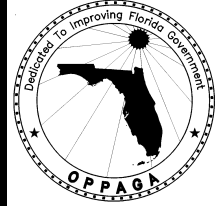




Office of Program Policy Analysis And Government Accountability



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Review of the Use of Information Technology Within the Department of Highway Safety and Motor Vehicles

Report Abstract

- The Department's reliance on labor-intensive business processes and outdated information technology systems has contributed to customer service problems.
- The Department acknowledges the need to address these problems and has initiated a number of information technology-related projects to improve customer service and reduce costs.
- The Department should examine the potential benefits and costs associated with electronic document management systems and related office automation technologies.

Purpose of Review

The Joint Legislative Auditing Committee requested our Office to examine the use of information technology within the Department of Highway Safety and Motor Vehicles (DHSMV). We focused our study on the Department's motor vehicle titling and registration processes. Specifically, we examined how the Department could use information technology to improve customer services and reduce costs.

Background

Motor vehicle titling and registration are two primary functions of DHSMV. Titles provide proof of ownership for motor vehicles and protect consumers and financial institutions against fraud. Annual registration authorizes persons to use vehicles on the

state's roads and provides critical information for local, state and national law enforcement agencies. Both of these functions rely heavily on information technology.

Motor Vehicle Titling

There are three primary points of entry for title applications.¹ First, most title transactions are initiated through county tax collectors, the statutorily authorized agents of DHSMV (in some counties, tax collectors have designated private firms to serve as agents for this process). Tax collector staff review the application and input data into the Florida Real-Time Vehicle Information System (FRVIS). This system provides on-line computer access to the Department's motor vehicle database. Tax collector staff electronically transfer the application to DHSMV where, if no errors are detected, the title certificate is mailed to the applicant. Most title transactions that are processed by tax collectors and electronically transferred to DHSMV involve new vehicles and title transfers. In fiscal year 1995-96, approximately 3.8 million title applications were issued through the electronic transfer process.

Second, most complex title transactions (repossessions, rebuilt vehicles, vehicles with mechanic liens, etc.) are not processed by tax collectors. Instead, the tax collector accepts the application from the applicant, enters information into FRVIS, and mails the application to DHSMV's Tallahassee headquarters for additional processing. DHSMV staff then review the application and supporting documentation, check the motor vehicle database for discrepancies, and mail title certificates to the applicants. The Department refers to this review process as regular or miscellaneous title service. In fiscal year 1995-96, about 400,000

¹ Applicants also have the option of using the walk-in service center located in the Department's Tallahassee headquarters. Because of the limited number of applications submitted through this office, we did not include the operations of this office within the review.

applications were mailed to Tallahassee for processing by the Department.

Finally, applicants may submit their title application directly to DHSMV's Fast Title section for expedited processing. Section 319.323, F.S., provides that Fast Title applications must be processed within five days of receipt. In this review process, DHSMV staff complete the paperwork, enter data into the motor vehicle database, and mail title certificates to applicants. During fiscal year 1995-96, about 320,000 title applications were processed through the Fast Title process.

Motor Vehicle Registration

The Department's role in motor vehicle registration is largely limited to maintaining data and distributing license plates and decals to county tax collectors. Persons applying for vehicle registrations submit the required information to their local tax collectors' office. Initial registrations must be done in person, while registration renewals may be submitted in person or by mail. Tax collector staff input data on the motor vehicle and owner into FRVIS and issue a license plate or renewal decal. The Department is responsible for updating and maintaining the motor vehicle database. During fiscal year 1995-96, approximately 12.6 million vehicle registrations were issued.

