of survey is ideal because it let us reach customers who interact with DVR in different ways – web users, callers, and walk-ins. We developed five surveys tailored to particular methods of customer interaction and survey administration. Surveys administered over the phone were shorter than surveys available online or at DVR offices. Table 7 lists the features of each survey and details of how they were administered. Except for the DCS phone survey, all surveys were accessible through Qualtrics online survey application. Supplemental materials for this chapter are in Appendix C.

Table 7 Survey Distribution Mode, Dates, and Duration

Survey	Electronic	Phone	Kiosk	Start	End	Survey Period	Number of Questions
DCS Phone*	No	Yes	No	2/13/2017	4/14/2017	44	8
DDL Field Office*	Yes	Yes	No	3/6/2017	5/10/2017	66	12 (9)
DriveKY	Yes	No	No	2/13/2017	4/17/2017	64	20
MCP	Yes	No	No	2/13/2017	4/17/2017	64	19
One Stop Shop*	Yes	Yes	Yes	2/28/2017	5/10/2017	72	11 (8)

* Surveys conducted on weekdays only; ( ) indicate the number of questions in the phone version of the survey

Table 8 the sampling frame for each survey. In some cases we relied on approximations because we lacked data on exact customer numbers. For example, our count of unique visitors to DriveKY does not factor in a single user accessing the site from multiple devices (and therefore being counted as a unique visitor multiple times). Walk-in estimates are based on the counts of customers served by One Stop Shop and DDL employees at field offices.

Table 8 Sampling Frame

Survey	Source	Estimated Customers	Percent	Sample	Percent	MOE (+/-)
DCS Phone	Total Calls	76,585	13.98	6,964	79.44	1.12
DL Field	Walk-ins	13,706	2.50	38	0.43	15.88
DriveKY	Unique visitors	399,432	72.93	450	5.13	4.62
MCP	Registered users	52,292*	9.55	1,229	14.02	2.76
One Stop	Walk-ins	5,666	1.03	85	0.97	10.55
Total	Combined	547,681	100.00	8,766	100.00	1.04

* Number of registered users as of 12.31.2017

Nearly 80% of survey responses were generated from callers to the DCS Phone Center. We received a more modest number of responses from MCP and DriveKY, while very few walk-in customers participated. Sample sizes have implications for survey accuracy and our ability to make sound inferences about the overall customer base; this is reflected in each survey's margin of error. The margins of error for the surveys administered via the DCS Phone Center, MCP, and DriveKY are all under 5%, which is generally accepted as sufficient for drawing statistically robust conclusions. However, both surveys distributed to walk-in customers have margins of error greater than 10%, which makes it difficult to draw reliable conclusions about those populations.

5.1 Baseline Survey – Multiple Choice Questions

All surveys had six common questions (see Appendix C for each survey's questions). The remaining questions were developed to understand how satisfied customers were with the particular means by which they interacted with DVR. Except for the DCS Phone Center survey, which consisted entirely of multiple choice questions, the surveys included a mixture of multiple choice and open-ended questions. Table 9 summarizes the distribution of question types for each survey. The next six sub-sections discuss customer responses to the questions all surveys had in common. Then we review questions unique to each survey.

Table 9 Composition of External Survey Questions

Survey	Multiple Choice	Open-Ended	Other
DCS Phone	8	0	0
DL Field	10 (9)	2 (0)	0
DriveKY	18	2	0
MCP	17	2	0
One Stop	8	2 (0)	1

( ) indicate the number of questions in the phone version of the survey

5.1.1 Overall Customer Satisfaction

In total, 67.9% of all respondents said they were very satisfied with the service DVR provided; another 13.4% were somewhat satisfied. Thus, just over 81% of respondents expressed being satisfied (Figure 5). Visitors to DDL field offices and the One Stop Shop were the most satisfied with their experiences; in both cases, over 95% reported being very or somewhat satisfied, perhaps indicating that having a face-to-face meeting with an employee makes it more likely that a problem will be resolved. The DCS Phone Center also performed well, with about 82% of respondents feeling very or somewhat satisfied. Satisfaction levels were lower for customers who used online services – DriveKY and MCP – although above 70% in both cases.
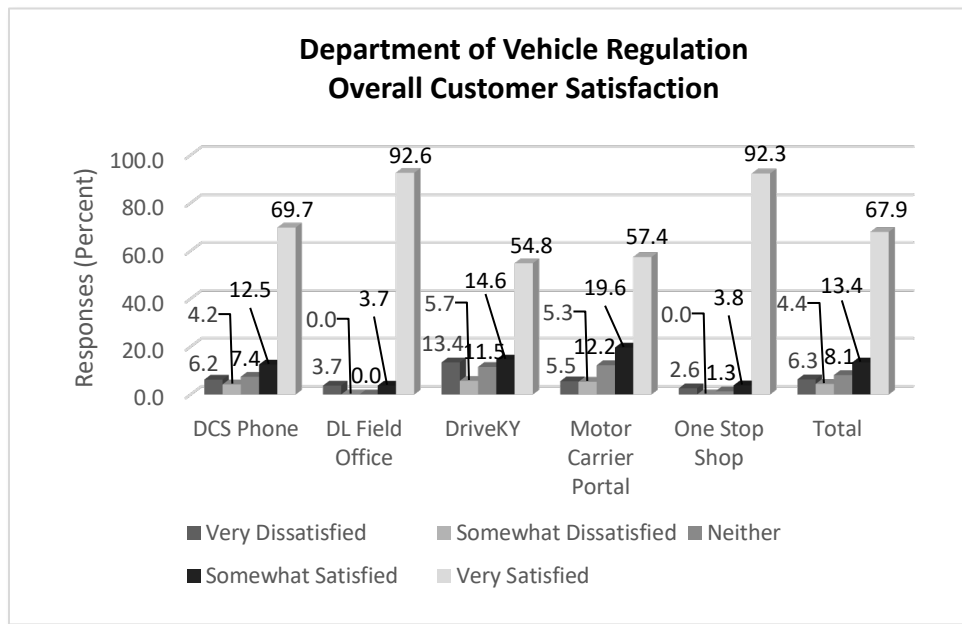
Figure 5 Overall Customer Satisfaction by Survey Type

5.1.2 Efficiency

Approximately 83% of all respondents noted that customer service was very or somewhat efficient. As with ratings for satisfaction, the DDL field offices and One Stop Shop outperformed their counterparts; in both cases, more than 96% of respondents commented they were very or somewhat efficient. While the other modes generally performed well, DriveKY was an outlier, with just 41.7% of respondents viewing it as very efficient; another 19% said the site was somewhat efficient. Although online services give customers the freedom to conduct business at any time of day, a website has functional limits relative to CSP or SME, who can provide answers over the phone or in person.

5.1.3 Ease of Obtaining Information

An overwhelming majority of customers at DDL field offices and the One Stop Shop felt it was very or somewhat easy to get the information they needed to solve an issue (> 90%). Roughly 68% of DCS Phone Center customers said the same. Fewer than half of DriveKY and MCP users reported that obtaining information was very easy, and about one-third of DriveKY users observed that it was somewhat difficult or very difficult to obtain the necessary

information. A quarter of MCP users had the same negative experience. Some users reported not being able to find up-to-date information, such as on state traffic school meeting times (keeping this information updated is difficult since Eastern Kentucky University – not the Cabinet – administers the state traffic school program).

5.1.4 Employee Knowledgeability

Respondents were asked to evaluate the knowledgeability of DVR staff based on their most recent conversation with an employee. To evaluate DriveKY and MCP user experiences, we only included users who had contacted the DCS Phone Center for assistance. Nearly 76% of all respondents reported speaking with a very knowledgeable employee. Another 12% rated the employee as somewhat knowledgeable. DDL field offices and the One Stop Shop had the best performance, with over 90% of customers viewing the employee they interacted with as knowledgeable, which perhaps underscores the benefits of in-person meetings. The DCS Phone Center's ratings were slightly lower (about 76%), but assessments were generally positive. DriveKY and MCP customers who contacted the DCS Phone Center tended to have more negative reactions, with just 43.8% and 62.1% of respondents, respectively, saying they spoke with a very knowledgeable agent.

5.1.5 Courteousness

About 84% of all respondents said they dealt with a very courteous customer service agent; roughly 8% felt the agent was mostly courteous. Employees of DDL field offices, the One Stop Shop, and the DCS Phone Center garnered the highest marks (at or above 85% of respondents rating their agent as very courteous), while evaluations lagged among DriveKY (48%) and MCP (70%) users who spoke with DCS phone agents. One potential explanation for this is that these customers were frustrated when calling the DCS Phone Center, which could have influenced the conversation's direction. This is speculative, and further research is necessary.

5.1.6 Problem Resolution

Among all respondents, 58.4% said their problem had been totally resolved (15% said their problem had been mostly resolved), while 26.5% felt their issue had only been somewhat resolved or not resolved at all. Although the latter is a high percentage, it is important to recall that DVR may not be able to resolve every issues customers present it with. For example, if a customer's license has been revoked by a judge, DVR can only explain that it is complying with the court's decision — it cannot resolve the problem of the revoked license. It was very uncommon for visitors to DDL field offices or the One Stop Shop to leave without their problem being resolved – in both cases, over 90% of respondents were satisfied that the problem was resolved. But as Figure 6 indicates, many respondents who interacted with the DCS Phone Center, DriveKY, or MCP did not achieve a resolution.
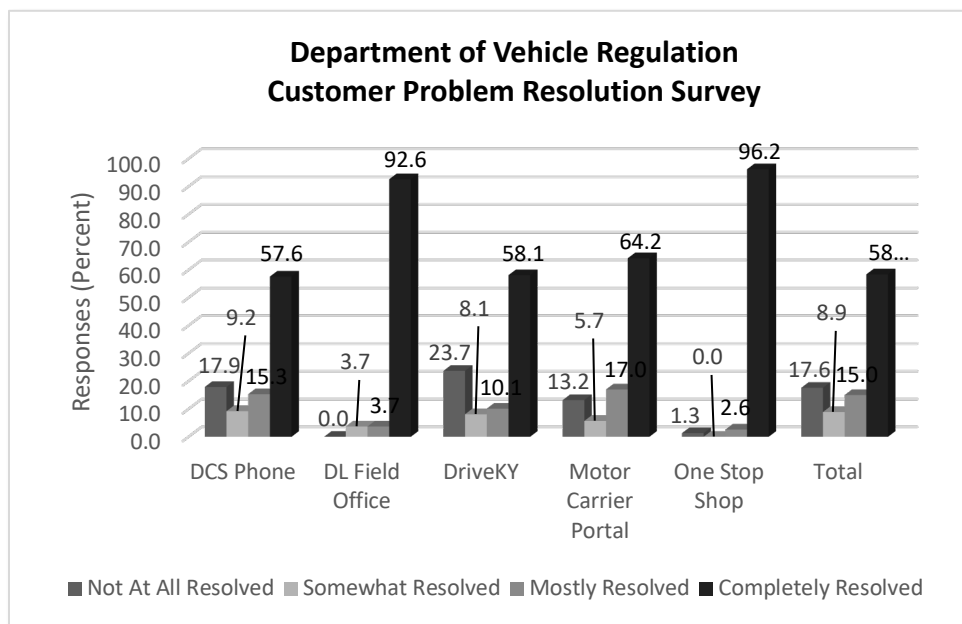
Figure 6 Degree of Customer Problem Resolution by Survey Type

We asked customers who took the DCS phone, DriveKY, and MCP surveys how many times they had attempted to contact DVR in the previous six months. Table 10 captures the importance of helping customers revolve issues on the first attempt. The table presents a cross tabulation of number of contacts and degree of resolution. As customers made more phone calls, it became less likely that they would resolve their problem. For example, the percentage of respondents who made one phone call and completely resolved their problem was about 63%. Among those who made four or more calls, just shy of 43% said they had completely resolved their problem.

Table 10 Cross Tabulation of Problem Resolution and Number of Contacts

	Number of Contacts				
Resolution Status	**1**	**2**	**3**	**4 or more**	**Total**
Completely Resolved	2,900	586	270	317	4,073
(%)	63.26	54.06	49.63	42.61	58.55
Mostly Resolved	674	168	95	116	1,053
(%)	14.70	15.50	17.46	15.59	15.14
Somewhat Resolved	373	104	65	82	624
(%)	8.14	9.59	11.95	11.02	8.97
Not At All Resolved	637	226	114	229	1,206
(%)	13.90	20.85	20.96	30.78	17.34
Total	4,584	1,084	544	744	6,956
(%)	100	100	100	100	100

Table 11 elaborates on this finding by presenting cross tabulations of level of satisfaction and number of contacts. An inverse relationship between level of satisfaction and how often a customer called DVR is apparent. A noteworthy finding is that more respondents said they were very satisfied than reported that their problem was resolved. Two explanations may be ventured for this observation: 1) Customers despite not being able to resolve their issue nonetheless are willing to acknowledge they received good customer service and be satisfied in that regard; and 2) The survey questions primed more critical responses as customers reflected on their experiences. We asked about overall satisfaction first so respondents would not be influenced by previous questions to answer differently.

Table 11 Cross Tabulation of Overall Satisfaction and Number of Contacts

	Number of Contacts				
Satisfaction Level	**1**	**2**	**3**	**4 or more**	**Total**
Very Satisfied	3,499	714	334	374	4,921
(%)	75.28	65.03	60.40	49.15	69.70
Somewhat Satisfied	511	155	91	142	899
(%)	10.99	14.12	16.46	18.66	12.73
Neither	287	97	43	74	501
(%)	6.17	8.83	7.78	9.72	7.10
Somewhat Dissatisfied	154	59	36	57	306
(%)	3.31	5.37	6.51	7.49	4.33
Very Dissatisfied	197	73	49	114	433
(%)	4.24	6.65	8.86	14.98	6.13
Total	4,648	1,098	553	761	7,060
(%)	100	100	100	100	100

5.1.7 Preferred Method of Contact

Respondents were asked how they prefer to interact with DVR.[1] Table C1 in Appendix C gives detailed breakdowns by survey type. Overall, respondents favored phone (44.48%) and e-mail (25.72%) at the highest levels, followed by website (9.77%), in-person visit (8.55%), mail (6.01%), and fax (5.47%). Given that respondents were keen on e-mail, in a future survey DVR may want to poll how receptive customers would be to live chat, which could hold significant appeal. Because respondents did not coalesce around a single medium, DVR should maintain a diverse portfolio of options for interacting with customers.

5.1.8 DriveKY Website

Nearly 53% of DriveKY users said they were very satisfied with the website; another 14.5% reporting being somewhat satisfied. Approximately one-third of respondents expressed no strong feelings or were very or somewhat dissatisfied. These results underscore the need to improve customer service on DriveKY, as they are the most numerous and least satisfied customers.

5.1.9 MCP

MCP users were asked to note if they are a trucking company, service provider, or other (miscellaneous) portal user. Most respondents were truck drivers or owner-operators. We asked about satisfaction with the portal to determine if trucking companies and service providers harbored different views based on their use cases – trucking company users rely on MCP to obtain credentials, acquire permits, or file taxes for a single company. Service providers use MCP for the same purposes, but typically perform functions for a large number of companies. Table 12 summarizes our findings. For trucking companies and the other category, respondents were typically very or somewhat satisfied with the portal (> 80%). Service providers were less happy with the platform. Just 37% reported being very satisfied with MCP, but nearly 19% were very dissatisfied.

Table 12 MCP Customer Satisfaction

Motor Carrier Portal Satisfaction	Trucking Company	Service Provider	Other	Total
Very Satisfied	493	20	32	545
(%)	55.02	37.04	61.54	54.39
Somewhat Satisfied	222	17	10	249
(%)	24.78	31.48	19.23	24.85
Neither	76	3	4	83
(%)	8.48	5.56	7.69	8.28
Somewhat Dissatisfied	60	4	3	67
(%)	6.70	7.41	5.77	6.69
Very Dissatisfied	45	10	3	58
(%)	5.02	18.52	5.77	5.79
Total	896	54	52	1,002
(%)	100	100	100	100

Because more computerized data entry is required, service providers may find it more challenging (compared to previous years) to process multiple returns. For example, permits cannot be purchased in batches – they must be bought one at a time. DVR and IT administrators should investigate why service providers have starkly different experiences and work to increase service provider satisfaction with MCP and its related applications.

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[1] All respondents were asked this question except for One Stop Shop and DDL field office respondents who took the phone version of those surveys. One Stop Shop and DDL field office walk-ins were asked this question on the web version of those surveys, however.

5.1.10 Modeling DCS Phone Survey Results

Leveraging data on calls and customer demographics retrieved from the HEAT system, our team developed several regression models to understand the relationship between call dynamics and overall customer satisfaction. We report briefly on the data used as model inputs first. The response variable in our models was overall customer satisfaction in relation to the division helped resolve the issue (Figure 7). DCS was the best-performing division, which may be the product of it typically being called on to resolve relatively simple issues.
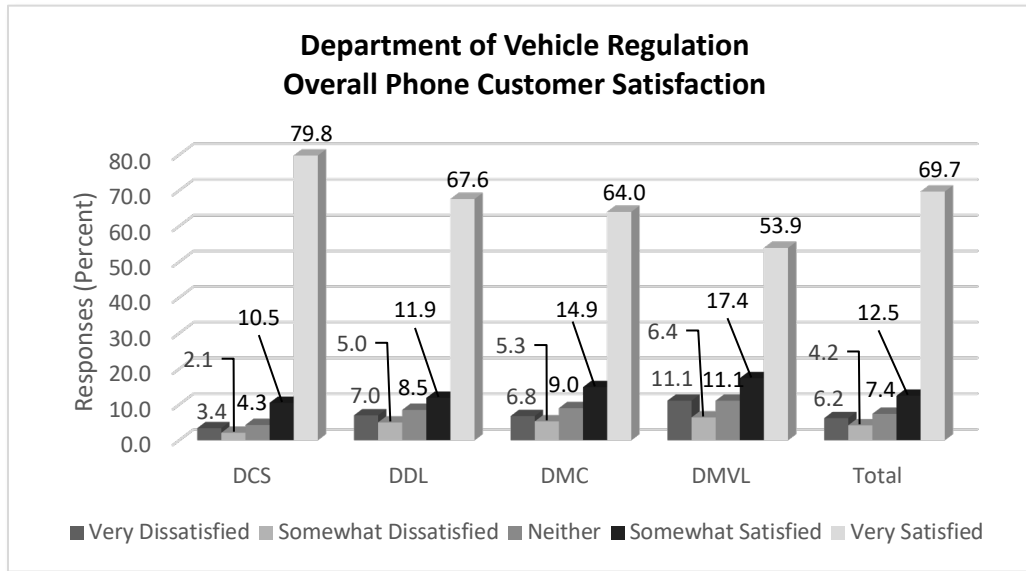
Figure 7 Overall Satisfaction of Phone Customers

We also analyzed escalation dynamics based on respondents who participated in the DCS phone survey (see Table C3 in Appendix C for full breakdown). Just under 35 percent of calls were not escalated, while a bit more than half (54%) of calls underwent a single escalation and approximately 8.5% of calls were escalated twice. Another input was caller age; the 25th and 75th percentile ages were 38 and 59, respectively (Figure C6 in Appendix C captures the distribution of caller ages). Call duration was another explanatory variable included in our model. It is the amount of time a call lasts from the first connection to termination. The median and mean call lengths were similar – 9.1 minutes and 10 minutes, respectively, although we detected some positive skew as the result of outlier calls. Table C4 in Appendix C provides summary statistics on call durations.

In each model, the dependent variable was overall satisfaction, which was measured on a scale from 1 (very dissatisfied) to 5 (very satisfied). Our team developed two sets of models. The first set examines survey responses in which the data for each variable was complete. The second focuses on instances where the customer was an individual, not a business or agency. Readers should consult Appendix C for a detailed narrative of our modeling procedures. Here we focus on the high-level takeaways.

In all models, the number of escalations had a statistically significant and negative effect on customer satisfaction. With each call escalation, customer satisfaction dropped more than half a point. We found a nonlinear relationship between the number of call escalations and overall satisfaction. Figure 8 depicts the model's predicted level of customer satisfaction based on number of escalations (including 95% confidence intervals). We see a decline in satisfaction until 5 escalations, beyond which the model predicts that satisfaction will improve. However, given our data collection procedures, we are skeptical of this finding – because we only included four options for number of call escalations (1, 2, 3, 4 or more), we lack reliable data points on instances of customers having their call escalated more than four times. Note, however, that the model is quite robust for instances two or fewer escalations given the abundance of observations at those values.
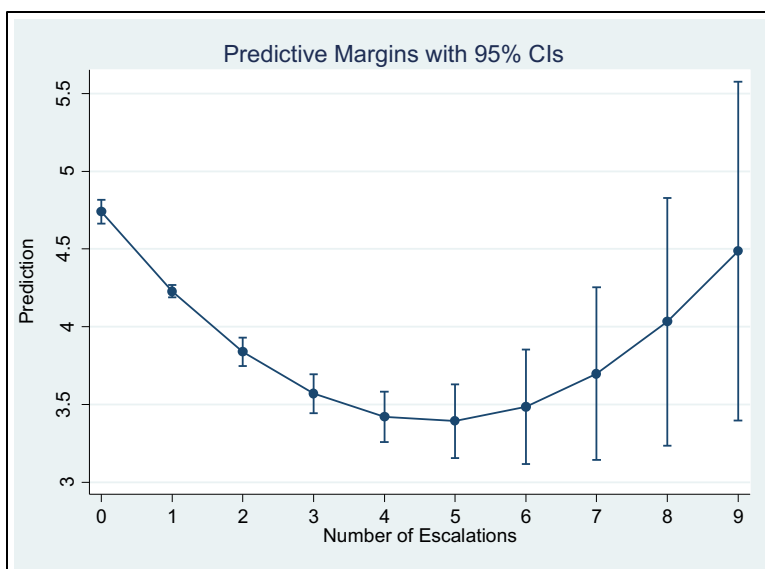
Figure 8 Predicted Satisfaction Level Based on Number of Escalations

No other factor had as much impact as call escalation. Call duration significantly and negatively influenced customer satisfaction, but including call duration as a squared term in our models yielded a positive and significant effect. The magnitude of its effect was much smaller than call escalations. Neither percent of call on hold nor individual significantly influences satisfaction. All other things being equal, individuals were no more or less happy than businesses once we controlled for other factors. Another noteworthy finding is that individuals who completed the entire phone survey were happier than those who only partially completed the survey.

Next, we created six models for only individual callers (n = 4,900). The smaller sample size resulted from taking out business customers and individual customers for whom age data were unavailable. Model results were similar – number of escalations negatively influenced satisfaction ratings as did call duration (although to a much lesser extent). Percent of call spent on hold did not have a significant bearing on satisfaction. People who completed the survey general expressed higher levels of satisfaction than those who did not. Our primary interest in developing this model was to determine if customer age affects reported satisfaction. We found age does not have a significant influence on satisfaction.

5.1.11 Key Takeaways from Multiple Choice Questions and Statistical Modeling
- Overall, customers reported high levels of satisfaction with DVR. Walk-in patrons reported the highest levels of customer satisfaction.
- Issues identified by phone callers and web users should receive priority. Focus should be placed on reducing the number of call escalations and working to resolve customer issues during the first interaction.
- Direct calls and emails are far better at generating responses than passive advertising and marketing efforts on the DriveKY website or the One Stop Shop and the DDL field offices.
- The website is the interface of choice for most customers. Improving the website will enhance overall customer satisfaction.
- While incorporating a significant amount of email into its workflows may be challenging, DVR could examine piloting a live chat feature on its website.

5.2 Baseline Survey – Open-Ended Questions
At the SAC's request, our team developed open-ended survey questions so that respondents could provide more detailed feedback. Response rates were low compared to the multiple choice questions, but they offered useful insights (Table 13). As with the open-ended questions on the internal DVR survey, we used discourse analysis to assess customer responses.

Table 13 Response Rate for External Open-Ended Survey Questions

Survey	Question	Response Rate
Driveky.gov	19	20.4%
Driveky.gov	20	18.4%
Motor Carrier Portal	18	14.1%
Motor Carrier Portal	19	11.1%
Field Offices	11	17.6%
Field Offices	12	17.6%
One Stop Shop	10	23.1%
One Stop Shop	11	15.4%

5.2.1 DriveKY – Survey Omissions

Question 19 asked respondents if the survey had omitted questions it should have posed. Responses included:

- What would you like to see added to our website?
- Did you locate the foreign language driver's manuals?
    - Was the manual available in the language you needed? Were you able to download the foreign language manual successfully?
- What is the level of satisfaction with online access to road conditions for travelers or the online maps that are available?

This question elicited additional feedback from customers. Eighteen respondents said DriveKY is helpful, and many complimented the vehicle registration renewal service, remarking that it is user-friendly, fast, convenient, and a time saver. Five people countered this, however, mentioning that the site is difficult to navigate, citing issues with permit applications and verifying insurance for vehicle registration. Eight respondents expressed surprise over mailing and administrative fees and suggested they be highlighted upfront. One person recommended adding a calculator for determining how much it will cost to register before renewing online. Another eight respondents noted difficulties in contacting DVR staff (e.g., long hold times, unreturned voicemails and emails, phone disconnections). A few respondents suggested services they want the site to offer, including email or text confirmation, making topics for teen drivers one of the top five links on the main page, and providing driver license manuals in additional languages.

5.2.2 DriveKY – Additional Website Services

Question 20 inquired about other department or vehicle regulation issues respondents wanted to address. Suggestions for improvements included:

- List hours of operation for each office
- Immediately provide dates and times for traffic school online or email rather than via snail mail
- Support languages other than Spanish
- Online driver license renewal
- Provide more information on registration and licensing requirements for boats
- Return the vanity plate lookup to the site
- Tax boat trailers and boats in the same month
- Make veterans plates for recreational vehicles
- Allow people to renew specialty and motorcycle plates online
- Post traffic school cancellations online

Four respondents reported issues navigating the site, and two respondents argued that the site's organization could be improved. Another recommended that Kentucky investigate the BMV site for Indiana as a potential model.

5.2.3 MCP – Survey Omissions

Question 18 asked respondents if the survey omitted questions it should have included. Most respondents took this opportunity to comment on general issues and problems. Nineteen responses said navigating the portal is challenging.

Some of the issues cited were: problems with changing KYU inventory and difficulties filing KYU returns, finding KYU in the portal, and locating MCP on DVR's website. However, 19 respondents commented that navigating MCP is easy. Seventeen respondents said they had trouble reaching SMEs in DMC, and in many cases it took multiple days for an employee to return customer calls. Of the 15 responses focused on customer service, most were complimentary, and respondents viewed DMC personnel as helpful, courteous, efficient, and pleasant. A few respondents ventured suggestions for improving MCP. These included: run maintenance at night rather than the evening, let customers file amendments online, switch vehicle registration for commercial vehicles from county clerks to DMC, make all quarterly returns available for download, and add Firefox compatibility to HUT.

5.2.4 MCP – Other Issues to Address
Question 19 gave respondents the chance to discuss other issues. Most complaints related to DMC staff not returning customer phone calls or voicemails quickly enough – callback times ranged from two days to a month. Many respondents also said that while they use MCP, they still have to contact DMC if they encounter problems. Which suggests MCP does not necessarily reduce call volumes. Ten respondents voiced unhappiness about specific features, mentioning problems with KYU inventory as well as difficulties applying and obtaining a KYU. Respondents advanced the following recommendations to improve MCP service.

- Make it easier to update inventories
- Make it easier to obtain a year-long permit on MCP
- Make it easier to add customers to an account (e.g., the IFTA tax account)
- Ability to upload documents
- Place the carrier login tab right atop the very first page to improve its visibility
- Allow drivers to file taxes on MCP closer to the deadline
- Ability to amend KYU returns online

5.2.5 DDL Field Office – Survey Omissions
Question 11 asked respondents if the survey omitted questions it should have included. All of the respondents who answered said "none."

5.2.6 DDL Field Office – Vehicle Registration Issue(s) to Address
Question 12 afforded respondents the chance to comment on the vehicle registration issue they wanted to address. We received one substantive comment about a field office from a customer attempting to document residency. Details of that customer's concerns were provided to the SAC team and eventually resolved.

5.2.7 One Stop Shop – Survey Omissions
Question 11 asked respondents if the survey omitted questions it should have included. Respondents suggested the following questions:

- How long was your wait?
- Was it easy getting in/out of our building?
- (Were) there any delays in service?
- How can we make this easier for you?
- What could be done to improve the process?

Four respondents said they had a good experience and were pleased with the service; two were confused by procedures for calling the next customer; and two did not like the glass barriers at the customer service booths.

5.2.7 One Stop Shop – Other Issues to Address
Question 11 asked respondents to comment on outstanding issues they wanted to address. We received four responses. Two customers were happy with the service, one suggested that rebuilt titles be processed online, and one disliked the process for entering KYTC's building and the wait to be called to the One Stop Shop window.

5.2.8 Key Takeaways from External Survey Open-Ended Questions
- When conducting future customer satisfaction surveys, DVR should add questions proposed by respondents.

- Many respondents expressed satisfaction with DriveKY, especially its vehicle registration renewal service. Some respondents thought the service fees were appropriate, however, others stated they were too high. DVR should review service fees and the methods used to communicate and present them to customers.
- MCP users highlighted three concerns: it is challenging to find the portal and locate available services; callback-only status is frustrating; DMC sometimes fails to respond to customers quickly enough. Users also want the ability to access previous tax filings and hope to see the vehicle inventory features improved. Revamping the MCP design could enhance site navigation. Further investigation of the complaints regarding callback status and lack of response from DMC customer service is also warranted.

Chapter 6. Online Vehicle Registration Renewal Customer Survey

Kentuckians in participating counties have the option to renew vehicle registrations online. Once they complete the online registration process, they receive an updated registration certificate and license plate and/or plate sticker. Our research team, in consultation with the SAC, developed and administered a 10-question online survey to understand customer experiences of the online renewal process. The survey contained both multiple-choice questions and open-ended questions (see Appendix D for a complete list of survey questions). Posted in spring 2019, the survey elicited 1,558 responses during the 59-day period it was available. We discuss key findings from the survey in this chapter.

6.1 Overall Customer Satisfaction
Most customers reported being very or somewhat satisfied with the online renewal service (approximately 93%). Less than 2% of survey participants reported being very dissatisfied. Table 14 provides a breakdown of all responses.

Table 14 Overall Satisfaction with Online Renewal

Response	Frequency	Percentage	Cumulative Percentage
Very satisfied	1,204	77.28	77.28
Somewhat satisfied	249	15.98	93.26
Neither satisfied nor dissatisfied	27	1.73	94.99
Somewhat dissatisfied	53	3.40	98.40
Very dissatisfied	25	1.60	100.00
Total	1,558	100.00	

6.2 Ease of Use
Nearly all the respondents (97%) found the online renewal process very or somewhat easy to navigate. Under 2% percent of survey participants encountered difficulties using the system. Given that perceived ease of use positively affects system adoption (e.g., Venkatesh and Davis, 2000), our findings indicate the online service had a successful launch.

6.3 Transaction Success and Failure
Almost 96% of respondents completed their renewal transaction. To understand how the transaction result affected level of satisfaction, we developed cross tabulations. Among respondents who completed the renewal process, about 94% indicated being satisfied with the service. Interestingly, more than half of the respondents who were unable to renew their registration nonetheless expressed a strongly positive opinion; 29% reported being somewhat satisfied.

The open-ended questions shed greater light on this counterintuitive result. Some respondents wrote that they could not complete the transaction for just one or two of the several vehicles they intended to renew for certain reasons (e.g., co-ownership, insurance invalidation problem, wrong address). However, people in this group were able to renew the registration of the other vehicles they owned, likely influencing their perceived usefulness of the service.

6.4 Frequency of Usage
Most respondents (75%) were first-time users of the service, while a sizable minority (17%) were taking advantage of it for the second time. The online renewal option was introduced several years ago, and its popularity has steadily grown. Total renewals increased from 62,228 in 2016 to 123,562 in 2018 – a 98% jump in two years.

6.5 Preferred Method of Renewal
As survey respondents were using the online renewal service, it comes as no surprise that 90% said their preferred method was the web/online application. In declining order, other preferred methods were mobile application (6%), in-person (3% percent), and mail (1%). But these findings may not be representative of the population more broadly as we did not survey people renewing by other means. Nonetheless, it is evident the respondents value the convenience afforded by the online service.

6.6 Value of Online Processing Fee

When a vehicle owner uses the online renewal service, they pay an additional fee that is not charged to people who renew in person. We asked customers if it was worth paying this fee to avoid renewing in at the local county clerk's office. Over 90% of the respondents said it was definitely, somewhat, or marginally worth it (Table 15). Only 6% felt it paying the fee was not worth it at all.