Titling and Registration Fees

Titling and registration fees provide a significant state revenue source. In fiscal year 1995-96, title and registration fees generated \$826 million in state revenue. DHSMV's costs for administering the titling and registration programs were approximately \$22.3 million in fiscal year 1995-96. Applicants pay a base fee of \$24 for original or duplicate titles. The Department charges an additional \$7 fee if an applicant requests Fast Title service. Annual base registration fees for private automobiles and light trucks range between \$14.50 and \$32.50, depending on vehicle weight, plus various additional fees and service charges. These include a fee of 50 cents per transaction that is dedicated by s. 320.03(5), F.S., to cover the costs of FRVIS and may also be used to fund the general operations of DHSMV. This fee generated \$7.3 million in fiscal year 1995-96. DHSMV also issues specialty license plates for additional fees ranging from \$15 to \$25 a year. Registration fees for commercial motor vehicles vary on the basis of vehicle weight and miles driven in Florida.

Findings

Inefficient business practices and outdated information systems have contributed to customer service problems.

Florida Statutes provide that applicant convenience is to be the first consideration in administering the motor vehicle titling and registration programs. However, we identified several weaknesses that hinder customer service and increase program costs. These problems relate to the Department's reliance on labor-intensive and cumbersome business processes and outdated information technology systems. Specific problems include:

- DHSMV takes five to six weeks to process title applications submitted through regular title service. Title issuance is delayed by time-consuming and repetitious review procedures;
- DHSMV has had difficulty meeting the statutory five-day deadline for processing Fast Title applications. Fragmented and manual processes account for much of the delay in application processing;
- Limitations in FRVIS cause customer service and data integrity problems for tax collectors; and
- Many of the Department's computer systems are approaching obsolescence. In addition, the lack of integration within the Department's computer systems results in duplication of effort.

The Department could address these problems through better use of information technology and business process re-engineering.

Regular Title Service Is Time Consuming and Cumbersome

It takes six times longer for DHSMV to process title applications through its regular title service than applications that are processed through the electronic transfer process. In fiscal year 1995-96, DHSMV handled almost 400,000 title applications through regular title service. During July 1996, the Department required five to six weeks to process applications submitted to regular title service. In comparison, titles were generally issued in five to seven days when the applications were processed through the electronic transfer process. Although some of the delay is attributable to the complexity of the title transactions

handled through regular title service, other factors account for much of the delay in application processing.

First, the Department's regular title review process is labor-intensive and contains numerous holding areas where applications may be delayed pending action. As shown in Exhibit 1, the review process resembles an assembly-line with as many as nine staff members and seven units handling an application. In comparison, business process experts we contacted said that modern business practice is to expedite processing by providing a limited number of staff with the resources and training necessary to complete a series of related tasks. However, the Department should ensure proper segregation of duties is in place to prevent unauthorized transactions. The Department could consolidate and streamline the current application review process without compromising the integrity of its services.

Much of the delay in application processing stems from the large backlog of title applications that are awaiting entry into the examination process. Although highly variable, this backlog may account for more than half of the time required for applications to complete processing. Although the Department has implemented several strategies to better manage the flow of applications into the review process, backlogged applications remain a persistent problem.

The Department also lacks a system that can readily retrieve documents that have been microfilmed and sent to archives. As a result, applications may wait for a week or more if staff need to access a previously submitted document to complete application processing. In addition, there is a large backlog of documents waiting to be microfilmed. For example, in July DHSMV's microfilm section was three months behind in processing new documents.

Fast Title Processing Does Not Meet Statutory Deadline

The Department's Fast Title service has similar workflow problems that delay title processing. The Legislature created this section in 1979 to provide individuals and auto dealers with expedited title service for an additional fee of \$7 per transaction. Section 319.323, F.S., provides that DHSMV must issue titles submitted for expedited processing within five working days. However, during fiscal year 1995-96, DHSMV often did not meet this deadline.

The Fast Title review process relies on fragmented and manual procedures similar to those identified in the regular title service process. As many as ten staff members and eight units may handle an application as it moves through the review process. For example, data

entry, examination, and word processing functions are handled by separate units. Applications must wait in queue between each step, delaying title processing. Although some units have recently acquired personal computers, others continue to rely on mainframe terminals that cannot perform more than one function at a time, thus limiting staff productivity.