Table 15 Assessment of Online Processing Fee

Response	Frequency	Percentage	Cumulative Percentage
Definitely worth it	910	58.41	58.41
Somewhat worth it	287	18.42	76.83
Marginally worth it	250	16.05	92.88
Not worth it at all	93	5.97	98.84
What fees?	18	1.16	100.00
Total	1,558	100.00	

We performed a cross-tabulation analysis to understand the relationship between overall satisfaction and attitudes toward the processing fee (see Appendix D). Respondents who said they were very satisfied were most likely to find value in paying the fee, while those who were not satisfied felt the cost was not justified. Some of the open-ended responses addressed this fee. Several respondents were unhappy over not being informed of the fee's exact amount at the outset of the renewal process. However, the fee is not a flat fee – it varies based on the amount of the transaction. Describing how the fee is calculated on the first webpage customers interact with during online renewal could improve overall customer satisfaction. A possible solution is building into this page a processing fee calculator that estimates how much the user will owe. Including this tool will increase transparency and let customers decide upfront if they would like to continue with the online renewal process.

6.7 Use of the Registered Vehicle

Approximately 93% of respondents reported they used the service to renewal personal vehicles (a single vehicle or multiple vehicles). The other respondents had registered farm (2.5%) or non-farm (4.5%) work vehicles.

6.8 Spatial Distribution of Online Renewal Service Users.

The top five counties for online registration renewal in 2018 were Jefferson, Fayette, Kenton, Boone, and Warren – the state's most populous counties (Figure 10). Figure 9 shows the distribution of survey respondents. Both maps can be used by KYTC to identify locations where vehicle registration renewal is underutilized. With this information, the Cabinet could do targeted resource allocation to advertise online renewal in counties where room for growth is the greatest.

Total Surveyed Online Vehicle Registration Renewals by County
(3/14/19 to 5/11/19)
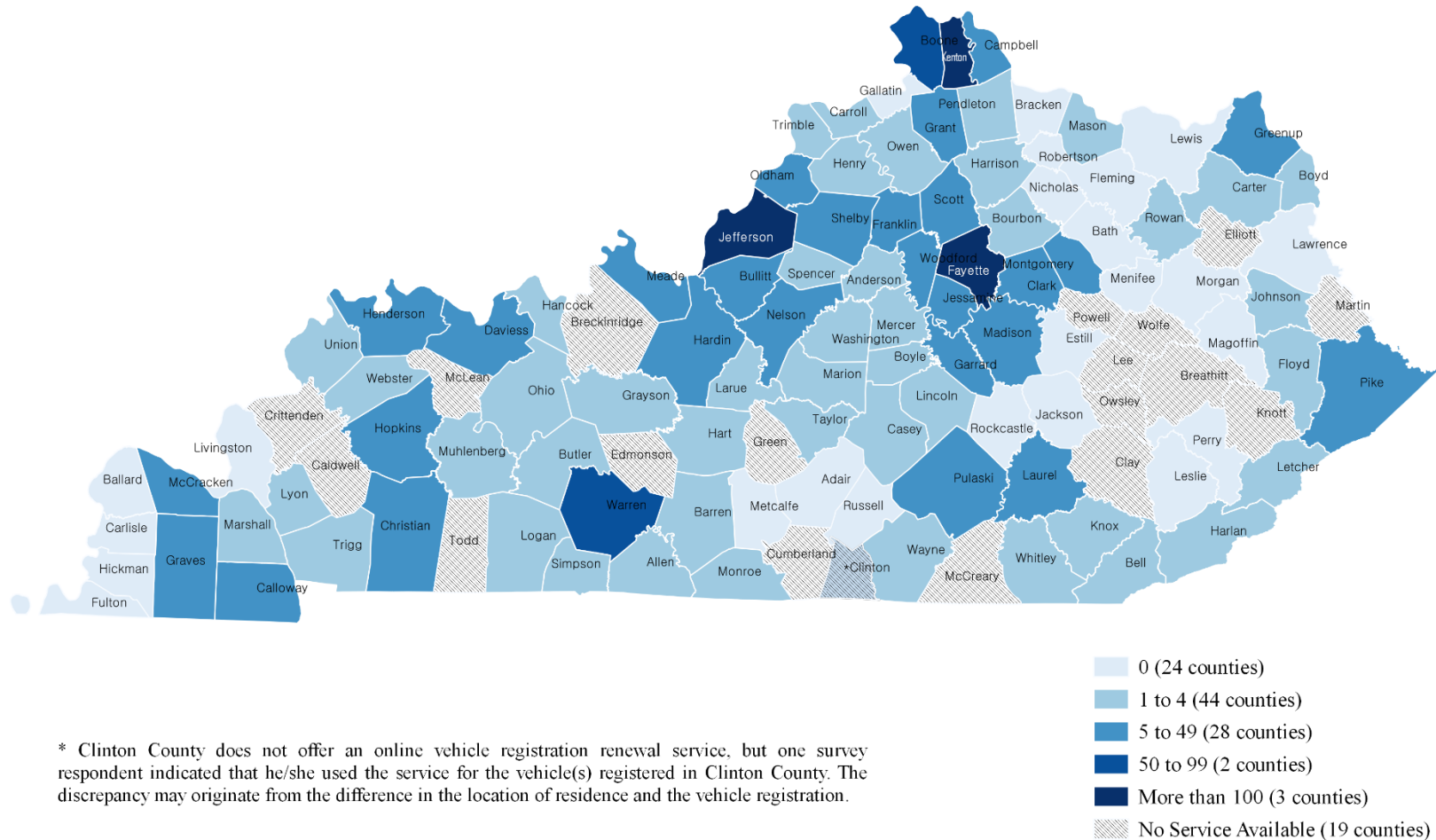
* Clinton County does not offer an online vehicle registration renewal service, but one survey respondent indicated that he/she used the service for the vehicle(s) registered in Clinton County. The discrepancy may originate from the difference in the location of residence and the vehicle registration.

Legend:
- 0 (24 counties)
- 1 to 4 (44 counties)
- 5 to 49 (28 counties)
- 50 to 99 (2 counties)
- More than 100 (3 counties)
- No Service Available (19 counties)

Figure 9 Total Surveyed Online Vehicle Registration Renewals by County (3/14/19 to 5/11/19)

Total Online Vehicle Registration Renewals by County (2018)

Legend:
- 7 - 56 (21 counties)
- 57 - 85 (20 counties)
- 86 - 185 (20 counties)
- 186 - 493 (20 counties)
- 494 - 41207 (20 counties)
- No Service Available (19 counties)
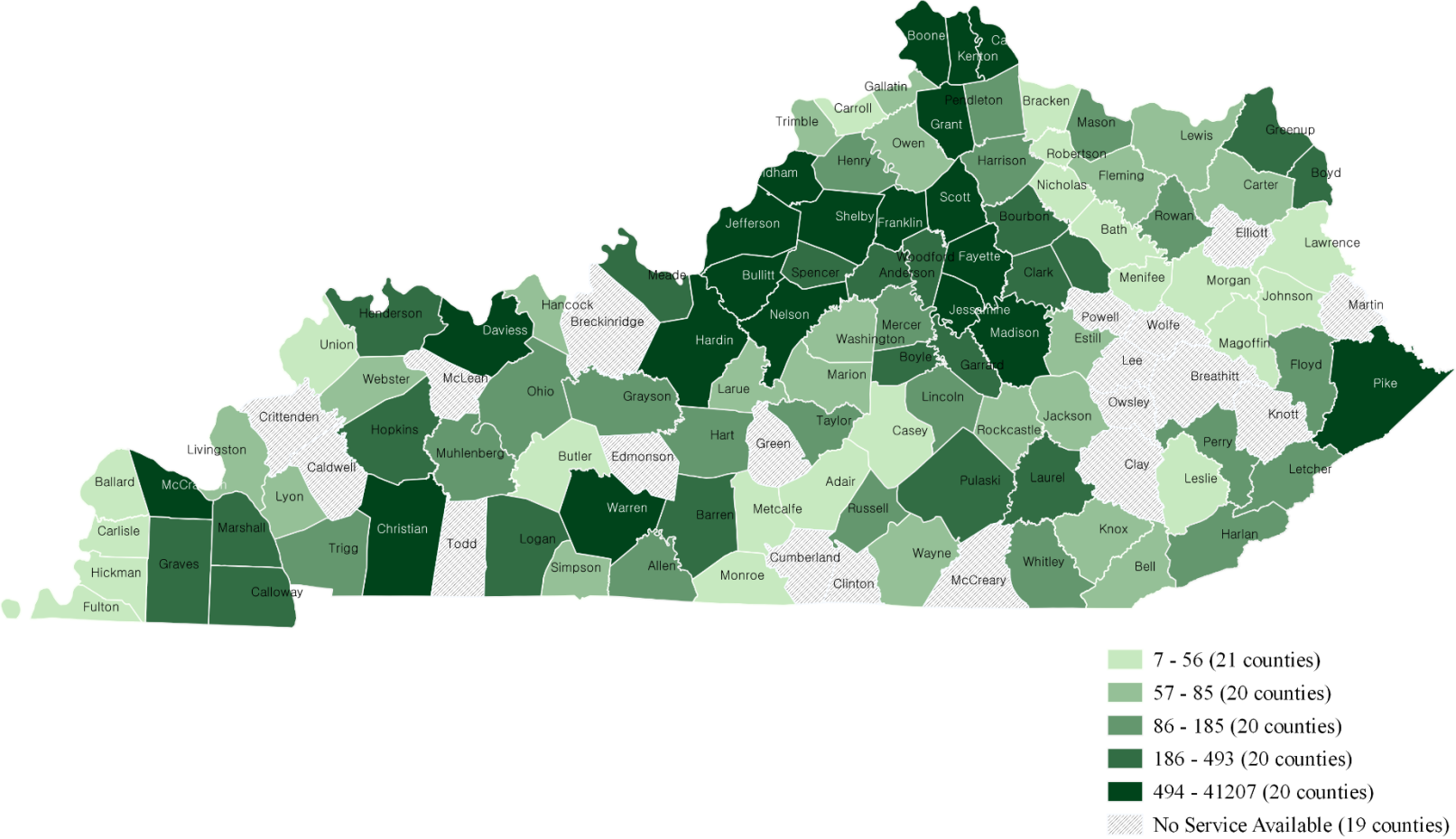
Figure 10 All Online Vehicle Registration Renewals by County (2018

Chapter 7. Barriers to and Opportunities for Improvement

Our team asked branch managers and section supervisors to 1) identify barriers that hamper efforts to provide quality customer service and 2) recommend strategies for dismantling those barriers. Each subsection in this chapter discusses a barrier and the improvements employees suggested.

7.1 Phone Issues

DVR negotiates a very high call volume. Key problems with the phone system are long customer wait times and misrouted calls. Staff reported dissatisfaction among customers, as well as county and circuit court clerks, over the long wait times. Misrouted calls are partially the consequence of knowledge articles. These articles are authored by SMEs, and CSPs use them to either answer questions or route calls to the proper SME. In some cases articles lack sufficient information for CSPs to provide an answer or correctly transfer the call to the appropriate SME. When a call is misrouted, the SME must determine who the caller should speak with, which increases wait times. Table 16 provides comments related to call wait times, misrouted calls, and the phone system as a whole.[2]

Table 16 Barriers to and Opportunities for Addressing Phone-Based Customer Service

Reducing Call Wait Times	
Barriers	**Opportunities for Improvement**
- There are very high call volumes. - It takes too long for the call center to transfer calls. - Customers and partners on hold for excessive amounts of time. - Delays from the tax branch responding to or assisting a customer will delay that customer's ability to receive IRP apportioned plates or other credentials at the One Stop Shop. (Calls are not always answered when they come in. Instead the caller must leave a voice mail and wait for a return call.)	- Allow calls to come straight to SMEs instead of going through the DCS. A pilot is ongoing with calls coming in directly to the OW/OD section (bypassing the Call Center). If this is successful, other sections should do this also. They have already shuffled some phone calls to the east field offices because these have less workload. This has helped the Central Section. - Give county clerks a direct phone line. - Provide cross-training to staff within the DVR. - Keep the DCS call center, but those answering the phone must be more knowledgeable on the taxes. - Offer online chat (within the Branch) in lieu of phone calls and create instructional videos for carriers and other customers. - Provide direct phone number and email addresses to customers in order to provide better service.
Misrouted Calls	
Barriers	**Opportunities for Improvement**
- Incorrect knowledge articles are attached to calls, and many customers are misrouted. - The ticket system, utilized through the Call Center, does not work well.	- Improve call routing system to avoid misrouting, which extends the customer wait time. - Update and correct knowledge articles.
Phone System	
Barriers	**Opportunities for Improvement**
Dropped calls occur daily, sometimes multiple times a day and often in the middle of conversations with customers.	Improve phone system to eliminate dropped calls.

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[2] We lightly edited material in the barrier/opportunity tables presented throughout this chapter, however, we preserved responses in as close to their original form as possible to retain the voices of individual staff members.

To improve response time, multiple staff recommended having calls that bypass the DCS Phone Center be sent directly to the relevant sections. Other suggestions were giving customers direct contact information and providing direct lines to circuit court and county clerks. Reducing caller wait times could be accomplished by having cross-training in DVR so more people can answer customer questions.

DCS estimated that dropped calls occur between 20 and 40 times per month and can last for seconds or hours. During this study, DCS worked to address problems with dropped calls. Phone system (HEAT/VOICE) software was migrated from the COT Cold Harbor facility and placed on a dedicated physical server. Sound quality immediately improved following this move, and dropped calls were eliminated. Further investigation found that old, legacy systems (residing in COT) were inadvertently turned back on by mistake, which created conflicting data paths, and ultimately, creating system overloads and failure. After the legacy systems were permanently shut down brief outages only happened occasionally. DCS staff believe this might be a network-related issue and are working to resolve it.

7.2 Staffing

Several branches lack the employees necessary to complete all business operations. Branch managers noted that KYTC's cap on staffing numbers and salaries makes it difficult to hire more employees. And the hiring process itself is quite lengthy. DCS staff flagged high staff turnover in their division. When CSPs are first hired, they undergo five weeks of training and three days of Quality Control. They are not expected to meet key performance indicator standards until five months after their date of hire. But CSPs are in fact temporary workers. On average, a CSP will remain for one year before leaving to pursue other opportunities (or in some cases as a result of termination). The division cannot maintain a permanent professional workforce due to all CSPs being hired on temporary status.

Employees recommended transitioning the temporary staff to full-time status. This would encourage CSPs to feel invested in improving customer service and provide additional time for training, giving them the opportunity to build a more robust knowledge of DVRs services and processes. Greater intra-divisional cross-training could also help distribute the workload among SMEs. Table 17 lists employee comments on staffing issues.

Table 17 Barriers to and Opportunities for Improvements in Staffing

Barriers	Opportunities for Improvement
- There is a high rate of turnover for temporary employees. This results in staff regularly having to train new workers. - Insufficient staffing in the central office and field offices due to vacancies and caps. - Inadequate staffing levels make it difficult to provide answers and services in a timely manner. - There are not enough staff members to process the large number of applications received each month.	- Transition CSPs from temporary to permanent (merit or non-merit) positions. - Cross-train the permanent customer service staff with personnel from DDL, DMVL, and the DMC to focus on expanding customer resolution capabilities for all customer issues. Cross-training could be done if employees were expected to stay longer than a year, meaning that more calls could be resolved without transferring to a subject matter expert (SME). - Develop a formal curriculum for CSPs. - Hire more people to fill vacancies and increase caps.

7.3 Technology

Our team had several conversations with staff about the ways in which customer service suffers due to the lack of up-to-date technologies. The Kentucky Driver Licensing System (KDLIS) and OW/OD permitting rely on outdated technologies that hinder efforts to update records and locate information. The mainframe system is programmed using COBOL, an outdated programming language no longer taught in most college-level computer science programs. Transitioning away from the mainframe system would bolster efficiency and thus improve customer satisfaction. Table 18 presents the comments from employees on technology-related issues.

Table 18 Barriers to and Opportunities for Improving Technology

Barriers	Opportunities for Improvement
- Computer may timeout and sometimes creates delays because the subject matter expert (SME) has to log back into the system before they can take the phone call. - The email/fax system with CDL requests takes too long to search – this delays response when requests come in about where the driver's application is in the process. - Corrections to the National Motor Vehicle Title Information System (NMVTIS) system need to be made. - Programing changes are needed to KDLIS by COT. Some of these changes have been needed for years. These updates would likely improve customer service to circuit court clerks. - The OW/OD Section is still utilizing the mainframe, an outdated computer system that delays timely service to customers. There is a lack of reliable bridge height data. - The systems (Commercial Vehicle Information Exchange Window, IRP On-line, KYU Online) that are being utilized need to update in real time. When customers are at the One Stop Shop, we don't want them delayed because the credentials are not up-to-date in the system. - There are problems with the IFTA/IPC System. - New requirements for logging into online systems and this is causing problems for the customers. - More information and faster service on the DriveKY website. - There are frequent system failures for the web service and Commercial Vehicle Information Exchange Window (CVIEW).	- Provide the ability for at least the supervisors, maybe all, to answer the phone from their headset – the timeout issue means the SME has to log back in to their computer before they can answer the phone. - Need a means to search faxed and emailed applications quickly to provide information to callers. - One Stop Shop needs the ability to override systems due to the fact that some things are not updating real-time. - Make improvements to DriveKY. We need to communicate better with the industry and provide online tools for their use. - Transition the OD/OW section away from mainframe system to the Bentley Superload system. - Changes are needed to the Kentucky statutes regarding IRP to allow for everything to be done online. - Implement fixes to the IFTA/IPC System. - Make needed changes to the KDLIS program. - Improvements in systems and the ability to process paperless documents via scanning and file uploads would alleviate a large percentage of human errors and ensure deposits are made faster.

7.4 Process Improvements

Some obstacles which hamper employee attempts to provide high-level customer service are related to statutes and policies that govern daily operations. For example, before they can obtain some forms of information, customers are required to provide certain identification information for privacy protection. Customers are frustrated by this, which in turn lowers efficiency. In some cases, services are delayed because other states have different requirements for sending and receiving data. Fostering better communication among branches can help improve customer satisfaction as well. Table 19 lists employee comments on process improvements.

Table 19 Barriers to and Opportunities for Process Improvements

Barriers	Opportunities for Improvement
• Other states have procedures that complicate the process for verification. For example, some states do not accept faxes. • Kentucky statutes have privacy requirements for personal information, so they have to verify the customer's identity to ensure they can give the requested information to the caller. • Driver's license manual needs to be offered in the languages that testing is offered. • There are language barriers when processing Non-U.S. Citizen applications. This can slow down the process. • On occasion, county clerks collect fees for titles but do not obtain the customer's email and address. Without this information, this branch cannot contact the customer directly when there are problems with the title. • Frequent miscommunication within the DMC makes satisfying the customer more difficult.	• To improve communication with the tax branch, the signs (directing non-tax branch staff to not enter) should be taken down. • Changes are needed to the Kentucky statutes regarding IRP to allow for everything to be done online. • Provide online tools for the circuit court clerks. This would be simpler to use than the large manual they are given. • Provide additional training to circuit court clerks. • Cleanup of some KRS and KAR laws and regulations to make some things more user-friendly for customers (i.e., a statute authorizing online graduated license permit classes, etc.) • More stringent statutory limits on rebuilt titles would decrease the number of applications and would increase the amount of time available for fraud investigations. • Provide online training for recertification of vehicle inspectors.

7.5 Conclusions

Staff feedback was conveyed from DVR management, which in turn instituted changes. Nonetheless, all readers should carefully peruse and reflect on the employee comments because they offer valuable insights. The rebaseline survey, which is addressed in the next chapter, attempted to capture whether changes implemented by DVR have facilitated better operations.

Chapter 8. Findings of Rebaseline Survey

After DVR implemented changes based on the suggestions advanced in Chapter 7, our team conducted a follow-up customer satisfaction survey (termed a rebaseline survey) in fall 2018. This survey was identical to the original – it contained the same questions and preserved the order of questions. However, we did not administer the rebaseline survey at DDL field offices and the One Stop Shop due to low response rates during the first survey. Readers should keep in mind that we conducted the rebaseline survey in the fall rather than the spring. DVR's workloads vary throughout the year based on renewal cycles for particular licenses, credentials, decals, permits, operating authority, and other requirements. This in turn affects the customer base and their interactions with DVR. Table 20 captures the timeframe for the baseline and rebaseline surveys. The main goal of the rebaseline survey was to determine whether changes enacted by DVR positively influenced customer satisfaction.

Table 20 Dates of Baseline and Rebaseline Surveys

Survey	Baseline			Rebaseline		
	Start	End	Days	Start	End	Days
DCS Phone	2/13/2017	4/14/2017	44	10/22/2018	12/13/2018	37
DriveKY	2/13/2017	4/17/2017	64	10/23/2018	1/4/2019	74
MCP	2/13/2017	4/17/2017	64	10/24/2018	1/3/2019	72

Table 21 compares the sampling frame and sample characteristics of the baseline and rebaseline surveys. DVR interacted with far more customers during the baseline survey period. This is likely because DMC does not process IRP plate renewals in November and December, while intrastate plates expire March 31. Accordingly, the customer population in 2017 was larger. Nonetheless, sample sizes were large enough to meet our margin of error goals.

Despite online respondents being more numerous, we assigned more weight on common questions to DCS Phone Center survey participants. Consistent with the baseline survey we did not weight survey samples. Respondents were not obligated to answer all questions, which accounts for the number of answers to each question being lower than the total sample. Anticipating high survey termination rates and wanting to avoid response priming, we asked about overall satisfaction first. Questions beyond this one garnered fewer responses.

Table 21 Comparison of Baseline and Rebaseline Populations and Samples

Baseline Survey						
Survey	Source	Customers	Percent	Sample	Percent	MOE (+/-)
DCS Phone	Total Calls	76,585	14.5	6,964	80.6	1.12
DriveKY	Unique visitors	399,432	75.6	450	5.2	4.62
MCP	Registered users	52,292	9.9	1,229	14.2	2.76
Total	Combined	528,309	100.0	8,643	100.0	1.05
Rebaseline Survey						
Survey	Source	Customers	Percent	Sample	Percent	MOE (+/-)
DCS Phone	Total Calls	51,378	21.2	4,759	59.4	1.35
DriveKY	Unique visitors	134,898	55.6	598	7.5	4
MCP	E-mails sent	56,255	23.2	2,658	33.2	1.86
Total	Combined	242,531	100.0	8,015	100.1	1.08

Table 22 reports the number of responses on questions common to all three surveys. All questions listed were multiple-choice. Ordering in the table corresponds to the order in which they were asked.

Table 22 Comparison of Baseline and Rebaseline Surveys – Number of Responses by Question

Question	Baseline				Rebaseline				Overall
	DCS	DriveKY	MCP	Total	DCS	DriveKY	MCP	Total	All
Overall satisfaction	6,917	314	1,056	8,287	4,735	486	2,253	7,474	15,761
Efficiency	6,747	48	220	7,015	4,560	93	291	4,944	11,959
Knowledgeability	6,697	48	219	6,964	4,510	91	290	4,891	11,855
Courtesy	6,657	48	218	6,923	4,487	91	290	4,868	11,791
Information	6,652	48	218	6,918	4,477	91	289	4,857	11,775
Issue Resolution	6,785	198	318	7,301	4,576	326	481	5,383	12,684
Preferred contact	6,612	259	965	7,836	4,442	417	2,041	6,900	14,736
Number of contacts	6,576	292	217	7,085	4,400	453	288	5,141	12,226

Table 23 compares findings between surveys on overall customer satisfaction. Responses are broken down by survey mode (DCS Phone, DriveKY, MCP). The survey type designated *All* aggregates all survey modes. Notably, overall satisfaction decreased slightly from the baseline survey. The overall percentage of respondents reporting they were very or somewhat satisfied declined from 81% to 77%; respondents saying they were very or somewhat dissatisfied ticked up from just under 11% to 13%. Most of the decline is attributable to respondents of the DCS Phone and DriveKY surveys. Satisfaction in both groups fell roughly 6%. Satisfaction among MCP respondents increased about 7%.

Table 23 Comparison of Baseline and Rebaseline Surveys – Overall Satisfaction

Survey Type	Response	Baseline		Rebaseline	
		Frequency	Percentage	Frequency	Percentage
All	Very satisfied	5,597	67.54	4,658	62.32
	Somewhat satisfied	1,117	13.48	1,122	15.01
	Neither satisfied nor dissatisfied	680	8.21	717	9.59
	Somewhat dissatisfied	366	4.42	324	4.34
	Very dissatisfied	527	6.36	653	8.74
DCS Phone	Very satisfied	4,819	69.67	2,917	61.61
	Somewhat satisfied	864	12.49	660	13.94
	Neither satisfied nor dissatisfied	515	7.45	399	8.43
	Somewhat dissatisfied	292	4.22	227	4.79
	Very dissatisfied	427	6.17	532	11.24
DriveKY	Very satisfied	172	54.78	234	48.15
	Somewhat satisfied	46	14.65	73	15.02
	Neither satisfied nor dissatisfied	36	11.46	56	11.52
	Somewhat dissatisfied	18	5.73	47	9.67
	Very dissatisfied	42	13.38	76	15.64
MCP	Very satisfied	606	57.39	1,507	66.89
	Somewhat satisfied	207	19.60	389	17.27
	Neither satisfied nor dissatisfied	129	12.22	262	11.63
	Somewhat dissatisfied	56	5.30	50	2.22
	Very dissatisfied	58	5.49	45	2.00

Are the declines in overall satisfaction meaningful? To adjudicate whether the changes in scores were statistically significant, we used two sample t-tests. On all measures, we found the downward trends in scores to be significant. But it is important not to equate a finding of statistical significance with the magnitude of change. Table 24 captures changes in scores. In all cases, the changes were quite modest – generally less than 6%. Nonetheless, given that the DCS Phone Center and DriveKY service the most customers, we need to understand why satisfaction levels dropped for them. If one or multiple reasons can be identified, management can respond with policies to address those issues. Similarly, it is critical to determine why satisfaction among MCP customers improved.

Table 24 Comparison of Baseline and Rebaseline Surveys – Changes in Mean Overall Satisfaction

Overall	Baseline Mean	Rebaseline Mean	% Change
All	4.31	4.18	**− 3.15%**
DCS Phone	4.35	4.10	**− 5.83%**
DriveKY	3.92	3.70	**− 5.45%**
MCP	4.18	4.45	**+ 6.40%**

8.1 Differences in Issue Area by Survey Mode

Table 25 provides insights into the customer base characteristics by showing a breakdown of which division resolved problems for DCS Phone Center and DriveKY respondents. Although we did not ask this question of DCS Phone respondents, we derived this information by matching the service ticket and call; DriveKY respondents self-reported their issue. The Medical Review Board evaluates the fitness of drivers with physical and mental impairments. While it resolved a small percentage of issues presented by DCS Phone customers, DriveKY users could not select it as a response.

Table 25 Resolving Division or Issue Area for DCS Phone and DriveKY Rebaseline Respondents

Rebaseline Survey Mode	DCS Phone		DriveKY	
Division/Issue	**Count**	**Percent**	**Count**	**Percent**
DCS/General Issue	631	13.26	92	22.28
DDL/Driver License Issue	2,169	45.58	71	17.19
DMC/Motor Carrier issue	1,427	29.99	20	4.84
DMVL/Vehicle Licensing Issue	436	9.16	230	55.69
Medical Review Board	95	0.02	N/A	N/A

A few data points stand out. First, a strong plurality of DCS Phone respondents (45%) sought to resolve a driver's license issue, while on a percentage basis fewer DriveKY users needed to resolve this problem (17%). Also notable is that most DriveKY respondents (55%) were focused on taking care of a vehicle licensing issues, while a small fraction of respondents who interacted with the DCS Phone Center had this problem (9%). Just under 5% of DriveKY respondents wanted to address a motor carrier issue, which is understandable because most motor carriers, owner-operators, and permitting agencies opted to take the MCP survey. Although not indicated in the table, MCP respondents all needed to resolve a motor carrier issue or had used the MCP in the past.

8.2 Differences in Preferred Contact Method

Both surveys asked respondents to indicate their preferred method of contact. Figure 11 compares responses from the baseline and rebaseline surveys. The most significant negative change is related to phone interactions. Nearly 45% of respondents who took the baseline survey preferred contact via phone, while just over 35% expressed the same attitude in the rebaseline survey. Compared to the baseline survey, the rebaseline survey recorded about a 7% increase in the percentage of respondents who preferred to be contacted via email or the website.
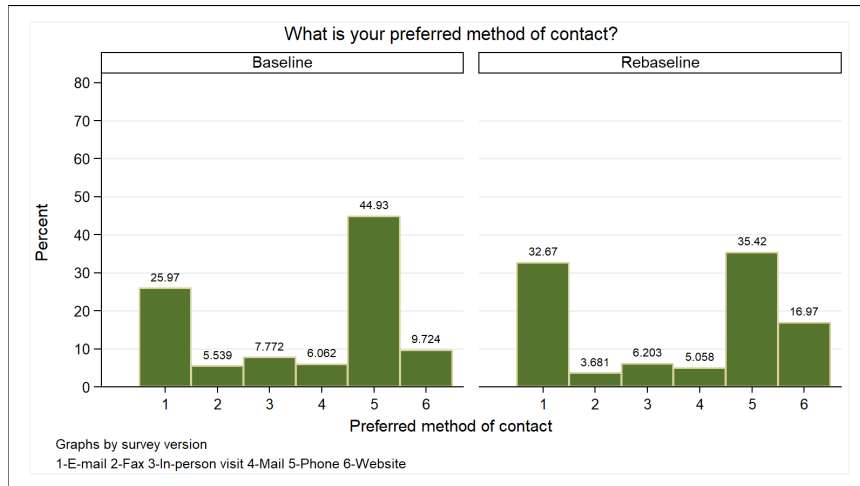
Figure 11 Comparison of Baseline and Rebaseline Surveys – Preferred Method of Contact

MCP users were most likely to prefer electronic interactions, with the baseline and rebaseline surveys finding that 80% and 82% of respondents, respectively, advocating website or email. As motor carriers typically pay staff to conduct business with DVR, in-person visits are seen as more costly and burdensome than for individuals. The same holds true for vehicle dealers needing to register or title vehicles. MCP respondents were more likely to conduct multiple transactions with DVR than DriveKY and DCS Phone respondents. Conversely, 28% (baseline) and 33% (rebaseline) of DCS Phone callers said they favored electronic communication. In both surveys, a similar percentage of MCP and DriveKY respondents preferred phone contact (15%). Roughly half of DCS Phone respondents in both surveys favored phone contact. From these results, tt is clear that customers increasingly prefer electronic forms of communication.

8.3 Differences in Number of Contacts

The number of times a customer has to contact DVR for assistance can also influence satisfaction. On the baseline and rebaseline surveys we asked respondents how many times they had contacted DVR in the previous six months. Contact broadly refers to direct (e-mail, phone, or in-person visit) and indirect methods (fax, mail, or website). What stands out is that, according to the rebaseline survey results, the percentage of respondents contacting DVR grew (Figure 12). Among baseline survey respondents, 66% reported only one contact, however, this number fell to 48% in the rebaseline. Unlike the contact preference metric, we cannot attribute this outcome to an increased share of MCP respondents in the rebaseline survey (which ticked up about 9%). The percentage of motor carriers, owner-operators and permitting agencies with four or more contacts fell from 33% to about 19%. Given that motor carriers typically have more complex issues to negotiate, it is noteworthy that MCP customers made fewer contacts while DriveKY and DCS Phone respondents got in touch more frequently.
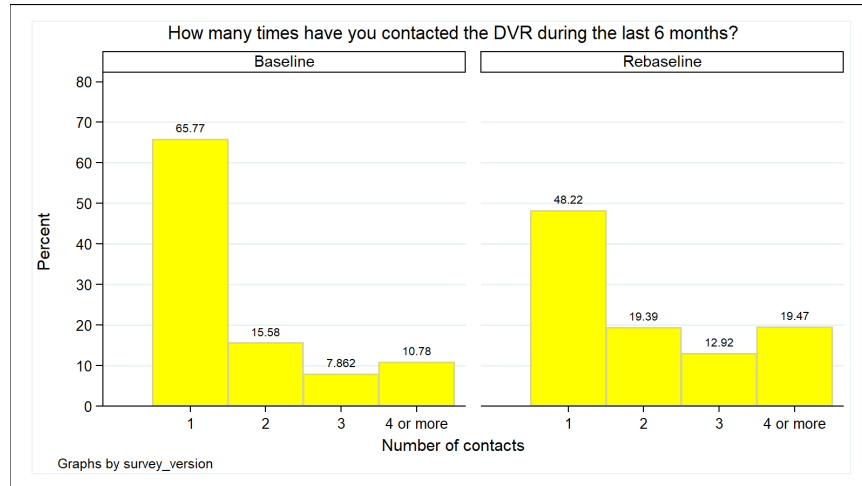
Figure 12 Comparison of Baseline and Rebaseline Surveys – Number of Contacts

8.4 Improvements in MCP Evaluations

The rebaseline survey found greater satisfaction among MCP customers across all metrics. Respondents commented on employee efficiency, knowledge, courteousness, and ease of obtaining information if they had a phone interaction. Visitors to the MCP were asked to rate the degree to which their issue was resolved. Again, we used two-sample t-tests to evaluate changes in scores for statistical significance. Except for courteousness ($p = 0.072$), improvements in all metrics were statistically significant (Table 26). Perhaps most importantly, the average for overall satisfaction increased from 4.181 to 4.448

Table 26 Comparison of Baseline and Rebaseline Surveys – MCRP Performance

Question	*N*	Baseline Avg.	Rebaseline Avg.	Difference
Overall	3,309	4.181	4.448	+ 0.267
Efficient	511	4.055	4.412	+ 0.358
Knowledgeable	509	3.443	3.659	+ 0.216
Courteous	508	3.514	3.641	+ 0.128
Information	507	3.743	4.073	+ 0.330
Resolved	799	3.321	3.538	+ 0.218

8.5 DCS Phone Statistics

Table 27 compares customer types between surveys. The *Other* category encompasses callers such as county clerks, circuit clerks, sheriffs, and other government agency representatives. Because the focus of our study was people and businesses, we programmed the survey not to call back government agencies, however, a small number fell into the *Other* category. The rebaseline survey had a higher percentage of business respondents, which may be attributable to differences in how the customer base changes during the year.

Table 27 Comparison of Baseline and Rebaseline Surveys – Composition of Respondents

Type	Baseline	(%)	Rebaseline	(%)	Total
Business	1,999	28.7	1,771	37.2	3,770
Individual	4,964	71.3	2,984	62.7	7,948
Other	1	0	4	0.1	5
Total	6,964	100	4,759	100	11,723

Table 28 reports on the percentage of calls resolved by each division. DCS held steady at 33% in both surveys. The percentage of calls resolved by DDL fell slightly (6%), while the proportion addressed by DMC inched up (7%).

Table 28 Comparison of Baseline and Rebaseline Surveys – Resolving Division

Division	Baseline		Rebaseline	
	Number	(%)	Number	(%)
Customer Service	2,296	32.99	1,566	32.91
Driver Licensing	2,655	38.15	1,513	31.79
Medical Review Board	10	0.14	93	1.95
Motor Carriers	1,372	19.71	1,258	26.43
Motor Vehicle Licensing	627	9.01	329	6.91
Total	6,960	100	4,759	100

Examining call characteristics may also shed light on what drove changes in satisfaction. Table 29 summarizes data on call transfers, queue time, and duration. Queue time measures how long a customer waits for a connection or is on hold. Transfers are measured as the percentage of calls transferred at least once by a CSP to a SME or a CSP with more experience. Queue time and duration are measured in seconds.

In both surveys, approximately 68% of respondents had their calls transfer. However, there were striking increases in mean queue time and call duration. Queue times increased from 48 seconds to 404 seconds (6 minutes and 44 seconds). Mean call duration increased from 598 seconds (9 minutes and 58 seconds) to 996 seconds (or 16 minutes and 35 seconds). Two-sample t-tests indicated that the increases in queue time and call duration were statistically significant. DVR staff attributed increased hold times to a decline in CSPs from the baseline (20 to 22) to rebaseline (16 to 20) period. Phone system administrators noticed a spike in the number of dropped calls as well. While it is possible that individuals who hung up called back later, we cannot distinguish them in the survey.

Table 29 Comparison of Baseline and Rebaseline Surveys – Transfers, Queue Time, Call Duration

Factor	Units	Baseline Mean	Rebaseline Mean	Difference
Transfer	% Transferred	67.619	67.682	+ 0.063
Queue	Seconds	46.188	404.408	+ 358.220
Duration	Seconds	598.023	995.645	+ 397.622

8.6 Modeling Overall Customer Satisfaction

Overall customer satisfaction, as the previous sections imply, could have fallen due to changes in the composition of respondents, call metrics, and/or staffing levels. To more definitively conclude what drove these changes, we again employed regression modeling. We developed six models – two for the baseline, two for the rebaseline, and two which included all survey data – that controlled for conflating effects. Table **xx** in Appendix E lists the parameters for each model, including coefficients, standard errors, and level of statistical significance for independent variables. Here we present a high-level summary of our findings.

As with the modeling reported in Chapter 6, we found that the number of call escalations exerted the greatest influence in dictating overall satisfaction. This variable's effect is large and consistent across all models, suggesting that the negative impact of a call transfer on overall satisfaction lies between one-third and more than half a point. Call transfers appeared slightly more impactful for the baseline survey than the rebaseline survey. Including a squared term in our models counterintuitively suggested that after five transfers customer satisfaction will increase (Figure 13). This is exceedingly unlikely and unsupported by empirical data, as few calls resulted in more than four escalations. Even so, the models accurately captures the relationship between number of escalations and overall satisfaction when there are fewer than four escalations.
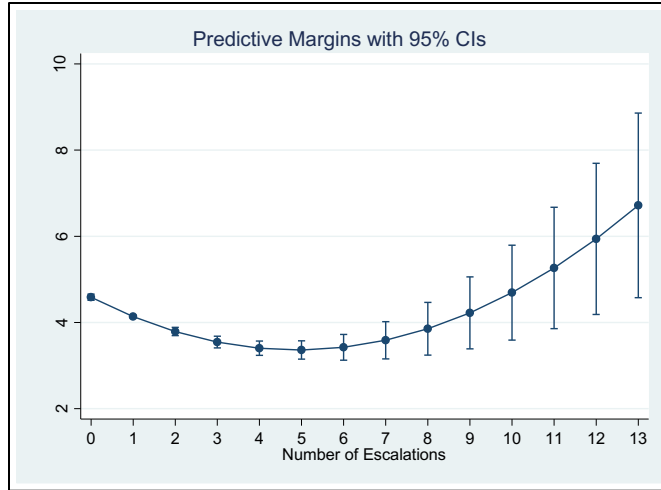
Figure 13 Marginal Plot of Predicted Value of Customer Satisfaction by Number of Call Escalations

Although increasing call duration negatively influenced overall satisfaction, its impact was slight compared to call escalation. The model which includes responses from both surveys indicates the percentage of time a caller spends on hold significantly influences levels of satisfaction. But the models that treated baseline and rebaseline survey data in isolation suggested that hold time does not significantly influence customer satisfaction. Queue time had a somewhat strong impact in the combined model. With respect to overall satisfaction among individuals and businesses, models using only baseline data found no significant differences in how individuals and businesses appraised DVR customer service.

While mean satisfaction dropped for both business and individuals in the rebaseline survey, the decline exhibited by business respondents was sharper. Contrary to our expectations, we found that completing the survey had a positive influence – we anticipated that dissatisfied customers would be more likely to provide feedback, but the opposite was true. Respondents who hung in to answer additional questions about employee efficiency, knowledge, getting needed information, and problem resolution were much happier with the customer service than people who terminated the survey prior to answering every question. Our models also examined how divisions influenced customer satisfaction. Holding all other things equal, having DDL or DMC resolve a call increased satisfaction by one-fourth and one-third of a point, respectively.

8.6.1 Rebaseline Survey – Impact of DriveKY Pop-Up Ad on Customer Satisfaction

Initially, the DriveKY rebaseline survey generated few responses, likely due to a mostly passive recruitment strategy – customers opened the survey by clicking on a banner or tile at the top of the website, but they were not actively solicited. Hoping for more responses, we asked staff in the Division of Customer Service Information Technology to implement a more aggressive pop-up ad. Prior to deployment of the pop-up ad, we received 29 responses; following its adoption, we received 457 more responses. Table 30 summarizes satisfaction ratings for each group of respondents; significant changes are apparent. Before the ad was posted, 72% of respondents reported being very satisfied, but only 47% said the same after the ad was installed. Also noteworthy is the 11% jump in the percentage of respondents who felt very dissatisfied following the ad's introduction. A two-sample t-test indicated changes in satisfaction ratings between survey groups were statistically significant. But it is important to stress we have no data to help us understand why there was a discrepancy between groups in reported satisfaction.

Table 30 DriveKY Overall Satisfaction Before and After Pop-up Ad

	Before		**After**	
Response	**Frequency**	**Percentage**	**Frequency**	**Percentage**
Very satisfied	21	72.41	213	46.61
Somewhat satisfied	2	6.9	71	15.54
Neither satisfied nor dissatisfied	1	3.45	55	12.04

Somewhat dissatisfied	3	10.34	44	9.63
Very dissatisfied	2	6.9	74	16.19
Total	29	100	457	100

8.7 Rebaseline Survey – Open-Ended Questions

Like the baseline survey, the rebaseline survey contained open-ended questions. This section describes responses to these questions. Note that since DDL field office and the One Stop Shop did not administer the rebaseline surveys, we do not have comments from customers who made in-person visits.

8.7.1 DriveKY – Additional Online Services

Question 19 asked customers to identify services they want added to DriveKY. Most respondents used this space to comment on their positive experiences with DriveKY, most of which related to general happiness with the site, ease of navigation, organization, and convenience. Nonetheless, 10 respondents said navigation could be improved and that the website feels cluttered. Several respondents had difficulty locating the vehicle registration renewal page. Five users expressed displeasure over not being able to renew vehicle registrations online (which is not available unless a person's county of residence offers the service). Six respondents commented on not receiving receipts or confirmation of a transaction, while two respondents were unhappy with how much online renewal cost. Several recommendations for improving the online service were advanced:

- **Vehicle Registration**
  - Online duplicate title request
  - Personalized plates, specialized plates, and boat plate renewal
  - Change title/registration address online
  - Renew expired registration
  - Online insurance verification and upload proof of insurance documents
  - Title application status
  - Apply for out-of-state title transfers
- **Driver License**
  - Information about anticipated implementation of REAL ID
  - Driver license renewal
- **Motor Carrier Portal**
  - Step-by-step instructions for motor carriers when opening an account in MCP
  - Add Kentucky For-hire to the MCP options
  - Delete or edit MCP account
- **General**
  - Links to clerk office websites and hours of operation
  - Mobile device compatibility
  - Add PayPal as a payment option
  - Information for new residents about vehicle registration and obtaining drivers licenses

8.7.1 DriveKY – Identify Other DMVL or DVR Problems

Question 20 asked customers to discuss problems with DVR. We received a number of general complaints: too much red tape involved in the title request process, vehicle registration fees being too high, lack of an option for two-year vehicle registration renewal. A number of respondents requested greater clarity on issues pertaining to vehicle registration – the website lacks information on the process. Another issue mentioned was that the site does not address specific questions about online renewal (e.g., is a driver delinquent if they have renewed online but have not received a sticker from the county clerk). Seven respondents reported difficulties when contacting DVR, noting that reaching the correct branch was time-consuming and entailed multiple call transfers. Six respondents lodged complaints about the website, citing a layout that is not user-friendly, not being able to log in, error messages, inability to renew online, and poor legibility. We received five comments on CDL-related issues. Common problems included adding the medical certification card to CDLIS, lack of responsiveness from the CDL section (likely attributable to staff shortages), and difficulties logging in. Three customers requested the ability to renew personalized license plates online. Four commenters felt like the driver license process could be improved, especially the process for a non-citizen to obtain a license. Other respondents mentioned making the driver license permit examination available online and increasing the amount of information available on licensing procedures for people who are under 18 years of age.

Customers also voiced unhappiness over the cost of using the online vehicle registration renewal service and lack of transparency about its price.

8.7.3 MCP – Department or Vehicle Regulations to Address

Question 18 asked MCP customers to comment on their experience with the department and vehicle regulation issues they want to see addressed. Many respondents (55) were very pleased with MCP, saying that it is superior to portals maintained by other state transportation agencies. A few customers noted that the availability of key services on MCP eliminated the need to contact DMC for assistance. The respondents who interacted with DMC staff during a transaction were overwhelmingly positive about the professionalism and knowledgeability of employees. One customer observed that the URL for MCP changes too frequently, and that motor carriers should be notified of changes when they occur. Additional comments we received are organized thematically below.

KYU

Fifty-three respondents commented on KYU, many of which offered suggestions for improving the system. Key features or services users would like added included being able to view mileage and previous filings, having the ability to print filings, and an option to amend filings online. Multiple respondents had difficulty locating the KYU filing section on MCP and recommended adding a link on the homepage. Several customers remarked that finding the section in which to update/edit inventory is challenging. Problems encountered by users included not being able to access the inventory page, the system displaying information for another carrier, and being forced to log out and log back in to begin a transaction. One customer could not remove older vehicles from their inventory because they lacked vehicle serial numbers.

Technical Issues with MCP

Forty-four respondents said MCP is not user friendly and difficult to navigate, with some respondents having to contact DMC staff to receive assistance while others retained service providers. Being able to access MCP through mobile applications or tablets and smartphones was another common request – the added convenience would likely increase its use. Offering videos, webinars, or training sessions is another way to teach users how to navigate the system and use tax filing programs.

Customer Service

Despite many customers giving positive feedback on the customer service furnished by DMC agents, many people said it was difficult to reach staff by phone, and in many cases were only able to talk with someone after a significant amount of time on hold. Some respondents complained about voicemails not being returned in a timely manner. Long wait times and callback delays are likely the result of ongoing staffing issues.

OW/OD Permitting

Twelve customers were critical of the OW/OD permitting system, especially its lack of automation. Respondents were unhappy with the routes that had been chosen and said markings were unclear. One customer suggested that DMC provide a road restriction map so motor carriers can easily select a route when hauling a restricted load. Many of the issues brought up will likely be resolved through full implementation of the SUPERLOAD program.

Maintenance Period

Ten respondents said the portal's daily maintenance schedule is inconvenient, particularly when quarterly KYU filings are due. Several customers said the system went down for maintenance as they were filing their taxes. Another consideration is time zones – Kentucky stretches across two time zones, and customers in the central time zone said maintenance is scheduled during regular business hours, making it difficult for them to use MCP. Several users asked that MCP be open on weekends.

Payments and Receipts

Once their transactions are complete, customers would like to receive a receipt (e.g., via email). Other respondents wanted MCP to accept forms of payment it currently does not, such as e-check or electronic debit. A few complaints were also put forward about credit card service fees. Other respondents suggested that the MCP allow users to select a date of payment for their returns.

8.7.4 MCP – Addressing Other MCP Issues

Question 19 asked respondents to identify online services they would like to see added to the MCP. Many users complimented the portal, however, they provided several recommendations to further enhance its usability: add a webinar or step-by-step instructions for using MCP; include a checklist of which filings are required for a user; add a compliance page that lets customers verify whether they are compliant with IFTA, KIT, KYU, UCR, CDLs, and physicals; and build a knowledge database that explains regulations and procedures related to commercial vehicle tax issues. Several customers mentioned it is difficult to locate MCPs URL and the login page. And a few respondents advocated linking the IFTA and KYU tax portals to increase efficiency and adding a link to easily access the system for submitting IFTA quarterly reports. Additional comments we received are organized thematically below.

OW/OD

Many users complained about the OW/OD systems. Respondents wanted to see an updated system to purchase OW/OD permits as well as the option to buy annual permits online. Customers suggested adding a feature that lets them check the status of their permit, distributing notices that a permit has been rejected, providing an inventory option that lets customers save a truck in their inventory, and auto approval for permits online. Some respondents said improving the OW/OD mapping program should be a priority (e.g., indicate names of parkways along with interstate or highway numbers associated with them). These respondents were also interested in an automapping/routing option.

Payment Options

Several respondents were unhappy with the fee required for making electronic payments from checking accounts. Customers would also like to be able to pay KYU by e-check rather than sending a check by mail. One respondent said they would like to pay in advance, allowing them to establish a future date on which to file the return. Another user recommended that MCP should be able to accept bond payments if a truck is detained at a weight station.

KYU

Many of the comments related to KYU echo those submitted for the previous question. Respondents wanted the ability to submit amended returns, view returns from previous years, and print returns. Several users reported that it was difficult to add vehicles to their inventories. One commenter (a service provider) offered a unique suggestion – it would be helpful if users can edit multiple KYU inventories through an individual account rather than having to log onto each carrier's account.

Additional Comments

We received a few other suggestions, listed in the following bullets:

- Add KIT
- Alcohol permit purchase
- Ability to replace apportioned license plate when damaged
- Quarterly tax reminders
- IFTA yearly renewal options

8.8 Key Takeaways

- The rebaseline survey found a small but statistically significant decline in mean overall customer satisfaction of 3%. Most of this reduction was attributable to declines in satisfaction among DCS Phone Center callers and DriveKY users. Customer satisfaction among MCP users rose 6%.
- We measured similar declines in satisfaction for other metrics, such as employee efficiency, employee knowledge, employee courteousness, and ease of obtaining the information to resolve a problem.
- Survey findings must be contextualized properly. Although we observed a drop in satisfaction, the percentage of very or somewhat satisfied customers exceeded 75% in both surveys. The small declines can be explained in part by the changing composition of survey respondents and the scarcity of resources needed to develop more online functionality and fully staff the DCS Phone Center.
- The baseline sample contained more individuals and fewer business representatives. A larger fraction of those polled during the baseline survey conduct routine business with DVR, which may account for some of the changes we observed. Most MCP do business at their convenience, and the portal's functionality only grew between the baseline and rebaseline surveys.

- Two factors may explain why customer satisfaction with the DCS Phone Center declined: fewer employees to answers calls and longer call durations
- More respondents in the rebaseline survey indicated a preference for electronic communications (e.g., website, email).
- Regression models found that call escalations were the best predictor of declines in customer satisfaction. DVR will be challenged to address this issue as approximately two-thirds of all calls are escalated. Call duration had a modest and negative effect in our modeling.
- Level of satisfaction dropped among business respondents and individual respondents in the rebaseline, although the decline of the former was more pronounced.

Chapter 9. Conclusions and Recommendations

Given the breadth of this study, our goal with this conclusion is not to reiterate every finding. Rather, it is to highlight some important points which can be useful for readers trying to understand the attitudes and perceptions of DVR staff as well as trends in customer satisfaction. As such, we omit consideration of the department's structure and literature review, focusing on what our surveys revealed instead. Readers wanting more detailed information than presented in this chapter should begin with the key takeaways in each chapter.

DVR Staff Survey
Almost 90% of survey respondents commented they either strongly agreed (47%) or somewhat agreed (39%) with the proposition that DVR provides a high level of service to its customers. There was variability in how employees rated the performance of divisions beyond their own – most staff had a more favorable impression of the division they work in than others. A majority of respondents believed their division is very concerned with the quality of service they provide and think division leaders are open to making changes. However, many respondents said they would like more opportunities related to cross-training and job rotations. Another area in which staff hoped to see improvements is in the technological tools they are equipped with to perform essential job functions. Although most respondents were pleased with the workplace dynamics, it is critical to foster open, equitable, and collaborative workspaces that are free of hostility, favoritism, and prejudice.

Online Vehicle Registration Renewal Survey
Nearly all of the customers we surveyed about online vehicle registration renewal said they were very or somewhat satisfied with its performance (93%). Almost all users found the process easy to navigate and successfully completed their transaction. Unsurprisingly, 90% of respondents said their preferred method of renewing vehicle registration is online. And while most customers believed they received sufficient benefits from paying the online processing fee, a number of respondents suggested increasing the transparency of fees and how they are calculated.

Changes from Baseline to Rebaseline Survey
During our baseline survey, we polled customers who interacted with the DCS Phone Center, DriveKY, MCP, DDL field offices, and the One Stop Shop in Frankfort. Because we received comparatively few responses for the in-person surveys (i.e., DDL field offices and One Stop Shop) our team decided against conducting rebaseline surveys at those locations. Customers who visited these locations gave overwhelmingly positive customer satisfaction ratings and expressed strong approval of interactions with employees. These locations earned the highest marks for employee knowledgeability, staff courteousness, and problem resolution.

An important finding of the baseline and rebaseline survey is that most respondents were very or somewhat satisfied with DVR's customer service. The percentage of respondents who felt very or somewhat satisfied, however, declined modestly from 81% to 77%. The slightly worse performance is attributable to the reduction in satisfaction levels among DCS Phone Center and DriveKY customers – 5.8% and 5.4%, respectively. MCP users reported higher customer satisfaction ratings, with an increase of 6.4%. Compared to the baseline survey, a larger percentage of customers who participated in the rebaseline survey preferred electronic platforms for interacting with DVR (e.g., email, website). And while the percentage of calls transferred from a CSP to a more experienced staff member held steady in both surveys at roughly 67%, average queue time and call duration increased significantly. Average queue time surged from 48 seconds to 404 seconds (6 minutes and 44 seconds). Mean call duration increased from 598 seconds (9 minutes and 58 seconds) to 996 seconds (or 16 minutes and 35 seconds). Loss of staff may partially explain these increases. Statistical modeling revealed that number of call escalations has the most significant negative effect on overall customer satisfaction ratings, while call duration has a smaller but also negative influence.

Final Recommendations
This section offers recommendations for improving DVR's business operations and applying lessons learned from the research discussed in this report to other KYTC departments and divisions.

Strategies for DVR
- Conduct routine, anonymous employee surveys. Surveys let personnel give feedback about workplace dynamics, flag processes for improvement, influence long-term strategic planning, and increase management responsiveness to worker needs.

- Encourage greater interdivision collaboration and cooperation. Stronger interactions between divisions fosters social cohesion and boosts efficiency. Increasing cross-training opportunities will help DVR manage staffing shortages and navigate short-term fluctuations in workloads due to new statutory or regulatory requirements.
- Build on the MCP's success by expanding online service offerings within DCS, DMVL, and DDL. Opportunities in this area include online vehicle titling and online driver's license renewals.
- Expedite development of replacement systems for AVIS (Automated Vehicle Information System) and KDLIS (Kentucky Driver License Information Systems). They are outdated, rely on an antiquated programming language (COBOL), and have limited bandwidth and versatility, which inhibits efforts to accommodate a large number of users, run useful data reports, and modify workflow processes.
- Prioritize the collection of customer e-mail addresses and text messages. Each year, DVR spends thousands of dollars mailing out reminders and notices, even though most customers prefer to receive notifications via e-mail or text message.
- Retool the DCS Call Center so that fewer customers are transferred to SMEs. This will reduce queuing times and call durations. Satisfaction levels decline when a customer has their call transferred or they wait a long time to speak with a representative. Hiring CSPs into full-time roles and investigating whether some problems should be routed directly to SMEs are possible solutions.
- Explore the use of an online chat option. An online chat feature is better suited to solving complex problems than e-mail and will reduce call volumes.
- Survey customers and internal staff every 2-3 years. However, it is important to bear in mind that surveys are only useful if leadership and other decisionmakers use survey data to enact (and justify) changes. If these surveys will not substantively inform decision making, resources should be directed toward other activities. While DVR has the tools to conduct surveys, KTC researchers are well-equipped assist with data analysis.

Recommendations for Other KYTC Departments
- Conduct internal surveys. They empower employees by giving them an opportunity to recommend changes and improvements in departmental practices.
- Conduct an interdepartmental survey to identify strategies for bolstering collaboration and coordination between departments and divisions.
- Although most KYTC departments do not interact with the public to the same extent as DVR, administering customer satisfaction surveys to key stakeholders of other departments (e.g., consultants, contractors, vendors, local governments, other branches of state government) will significantly benefit customer service.
- Additional customer satisfaction surveys can be administered by expanding the DVR survey. KTC can assist with this process by helping establish a study advisory committee that would oversee the process. Each KYTC department or division would be represented on the committee. Its function would be to help the research team assemble surveys, identify customer satisfaction metrics, establish sampling frames, review and approve deliverables, and coordinate research implementation.

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Appendix A DVR Organizational Structure

Material in this appendix complements the discussion of DVR's organizational structure presented in Chapter 2. It contains fuller descriptions of divisions, branches, and sections.

DVR was established as a major organization unit within KYTC under Kentucky Revised Statute (KRS) 174.020. The DVR consists of four divisions: Division of Motor Vehicle Licensing (DMVL), Division Motor Carriers (DMC), Division of Driver Licensing (DDL), and Division of Customer Service (DCS). In addition, there is an Administrative Services (AS) Branch, an Executive Staff Advisor in the Commissioner's Office, the Commissioner's Office (CO) itself, and a Medical Review Board, which provides advice to the DDL about driver's licenses or driver's license applicants with mental or physical ailments. Each division has a director, an assistant director, branch managers, and section supervisors. DVR is led by a Commissioner appointed by the Governor as established under KRS 172.020 (c), and a Deputy Commissioner. A Director heads each division.

The department administers both the driver's licensing and motor vehicle licensing programs for Kentucky, as well as taxes, credentials, and regulations related to commercial vehicles. DVR staff work with a wide range of partners, including the circuit court clerks, county clerks, Kentucky State Police, state district and circuit courts, and many governmental agencies to provide these services to the public, the motor carrier industry, and various agencies and businesses.

DVR is split into 10 branches, which are further divided into 21 sections. As of April 5, 2017, there were 211 section employees, including supervisors. Including the branch managers, the number of research subjects totaled 221 DVR staff members. Table A1 provides the name for each division, branch, section and the number of employees included in the data set.

A.1 DVR Branches and Sections

Formal data collection began in July 2016. KTC researchers collected preliminary data on services provided in each division, customer bases, and the methods of interaction between customers and partners. Researchers used these data to prepare for interviews with branch managers and supervisors. Interviews began August 9, 2016, and extended through August 17, 2016. The interview sessions generally lasted one to two hours. Prior to the meetings, KTC gathered preliminary data about each section and summarized the information in a document. Preliminary data included questions about the services provided by each section, customers, and the primary methods of interacting with customers. At each interview, KTC presented the document to branch managers and supervisors. The branch managers and section supervisors reviewed the preliminary data to ensure their accuracy. Any corrections or additions were noted and added to the document. The interviews consisted of 11 questions covering the following topics:

- A description of their daily tasks
- Customer base
- Frequency of interaction with their customers
- Barriers to providing a high level of customer satisfaction
- Suggestions for improving customer satisfaction in their branches
- Current performance measures for customer satisfaction
- Suggestions for disseminating surveys to their customers and most appropriate time for reaching those customers

Following each meeting, KTC compiled data into a formal document and asked branch managers and section supervisors to provide comments or corrections. The final documents were then sent to the Commissioner. KTC referred to these documents when creating internal and external surveys.

The following section discusses the findings from the interviews with DVR branch managers and section supervisors. The information begins with an organizational chart for the division, a summary of the services provided by each section, and the number of interactions by email, phone, letter, fax, and face-to-face meetings. The interactions data was used to determine which customers should be included in the external survey and how the surveys should be administered.

Table A1 DVR Branch and Section Staffing (as of 4-5-2017)

| Division	Branch	Section	Number of Employees
Commissioner's Office	Administrative Services	Administrative Services	10
Division of Customer Service	Customer Service Branch	Customer Service Team 1	25
		Customer Service Team 2	
Division of Driver Licensing	Court Records / Commercial Driver's License (CDL)	Records Verification	25
		CDL Section	
		Court Records Section	
	Hearings and Fraud Verification	Central Section Field Office	31
		Field Offices	
	Education / Records / Fees	Driver Education Section	15
		DHR / Fees Section	
Division of Motor Carriers	Licensing and Registration	IRP Section	13
		One Stop Shop	
	Qualification and Permitting	Qualification and Permits	15
		Overweight Over-Dimensional	
	Tax and Financial Processing	IFTA / KIT / KYU / UDI	21
		Tax and Financial Processing	
Division of Motor Vehicle Licensing	Registration	Program Assistance	22
		Rebuilt	
		Recap and Accounts	
	Titles	Receiving and Records Management	44
		Verification	
ALL			221

A.2 Commissioner's Office

The Commissioner's Office is responsible for overseeing DVR. It is led by the Commissioner and Deputy Commissioner. While there is a Medical Review Board that falls under the Commissioner's Office, the study focused on the Administrative Services Branch since it is the branch responsible for interacting with internal customers as well as the partners in the county and district court clerk offices. There are 11 employees in this branch.

A.2.1 Administrative Services (AS) Branch

The AS Branch provides many services internal to DVR including assistance with procurement, personnel hiring, mail, and payroll. The primary external interactions are with the district court clerks and the county court clerks as the AS Branch is responsible for replenishing supplies for their offices. These interactions take place over the phone or by email. This branch also interacts regularly with vendors, such as American Bank Note, Xerox, and Morpho Trust. Contract renewals, grant management, drawdown submissions for federal agencies, and Requests for Proposals (RFP) all originate in this branch. Figure A2 displays the organizational chart for this branch.
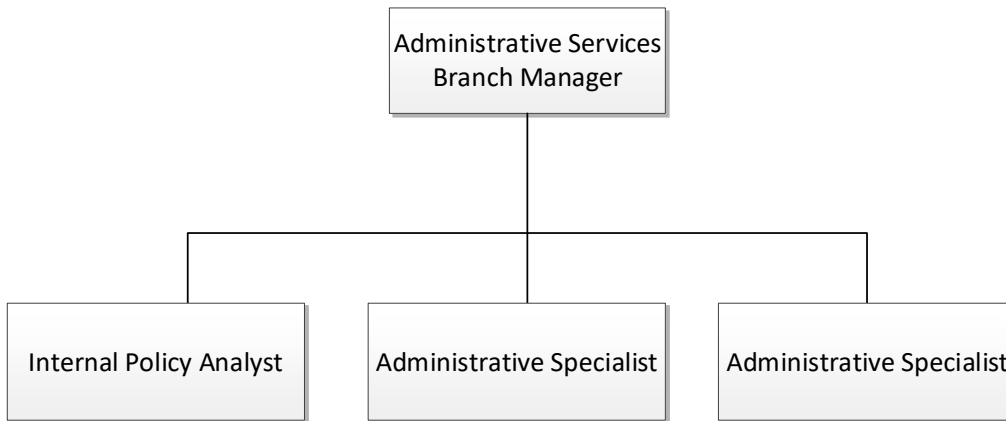
Figure A2 Organization Chart for Administrative Services

As Figure A3 illustrates, most interactions occur over the phone or by email. Branch employees field approximately 400 email messages and 50 phone calls in a week. The customers and partners include vendors, the Federal Motor Carrier Safety Administration (FMCSA), University of Kentucky, and Eastern Kentucky University, county clerks, and circuit court clerks.
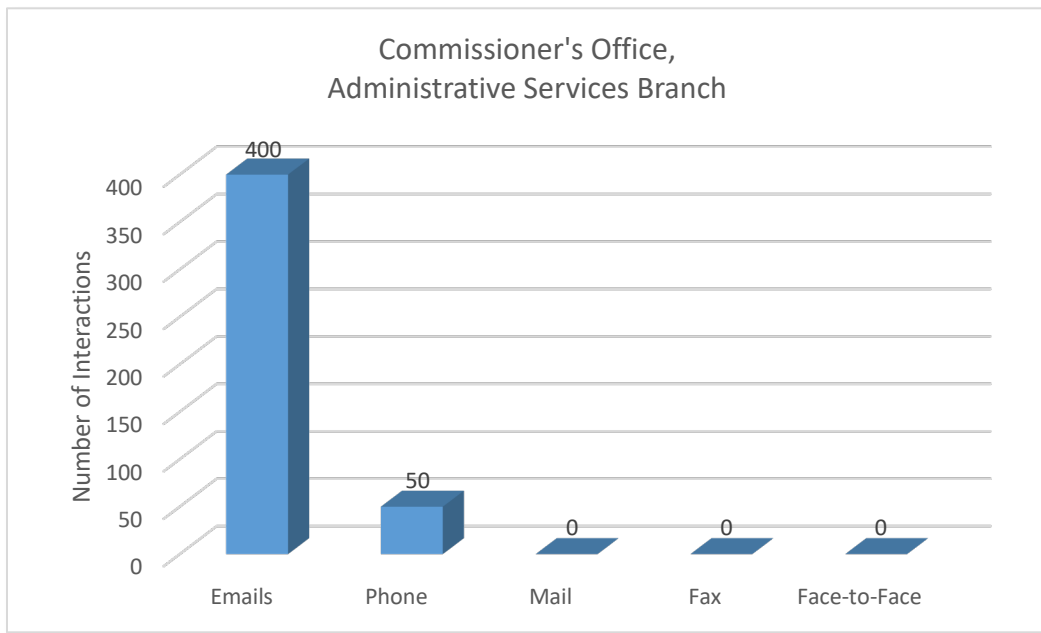
Figure A3 Weekly Interactions for Administration Services Branch

A.3 Division of Driver Licensing

DDL is overseen by a director and an assistant director. There are three branches, each led by a manager, and seven sections which are led by section supervisors. The Court Records/CDL Branch contains Records Verification, CDL, and Court Records. The Hearings and Fraud Branch includes the Field Offices as well as the Central Office sections. The Education/Records/Fees Branch houses the Driver Education and the DHR/Fees Sections. Figure A4 displays the organizational chart for this division.
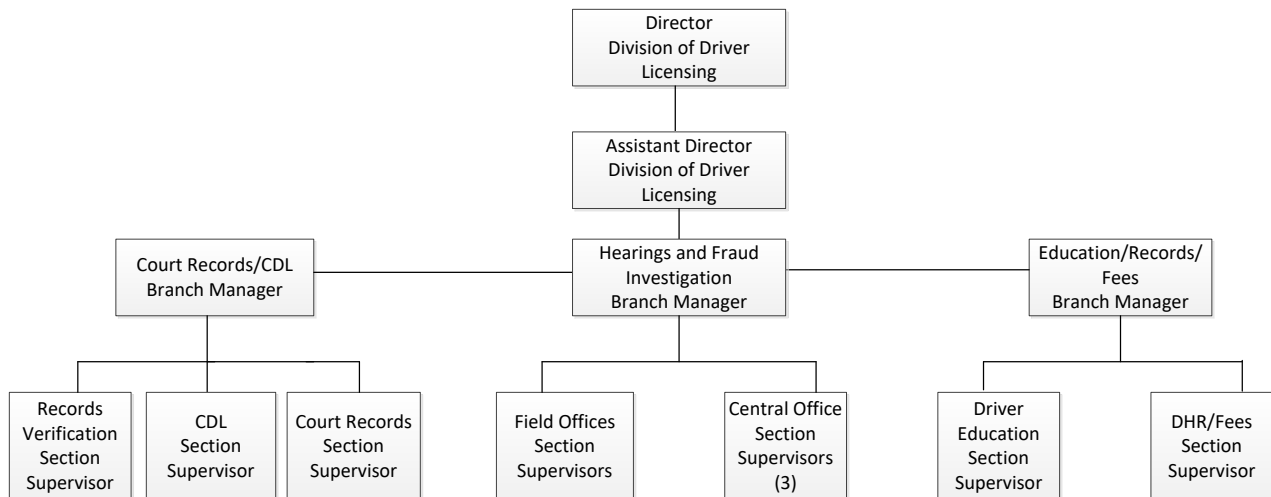
Figure A4 Organization Chart for Division of Driver Licensing

A.3.1 Court Records/Commercial Driver's License Branch

Figure A12 summarizes weekly interactions for each section of the Court Records / CDL Branch.
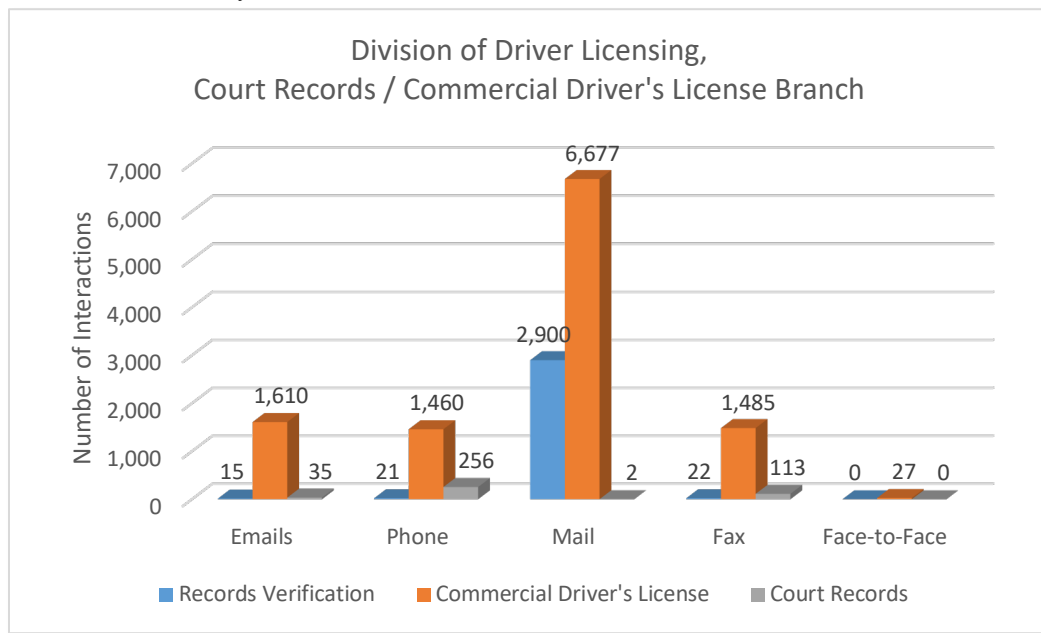
Figure A5 Weekly Interactions for Court Records / Commercial Driver's License Branch

A.3.1.1 Records Verification Section

The Records Verification Section receives notices from school systems, the Department of Revenue, state/local police, and district and circuit court clerks to verify the status of a driver's license. Information for No Pass No Drive, a law that suspends high school students' driver license privileges if they fail to maintain certain academic standards, comes from the school systems and arrives electronically through a web portal from Kentucky Interactive. Child support information comes via e-mail. Once the section has changed the license status based on the information received, its mails a letter of notification to the driver. Section employees field phone calls from drivers inquiring about their license status and seeking explanations for suspensions or cancellations. In addition, the Records Verification Section mails Police Demand Orders (PDO's) to local law enforcement and KSP to request they pick up licenses and vehicle registrations from suspended drivers.