To try to meet the five-day deadline, the Department mails title certificates before the applications have undergone a final review by its error correction unit. As a result, some titles may be issued in error, requiring DHSMV to issue a recall letter after the title has been mailed.² Additional work is then required to recover the titles from citizens and resolve these problems. The Department reported that more than 1,700 titles were recalled or canceled during fiscal year 1995-96.


Weaknesses in FRVIS Hinder Tax Collectors Delivery of Services

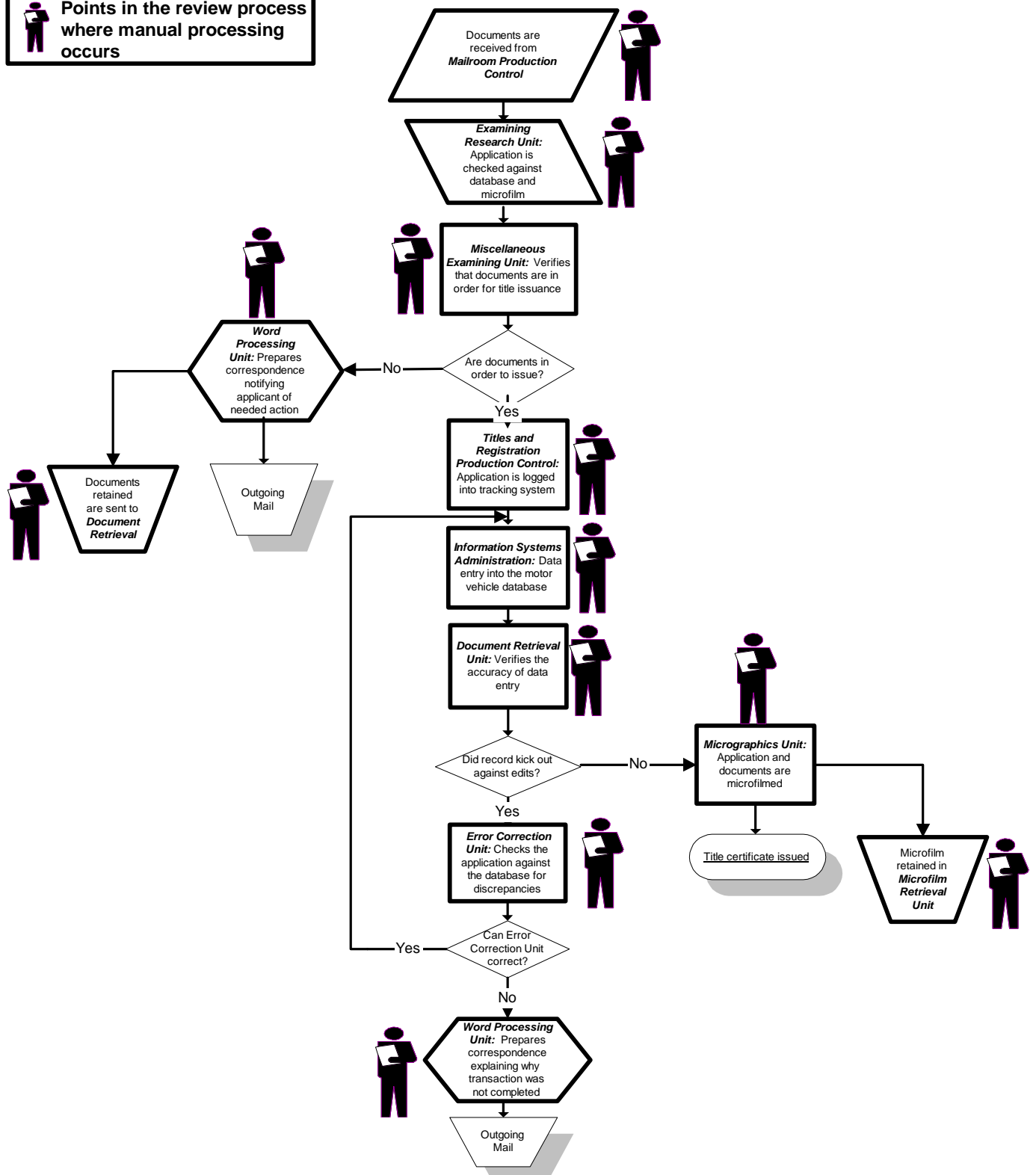
Limitations within DHSMV's information systems also hinder tax collectors' ability to provide timely and accurate services to the public. Specifically, tax collectors said that FRVIS is frequently off-line or inaccessible, lacks needed data retrieval capabilities, and is difficult to learn and operate.