Figure A5 shows that most interactions occur by mail (2,900 letters weekly), although some interactions occur via phone, email, and fax. The general public, attorneys, circuit court clerks, county court clerks, law enforcement, school systems, Cabinet of Health and Family Services, and the Department of Revenue are the primary customers and partners for this section.

A.3.1.2 Commercial Driver's License Section
This section receives and verifies the documents required under federal regulations for CDLs. Requests for CDLs come in through the circuit court clerks via phone, fax, or email. Phone calls and email messages are received by those applying for or renewing a CDL (e.g., drivers, trucking companies, Kentucky Trucking Association) or individuals with questions concerning the application process (e.g., "How long it will take to receive my CDL?"). This section must work with other state DMVs, American Association of Motor Vehicle Administrators (AAMVA), and FMCSA on CDL issues also. This interaction typically occurs over the phone.

Most interactions are via mail (over 6,600 letters weekly) and over 4,000 interactions are through email, phone or fax. The fewest interactions are face-to-face at the One Stop Shop (27). The CDL section has 12 primary customers and partners which includes the general public, attorneys, CDL holders, trucking companies, the Kentucky Trucking Association, county court clerks, law enforcement, Department of Education, bus garages, state DMVs, AAMVA, and FMCSA.

A.3.1.3 Court Records Section
The Court Records Section obtains information from court systems (inside and outside of Kentucky) regarding changes needed to driver licenses. In-state changes come in electronically each night while out-of-state changes come via mail. This section also mails letters to other states regarding licenses when an out-of-state license is involved. Driver records are then updated by this section and letters are sent to the drivers to notify them of a change to their license status.

Most interactions with the Court Records Section are by phone (256) and fax (113). A much smaller number of interactions are by email and mail. Those customers and partners include the general public, motor carriers, CDL holders, attorneys, county court clerks, the Administrative Office of the Courts (AOC), out-of-state agencies, and law enforcement agencies.

A.3.2 Hearings and Fraud Verification Branch
This branch processes requests for driver history records and accepts payments for state traffic school as well as license reinstatement fees. They also enter data into driver license records as needed from circuit court clerks' offices. In addition, employees process non-US citizen applications for identification cards permits and licenses, and conduct administrative hearings related to points, speeding, eluding, and racing violations. This section also investigates potential fraud with Kentucky licenses.

A.3.2.1 Central Section
In the Central Section, interactions primarily occur over the phone. Field offices perform similar activities but have more face-to-face interactions with customers and partners. There are three separate section supervisors in the field offices who were not able to attend the interviews due to limited staffing at these locations. Figure A6 shows most interactions in this section occur via phone (1,816) and faxes (1,972). The section interacts with a smaller number of customers (410) face-to-face in the One Stop Shop. This section's partners and customers include drivers, non-US citizens, the general public, the Board of Education, circuit court clerks, AOC, judges, licensing bureaus, law enforcement, attorneys, colleges, and universities.
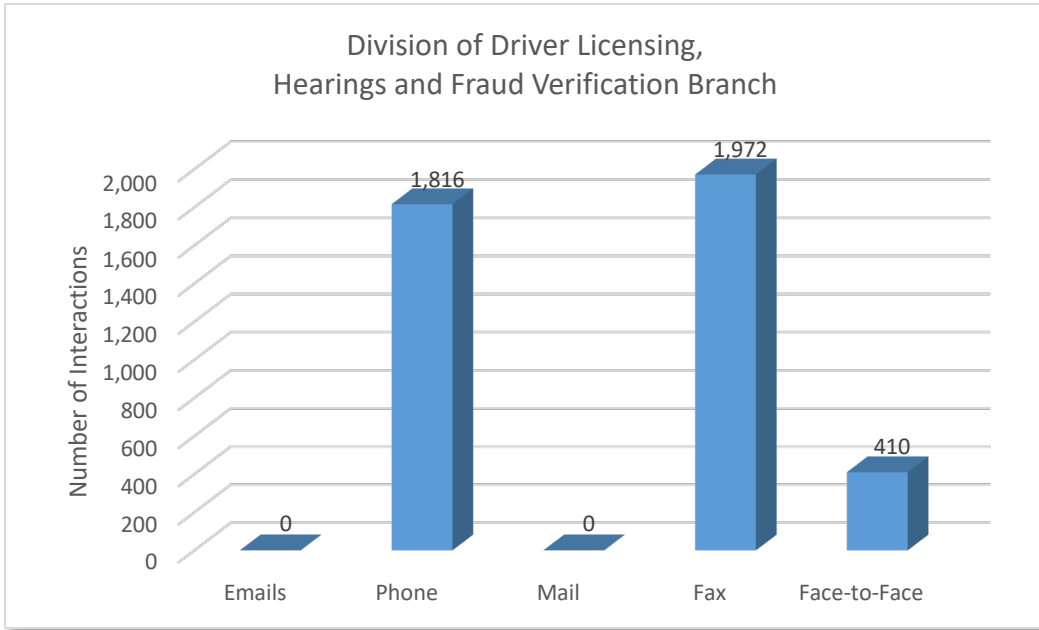
Figure A6 Weekly Interactions for Hearings and Fraud Verification Branch, Central Section

A.3.3 Education / Records / Fees Branch

Figure A7 summarizes weekly interactions for each section of the Education / Records /Fees Branch.
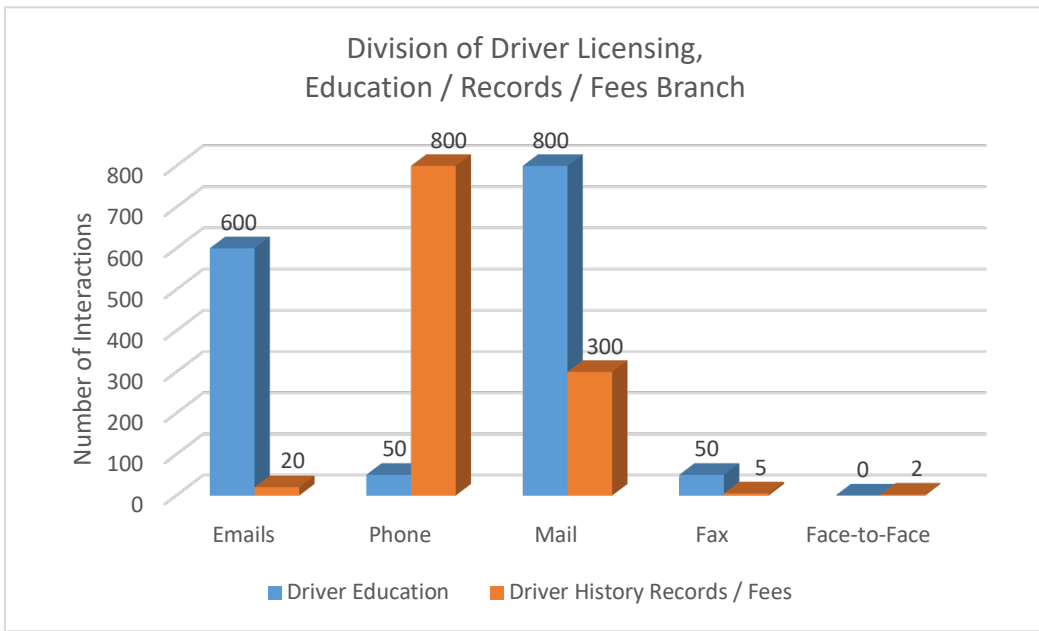
Figure A7 Weekly Interactions for Education / Records / Fees Branch

A.3.3.1 Driver Education Section

This section oversees the State Traffic School (STS), Graduated License Program (GLP), and the Driving Under the Influence (DUI) Substance Abuse Treatment (SAT) program. This section also interacts with the approved trainers for these programs, the court systems, Kentucky State Police, and the Cabinet for Health and Family Services. Classes are offered to the public through these programs. Class notification letters are sent to those who are registered to

attend. The Driver Education Section has 15 primary types of customers and partners. Most contact with customers and partners is through mail (800 letters), e-mails (600), and phone (500). Fifty interactions come via fax machines.

A.3.3.2 Driver History Records/Fees Section
This section processes bulk requests for driver history records. Employees also modify driver records as needed and process fees related to history records and STS. This section collects, counts, and deposits the fees for DDL. Employees also process the local road funds, send checks to each of the counties, and provide a monthly report to the Department of Local Government Finance. A Daily Auditor Report is generated for the field offices and the circuit court clerks. This section interacts most frequently with eight groups of customers and partners: the general public, attorneys, circuit court clerks, the Board of Education, Kentucky State Treasury, local governments, and DVR field office employees. These interactions are usually done via phone and mail, while a much smaller number are through email (20), faxes (5), and face-to-face at the One-Stop-Shop (2).

2.4 Division of Customer Service (DCS)
The Division of Customer Service is led by a director and an assistant director. There is one branch and two sections. Figure A8 presents the division's organizational structure.
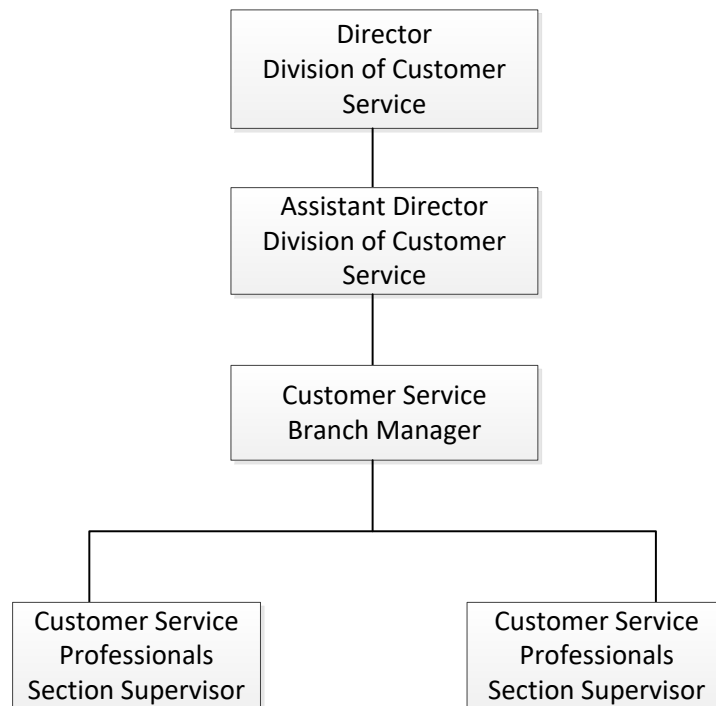
Figure A8 Organization Chart for Division of Customer Service

A.4.1 Customer Service Branch
Figure A9 summarizes weekly interactions for the DCS Customer Service Branch.

Figure A9 Weekly Interactions for Customer Service Section

A.4.1.1 Customer Service Professionals Section

When a call or email (from drive.ky.gov) comes into DVR, it is handled by CSPs in the DCS. The CSPs spend almost all of their time taking phone calls. Their objecti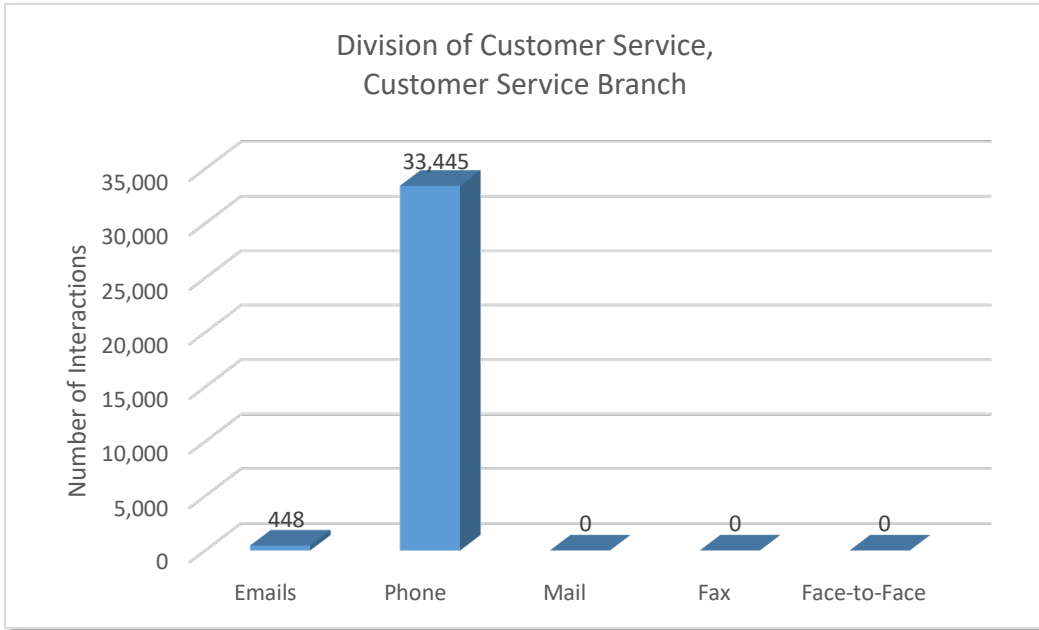ve is to try to resolve the caller's issue or answer their question, but they are also trained to transfer that caller to a SME when necessary. Some calls, dealing with taxes or payment of fees, must be sent to a SME. In other instances, the CSPs access knowledge articles to attempt to help the customer. The CSP also creates a ticket with an incident number for the call through the call system. Return callers can use this incident number if they need to call more than once. The HEAT call logging system used by DCS also recognizes phone numbers and automatically populates the ticket in some situations. Because this division is the single point of contact for all calls coming into the DVR, the DCS interacts with one of the largest customer bases in the department. Due to the nature of the branch, almost all DCS interactions are via phone. However, as, CSPs also field a smaller number of email correspondence (448). This section interacts with the general public, government agencies, insurance companies, and attorneys, among others.

A.5 Division of Motor Vehicle Licensing (DMVL)

This division is led by a director, assistant director, three branch managers and six section supervisors. The division consists of the Registration Branch which includes the Recap and Accounts, Program Assistance, and Rebuilt Sections as well as the Title Branch, which houses the Receiving, Verification, and Records Management Sections. Figure A10 provides an organization chart for DMVL.
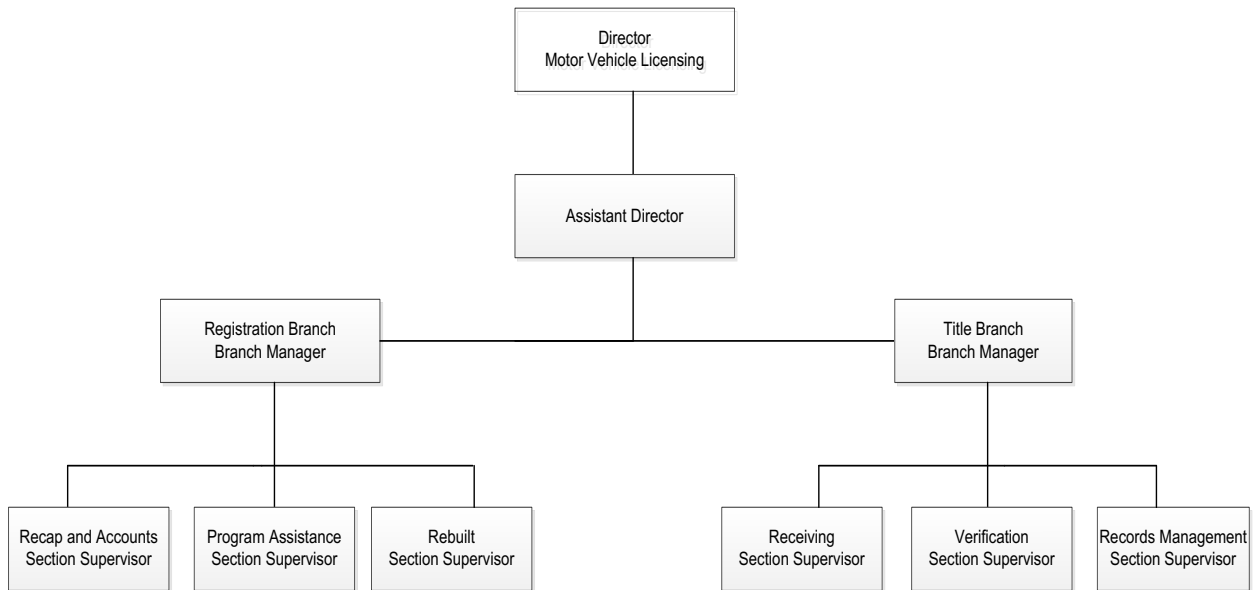
Figure A10 Organization Chart for Division of Motor Vehicle Licensing

2.5.1 Registration Branch

Figure A11 summarizes weekly interactions for each section of the Registration Branch.
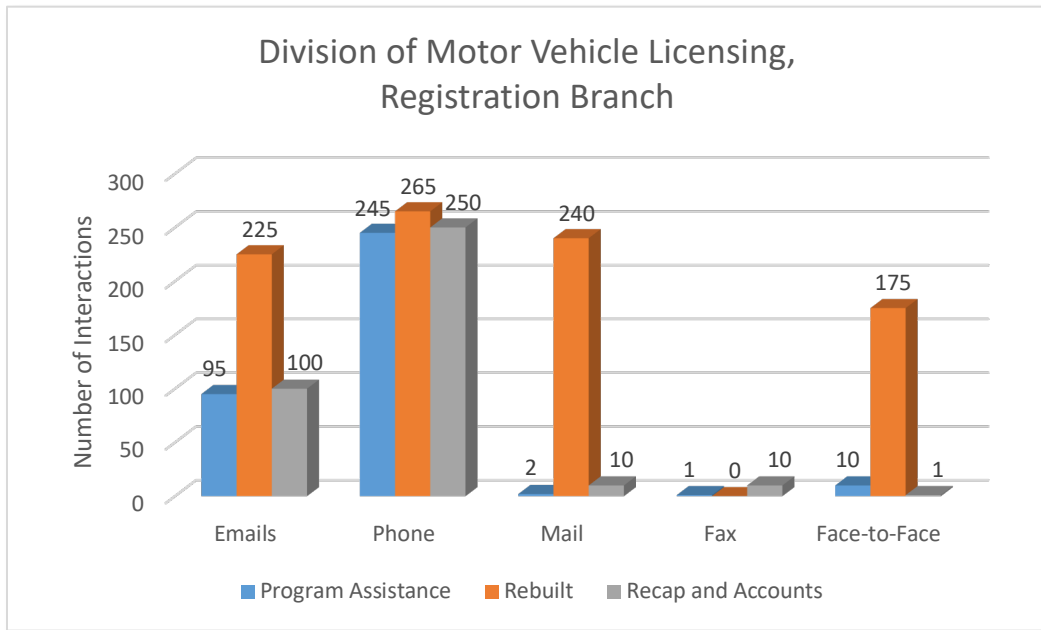
Figure A11 Weekly Interactions for Registration Branch

A.5.1.1 Program Assistance Section

The Program Assistance Section interacts with the county court clerks in all 120 counties as well as the general public to assist with questions regarding processing titles and registrations, the Automated Vehicle Information System (AVIS), and the National Motor Vehicle Title Information System (NMVTIS). The section is also responsible for maintaining the DMVL website and answering DMVL help desk inquiries. There is significant time spent establishing access to AVIS, KAVIS and Windows accounts for county clerks and their deputies.

The Program Assistance Section has 12 main groups of customers and partners. Those include the general public, vendors, specialty plate organizations, court clerks, LRC, car dealers, insurance companies, Department of Revenue,

law enforcement, and federal agencies. Most of interactions are via phone (245) and e-mail (95). The section has a smaller number of customer interactions that are conducted face-to-face (10) or via mail (2) and faxes (1).

A.5.1.2 Rebuilt Section

The Rebuilt Section approves and processes applications from the general public for rebuilt titles for salvaged and repaired cars. A rebuilt title confers the ability to legally operate the vehicle on the highway. This section receives over 5,000 title applications per month. These applications may be sent from the applicant but are also delivered to the One Stop Shop by courier service on Monday and Thursday. Courier deliveries are received by two section employees of the One Stop Shop. Within this section, one employee is responsible for responding to email correspondences, while three other employees open mail and examine and process the applications. This section also assists law enforcement with investigating fraudulent vehicle registrations. The Rebuilt Section has eight main groups of customers and partners, which include the general public, county clerks, car dealerships, insurance companies, rebuilt industry representatives, state agencies, Department of Insurance, and federal agencies. Most of the weekly interactions are through phone (265), mail (240), and email (225). The section also interacts with 175 customers at the One Stop Shop over the course of a week.

A.5.1.3 Recap and Accounts Section

The Recap and Accounts section handles money collected by the county court clerks from vehicle registration fees and title fees. The county clerks also order license plates through this section. In turn, DMVL orders plates from Kentucky Correctional Industries (KCI). Those plates are warehoused at KYTC and distributed to the county clerks. This section manages the specialty plate program for DMVL and distributes checks to the organizations that participate in the specialty plate program. Additionally, AVIS identifies drivers who have not met the mandatory insurance requirement, and this section informs owners that their vehicle registration will be revoked unless they meet the requirement.

The Recap and Accounts section has four main groups of customers and partners: court clerks, specialty plate organizations, the Department of Revenue, and the Auditor of Public Accounts. Weekly interactions occur primarily via phone (250) and email (100). A smaller number of interactions are through mail, fax, and face-to-face interactions at the One Stop Shop.

A.5.2 Titles Branch

Figure A12 summarizes weekly interactions for each section of the Titles Branch.
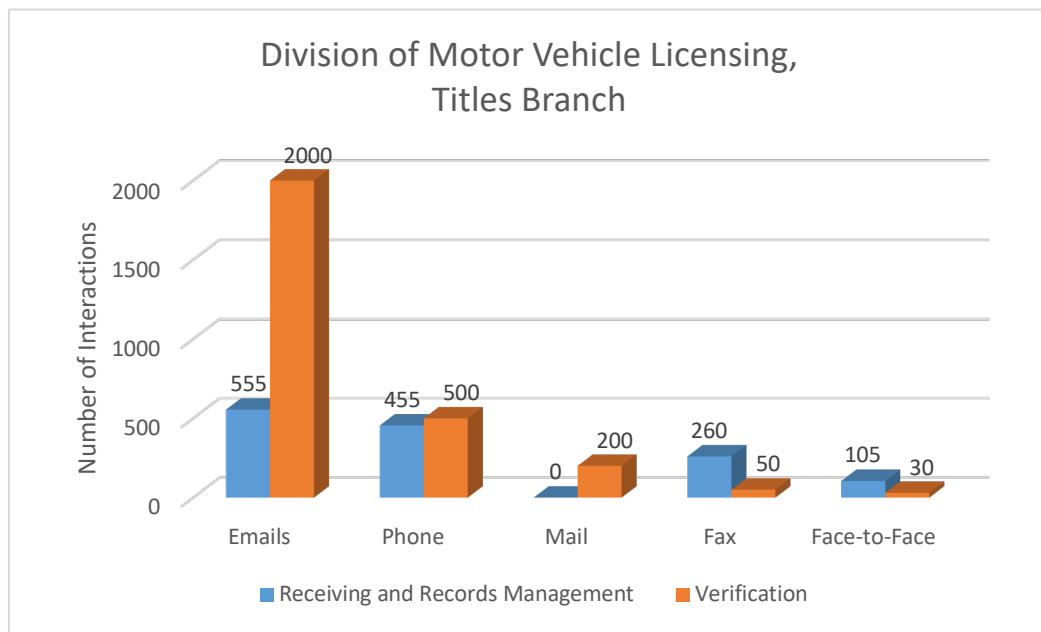
Figure A12 Weekly Interactions for Titles Branch

A.5.2.1 Receiving and Records Management Section

The Receiving and Records Management Section researches title histories for vehicles and boats at the request of owners, Kentucky State Police, county clerks, judges, and attorneys. Section personnel archive plate issuance and titles based on the Vehicle Identification Number. They also work with the Kentucky State Police to expedite the release of titles for stolen cars if they have been recovered or are part of an insurance claim. The Records Management Section also retrieves titles that are to be re-activated in AVIS.

The Receiving and Records Management Section has four main groups of customers and partners: the general public, county clerks, law enforcement, and judges. Most interactions occur via history requests (905 requests weekly), with the primary form of interactions coming through email (555), phone (455), fax (260), and face-to-face interactions at the One Stop Shop (105).

A.5.2.2 Verification Section

The Verification Section verifies title applications that are submitted by county clerks on behalf of the public. It also verifies title applications from businesses such as towing companies. Approximately 150 records are processed per day. Many phone calls come from the public asking questions about a title or when they will receive the title. This section has a significant amount of interactions over the phone and through email. Only a small number of their customers come to the One Stop Shop. The Verification Section also monitors the accuracy of title applications and ensures data is correctly updated in state databases, the National Crime Information Center (NCIC), and NMVITIS. Kentucky requires new residents to have their cars inspected, which in turn means having certified inspectors for all 120 counties. Verification Section staff members organize the in-person training sessions for inspectors and as well as recertification training every four years.

The Verification Section communicates primarily through email and phone. The section also interacts via mail (200), fax (50), and face-to-face at the One Stop Shop (30). Customers and partners of the Verification Section include county clerks, states using the National Motor Vehicle Title Information System (NMVTIS), and vehicle inspectors.

2.6 Division of Motor Carriers (DMC)

DMC is led by a director, two assistant directors, three branch managers, and six section supervisors. The Qualifications and Permit Branch houses the Qualification and Permits and the OW/OD Sections. The IRP Section and the One Stop Shop Section fall under the Licensing and Registration Branch. The Tax and Financial Process Branch contains the IFTA/KIT/KYU/UDI Section as well as the Financial Processing Section. The Qualification and Permits Branch consists of Qualifications and Permits and the OW/OD Sections. The IFTA/KIT/KYU/UDI sections as well as the Financial Processing section are under the Tax and Financial Processing Branch. Figure A13 is organizational chart for DMC.
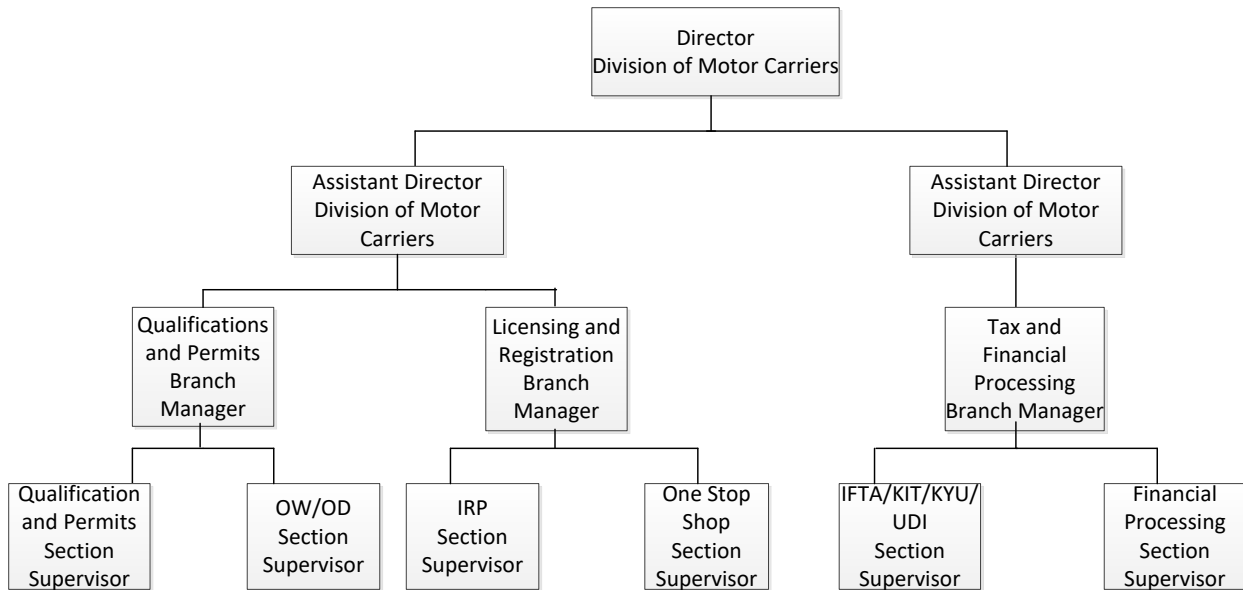
Figure A13 Organization Chart for Division of Motor Carriers

A.6.1 Licensing and Registration Branch

Figure A14 summarizes weekly interactions for each section of the Licensing and Registration Branch.
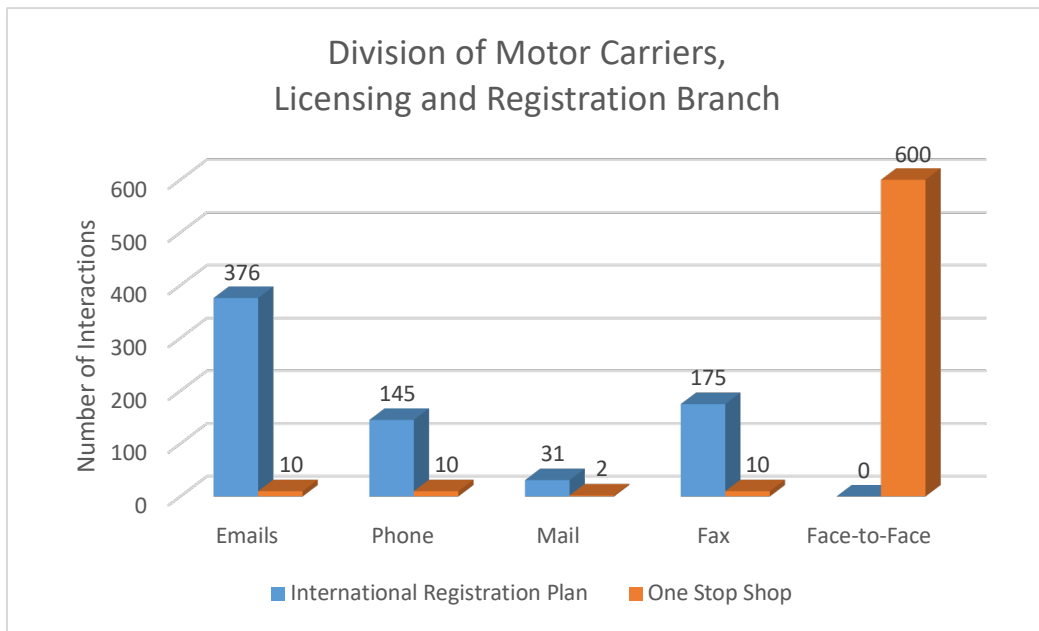
Figure A14 Weekly Interactions for Licensing and Registration Branch

A.6.1.1 One Stop Shop Section

The One Stop Shop allows customers to conduct business in person with the DMVL, DDL, DMC. The One Stop Shop is located on the second floor of KYTC's Central Office. Customers from the trucking industry can pay fuel taxes and registration fees, obtain decals and permits, receive apportioned plates, and handle CDL-related matters. The general public can also pick up titles, title histories, driving histories, reinstate their licenses, schedule hearings, and obtain ignition interlock devices. Each branch appoints employees to help in the One Stop Shop as needed. Most branches

have at least some contact with the One Stop Shop during the week. This section also takes phone calls with customers and simplifies communication between customers and other branches. The One Stop Shop has 12 primary groups of customers and partners: the general public, the software vendor ITERIS, insurance companies, permit agencies, motor carriers, dealerships, FMCSA, Kentucky State Police Commercial Vehicle Enforcement (KSP-CVE), county court clerks, circuit court clerks, Kentucky Transportation Center (KTC) and IRP, Inc. Six hundred its interactions occur face-to-face at the Frankfort location. A much smaller number of interactions occur via email, phone, fax, and mail each week.