Interruptions in FRVIS service disrupt the processing of titling and registration transactions by tax collector personnel. Although DHSMV managers reported that fewer than 4% of transactions were attempted while FRVIS was off-line, some tax collectors estimated that FRVIS is unavailable for their use up to 15% of their business hours. The difference likely results from equipment problems at the local level as well as at DHSMV. Although most tax collectors can switch to local back-up systems, FRVIS service interruptions cause significant problems. Customer service is slowed because the tax collectors have to key-in information that would be available on-screen if FRVIS were available. One tax collector estimated that loss of on-line access to FRVIS can triple customer waiting time. In addition, the greater need for data entry increases data entry errors, which subsequently delays application processing.

² Title certificates may be canceled or recalled for a variety of reasons. A title certificate may be recalled because the VIN or title number were entered incorrectly. Similarly, a title may be canceled because the certificate was issued without the proper brand (indicating that the vehicle is rebuilt).

Exhibit 1
Regular Title Service Review Process
Processing Title Applications Requires the
Use of Numerous Staff in Different Sections Within the Department

 **Points in the review process where manual processing occurs**



Source: Based on Department of Highway Safety and Motor Vehicles procedures and interviews with Department staff.

Tax collectors also reported that FRVIS does not provide access to information needed to process title and registration transactions. For example, the system does not allow tax collectors to access title history or conduct inquiries by owner name. This hinders tax collectors in obtaining the information needed to quickly complete certain types of transactions. Additionally, tax collector personnel need considerable training in order to efficiently operate FRVIS. One tax collector reported that clerks in his office require almost a year of practical experience to become proficient in using FRVIS.

Database System Is Approaching Obsolescence

Many of the Department's information systems are becoming obsolete and lack important data processing capabilities. The Department's primary database system, acquired in 1979, has been modified many times since its initial implementation. However, the system lacks the capability to perform needed business functions in an efficient manner. For example, the system cannot effectively exchange information between DHSMV's various databases. This limits the Department's ability to perform tasks such as identifying uninsured drivers which require matching the driver license, motor vehicle, and insurance databases.

The current DHSMV database system also requires time-consuming maintenance and programming support. For example, because the Department's various databases are not integrated, programmers must make time-consuming changes in each database. In addition, the lack of integration within the Department's current databases result in duplication of effort as the same information must be entered into several databases.

The Department has initiated a number of projects designed to improve customer service and reduce program costs. However, resulting improvements may not be apparent for several years.

DHSMV officials said that the Department has made significant customer service improvements in recent years and plans to continue to improve the timeliness and convenience of its services. To address this goal, DHSMV has initiated seven information technology-related projects that are intended to improve customer service and reduce program costs. DHSMV is also revising its organizational structure and business processes to streamline operations. Several of these projects are in the early stages of development, while others are scheduled for implementation within the next year.

Distributed System and VISOR. The cornerstone of DHSMV's efforts to modernize its information technology systems is the Distributed Systems project. This project has three major components: (1) replace the existing database management system with a modern relational database management system; (2) combine separate databases containing vehicle related data, vessel related data, and driver related data into a single "enterprise" database; and (3) install large server units in two metropolitan areas of the state and distribute the "enterprise" database between the two regional servers. The Vehicle Information System Overall Redesign (VISOR) project is a separate but related project that will re-engineer both the computer applications and business processes used for motor vehicle titling and registration programs.