A.6.1.2 International Registration Plan (IRP) Section

The IRP Section processes applications and renewals for the IRP, an apportioned fee required for interstate travel in the United States and Canadian provinces for any vehicle weighing over 26,000 pounds or having three axles regardless of weight. The IRP Section provides apportioned plates, temporary cab cards, cab cards, updates carrier information, and processes payments or refunds. Most interactions are on the telephone or through the online system. This section must also work with the Registration Branch within DMVL. In addition, the section processes and distributes permits for coal and coal byproducts haulers to operate on Kentucky's Extended-Weight Coal Haul Road System for vehicles that exceed 80,000 pounds. The IRP section has six primary groups of customers and partners: truck drivers, motor carriers, KSP-CVE, KTC, KTA, and county clerks. Most interactions occur via e-mail (376), followed by phone (145), and fax (175). The fewest number of interactions are by mail.

A.6.2 Qualification and Permitting Branch

Figure A15 summarizes weekly interactions for each section of the Qualifications and Permitting Branch.
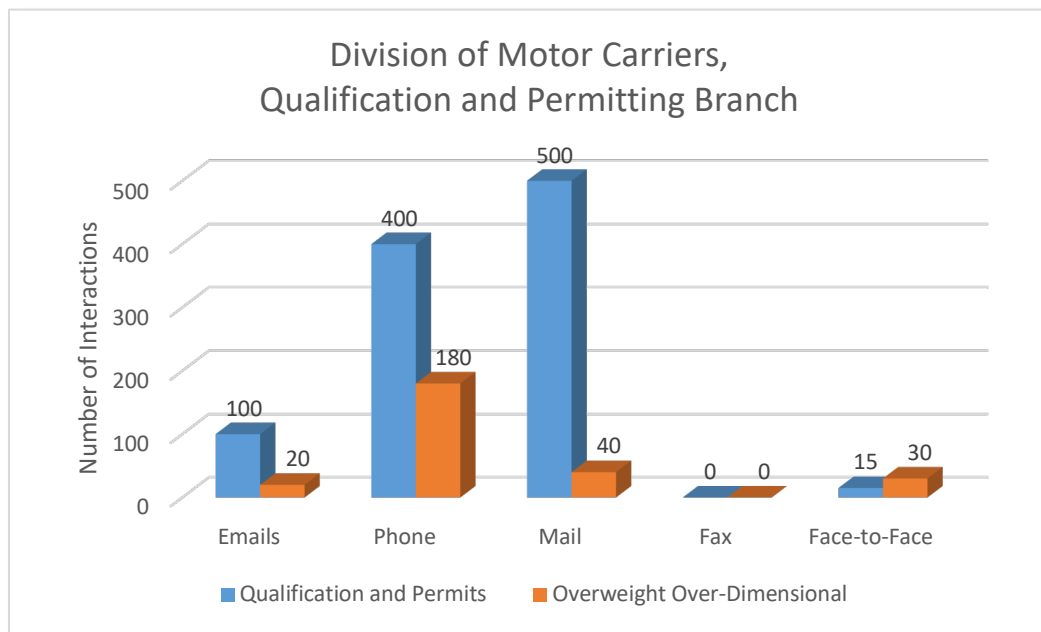
Figure A15 Weekly Interactions for Qualification and Permitting Branch

A.6.2.1 Qualification and Permitting Section

The Qualification and Permits Section distributes licenses and permits for Kentucky's weight distance tax (KYU). It also issues licenses, permits, and decals for IFTA and KIT. Prior to issuing the permits, staff members must verify an applicant has all necessary authorities and credentials. This section collects UCR registration fees and issues Kentucky Intrastate For-Hire Authority as well. It issues passenger certificates (e.g., for buses, limos), household goods certificates, and solid waste licenses as well. Most phone calls received by this section originate from motor carriers, service providers, and truck drivers. The section also provides assistance to walk-in customers at the One Stop Shop. Customers can submit applications and pay fees online, but many still contact the section via phone or email or visit the One Stop Shop for guidance. The Qualification and Permitting Section has 14 primary groups of customers and partners: motor carriers, passenger companies, household goods companies, service providers, Division of Waste Management, Office of Legal Services, Department of Transportation Delivery, Indiana Department of Revenue,

FMCSA, COT, Secretary of State, KSP-CVE, the software vendor ITERIS, and other state agencies. Most interactions occur via letter (500) and phone (400). The next most common method of interaction is e-mail (100) followed by face-to-face interactions (15) at the One-Stop-Shop.

A.6.2.2 Overweight Over-Dimensional Section
The Overweight Over-Dimensional (OW/OD) Section processes applications for annual and single-trip permits for OW/OD vehicles as defined by Kentucky statutes. Service can be provided in the One Stop Shop, or applicants may submit their application via fax or mail. Once approved, customers will receive the permit in the mail. Staff are responsible for verifying an applicant has proper operating authority before issuing a permit. Although customers are responsible for determining the legal routes for OD/OW operations and any construction issues on that route, many customers still call the section for assistance. Key customers and partners include: motor carriers, federal agencies, district offices, Bridge Preservation, Division of Planning, Division of Highways, law enforcement, Office of Inspector General, MidAmerican Association of State Transportation Officials, KTA, Traffic Operation Center, and COT. Most interactions occur via permit sales (2,000), while a smaller number of interactions take place through phone calls, letters, the One Stop Shop, and e-mails.

A.6.3 Tax and Financial Processing Branch
Figure A16 summarizes weekly interactions for each section of the Tax and Financial Processing Branch.
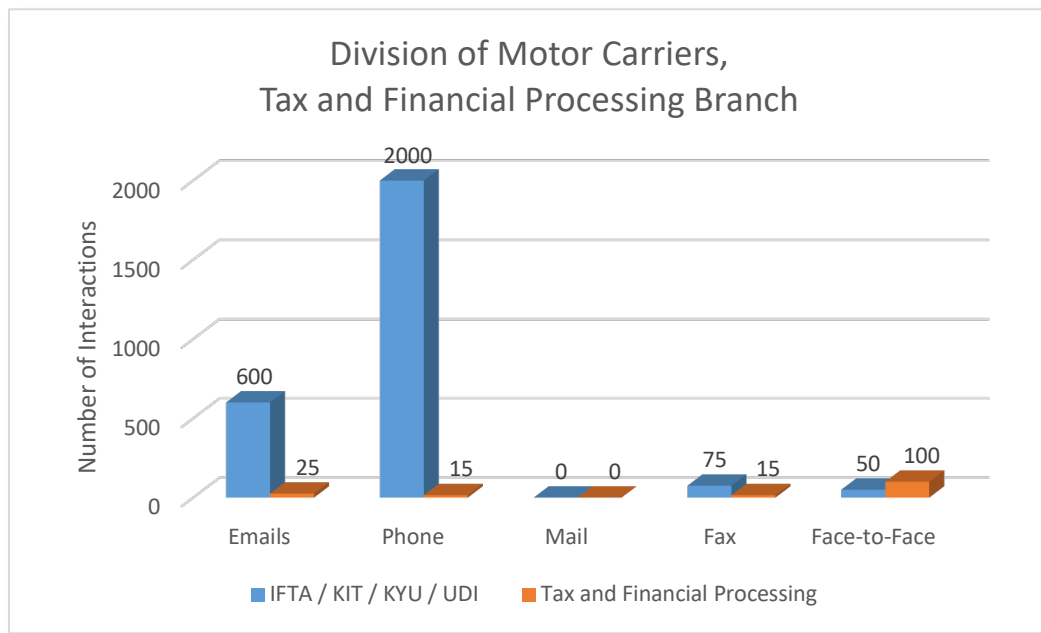
Figure A16 Weekly Interactions for Tax and Financial Processing Branch

A.6.3.1 IFTA / KIT / KYU / UDI Section
This section collects IFTA, KIT, KYU and U-Drive-It taxes. It also cancels, revokes, suspends, and reinstates tax licenses as needed. This section offers online filing and payment of taxes. Most customer interactions are over the phone. Calls come in through the DCS phone center and many are directed to voicemail because they are not able to answer all calls as they come in. There are direct phone lines for KSP-CVE and for drivers or motor carriers who are being detained by enforcement.

IFTA/KIT/KYU/UDI section customers and partners include: CDL drivers, motor carriers, service providers, IFTA Explore, IFTA, Inc, county clerks, KSP-CVE, Road Fund Audits, Office of Legal Services, and KYTC internal auditors. Most of interactions take place over the phone (2,000) and via email (600). The remaining interactions are through fax and face-to-face encounters at the One Stop Shop.

A.6.3.2 Tax and Financial Processing Section

The Tax and Financial Processing Section is responsible for keying tax returns and handing vouchers for the DMC. In addition, this section handles monetary transactions related to the activities in One Stop Shop. Financial Processing staff assist with tax collection as well as license reinstatement, processing tax returns, and various other carrier inquiries and issues. The Tax and Financial Processing section serves seven main groups of customers and partners: truck drivers, motor carriers, permitting agencies, accountants, treasury, KSP-CVE, and Finance. Most interactions come via face-to-face encounters at the One Stop Shop. The section also interacts with customers via e-mail (25), phone (15), and fax (15).

Appendix B DVR Performance Measures and Internal Survey Supplemental Materials

Material in this appendix complements the discussion in Chapter 4 and focuses on performance measures that are used to assess staff performance, online services, qualitative analysis of phone interactions, and the results of the internal survey.

B.1 HEAT Reports

DCS bases performance measures on quantitative data from the HEAT system. The DCS Call Center displays a large electronic board that lets CSPs to monitor their productivity in real-time. These data are compiled into daily reports for Branch Managers (HEAT Reports), which include the DVR division, the name of the CSP or SME who fielded the call, the number of calls answered, returned calls, ready time (the time in which the agent was available to take the call), handling time, not ready time (time away from their desk or completing a ticket), transfers, and incidents resolved (Figure B1).

Division Agent Performance Statistics
Data for: 07/18/2016
Total Calls Answered: 682   Total Resolved: 664

		Escalated Incidents to DIVISION SME	685
Transfers Originated	Internal queue transfers	Escalated Clerk Incidents	288
Ready Time	Set to "Ready"		
Handling Time	Reserved, Busy, After Call Work.		
Not Ready Time	At anytime not set to "Ready"		

Section					Section Calls Answered: 325	Section	Section Resolved: 287
Agent Name	Calls Answered	Interactions Returned	Transfers Originated	Ready Time	Handling Time	Not Ready Time	Agent Name	Incidents Resolved

Agent Name	Calls Answered	Interactions Returned	Transfers Originated	Ready Time	Handling Time	Not Ready Time	Agent Name	Incidents Resolved
Agent Name	37			02:40:33	02:53:48	01:34:22	Agent Name	27
Agent Name	33		1	02:10:24	02:59:02	01:48:27	Agent Name	28
Agent Name	36		1	02:33:25	02:41:03	01:41:28	Agent Name	33
Agent Name	37			02:26:11	02:43:56	02:23:53	Agent Name	33
Agent Name						03:54:48	Agent Name	2
Agent Name	38		1	02:53:21	03:28:51	01:47:17	Agent Name	34
Agent Name	48			03:06:27	02:35:21	01:15:11	Agent Name	48
Agent Name	32		2	02:22:09	02:09:54	03:37:47	Agent Name	32
Agent Name	23	1		01:40:30	01:07:40	04:07:56	Agent Name	16
Agent Name	41			03:00:29	02:51:09	01:21:13	Agent Name	34

Section					Section Calls Answered: 21	Section	Section Resolved: 41

Figure B1 Daily HEAT Report for Agent Performance

The daily report also includes a report on the status of all tickets created during the previous day (Figure B2). Branch managers can see the subject skills, customer type (email, business, individual, and clerk), division, incidents created that day, and the number of calls that were resolved that day.

Incidents Created					
Total Created: 2,042					**Data for: 07/18/2016**
Incident	**Created On**	**Status**	**Division**	**Subject Skill**	**Customer Type**
1089512	7/17/2016 9:47:42 PM	Closed			Emailer
1089513	7/18/2016 8:00:43 AM	Resolved	Customer Service	CSC	Business
1089514	7/18/2016 8:01:20 AM	Resolved	Driver Licensing	State Traffic School	Individual
1089515	7/18/2016 8:01:22 AM	Resolved	Driver Licensing	Technical Support	**Clerk**
1089516	7/18/2016 8:01:57 AM	Resolved		Medical Review	Individual
1089517	7/18/2016 8:02:14 AM	Resolved	Customer Service	CSC	Business
1089518	7/18/2016 8:02:18 AM	Resolved	Driver Licensing	CDL	Individual
1089519	7/18/2016 8:02:23 AM	Resolved	Driver Licensing	State Traffic School	**Clerk**
1089520	7/18/2016 8:02:25 AM	Resolved		Medical Review	Individual
1089521	7/18/2016 8:02:35 AM	Active	Motor Carriers	IFTA/KIT/KYU	Business
1089522	7/18/2016 8:02:42 AM	Resolved	Customer Service	CSC	Individual
1089523	7/18/2016 8:03:54 AM	Resolved	Driver Licensing	CDL	Individual
1089524	7/18/2016 8:04:28 AM	Active	Motor Carriers	IFTA/KIT/KYU	Business
1089525	7/18/2016 8:04:43 AM	Resolved	Driver Licensing	State Traffic School	Individual

Figure B2 HEAT Daily Report on Incidents

DCS distributes a weekly HEAT report containing the total interactions and incident statuses for the week. Data from weekly reports are distributed in the same format as the daily reports (Figure B3). The colors of the various statuses are consistent for all reports and are included in the legend.

- Created (Purple) — A CSP created a ticket to track a call that came into the call center
- Escalated (Dark Blue) — The call was sent to a subject matter expert (SME) for resolution
- Answered on Escalation (Light Blue) — A SME answered a call routed to them by a CSP
- Unresolved (Red) — The ticket was not resolved by a CSP or SME
- Resolved (Dark Green) — The ticket was resolved by a CSP or SME
- SME Resolved (Light Green) — The ticket was resolved by a SME
- FCR Tier 1 (Yellow) — The ticket was resolved by a CSP without escalation to a SME FC
- FCR Tier 1% (White) — The percentage of tickets resolved by CSPs
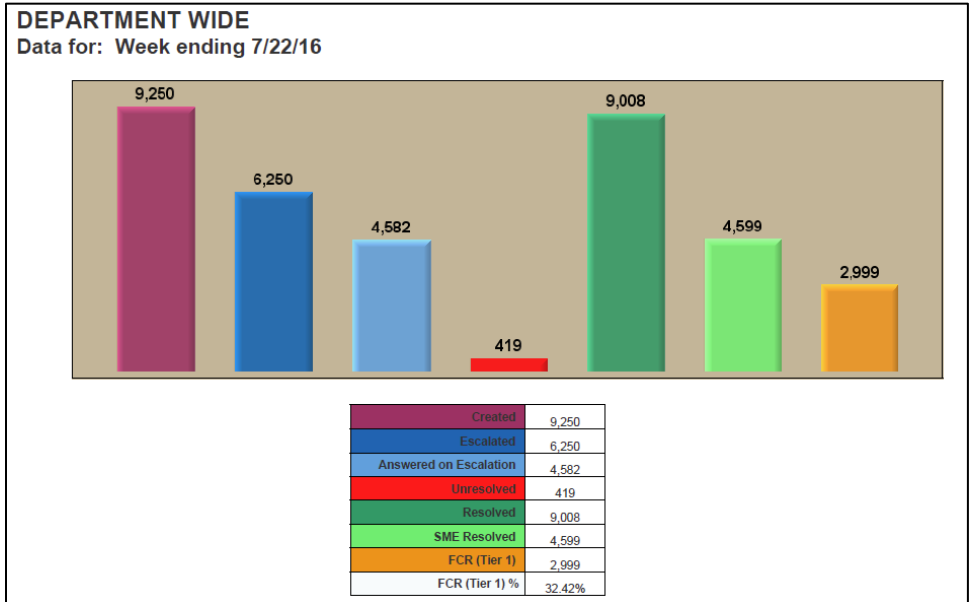
Figure B3 Department Wide HEAT Report for the Week of July 18, 2016 through July 22, 2016

B.2 Online Traffic from DVR Website

Table B1 lists the online services DVR provides to its customers.

Table B1 DVR Online Service

Division	Online Service
Motor Carriers	Motor carrier portal
	Purchase temporary permits
	Access / modify weight distance tax inventory
	File and pay KYU taxes
	File IFTA tax returns
	File KIT tax returns
	Purchase permits
Driver Licensing	Pay license reinstatement fees
	Submit CDL documents
	Order driver history records
	Enroll in state traffic school
	Take graduated license course
Motor Vehicle Licensing	Check availability of personalized plate
	View vehicle tax paid in previous year
	Renewal vehicle registration

B.3 Phone Interactions for DCS in 2016

Among DVR's units, DCS had the most phone interactions in 2016. Figure B4 summarizes data on answered calls, interactions returned, and transfers originated for Team Awesome and Team Alpha.
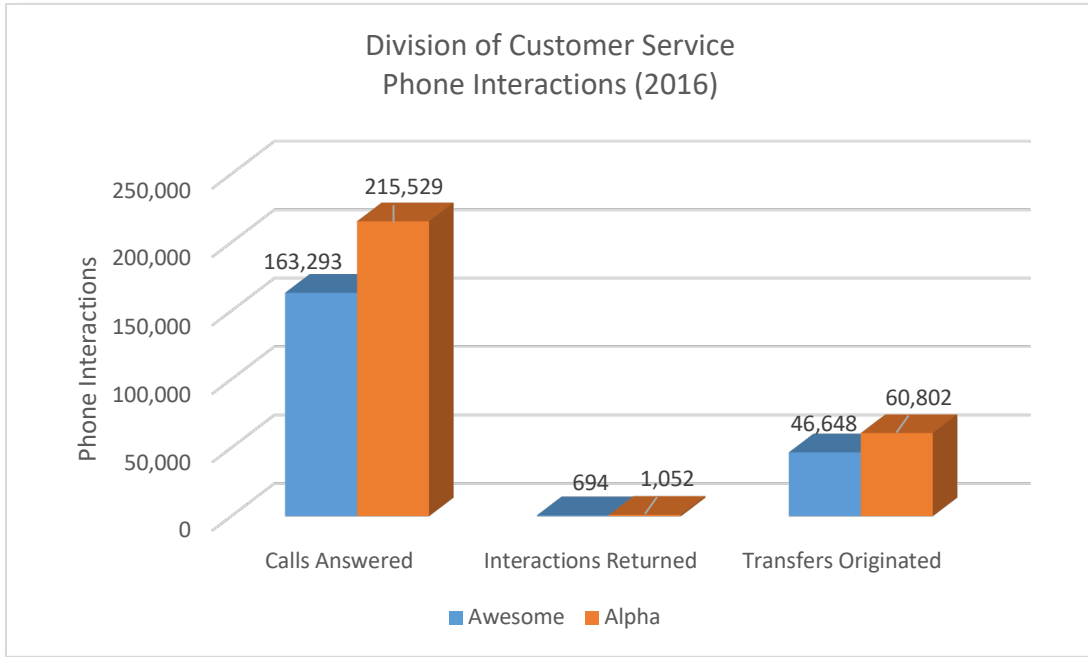
Figure B4 DCS Phone Interactions 2016

B.3.1 Phone Interactions for DDL Sections in 2016
In 2016, all but one section in DDL answered calls over 90 percent of the time. CDL Administration (58,348) and Driver History/Fees received the vast majority of the calls (37,324) (Figure B5). The Court Records Section had the third-highest call volume followed by the Driver History Records/Fees Section, Driver Education Support Section, Central Section, and the Records Verification Section (6,908). The remaining categories refer to interactions by managers, resource management analysts, and technical support. Except for Driver History Records/Fees and Driver Education Support section, all sections had fewer than 1,000 interactions returned. In addition, all sections had fewer than 1,000 transfers originated. Notably, the Court Records Section had 4,778 transfers originated, meaning that 65 percent of the SME transfers in the division originated in this section. The section had the second highest transfers originated of all divisions.
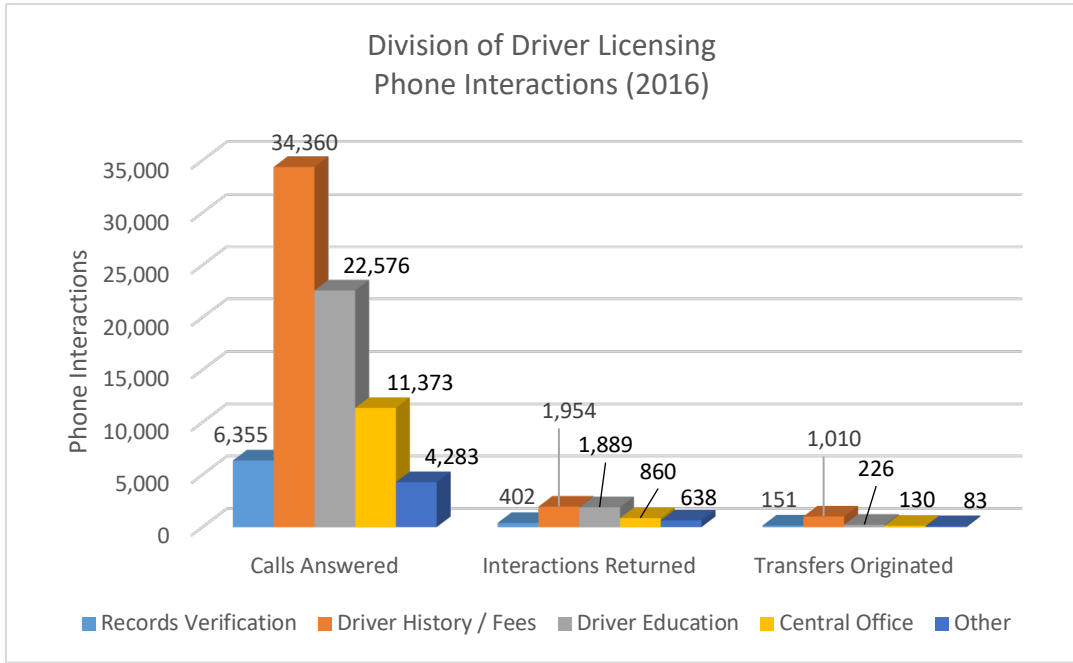
Figure B5 DDL Interactions 2016

B.3.2 Phone Interactions for DMVL Sections in 2016

In DMVL, the Verification Section (26,386) recorded the most interactions in 2016 (Figure B6). It also had the most interactions returned and transfers originated. The Rebuilt Support Section had the second most interactions, followed by the Program Assistance Section. Rebuilt Support had the second highest number of calls answered, followed by Program Assistance and Verification. Each of these sections answered calls over 90 percent of the time. The Receiving Section had the fewest answered (1,763), representing 15 percent its call volume, as well as the highest percentage of transfers originated. The remaining sections fielded fewer than 10,000 interactions and answered just over 80 percent of their respective call volumes. All of the sections, other than Receiving, originated less than 10 percent of transfers. The manager's category is the smallest since branch managers have the lowest voice skills percentage.
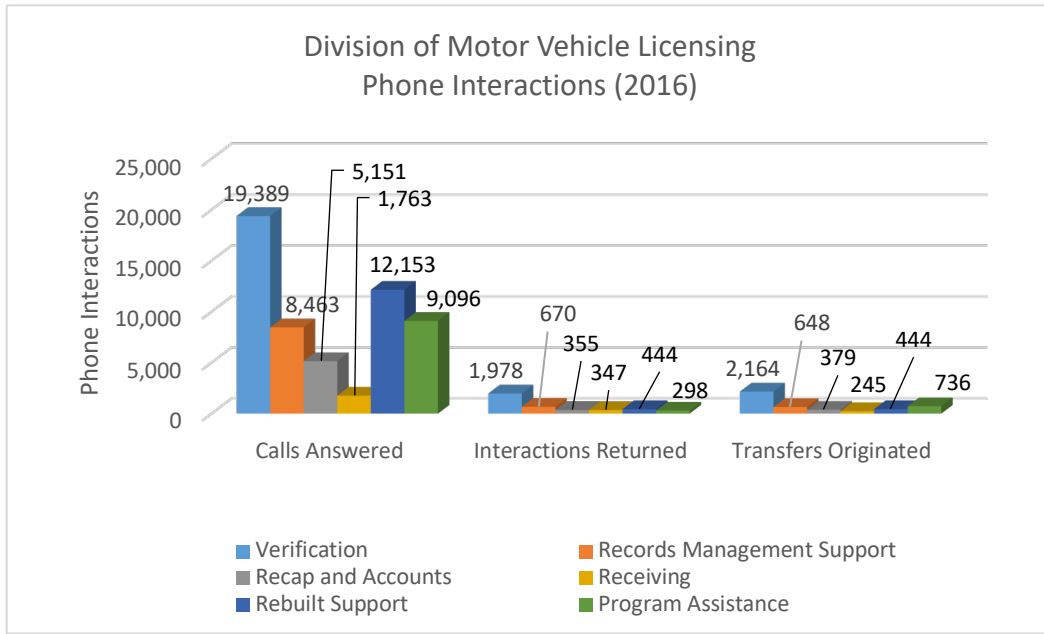
Figure B6 Phone Interactions for DMVL Sections in 2016

B.3.3 Phone Interactions for DMC Sections in 2016

DMC had the fewest interactions of the four divisions. The Credentials Section had the highest number of interactions, followed by OW/OD, IRP, and the Tax Branch (Figure B7). Financial Processing had even fewer interactions (just 16). DMC's interactions returned were the highest when considering the percentage of the overall call volume. Sixty-nine percent of calls to the Financial Processing Section were unanswered, 44 percent of the calls in IFTA/KIT/KYU/UDI were interactions returned, 25 percent of calls in IRP were interactions returned, and 17 percent of OW/OD calls were unanswered. However, the Credentials Section answered over 91 percent of the calls it received, while 83 percent of calls in OW/OD were answered. Fewer than 1,000 transfers were originated for the entire division.
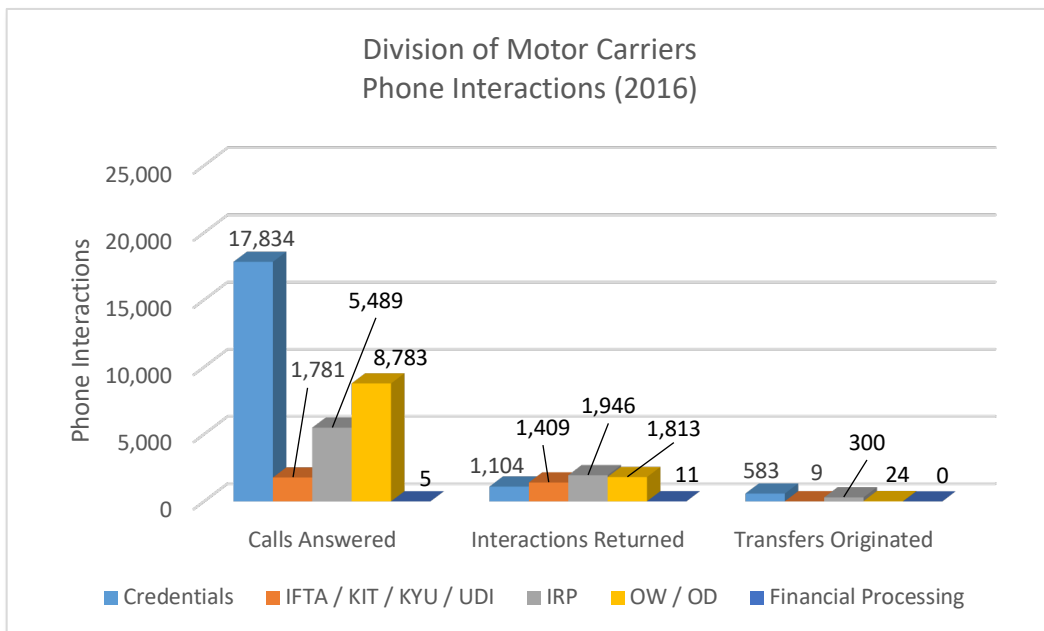
Figure B7 Phone Interactions for DMC Sections in 2016

B.4 DMC Tax and Financial Processing Performance Measures

This section provides more detailed breakdowns for IFTA, KYU, and KIT online tax filing and registration fee payments (Chapter 3 contains only graphs).

B.4.1 KYU Filings

Table B2

displays the number of KYU online tax wizard filings for 2005 to 2017. For each row, a year-to-date variable displays the total number of filings and total amount paid for a particular year. Although taxes were paid in 2005 through 2011, those numbers represent late filing of previously unpaid taxes, or back taxes.

Table B2 KYU Online Tax Wizard Filings (2005-2017)

Year Filed	Total Number of Filings	Total Amount Paid
2017	302,305	$80,504,154.19
2016	292,154	$79,812,914.45
2015	277,102	$77,757,759.76
2014	256,390	$75,679,715.16
2013	244,602	$73,435,868.23
2012	228,177	$68,894,693.55
2011	4,897	$154,453.88
2010	1,846	$10,761.47
2009	1,158	$5,775.64
2008	789	$5,335.64
2007	531	$6,397.13
2006	390	$2,609.92
2005	274	$2,239.09

B.4.2 KIT

In 2013 (the first year KIT e-file was available) 4,473 KIT carriers filed and paid KIT taxes through the KIT e-file system. By 2015 the number filing electronically increased to 5,395. Revenue actually dipped slightly between 2014 and 2015, but the KIT e-file application consistently generated between $1.14 and $1.25 million for the first 5 full years it was in operation.

Table B3 KIT Online Filings (2006-2017)

Year Filed	Total Number of Filings	Total Amount Paid
2017	5,395	$1,214,634.62
2016	5,076	$1,261,163.99
2015	4,978	$1,144,648.36
2014	4,846	$1,247,964.82
2013	4,473	$1,213,617.30
2012	122	$17,514.59
2011	28	$479.88
2010	18	$364.51
2009	18	$317.09
2008	6	$11.54
2007	4	$0.00
2006	1	$0.00

B.5 DSC Call Recordings Methods

For its review of DSC call recordings, researchers listened to each call in its entirety. Each call file contained the name of the agent fielding the call, as well as, their section and division. If the call was handled by a CSP, the call data noted if the agent was on Team Awesome or Team Alpha. Table B2 provides the sampling frame. Each call was assessed using a coding method based on established DCS performance measures. If notes fell outside of the objective analytical categories, these were noted. Coding was guided by the following questions:

- On what date and time was the call received?
- Was the call escalated?
- What was the name, division, and section of the person fielding the call?
- How long did the call last?
- Was this an incoming call or outgoing call?
- Who was the customer?
- What was the topic of inquiry?

Those questions were followed by simple yes–or–no questions about both the DVR employees and their customers.

- Was the employee courteous?
- Was the incident resolved?
- Was the staff member knowledgeable?
- Did the staff member sound professional?

Table B2 Call Recordings Sampling Frame

Section	Total Calls		Sample	
	Frequency	Percent	Frequency	Percent
Team Alpha	4,846	30.10	30	29.13
Team Awesome	4,378	27.20	28	27.18
CDL Administration	1,469	9.13	9	8.74
Driver History Records / Fees	727	4.52	5	4.85
Credentials	715	4.44	4	3.88
Driver Education Support	707	4.39	4	3.88
Verification	695	4.32	4	3.88
IFTA / KIT / KYU / UDI	572	3.55	4	3.88
Rebuilt Support	384	2.39	2	1.94
Court Records	291	1.81	2	1.94
Records Management Support Section	275	1.71	2	1.94
Program Assistance	247	1.53	2	1.94
Overweight Over-Drive	227	1.41	1	0.97
Central	181	1.12	1	0.97
Recap and Accounts	143	0.89	1	0.97
IRP	133	0.83	1	0.97
Receiving	47	0.29	1	0.97
Records Verification	32	0.20	1	0.97
Financial Processing	29	0.18	1	0.97
Total =	16,098	100.00	103	100.00

B.6 Internal Survey
Before finalizing the survey for DVR employees, KTC researchers brainstormed potential questions with the SAC. Prospective topics are listed in Table B4. There were 152 respondents out of 213 staff members.

Table B4 Ideas on Potential Survey Topics

Overall satisfaction	Overall satisfaction with each division
Efficiency	Knowledge
Courtesy	Effective communication in each division
Quality of service	Supervisor willingness to make changes
Clarity of workplace expectations	Cross training and job rotation opportunities
Supervisor communication to employees	Supervisor approachability
Quality of technological tools	Division improvement
Teamwork	Sharing or obtaining information
Needed resources	Division strengths
Division inefficiencies	Needed services
Division identification	

Table B5 summarizes the completion rates for each division. Actual response rates exceeded the research team's projected response rate of 50 percent. Most respondents (85 percent) specified their home division, which helped with analysis of division-by-division performance and evaluations.

Table B5 Internal Survey Respondents by Division

Division	Responses	Percent	Employees	Response Rate
Customer Service	16	11	29	55.2
Driver Licensing	41	27	74	55.4
Motor Carriers	39	26	48	81.3
Motor Vehicle Licensing	29	19	46	63.0
Comm. Office, Admin. Services	4	3	16	25.0
None	23	15	N/A	N/A
Total =	152	100	213	71.4

B.6.1 Interdivision Multiple Choice Questions
High-level findings for each interdivision multiple choice questions may be found in Chapter 4. This section uses charts to present a detailed breakdown of responses for each question.

B.6.1.1 Overall Level of Service
Respondents were asked the following question: *Do you agree or disagree that the DVR provides a high level of service to its customers?* Figure B8 summarizes responses.
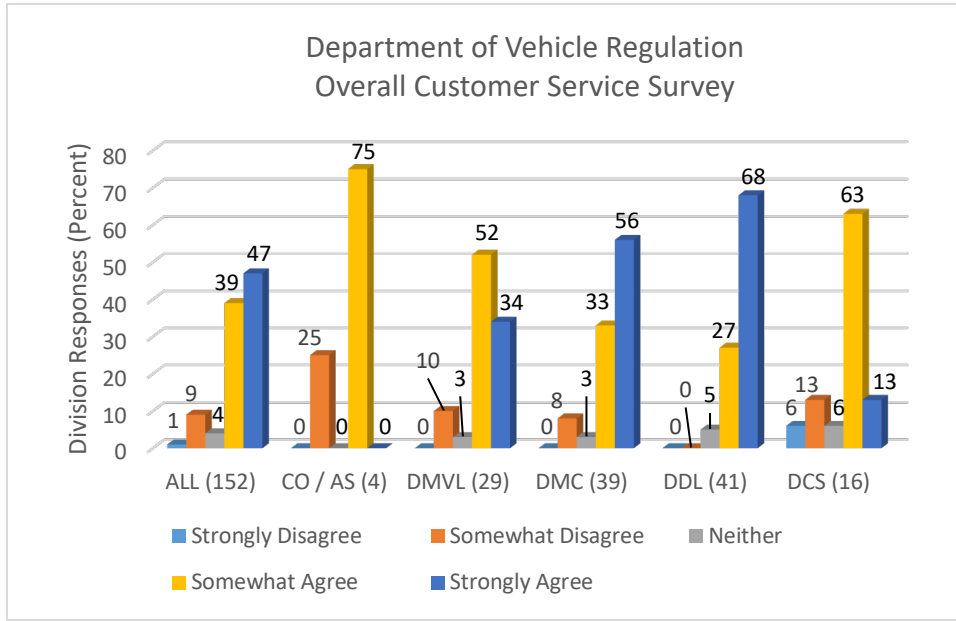
Figure B8 Overall Level of Service

B.6.1.2 Level of Service to Internal Customers (By Division)
Question: *Overall, how satisfied or dissatisfied are you with the service you received from the following divisions in the Department of Vehicle Regulation?* Figure B9 summarizes responses.
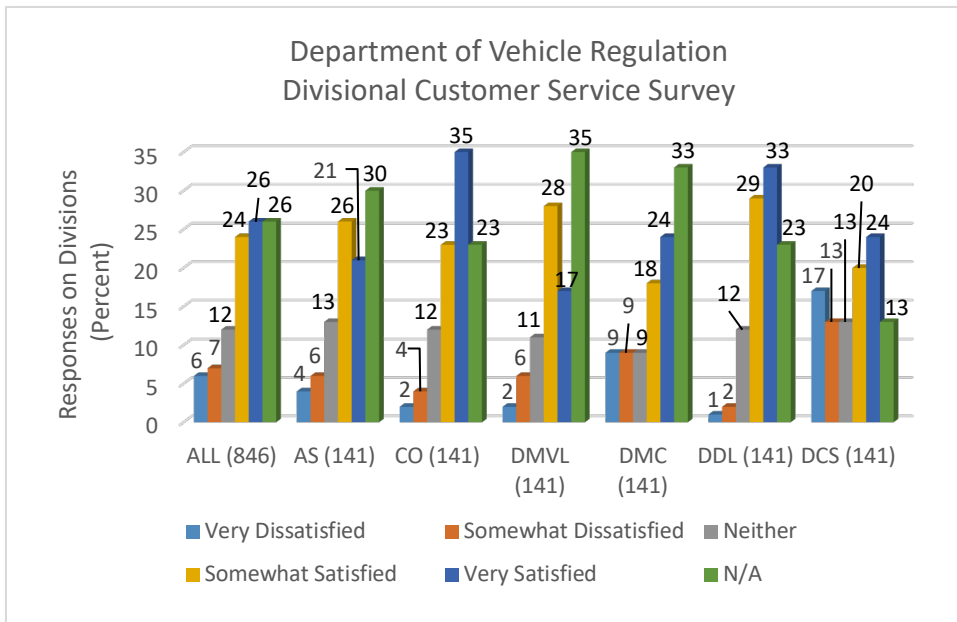
Figure B9 Level of Service to Internal Customers

B.6.1.3 Division Efficiency
Question: *How efficient or inefficient is each division in the DVR?* Figure B10 summarizes responses.
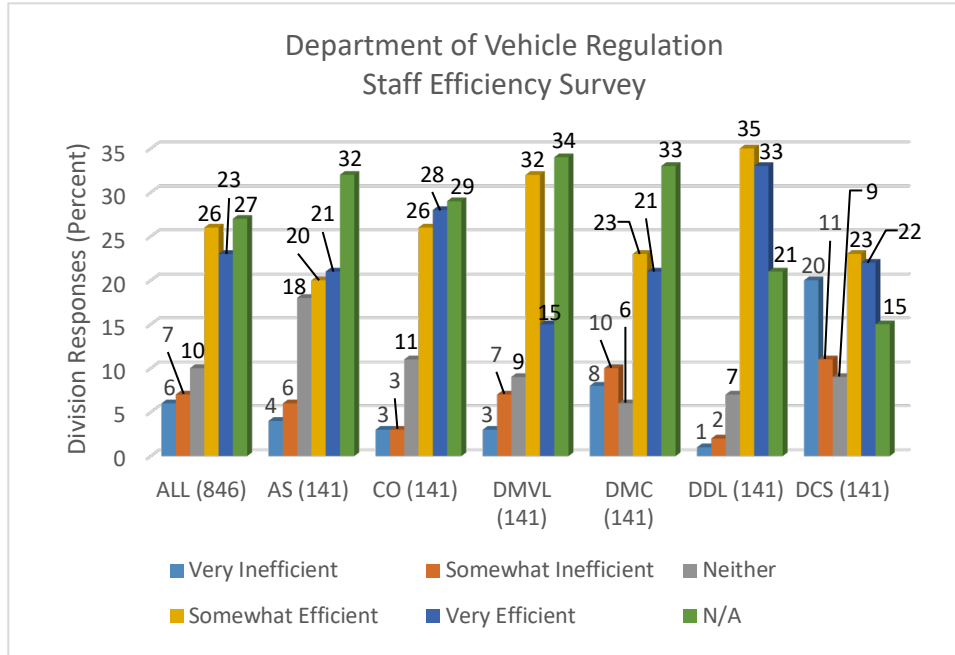
Figure B10 Efficiency or Inefficiency of DVR Staff (By Division)

B.6.1.4 Division Knowledgeability

Question: *How knowledgeable is the staff in each division in the DVR?* Figure B11 summarizes responses.
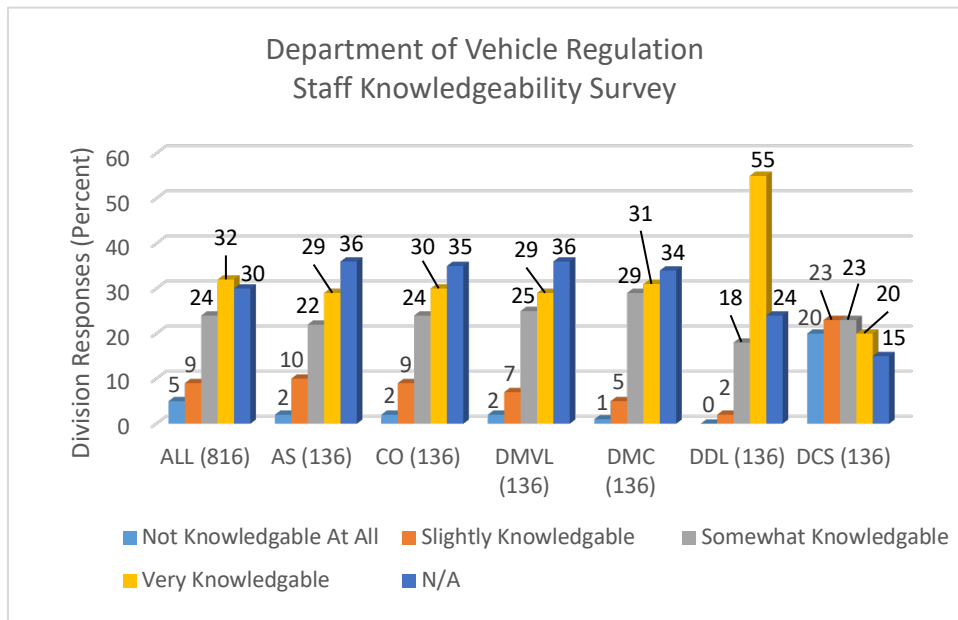
Figure B11 Knowledgeability of DVR staff (By Division)

B.6.1.5 Division Communication

Question: *How effectively or ineffectively does each division communicate with the rest of the department?* Figure B12 summarizes responses.
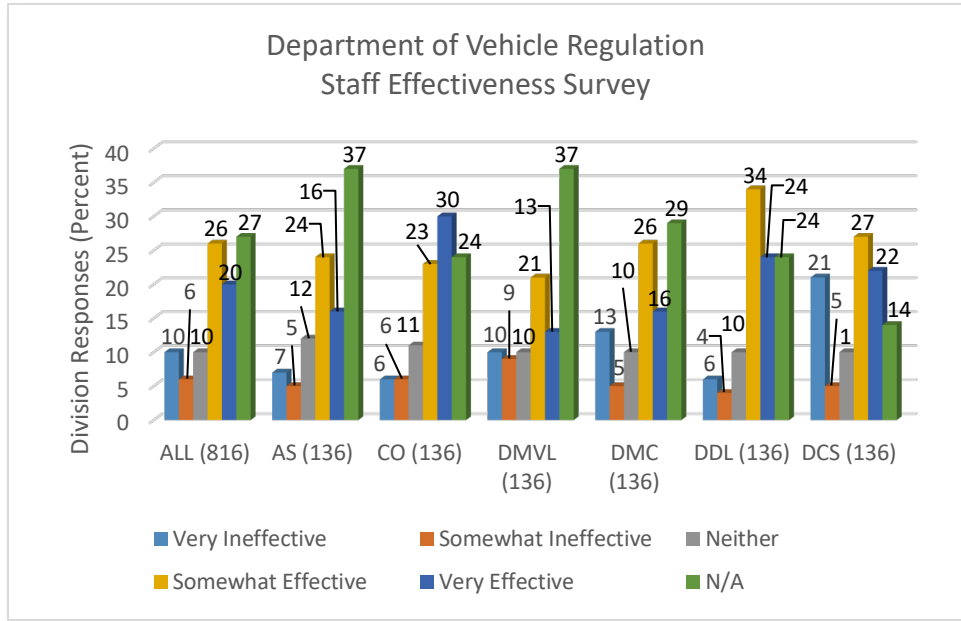
Figure B12 Effectiveness or Ineffectiveness of Communication of DVR staff (By Division)

B.6.1.6 Division Courteousness
Question: *How courteous is the staff in each division in the DVR?* Figure B13 summarizes responses.
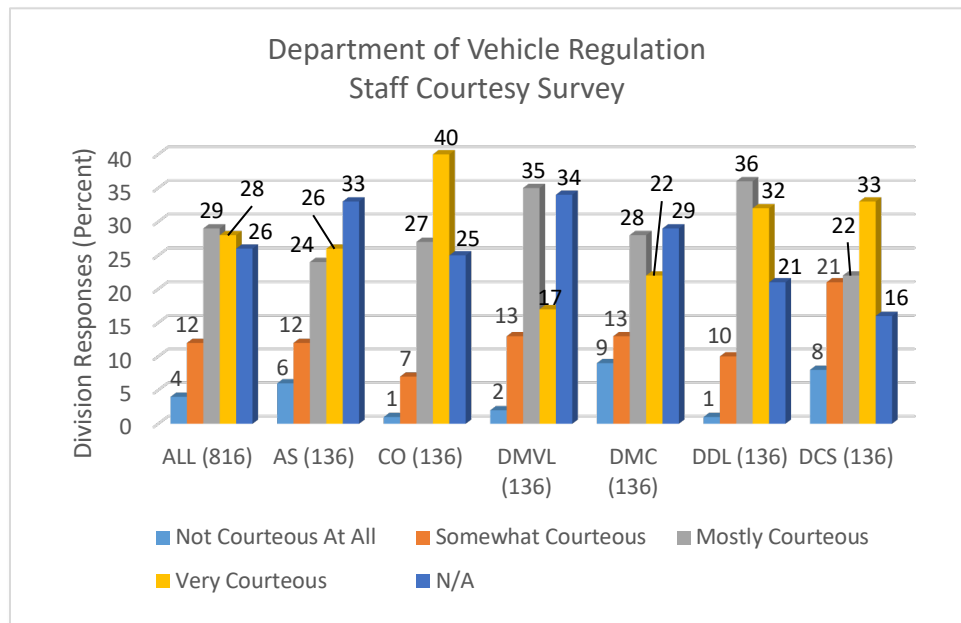
Figure B13 Courteousness of DVR staff (By Division)

B.6.2 Intradivision Multiple Choice Questions
High-level findings for each intradivision multiple choice questions may be found in Chapter 4. This section uses charts to present a detailed breakdown of responses for each question.

B.6.2.1 Quality of Service
Question: *Is quality of service important to your division*? Figure B14 summarizes responses.
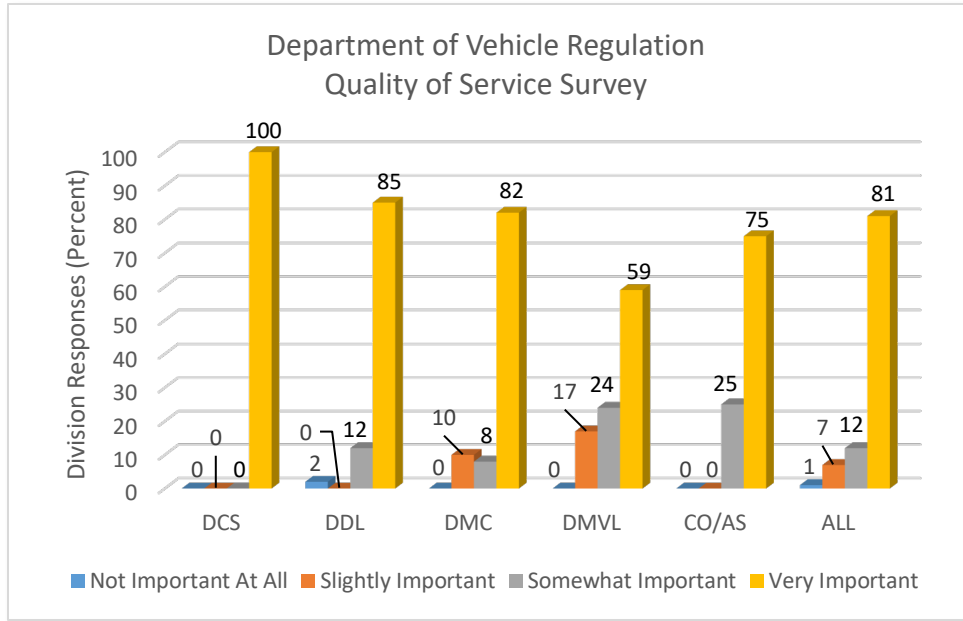
Figure B14 Importance of Quality of Service (By Division)

B.6.2.2 Willingness to Change
Question: *Are your division leaders willing to make changes that will improve processes?* Figure B15 summarizes responses.
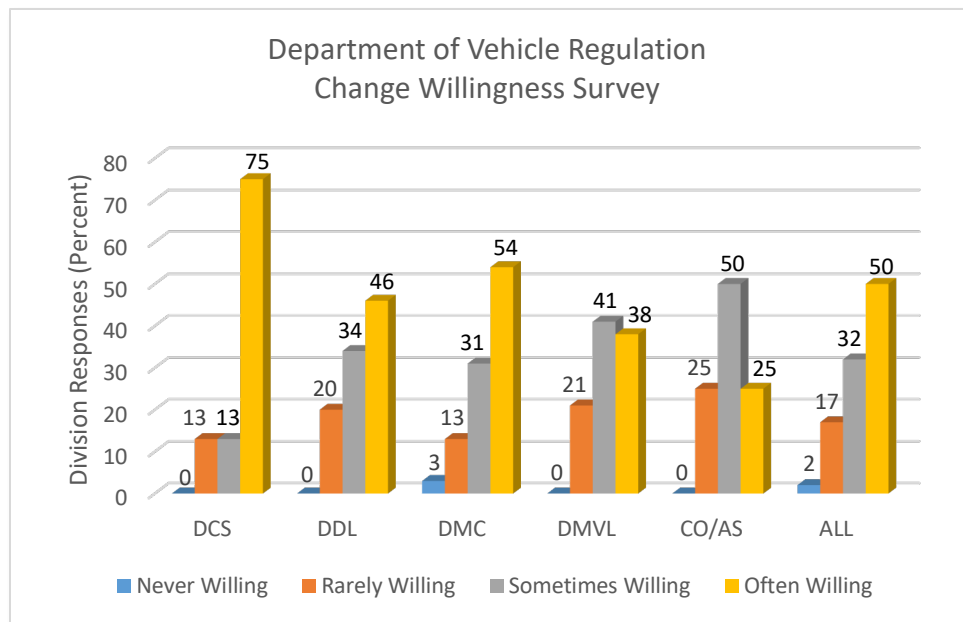
Figure B15 Willingness of Leaders to Make Changes (By Division)

B.6.2.3 Willingness to Change
Question: *Do you have clarity about your assigned tasks and expectations?* Figure B16 summarizes responses.
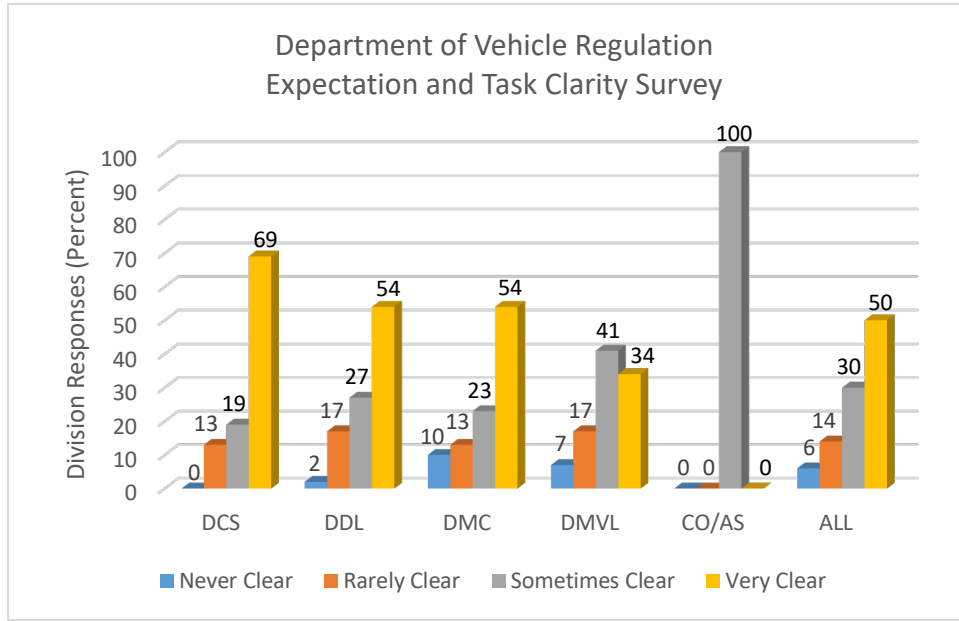
Figure B16 Clarity of Leadership Directive for Workplace Expectations and Tasks (By Division)

B.6.2.4 Cross Training and Job Rotation Opportunities
Question: *Are you satisfied with the cross-training and job rotation opportunities provided by your division leaders?*
Figure B17 summarizes responses.
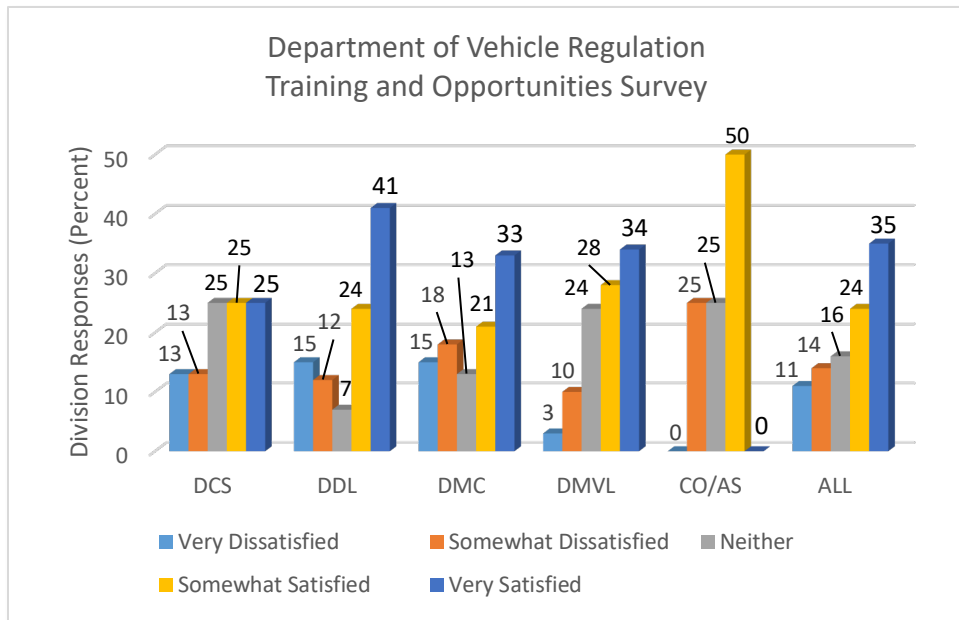
Figure B17 Satisfaction with Cross Training and Job Rotation Opportunities Provided (By Division)

B.6.2.5 Effectiveness of Communication
Question: *How would you rate the effectiveness of communication by your division leaders?* Figure B18 summarizes responses.
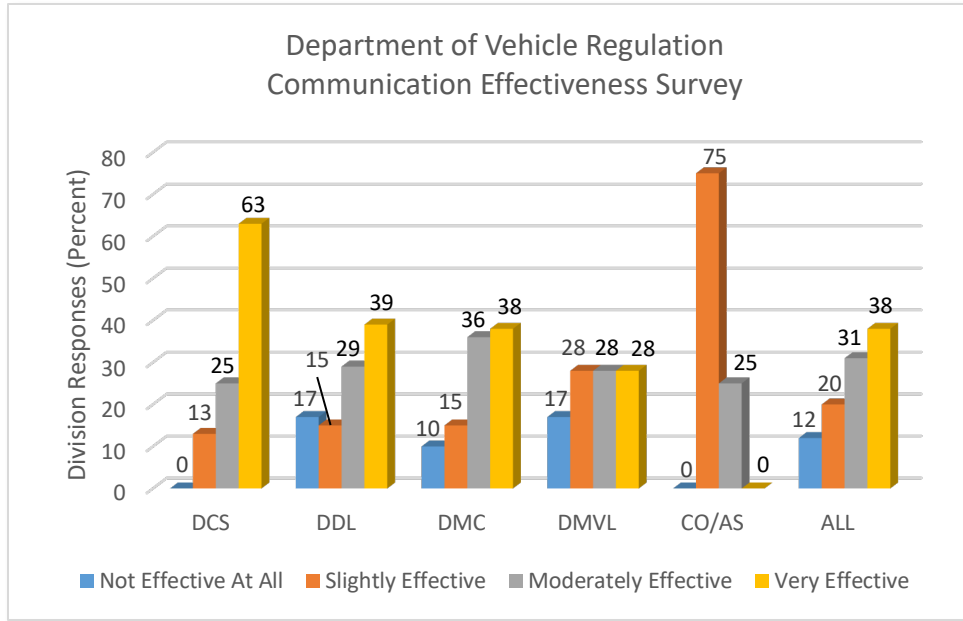
Figure B18 Effectiveness of Communication by Division Leaders to Employees, by Division

B.6.2.6 Technology Availability
Question: *How satisfied are you with the technological tools that are available for you to accomplish daily tasks ?*
Figure B19 summarizes responses.
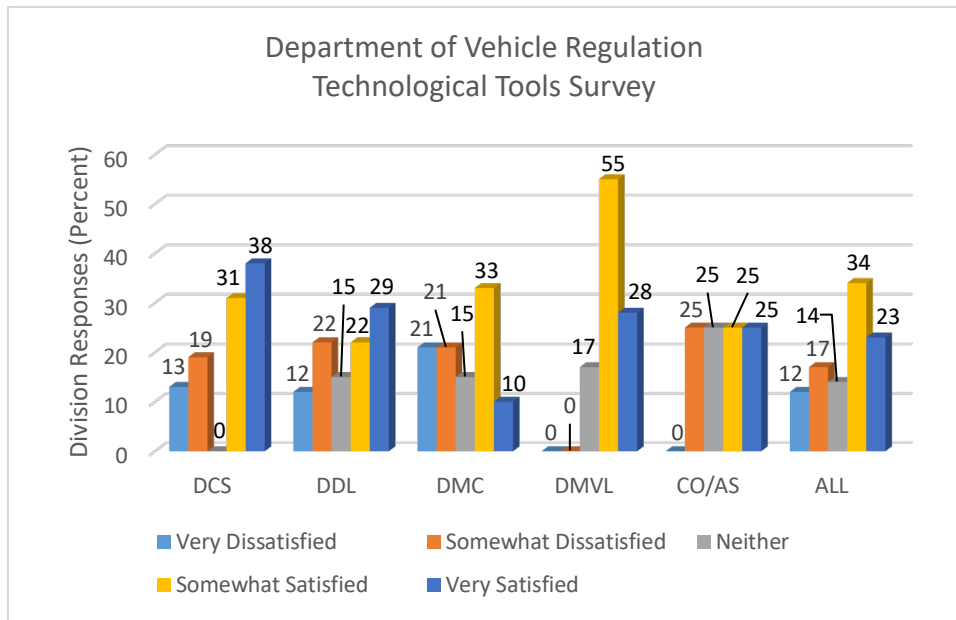
Figure B19 Satisfaction with Technological Tools Available for Accomplishing Daily Tasks (By Division)

B.6.2.7 Leadership Approachability
Question: *How approachable or unapproachable division leaders are when an employee or other colleague wants to provide input on new ideas or process improvements*? Figure B20 summarizes responses.
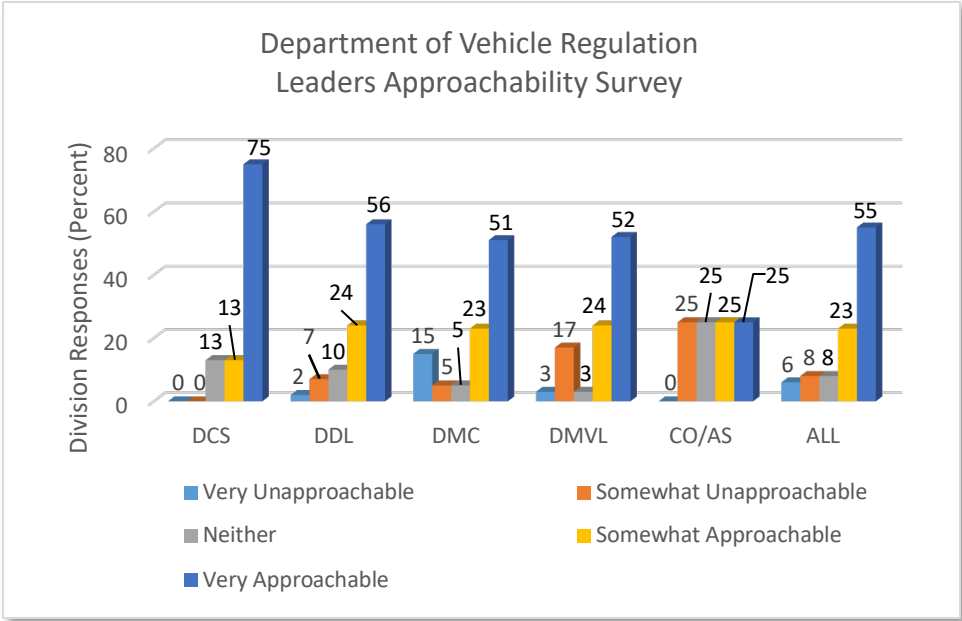
Figure B20 Approachability or of Leaders (By Division)

B.6.2.8 Leadership Approachability

Question: *How frequently does your division look for ways to improve services?* Figure B21 summarizes responses.
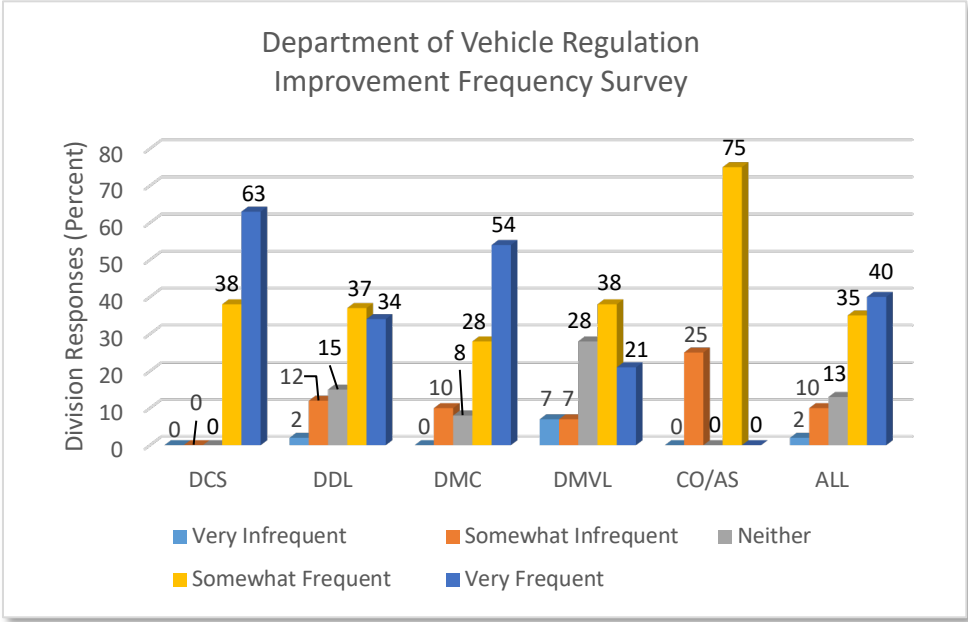
Figure B21 How Frequently Each Division Looks to Improve Services