These two projects are intended to improve customer service and program efficiency. The use of regional servers should reduce off-line occurrences for tax collectors. Combined with updated FRVIS processors in the tax collector offices, this should reduce customer waiting periods and provide tax collectors with enhanced data retrieval capabilities. Integration of DHSMV's databases will eliminate duplicate data entry and enable the Department to cross-reference information on vehicles, drivers, and financial responsibility. VISOR will also reduce the Department's reliance on paper and microfilmed documents. Tax collectors we interviewed expressed strong support for these projects and indicated that they are essential if tax collectors are to handle future titling and registration workloads.

During fiscal years 1994-95 and 1995-96 the Department spent \$6.3 million on the Distributed System (including the relational database), VISOR, and the replacement of FRVIS equipment in the tax collectors offices. VISOR is scheduled for completion in December 1997. Implementation of the Distributed System (with components for driver, vessel, and financial responsibility data) is scheduled for 1999. Staff of the Information Resource Commission commended DHSMV's design and benchmarking and indicated that in view of the scope and costs of these projects, the Department's deliberate approach is warranted.

Dealer Title Transaction System. This prototype system allows franchised auto dealers to complete all titling and registration tasks during sales transactions. This avoids the need for the dealers to submit applications to tax collectors or the Department and provides faster customer service. This program has been tested in a pilot project in Duval County and has been well received by auto dealers, the tax collector,

and customers. In September 1996 the program was expanded to include nine additional counties.

Fleet Registration. This program allows fleet operators (with at least 250 vehicles) to electronically register their vehicles. This eliminates the need for the operators to submit paperwork to their local tax collectors office for vehicle registrations. This system was tested in a pilot with a large Florida corporation, which estimated that the program could save it \$100,000 in driver and office personnel time. The Department has made this system available to other large fleet operators.

Paperless Title and Lien. The Department is currently working with major lenders to design a system that will enable DHSMV to send an electronic notice of lien to lending institutions in lieu of issuing a hard copy title certificate. Lending institutions have expressed strong support for this innovation, citing lower storage costs and reduced need to request duplicate titles because original titles are lost or defaced. DHSMV estimates that this system could save the Department up to \$576,000 annually through lower paper and postage costs. The Department intends to implement this system in December 1997.

Tag Inventory. This automated inventory system will allow DHSMV to better manage inventories of license plates, decals, and forms in 230 tax collector offices around the state. Department officials said that by ensuring that each facility maintains an efficient quantity (four months supply) of plates and decals, this system could save DHSMV almost \$1 million in excess inventory. Although this system became operational in January 1996, DHSMV managers stated that it is too early to quantify actual savings produced through this initiative. The Department indicated that actual cost-savings data should be available in 1997.

Vehicle Identification Number Replacement Decal System. In the past, DHSMV has issued metal plates listing new Vehicle Identification Numbers (VIN) when vehicles are rebuilt. The new system will replace the metal plates with a computer generated plastic decal. DHSMV managers estimate that this process will save about \$27,000 annually and improve timeliness and productivity. This system became operational in May 1996. DHSMV managers indicated that the Department will assess the impact of this system in 1997.

Barcoded Titles. Currently, an operator must enter 128 keystrokes of data into FRVIS whenever a title transfer is processed. The Department is planning to streamline this process by using a bar-coded certificate of title. This will enable staff to scan the title document when needed, reducing data entry time and errors. DHSMV is being aided in this effort by the Department

of Banking and Finance, which has agreed to allow DHSMV to use its laser printer, avoiding the need to buy \$400,000 in new equipment. The Department plans to implement this system in February 1997.

In order to increase the number of title transactions that are completed through the existing electronic transfer process, the Department is currently providing tax collectors with updated computer equipment and procedural training. Department managers stated that within the next year DHSMV plans to increase the number of applications that are completed via the electronic transfer process from 85% to 97%. This effort will shift much of the complex title (repossessions, rebuilt vehicles, etc.) workload to the tax collectors, allowing the Department to eliminate unnecessary positions or shift those resources to needed areas. Training for tax collector personnel began in November 1996. The Department has also initiated an internal review of its business processes to identify opportunities for streamlining the review process and reducing application processing time.

Tax collectors are generally supportive of these information technology-related projects. Tax collectors also indicated that they were willing to assume greater responsibility for handling complex title transactions via the electronic file transfer process. They encouraged the Department to establish an electronic bulletin board. This would reduce the current reliance on paper documents and improve the dissemination of information to tax collectors. Tax collectors also recommended that the Department continue to consolidate and integrate its information systems and develop the technological infrastructure that will support emerging technologies such as the Internet and smart cards.

The Department should explore the use of office automation technologies to improve customer service and reduce costs.

In addition to the information technology improvements discussed above, DHSMV should explore opportunities to improve the timeliness of its services and program efficiency through electronic document management and related office automation technologies.

DHSMV currently uses microfilm to store the enormous amounts of paper generated by the title and registration programs. For example, DHSMV microfilms up to 90,000 pages of title paperwork each day at a cost of about \$1.4 million annually. The Department's microfilm library currently includes more than 890 million images. DHSMV accesses the library to produce more than 2,200 copies of requested documents per day. As previously noted, much of the current delay in application processing stems from the labor-intensive nature of the current processes and the Department's

inability to effectively handle the accumulation of paper associated with these programs.

The Department could use electronic document management and workflow automation systems to reduce its reliance on paper documents and streamline its operations. Electronic document management systems use digital imaging and optical character recognition technology to capture a digital image of a document, extract information contained in the image, and store it in an electronic medium. The stored image can readily be retrieved by one or more users at different locations. This can greatly streamline operations because staff do not need to wait for the microfilm library to locate and make a copy of a document before the application can be processed. Workflow management systems automate routing and handling of documents and tasks between workers in an office environment. A major benefit of these systems is the elimination of unnecessary tasks, saving workers and management time, effort, and costs.

Motor vehicle agencies in other states have successfully implemented electronic document management and workflow automation systems. For example, in 1990 the Louisiana Department of Public Safety implemented an electronic document management system to process vehicle and driver records. Louisiana officials reported that the system has reduced processing time by simplifying the flow of work and eliminating redundancies. The imaging system saved the agency the equivalent of 30 full-time positions, and reduced paper, postage, and storage costs. Similarly, a document imaging system with workflow management allowed the Kansas Department of Motor Vehicles to improve its processing of applications and records. The imaging/workflow system streamlined the agency's business processes, reducing the number of manual steps required to process records from 27 to nine. Kansas administrators also reported that the system has reduced customer complaints and saved the agency \$227,000 in labor costs.

Improvements in information technology will require careful planning and considerable resources. Significant funds are available through the existing FRVIS fee to finance needed improvements.

The Department's investments in information technology need to be carefully planned in order to ensure that limited funds are invested wisely. Motor vehicle agencies in several states have recently experienced significant financial losses as a result of poorly planned and executed information technology projects. DHSMV has proposed to contract for consulting services to develop electronic document imaging requirements and detailed cost information.

This study would include a thorough analysis of Department business processes, including document storage and retrieval requirements. This study would help ensure that technology investments are cost-effective and result in improved customer service. The Department's fiscal year 1997-98 budget request includes \$175,000 for an imaging feasibility study.

Addressing the problems in DHSMV's motor vehicle programs will be costly and require a long-term commitment of resources. The Department has identified more than \$9 million in actual and estimated information technology expenditures for the motor vehicle programs through fiscal year 1997-98. An electronic document management system to address DHSMV's paperwork problems would likely be expensive; the Department's preliminary cost estimate for this system totaled \$4 million. Louisiana reported spending more than \$10 million on its electronic document management system for vehicle and driver records.