B.6.2.9 Leadership Approachability

Question: *How frequently does your division's leaders encourage teamwork?* Figure B22 summarizes responses.
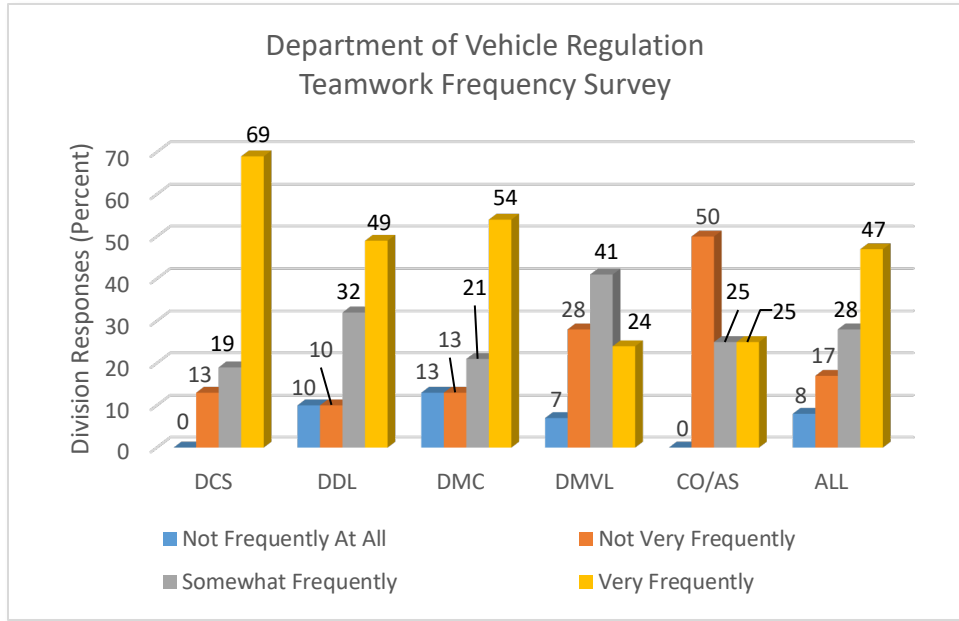
Figure B22 How Frequently Teamwork is Encouraged (By Division)

B.6.2.10 Leadership Approachability

Question: *How easy is it for you to get coworkers to share information?* Figure B23 summarizes responses.
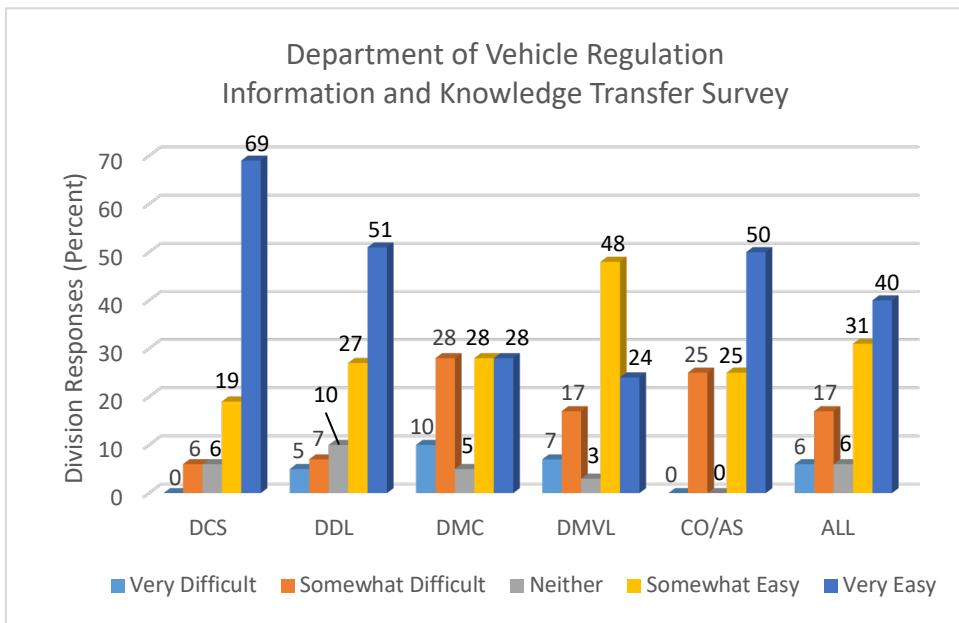
Figure B23 Ease or Difficulty Obtaining Information or Knowledge from Coworkers (By Division)

B.6.3 Open-Ended Questions

Chapter 4 provides high-level summaries of each open-ended question. Here we supplement this discussion with tables that indicate the number of responses that were coded for each theme.

B.6.3.1 Additional Resources

Employees were asked to provide input on the kinds of resources they need to provide the highest level of service to customers. Thematic coding for this question is summarized in Table B6.

Table B6 Additional Resources Needs Identified By Staff

Theme	No. of Responses Coded for Theme
Improved technologies	33
Training	10

B.6.3.2 Quality of Customer Service
Employees were asked rate the customer service currently being provided in their division. Thematic coding for this question is summarized in Table B7.

Table B7 Perceptions of Division Customer Service

Theme	No. of Responses Coded for Theme
We are customer centered	29
We are knowledgeable	16
We are responsive	15
We are good at communication	11
We go above and beyond for our customers	11
We are courteous	10
We are efficient	9
We're professional	6
We work as a team	5

B.6.3.3 Unnecessary Tasks
Employees were asked to identify unnecessary tasks which circumscribe departmental efficiency. Thematic coding for this question is summarized in Table B8.

Table B8 Unnecessary Tasks

Theme	No. of Responses Coded for Theme
Too many duplicate procedures or manual processing due to outdated technology	16
Everything we do is necessary	7
Field calls or doing work for circuit/county clerks	5
Redundant processes	4
Fielding unnecessary calls	3

B.6.3.4 Additional Services
Employees were asked to identify services that should be offered by their division, but which are not offered. Thematic coding for this question is summarized in Table B9.

Table B9 Additional Services to Offer

Theme	No. of Responses Coded for Theme
Offer additional online services and options	20
Increase access to databases and other information sources to provide more services	6

Staffing issues and staff workload	5
Improved training and/or cross-training for employees	4
Improved efficiency	3

B.6.3.5 Work Processes

Employees were asked about changes to recommend for improving the workplace. Thematic coding for this question is summarized in Table B10.

Table B10 Recommendations for Workplace Improvements

Theme	No. of Responses Coded for Theme
Changes in procedures	13
Changes in staffing and workload	12
Improvements in technology	10
Decrease interpersonal issues among staff and/or leadership	10
Increase CSP responsibilities	6
Staff training	4
Use more electronic communication	4

B.6.3.6 Additional Feedback

Employees had the chance to address department issues not covered in the survey. Thematic coding for this question is summarized in Table B11.

Table B11 Other Issues to Address

Theme	No. of Responses Coded for Theme
Interpersonal issues between staff and/or leadership	26
Lack of consistency with policy enforcement	7
Transition to Merit	5

Appendix C Baseline Survey Supplemental Materials

Material in this appendix complements the discussion in Chapter 5. It focuses on the baseline customer survey and statistical modeling used to identify what most influence overall customer satisfaction.

C.1 Baseline Survey — External Multiple-Choice Questions
This section presents supplemental information on the baseline survey's multiple-choice questions. The high-level narratives in Chapter 5 focused on the most notable findings, whereas the charts below offer more detailed insights into survey responses.

C.1.1 Customer Service Efficiency
Survey respondents were asked: *How efficient or inefficient was our customer service?* Figure C1 summarizes the responses by survey type.
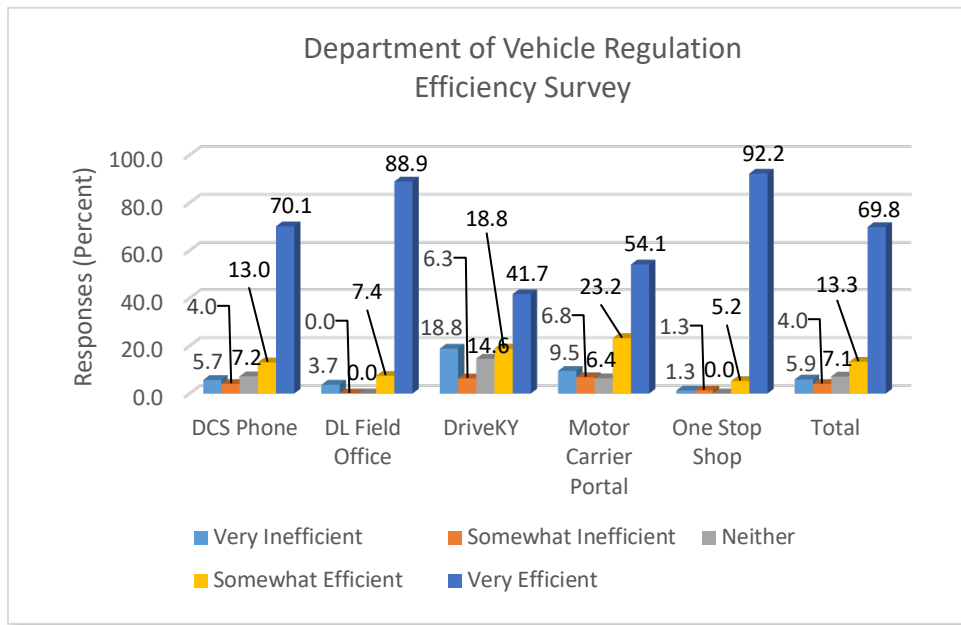
Figure C1 DVR Efficiency (By Survey Type)

C.1.2 Ease of Obtaining Information
Survey respondents were asked: *How easy of difficult was it to obtain the information you needed to resolve your issue?* Figure C2 summarizes the responses by survey type.
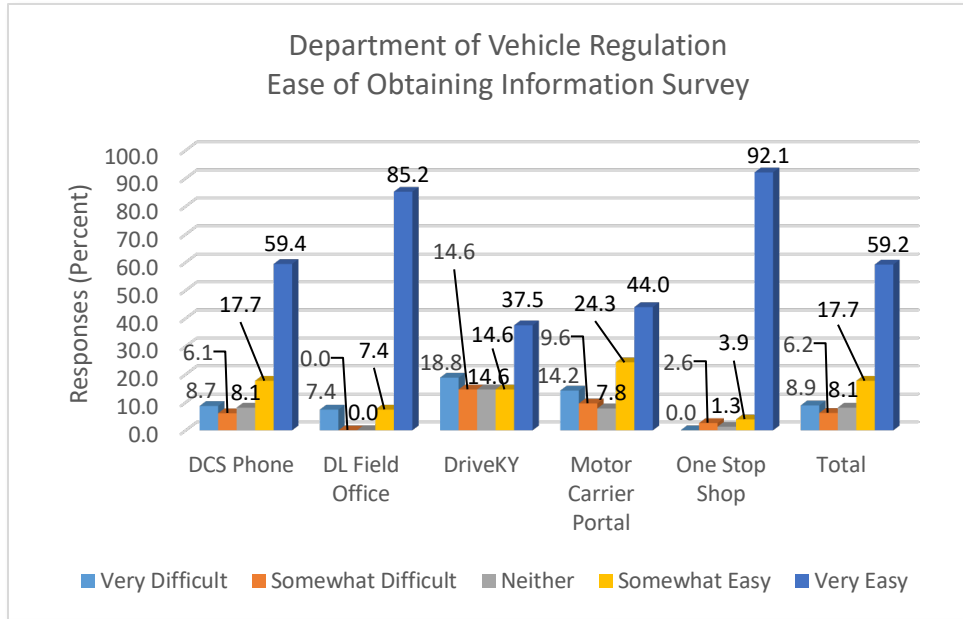
Figure C2 Ease of Obtaining Information (By Survey Type)

C.1.3 Employee Knowledgeability

Survey respondents were asked: *How knowledgeable was our employee?* Figure C3 summarizes the responses by survey type.
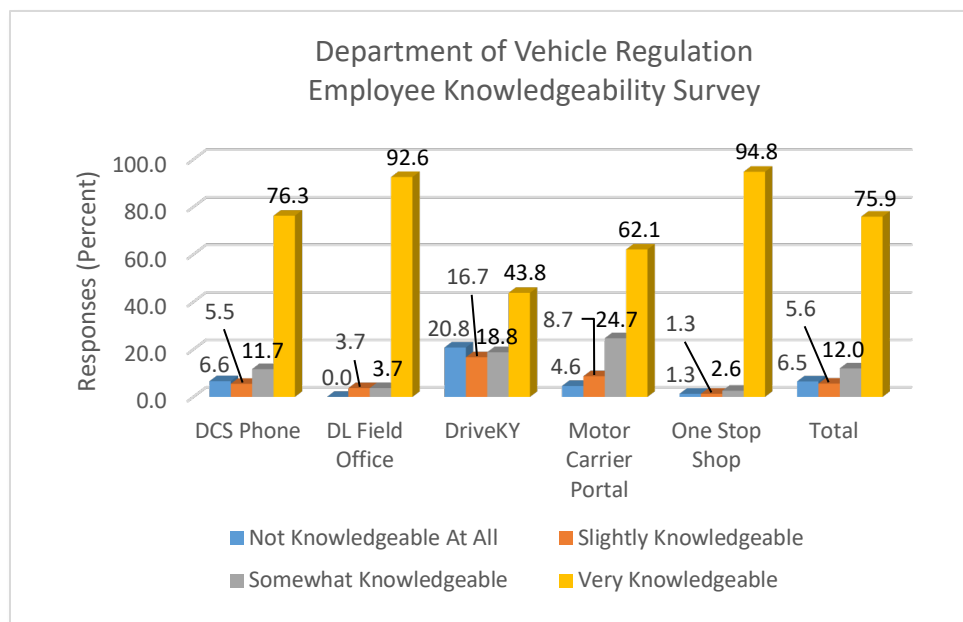
Figure C3 DVR Employee Knowledgeability, by Survey Type

C.1.4 Employee Courteousness

Survey respondents were asked: *How courteous was our employee?* Figure C4 summarizes the responses by survey type.
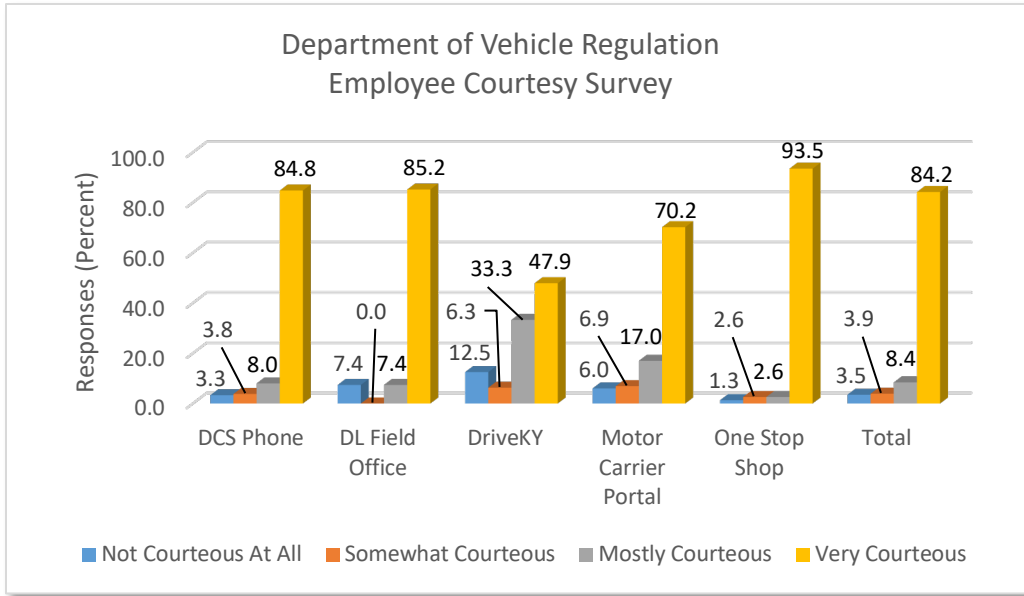
Figure C4 Employee Courteousness (By Survey Type)

C.1.5 Problem Resolution

Survey respondents were asked: *How resolved is your issue as a result of your visit to the (Department of Vehicle Regulation)?* Figure C5 summarizes the responses by survey type.
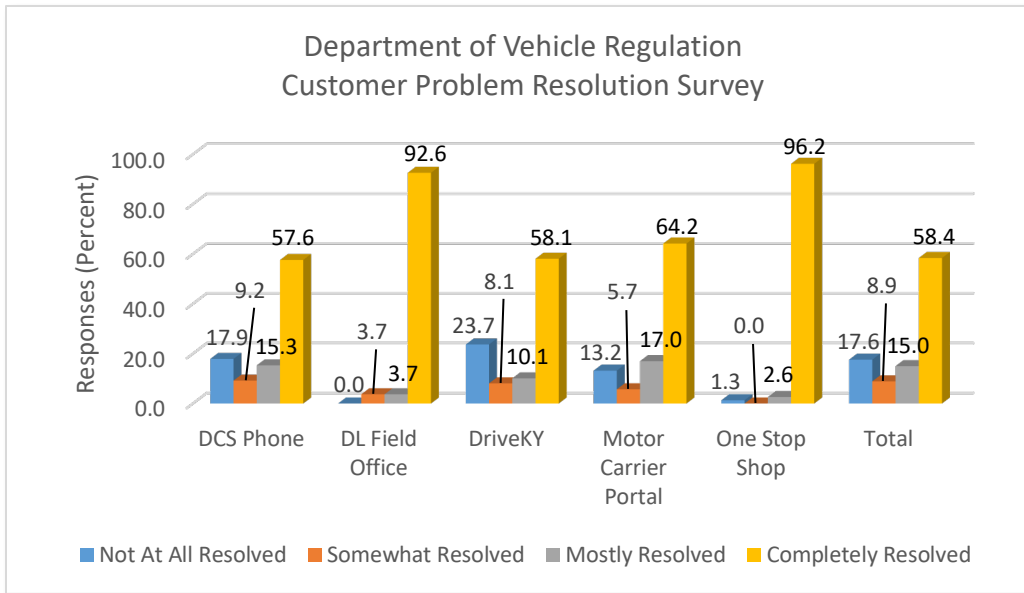
Figure C5 Degree of Customer Problem Resolution (By Survey Type)

C.1.6 Preferred Method of Contact

Survey respondents were asked about their preferred method of contact. The survey listed the following choices: e-mail, fax, in-person visit, mail, phone, and website. Table C1 gives a detailed breakdown of responses by survey type.

Table C1 Preferred Method of Contact (By Survey Type)

By Survey	DCS Phone	DL Field	DriveKY	Motor Carrier Portal	One Stop Shop	Total
E-mail	1,559	3	44	432	4	2,042
(%)	23.58	11.11	16.99	44.77	5.26	25.72
Fax	431	0	1	2	0	434
(%)	6.52	0.00	0.39	0.21	0.00	5.47
In-Person Visit	544	20	43	22	50	679
(%)	8.23	74.07	16.60	2.28	65.79	8.55
Mail	444	1	4	27	1	477
(%)	6.72	3.70	1.54	2.80	1.32	6.01
Phone	3,345	2	34	142	8	3,531
(%)	50.59	7.41	13.13	14.72	10.53	44.48
Website	289	1	133	340	13	776
(%)	4.37	3.70	51.35	35.23	17.11	9.77
Total	6,612	27	259	965	76	7,939
(%)	100	100	100	100	100	100

C.1.7 DriveKY Website
DriveKY users were asked about their overall satisfaction with customer service. Table C2 summarizes responses.

Table C2 Customer Satisfaction with DriveKY

DriveKY Satisfaction	Frequency	Percent	Cumulative
Very Satisfied	164	52.90	52.90
Somewhat Satisfied	45	14.52	67.42
Neither Satisfied or Dissatisfied	30	9.68	77.10
Somewhat Dissatisfied	26	8.39	85.48
Very Dissatisfied	45	14.52	100.00
Total	310	100	

C.1.8 DCS Phone Survey and Statistical Modeling
Table C3 gives additional information on the dynamics of call escalations. The first four columns show the frequency distribution of escalations for people who took the DCS phone survey. Just under 35 percent of calls required no escalation. The remaining two-thirds of calls were escalated, meaning that most callers had to speak with more than one CSP or a CSP and a SME. In most cases, only a single escalation was necessary (54% of calls). Another 8.5% of callers had their calls escalated twice. Calls escalated more than three time were rare, although there were 69 instances (< 1% of calls). The las three columns list the total number of calls and average number of escalations by division.

Table C3 DCS Phone Center Escalations for Survey Sample

Escalations	Frequency	Percent	Cumulative	Division	Calls	Average No. of Escalations
0	2,405	34.54	34.54	DCS	2,296	0.02
1	3,772	54.17	88.71	DDL	2,515	1.21
2	594	8.53	97.24	MRB	49	1.10
3	123	1.77	99.01	DMC	1,372	1.13

4	46	0.66	99.67	DMVL	631	1.33
5	10	0.14	99.81	Based on customer call transfers in the HEAT system.		
6	8	0.11	99.93			
7	4	0.06	99.99			
9	1	0.01	100.00			
Total	6,963	100.00				

Another demographic characteristic available for most calls was customer age. Figure C6 captures the distribution of caller ages, which ranged from 16 to 94 (median = 49.4), and exhibits a roughly normal distribution.
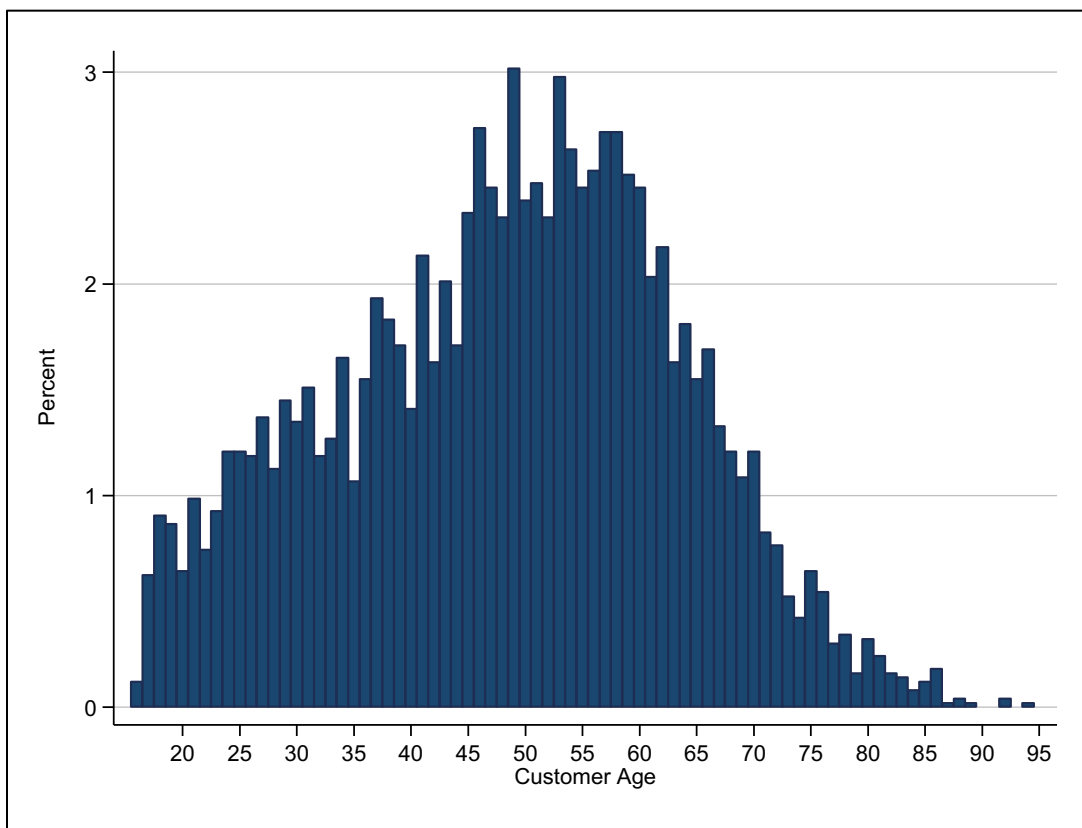
Figure C6 Age Distribution of DCS Phone Survey Respondents

Duration is another characteristic that was included in our statistical models. Call duration is the amount of time from the start of the connection until the respondent, CSP, or SME terminated the call. Table C4 shows the distribution of the call duration for the sample. Numbers are reported in minutes and rounded to the nearest tenth. For example, 3.5 equals 3 minutes, 30 seconds. The shortest column denotes the shortest call in that percentile range; the longest column denotes the longest call in the percentile range. The median and mean call length are similar — 9.1 minutes and 10 minutes, respectively. There is some positive skew due to outlier calls. The shortest call was one minute, 24 seconds; the longest was 59 minutes, 42 seconds. The overwhelming majority of calls (90%) lasted 16 minutes or less, but the remaining 10 percent tended to be significantly longer.

Table C4 DCS Survey Respondent Call Duration Distribution and Summary Statistics

Percentiles	Minutes	Shortest	Other Metrics	
1%	3.5	1.4		
5%	4.3	2.3		

10%	4.9	2.4	Observations			6,963
25%	6.4	2.5	Sum of Wgt			6,963
Median						
50%	9.1		Mean			10.00
Percentiles	**Minutes**	**Longest**				
75%	12.2	41.6				
90%	16.0	43.8	Variance			24.2
95%	19.0	44.5	Skewness			1.8
99%	27.1	59.7	Kurtosis			9.1

Using available data, the research team created several statistical models to understand the relationship between call dynamics and overall customer satisfaction. For these models, the dependent variable was overall satisfaction. There were two sets of models. The first set looks at all of the survey responses where there are complete data for every variable. The second set looks at all of the survey responses where the customer was an individual (i.e., not a business or agency). This split was necessary because the age variable was only applicable to individuals. Several specifications were created for each set of variables. Different specifications were created to account for division, branch, and section effects. A long-form model includes coefficients for all dummy variables for each division, branch, and section. This approach had some advantages, particularly at the division level as it isolated effects of a particular division resolving a call. However, many of the branches and sections were omitted from the model due to high levels of collinearity. The results are also difficult to report in a concise table (Table C5). The shorter specifications had the advantage of being easier to internalize, even though some specific coefficients are missing. Long-form regressions are included in the next subsection.

Table C5 Regression of Call Attributes and Overall Customer Satisfaction (Entire Sample)

Dependent Variable: Overall Satisfaction (1 through 5)	**(1)**	**(2)**	**(3)**	**(4)**	**(5)**	**(6)**
No. escalations	-0.55	-0.56	-0.64	-0.56	-0.57	-0.64
	(0.07)***	(0.07)***	(0.07)***	(0.07)***	(0.07)***	(0.08)***
No. escalations sq.	0.06	0.06	0.08	0.06	0.06	0.08
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
Call duration (minutes)	-0.06	-0.06	-0.06	-0.05	-0.05	-0.05
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
Call duration sq.	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***
Percent of call on hold	-0.16	-0.17	-0.13	-0.15	-0.17	-0.12
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Individual	-0.07	-0.06	-0.06	0.05	0.05	0.02
	(0.04)	(0.04)	(0.04)	(0.07)	(0.07)	(0.07)
Completed survey	0.68	0.67	0.67	0.68	0.67	0.67
	(0.08)***	(0.08)***	(0.08)***	(0.08)***	(0.08)***	(0.08)***
No. escalations X individual				0.01	0.00	0.01
				(0.05)	(0.05)	(0.05)
Call duration X individual				-0.01	-0.01	-0.01
				(0.01)*	(0.01)*	(0.01)

Division Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
Branch Fixed Effects	No	Yes	Yes	No	Yes	Yes
Section Fixed Effects	No	No	Yes	No	No	Yes
N	6,912	6,910	6,906	6,912	6,910	6,906
Standard errors are in parenthesis. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively. Standard errors are heteroscedastic robust.						

Table C5 displays six specifications for all calls in the DCS Phone Center sample with various combinations of fixed effects. Variables include the number of escalations, number of escalations squared, call duration, call duration squared, percent of the call spent on hold, whether the customer was an individual or business, and whether the customer completed the entire phone survey. Specifications 4-6 contain two interaction terms where the number of escalations and call duration is interacted with the customer type. Here we were interested in ascertaining whether individual customers were more likely to be dissatisfied than business customers. Employees of a business calling the DCS Phone Center are getting compensated to call the customer service agency, whereas individuals are usually making these calls on their own time.

In every model, number of escalations has a statistically significant and negative effect on customer satisfaction. With each call escalation, customer satisfaction drops more than half a point in each specification. The squared term was included to see whether the relationship was linear or nonlinear. Put another way, we wanted to see whether a negative slope explained predictions for each value of X (i.e. the number of escalations), or whether at some point the predictions shifted. The square term was positive and significant, which means the relationship was non-linear (see Figure 8 in Chapter 5).

Table C5 contains other findings of interest, but based on the magnitude of the coefficient size, no other factor has as much impact as call escalation. Call duration is negative and significant, whereas call duration squared is positive and significant. Call duration takes on the same non-linear form as call escalations, but in practical terms the magnitude of the effect is much smaller than escalations. Percent of call on hold and individual were not significant predictors of satisfaction. All else being equal, individuals were no more or less happy than businesses once we controlled for other factors. Another interesting finding is that individuals who completed the entire phone survey were happier than those who partially completed the survey. Expectations were that unhappy customers would be more likely to complete the survey, but the reverse was true. DVR administrators need to be cognizant of the fact that there is some positive skew in the data because satisfied customers were more motivated to take the survey than unsatisfied customers.

The long-form version in Section C.1.8.1 for all calls has some interesting information as well. The specific division, branch, and section data allows one to see which organizational units are more effective at resolving issues. This has some value at the division level in particular. For each of these categories, there is one excluded category (excluded for purposes of collinearity), and a coefficient enumerating the effect of each other category is displayed. In this instance, the excluded category is the DCS. In this specification, the DCS acts as a baseline, and all other divisions can be compared with it. For example, in Specification (1), customers have a satisfaction level that is .34 higher relative to the DCS baseline. There is a positive, significant effect for the DDL and DMC in each of the six models relative to DCS. In other words, if we hold all other call effects constant, customers tend to be happier if the resolving agent is DDL or DMC rather than DCS. In reality, that is hard to duplicate, because we cannot randomly assign call length and issue complexity to customers. Essentially, the model is saying that higher ratings for DCS in the raw numbers is an artifact of the types of calls they resolve – not the service they provide in and of itself. There is no significant relationship for the Medical Review Board or DMVL. Unfortunately, the branch and section effects are difficult to quantify due to high levels of collinearity, and several branches and sections are dropped from the model in the specifications, including those fixed effects.

Next, the research team created six specifications for individual callers only. Results are shown in Table C6. The number of observations drops from about 6,900 (depending on the specification) to about 4,900. due to the elimination of the business customers and individual customers for whom age data were unavailable. All of the findings from the full survey data hold – escalations have a negative impact on most customer satisfaction evaluations (excepting unique

circumstances where there are several escalations). A similar trend for call duration holds up as well, although again based on the size of the coefficients the magnitude of the effect is much smaller than for escalations. Percent of call spent on hold has no significant relationship with overall satisfaction. Individuals who completed the survey tended to be happier than individuals who did not — the same as for the full survey. The primary variable of interest in the model is customer age. The model includes both age and age squared to ascertain whether a linear or nonlinear relationship best explains the relationship between age and customer satisfaction. There is no statistically significant relationship between age and customer satisfaction. Even if there were a statistically significant finding, the magnitude of the coefficient suggests any relationship would be nominal. The long-form specification in Section C.1.8.1 for the individual includes the coefficients for divisions, as well as selected branches and sections not omitted because of collinearity issues. For individuals, there is a positive, significant relationship between customer satisfaction and issues resolved by either DDL or DMVL. Results are not significant for DMC or MRB.