One of the Department's major funding sources for information technology is the 50-cent fee charged on every title and registration transaction. Section 320.03, F.S., stipulates that revenues generated through this fee are to be deposited into the Highway Safety Operating Trust Fund and are to be used to cover the costs of FRVIS and other departmental operations. This fee has generated more than \$92 million since it was enacted in 1981. However, in recent years a significant portion of these funds have been used to fund the general operations of DHSMV. For example, during fiscal years 1994-95 and 1995-96 the FRVIS fee generated \$14.5 million, however, only \$6.9 million was dedicated to the modernization of FRVIS. The remaining \$7.6 million was used to fund a variety of other DHSMV operations, including salaries/benefits and expenses. While this use is authorized by law, it limits the funds available for technology investments. Increasing the portion of FRVIS revenue that is dedicated to technology improvements would help the Department improve its customer services and produce long-term cost savings.

Conclusions and Recommendations

DHSMV's reliance on manual business processes and outdated information systems has contributed to customer service problems. The Department is beginning to address these problems, and many of its planned technology enhancements should improve customer service and reduce costs. Additional office automation technologies are available that could help DHSMV realize significant operational improvements. However, resolving the Department's customer service

and information technology problems will require significant investments and lengthy time periods.

We recommend the following to the Legislature:

- Review the current appropriation of revenue generated through the existing FRVIS transaction fee. Increasing the portion of this revenue dedicated to information technology modernization could expedite planned customer service improvements and produce long-term cost savings;
- Give priority to the Department's fiscal year 1997-98 request for a needs assessment study for automation improvements. Electronic document imaging technology and automated workflow management should be addressed in this study; and
- Include customer service performance measures (application processing time, complaints, error rates, etc.) as integral components of DHSMV's fiscal year 1997-98 performance-based program budget. OPPAGA's subsequent justification review will evaluate DHSMV's efforts to improve its customer services.

We recommend the following to the Department:

- Continue its efforts to implement the VISOR project and other planned technology improvement projects in a timely and efficient fashion. Information technology enhancements should support faster application processing time and reduce off-line occurrences for FRVIS. The Department should establish measurable goals for improving its customer services and document the outcome of corrective actions;
- Contract for a needs assessment study that addresses workflow automation, records retention, and electronic document management improvements.
- This study should identify how the Department could re-engineer its existing processes through workflow redesign, automated workflow management, and electronic document management technology. The study should include detailed expense data and projected benefits, including cost-savings;

- In conjunction with its fiscal year 1997-98 performance-based program budget, develop detailed, outcome-oriented performance measures that allow the Legislature to evaluate DHSMV's customer services. Supplemental measures should be sufficiently process-oriented to allow DHSMV managers to monitor and improve the delivery of services;
- Revise the regular title service review process to reduce application processing delays. Specifically, the Department should establish quantitative goals toward improving the timeliness of its services by reducing the backlog in applications awaiting examination and reducing the number of manual steps and redundant procedures contained in the current review process;
- Revise the Fast Title procedures to ensure that the five-day statutory deadline for processing these applications is met. As with the regular title process, the Department should streamline procedures and reduce the number of steps and staff who need to handle these applications. Ideally, title applications should undergo a final review by the error correction unit prior to issuance;
- During fiscal year 1996-97 the Department should work with tax collectors to increase the number of title applications that are processed via the electronic transfer process to its stated goal of 97%; and
- During fiscal year 1997-98 the Department should establish of an electronic bulletin board to improve its communication and coordination with tax collectors. This would enable the Department to disseminate information to the tax collectors in a more efficient and timely manner.

Agency Response

The Executive Director of the Department of Highway Safety and Motor Vehicles agreed with our recommendations and described actions the Department is taking to address our concerns. A copy of his full response is available upon request.

This project was conducted in accordance with applicable evaluation standards. Copies of this report may be obtained by telephone (904/488-1023 or 800/531-2477), by FAX (904/487-3804), in person (Claude Pepper Building, Room 312, 111 W. Madison St.), or by mail (OPPAGA Report Production, P.O. Box 1735, Tallahassee, FL 32302).

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