Table C6 Regression of Call Attributes and Overall Customer Satisfaction (Individuals Only)

Dependent Variable: Overall Satisfaction (1 through 5)	(1)	(2)	(3)	(4)	(5)	(6)
No. escalations	-0.64	-0.66	-0.65	-0.64	-0.66	-0.66
	(0.09)***	(0.09)***	(0.09)***	(0.09)***	(0.09)***	(0.09)***
No. escalations sq.	0.08	0.08	0.08	0.08	0.08	0.08
	(0.02)***	(0.02)***	(0.01)***	(0.02)***	(0.02)***	(0.02)***
Call duration (minutes)	-0.11	-0.11	-0.11	-0.11	-0.11	-0.10
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
Call duration sq.	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***
Percent of call on hold	0.11	0.09	0.10	0.11	0.08	0.10
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
Completed survey	0.82	0.80	0.80	0.82	0.80	0.81
	(0.10)***	(0.10)***	(0.10)***	(0.10)***	(0.10)***	(0.10)***
Caller age				0.01	0.01	0.01
				(0.01)	(0.01)	(0.01)
Age sq.				-0.00	-0.00	-0.00
				(0.00)	(0.00)	(0.00)
Division	Yes	Yes	Yes	Yes	Yes	Yes
Branch	No	Yes	Yes	No	Yes	Yes
Section	No	No	Yes	No	No	Yes
N	4,901	4,901	4,898	4,901	4,901	4,898

Standard errors are in parenthesis. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively. Standard errors are heteroscedastic robust. Sample is limited to observations where customer age is non-missing.

C.1.8.1 Long-Form Regressions
This section provides parameters for the long-form regressions highlighted in the previous section.

Table C7 Long-Form Regression of Call Attributes and Overall Customer Satisfaction (All)

Dependent Variable: Overall Satisfaction (1 through 5)	(1)	(2)	(3)	(4)	(5)	(6)
No. escalations	-0.55	-0.56	-0.64	-0.56	-0.57	-0.64
	(0.07)***	(0.07)***	(0.07)***	(0.07)***	(0.07)***	(0.08)***
No. escalations sq.	0.06	0.06	0.08	0.06	0.06	0.08
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
Call duration (minutes)	-0.06	-0.06	-0.06	-0.05	-0.05	-0.05
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
Call duration sq.	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***
Percent of call on hold	-0.16	-0.17	-0.13	-0.15	-0.17	-0.12
	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)	(0.12)
Individual	-0.07	-0.06	-0.06	0.05	0.05	0.02
	(0.04)	(0.04)	(0.04)	(0.07)	(0.07)	(0.07)
Completed survey	0.68	0.67	0.67	0.68	0.67	0.67
	(0.08)***	(0.08)***	(0.08)***	(0.08)***	(0.08)***	(0.08)***
No. escalations X individual				0.01	0.00	0.01
				(0.05)	(0.05)	(0.05)
Call duration X individual				-0.01	-0.01	-0.01
				(0.01)*	(0.01)*	(0.01)
Driver Licensing	0.34	0.36	0.45	0.35	0.38	0.45
	(0.07)***	(0.10)***	(0.10)***	(0.07)***	(0.10)***	(0.10)***
Medical Review Board	0.11	0.12	0.18	0.11	0.12	0.17
	(0.41)	(0.41)	(0.41)	(0.41)	(0.41)	(0.41)
Motor Carriers	0.20	0.16	0.25	0.20	0.15	0.24
	(0.08)***	(0.09)*	(0.09)**	(0.08)***	(0.09)*	(0.10)**
Motor Vehicle Licensing	0.07	0.05	0.12	0.09	0.06	0.13
	(0.08)	(0.11)	(0.13)	(0.09)	(0.11)	(0.13)
Court Records / CDL Management Branch		0.06	0.04		0.05	0.04
		(0.08)	(0.08)		(0.08)	(0.08)
Driver Education / Records Branch		-0.17	0.04		-0.17	0.04
		(0.09)*	(0.12)		(0.09)*	(0.12)
Licensing and Registration Branch		0.29	-1.93		0.31	-1.92
		(0.10)***	(0.47)***		(0.10)***	(0.47)***
Qualifications and Permits Branch		0.06	-0.29		0.07	-0.27

		(0.07)	(0.12)**		(0.07)	(0.12)**
Registration Branch		0.06	-0.03		0.06	-0.02
		(0.11)	(0.22)		(0.11)	(0.22)
Court Records Section			0.27			0.28
			(0.09)***			(0.09)***
Credentials Section			0.49			0.47
			(0.12)***			(0.13)***
Driver Education Support Section			-0.24			-0.25
			(0.11)**			(0.11)**
Financial Processing Section			-2.77			-2.69
			(0.22)***			(0.29)***
IRP Section			2.24			2.24
			(0.48)***			(0.48)***
Program Assistance Section			0.34			0.34
			(0.22)			(0.22)
Rebuilt Support Section			-0.00			-0.01
			(0.22)			(0.22)
Receiving Section			-3.05			-3.06
			(0.10)***			(0.10)***
Records Management Support Section			0.16			0.15
			(0.17)			(0.17)
Records Verification Section			-0.40			-0.40
			(0.29)			(0.29)
Team Alpha			0.03			0.03
			(0.04)			(0.04)
N	6,912	6,910	6,906	6,912	6,910	6,906

Standard errors are in parenthesis. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively. Standard errors are heteroscedastic robust.

Table C8 Long-Form Regression of Call Attributes and Overall Customer Satisfaction (Ind.)

Dependent Variable: Overall Satisfaction (1 through 5)	(1)	(2)	(3)	(4)	(5)	(6)
No. escalations	-0.64	-0.66	-0.65	-0.64	-0.66	-0.66
	(0.09)***	(0.09)***	(0.09)***	(0.09)***	(0.09)***	(0.09)***
No. escalations sq.	0.08	0.08	0.08	0.08	0.08	0.08
	(0.02)***	(0.02)***	(0.01)***	(0.02)***	(0.02)***	(0.02)***
Call duration (minutes)	-0.11	-0.11	-0.11	-0.11	-0.11	-0.10
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
Call duration sq.	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***
Caller age				0.01	0.01	0.01
				(0.01)	(0.01)	(0.01)
Age sq.				-0.00	-0.00	-0.00
				(0.00)	(0.00)	(0.00)
Driver Licensing	0.51	0.55	0.56	0.51	0.54	0.56
	(0.09)***	(0.11)***	(0.11)***	(0.09)***	(0.11)***	(0.11)***
Medical Review Board	0.17	0.19	0.20	0.18	0.21	0.22
	(0.47)	(0.47)	(0.47)	(0.47)	(0.47)	(0.47)
Motor Carriers	0.33	-0.24	-0.23	0.33	-0.21	-0.20
	(0.20)	(0.49)	(0.49)	(0.20)	(0.49)	(0.50)
Motor Vehicle Licensing	0.28	0.30	0.28	0.28	0.30	0.29
	(0.11)***	(0.13)**	(0.15)*	(0.11)***	(0.13)**	(0.15)**
Percent of call on hold	0.11	0.09	0.10	0.11	0.08	0.10
	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)	(0.13)
Completed survey	0.82	0.80	0.80	0.82	0.80	0.81
	(0.10)***	(0.10)***	(0.10)***	(0.10)***	(0.10)***	(0.10)***
Court Records / CDL Management Branch		0.05	0.03		0.07	0.04
		(0.08)	(0.08)		(0.08)	(0.08)
Driver Education / Records Branch		-0.18	0.01		-0.17	0.01
		(0.09)**	(0.12)		(0.09)**	(0.12)
Licensing and Registration Branch		0.92	0.92		0.89	0.89
		(0.53)*	(0.53)*		(0.53)*	(0.53)*
Qualifications and Permits Branch		0.45	0.12		0.41	0.10
		(0.56)	(0.69)		(0.57)	(0.69)
Registration Branch		-0.01	-0.17		-0.01	-0.17

		(0.12)	(0.25)		(0.12)	(0.25)
Court Records Section			0.28			0.26
			(0.09)***			(0.09)***
Credentials Section			0.53			0.51
			(0.61)			(0.61)
Driver Education Support Section			-0.22			-0.22
			(0.11)**			(0.11)**
Program Assistance Section			0.45			0.45
			(0.26)*			(0.26)*
Rebuilt Support Section			0.10			0.10
			(0.25)			(0.25)
Receiving Section			-3.09			-3.10
			(0.11)***			(0.11)***
Records Management Support Section			0.20			0.21
			(0.20)			(0.20)
Records Verification Section			-0.28			-0.29
			(0.30)			(0.30)
Team Alpha			0.02			0.02
			(0.04)			(0.04)
N	4,901	4,901	4,898	4,901	4,901	4,898

Standard errors are in parenthesis. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively. Standard errors are heteroscedastic robust. Sample is limited to observations where customer age is non-missing.

C.2 Baseline Survey —Open-Ended Questions

This section presents supplemental information on the baseline survey's open-ended questions. The high-level narratives in Chapter 5 focused on the most notable findings, whereas the tables below offer more detailed insights into how we coded the survey responses.

C.2.1 DriveKY — Unasked Questions

Survey respondents were asked if the survey lacked questions that should have been posed. Thematic coding for this question is summarized in Table C9.

Table C9 DriveKY — Unasked Questions

Theme	Frequency
The site is helpful	18
Service Fees	8
Cannot get response to phone call or email	8
Suggestion or requested service	7
Customer service related	6
Difficulty navigating the system	7

Site down	4
Issues with specific feature	2

C.2.2 DriveKY — Additional Services

Survey respondents were asked to recommend additional services that should be included on the site. Thematic coding for this question is summarized in Table C10.

Table C10 DriveKY— Recommended Services

Theme	Frequency
Suggestions or request for additional service	17
Difficulty navigating site	4
Service fees	4

C.2.3 MCP — Unasked Questions

Survey respondents were asked if the survey lacked questions that should have been posed. Thematic coding for this question is summarized in Table C11.

Table C11 MCP — Unasked Questions

Theme	Frequency
Difficulty navigating the site	28
The site is helpful	19
Cannot get response to phone call or email	17
Customer service related	15
Suggestions or requested services	9

C.2.4 MCP — Other Issues

Survey respondents were asked if they had other issues they wanted to address. Thematic coding for this question is summarized in Table C12.

Table C12 MCP — Other Issues to Address

Theme	Frequency
Cannot get response to phone call or email	16
Issues with specific features	10
Suggestions or requested services	9
Difficulty navigating the site	4
Service fees	2

Appendix D Online Vehicle Registration Renewal Survey Supplemental Materials

This section contains additional materials that pair with Chapter 6, including the survey questions and figures.

D.1 Online Vehicle Registration Renewal Survey Questions
The survey included 10 questions, eight of which were multiple choice and (final) two that were open ended:

1. Overall, how satisfied or dissatisfied are you with Kentucky's online vehicle registration renewal system?

2. How easy or difficult is it to use the online vehicle registration renewal system?

3. Were you able to complete the online registration process for all vehicles you intended to renew?

4. How many times have you used the online vehicle registration renewal system during the last year?

5. Which of the following would be your most preferred method when renewing a vehicle registration?

6. Was it worth paying the processing fees you were charged today in exchange for not having to renew your vehicle at the local county clerk's office?

7. What is the primary intended use for the vehicle(s) you registered using the online renewal system? (Click all that apply)

8. Please indicate the county where your vehicle is registered.

9. Would you like to report any difficulties with the online registration renewal process? If so, please explain.

10. Are there any online services you would like to see added in addition to the online registration renewal tool? If so, please explain.

D.2 Supplemental Figures (Cross Tabulations)
The write-ups and tables in Chapter 6 focused on a high-level account of survey responses. For each question we also developed cross tabulations which related responses to overall satisfaction, which are captured in the figures that follow. Taking Figure D1 as an example, which addresses the relationship between overall satisfaction and ease of use, responses for ease of use are located on the y-axis, while levels of satisfaction are indicated on the x-axis. Level of satisfaction is denoted with different shadings. So, in this case 85.1% of respondents who were very satisfied found the online vehicle registration renewal very easy to use (represented by the dark green shading on the bar). All figures are interpreted in the same manner.
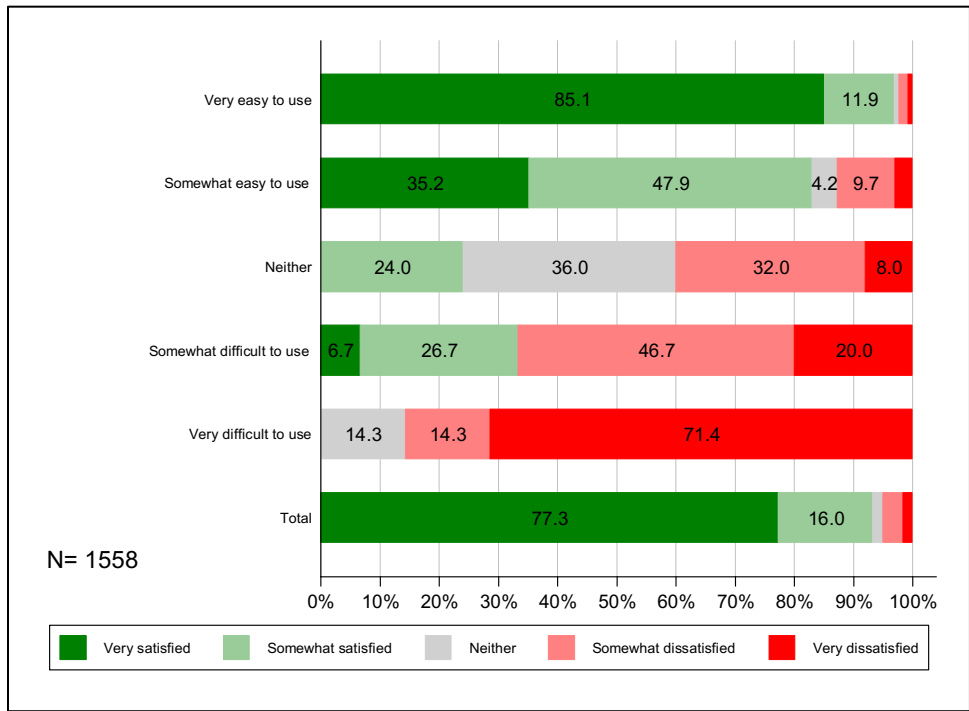
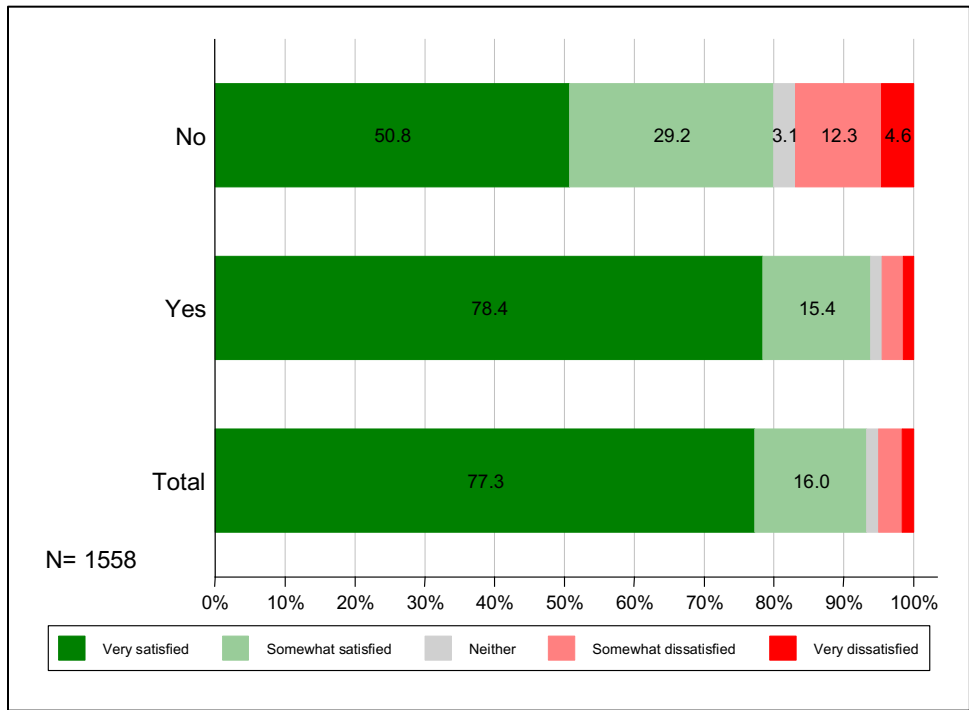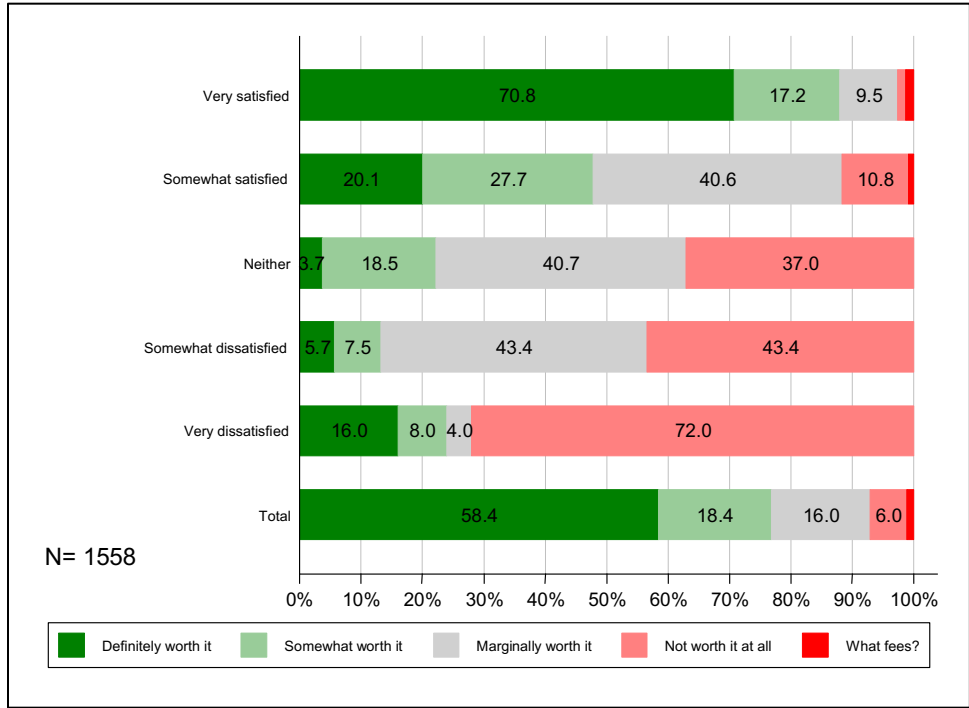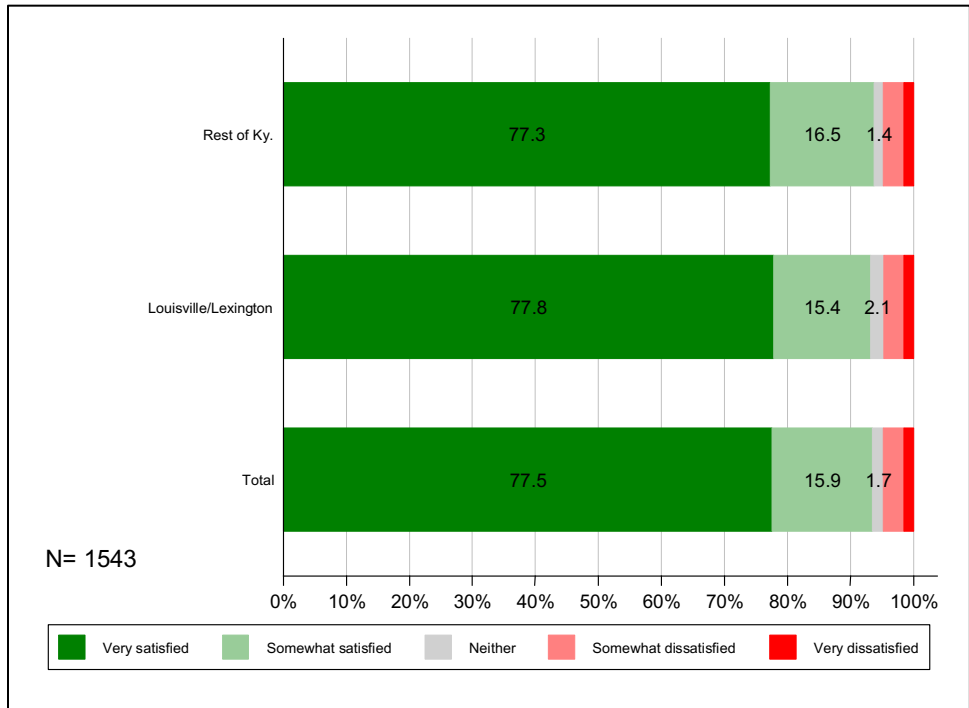**Figure D1** Overall Satisfaction x Ease of Use

Figure D2 Overall Satisfaction x Completion Status of Transaction

Figure D3 Overall Satisfaction x Value of Fee

Figure D4 Overall Satisfaction x Location

D.3 Survey Participants By County

Table D1 lists the number of survey respondents in each county along with cumulative percentages.

County	Frequency	Percent	Cumulative Percentage
Allen	2	0.13	0.13
Anderson	3	0.19	0.32
Barren	4	0.26	0.58
Bell	1	0.06	0.65
Boone	99	6.42	7.06
Bourbon	3	0.19	7.26
Boyd	4	0.26	7.52
Boyle	2	0.13	7.65
Bullitt	38	2.46	10.11
Butler	1	0.06	10.17
Calloway	7	0.45	10.63
Campbell	45	2.92	13.55
Carroll	2	0.13	13.67
Carter	1	0.06	13.74
Casey	2	0.13	13.87
Christian	8	0.52	14.39
Clark	8	0.52	14.91
Clinton	1	0.06	14.97
Daviess	35	2.27	17.24
Fayette	369	23.91	41.15
Floyd	2	0.13	41.28
Franklin	13	0.84	42.13
Garrard	6	0.39	42.51
Grant	5	0.32	42.84
Graves	5	0.32	43.16
Grayson	2	0.13	43.29
Greenup	5	0.32	43.62
Hancock	3	0.19	43.81
Hardin	34	2.2	46.01
Harlan	1	0.06	46.08
Harrison	4	0.26	46.34
Hart	1	0.06	46.4
Henderson	5	0.32	46.73
Henry	3	0.19	46.92
Hopkins	8	0.52	47.44
Jefferson	409	26.51	73.95
Jessamine	19	1.23	75.18

Johnson	1	0.06	75.24
Kenton	121	7.84	83.08
Knox	2	0.13	83.21
Larue	1	0.06	83.28
Laurel	12	0.78	84.06
Letcher	2	0.13	84.19
Lincoln	3	0.19	84.38
Logan	3	0.19	84.58
Lyon	2	0.13	84.71
Madison	24	1.56	86.26
Marion	2	0.13	86.39
Marshall	4	0.26	86.65
Mason	2	0.13	86.78
Mccracken	16	1.04	87.82
Meade	8	0.52	88.33
Mercer	1	0.06	88.4
Monroe	1	0.06	88.46
Montgomery	6	0.39	88.85
Muhlenberg	1	0.06	88.92
Nelson	7	0.45	89.37
Ohio	1	0.06	89.44
Oldham	20	1.3	90.73
Owen	3	0.19	90.93
Pendleton	1	0.06	90.99
Pike	11	0.71	91.7
Pulaski	9	0.58	92.29
Rowan	3	0.19	92.48
Scott	24	1.56	94.04
Shelby	8	0.52	94.56
Simpson	2	0.13	94.69
Spencer	3	0.19	94.88
Taylor	3	0.19	95.07
Trigg	1	0.06	95.14
Trimble	1	0.06	95.2
Union	4	0.26	95.46
Warren	55	3.56	99.03
Washington	4	0.26	99.29
Wayne	1	0.06	99.35
Webster	2	0.13	99.48
Whitley	1	0.06	99.55

|			
Woodford	7	0.45	100
Total	**1,543**	**100**	

Appendix E Rebaseline Survey Supplemental Materials

Material in this appendix complements the discussion in Chapter 8. Like other appendices, the focus is on presenting figures and charts to supplement discussions in the main text.

E.1 Rebaseline Survey — Mean Overall Satisfaction by Survey Mode

Figure E1 plots the mean customer satisfaction for rebaseline respondents on a five-point scale. Red diamonds symbolize the mean, and the blue bars are the 95 percent confidence intervals. The confidence intervals are smaller for DCS Phone and MCP surveys because there were more respondents.
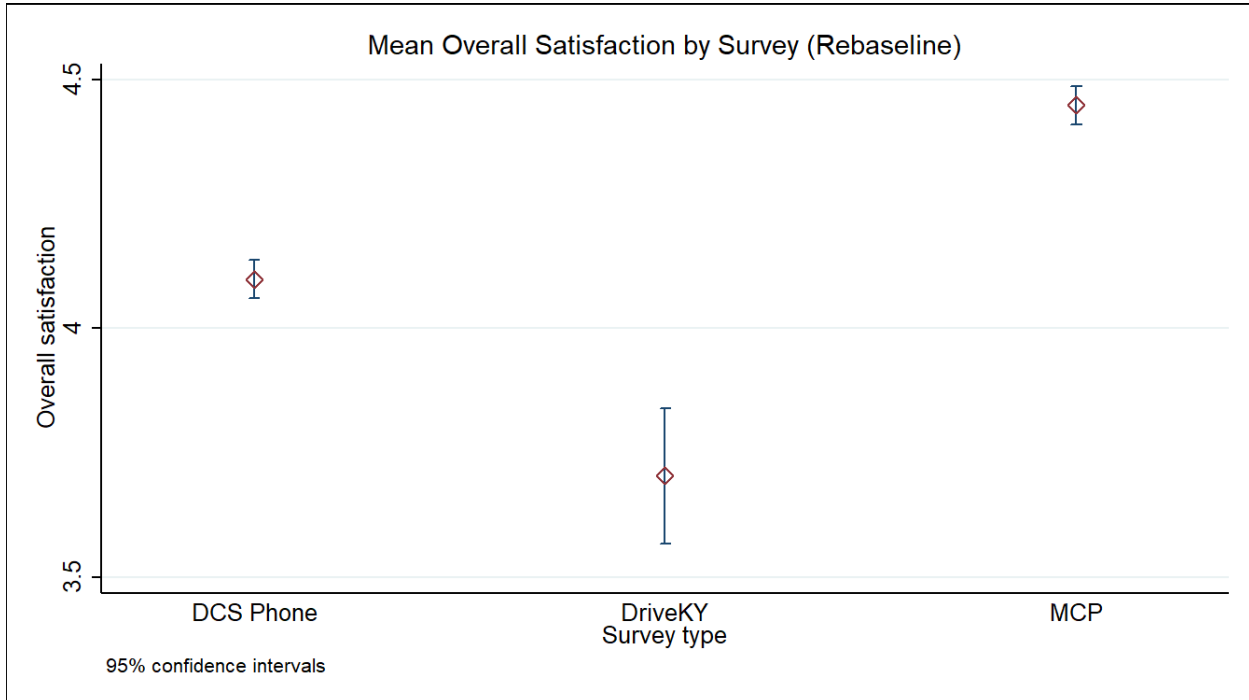
Figure E1 Mean Customer Satisfaction by Survey Mode (Rebaseline Survey)

E.2 Statistical Modeling for Rebaseline Survey

As with the baseline survey, we developed multiple statistical models to understand the influences on customer satisfaction. The most useful models are those examining call characteristics, respondent characteristics, and the division resolving the customer's issue or need. These models include as independent variables the number of escalations, the number of escalations squared, call duration, call duration squared, percentage of the call queued (or on hold), whether or not the respondent is an individual, and whether the respondent answered every question of the phone survey. They also include interaction terms between respondent type (individual or business) and call escalations (or transfers) and respondent type and call minutes. In addition, the models include the resolving division. Table D1 provides all six model specifications. Models 1 and 2 are of all survey responses; Models 3 and 4 are of baseline responses; and Models 5 and 6 are of rebaseline responses. Two models were created for each survey. The primary difference between the two models comprising each set is that there are two interaction terms — individual x escalation count and individual x call minutes. Interaction terms were included to determine whether individuals are more likely to be influenced by call escalation or duration.

Table E1 Regression Models for DCS Phone Survey

	All		Baseline		Rebaseline	
Independent Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
No. escalations	-0.49	-0.46	-0.55	-0.56	-0.41	-0.35

	(0.06)***	(0.06)***	(0.07)***	(0.07)***	(0.09)***	(0.09)***
No. escalations squared	0.05	0.05	0.06	0.06	0.04	0.04
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
Call duration (minutes)	-0.04	-0.03	-0.06	-0.05	-0.04	-0.02
	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***	(0.01)***
Call duration squared	0.00	0.00	0.00	0.00	0.00	0.00
	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***	(0.00)***
Percent of call on hold	-0.18	-0.17	-0.16	-0.15	0.09	0.09
	(0.07)***	(0.07)**	(0.12)	(0.12)	(0.11)	(0.11)
Individual	0.02	0.17	-0.07	0.05	0.10	0.43
	-0.04	(0.05)***	-0.04	-0.07	(0.06)*	(0.10)***
Completed survey	0.75	0.75	0.68	0.68	0.81	0.80
	(0.06)***	(0.06)***	(0.08)***	(0.08)***	(0.09)***	(0.09)***
Driver Licensing	0.32	0.35	0.34	0.35	0.34	0.38
	(0.06)***	(0.06)***	(0.07)***	(0.07)***	(0.10)***	(0.10)***
Medical Review Board	0.10	0.13	0.11	0.11	0.11	0.14
	(0.13)	(0.14)	(0.41)	(0.41)	(0.15)	(0.16)
Motor Carriers	0.23	0.21	0.20	0.20	0.28	0.21
	(0.07)***	(0.07)***	(0.08)***	(0.08)***	(0.11)**	(0.11)*
Motor Vehicle Licensing	0.08	0.11	0.07	0.09	0.12	0.17
	(0.07)	(0.07)	(0.08)	(0.09)	(0.13)	(0.13)
Individual x escalation count		-0.06		0.01		-0.09
		(0.04)		(0.05)		(0.07)
Individual x call minutes		-0.01		-0.01		-0.02
		(0.00)***		(0.01)*		(0.01)***
N	11,643	11,643	6,912	6,912	4,731	4,731
Standard errors are in parenthesis. *, **, *** indicate statistical significance at the 10 percent, 5 percent, and 1 percent levels, respectively. Standard errors are heteroscedastic robust.						

The number of call escalations is probably the most important explanatory variable, with a large coefficient that is consistent across all six models. The implication is that a call transfer impacts customer satisfaction between one-third of a point (Model 6) and more than half a point (Model 3 and 4). Call transfers were slightly more impactful during the baseline survey than the rebaseline survey. The squared term indicates that at a certain point, multiple transfers push the predicted satisfaction upwards (see Figure 13 in Chapter 8), although this is implausible. Call duration is negatively related to customer satisfaction, though the impact is quite slight compared to call escalation. The positive squared term means the model predicts satisfaction might go up after a certain point, but this is most certainly an instance of rare outliers (i.e. unusually long phone calls) with high confidence intervals, or high degrees of uncertainty. For most calls, duration will drag down customer satisfaction.

We were also interested in whether certain customers — individuals or businesses — had different appraisals of DVR customer service after statistically controlling for other factors. In the baseline survey, there was no significant difference between individuals and businesses. However, this changed in the rebaseline survey. Individual respondents reported being more satisfied with customer service during the rebaseline survey than business respondents. The coefficient is sizable in Model 6, which may partially be an artifact of interaction term at the bottom. Mean satisfaction dropped for both businesses and individuals between the baseline and rebaseline survey, but satisfaction among

businesses dropped much more sharply, and a divergence in satisfaction between businesses and individuals is present that was not during the prior survey.

The largest positive coefficient in the model was the completed survey variable, meaning that the individual completed the survey by answering all questions posed by the automated phone system. Most researchers and SAC members expected that dissatisfied individuals were more disposed to provide feedback, but in terms of answering questions for the phone surveys it appears the opposite is true. Those who answered additional questions about employee efficiency, knowledge, getting needed information, and problem resolution were much happier with the customer service they received than those who terminated the survey prior to answering every question.

The next four variables are DVR's different divisions. These are categorical variables, and the coefficients are interpreted relative to the baseline category, which for these models is DCS. Each set of coefficients is positive or negative relative to the predicted values for DCS. DDL has the largest positive coefficient, which is statistically significant in all six models and is indicative of high levels of satisfaction with that division. The Medical Review Board does not receive many calls, so there was no statistically meaningful outcome to report for that division. The Division of Motor Carriers also has a statistically significant, positive coefficient of a substantial magnitude. All else being equal, individuals who get calls resolved by DDL and DMC are approximately score one-fourth and one-third of a point higher on customer satisfaction, respectively. There is a positive coefficient for DMVL, but it is not statistically significant in any of models. As DCS relies on largely temporary CSPs with limited experience, it is not surprising that SMEs in the other divisions are able to resolve customer issues to their satisfaction. The interaction terms for individuals and escalations and individuals and call length were included to gage whether individuals were more sensitive to these call characteristics than business customers. The interaction terms provide little evidence this is the case.