

**JOINT LEGISLATIVE AUDIT AND REVIEW COMMISSION
OF THE VIRGINIA GENERAL ASSEMBLY**

**The Feasibility
of Modernizing
Land Records
in Virginia**

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Preface

Senate Joint Resolution 338 of the 1995 Session directed the Joint Legislative Audit and Review Commission (JLARC) to conduct an analysis of the need, feasibility, costs, and advisability of modernizing land records in the Commonwealth. The study mandate also required that JLARC determine whether these records could be utilized in a statewide geographic information system. This report presents the JLARC staff findings and recommendations regarding the modernization of land records in Virginia.

The modernization of land records in the Commonwealth is feasible and would be beneficial. However, it will be a complex undertaking and, if done improperly, could be a very costly proposition. Current efforts to modernize land records are impeded by a lack of standards for the indexing, content, and automation of these records. Uniform standards would promote more efficient administration of land records and lay the groundwork for a reliable linkage of multi-jurisdictional land data. Therefore, if the General Assembly wants to proceed with efforts to modernize land records throughout the State, a carefully planned, comprehensive approach will be needed. To that end, an intergovernmental task force could be useful in developing recommended statutory standards and encouraging a more coordinated and conceptually-sound approach for the modernization of land records

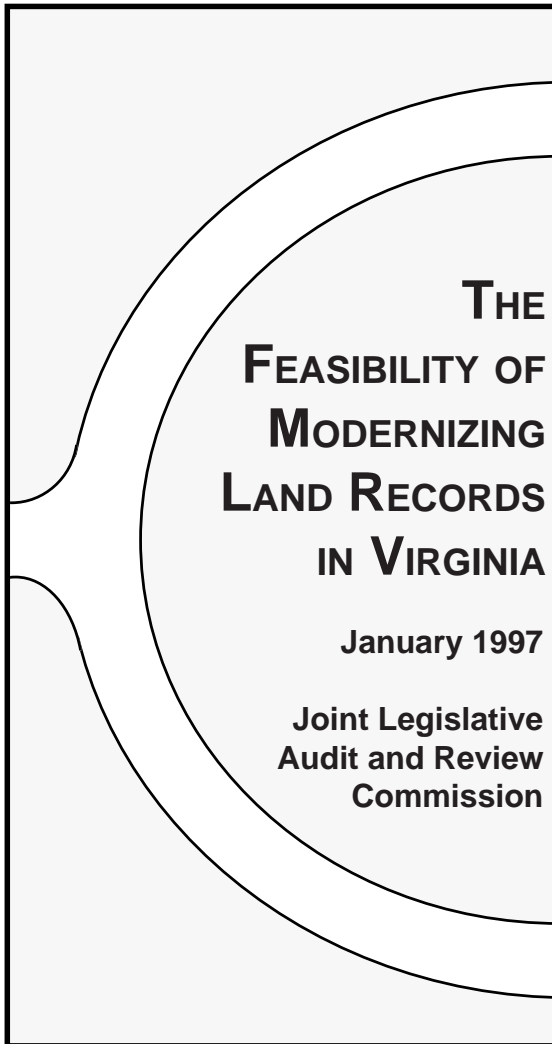
The State's current approach for funding modernization efforts is quite limited, and focuses primarily on providing office equipment to circuit court clerks. This source of funding may or may not be used by the clerks in support of land records modernization efforts. This report presents a number of potential funding options that the General Assembly could consider if it wishes to provide financial support for a comprehensive approach to modernizing land records throughout the Commonwealth. The options presented emphasize the importance of clearly defining legislative intent, and the need to carefully plan for the use of technology.

On behalf of JLARC staff, I would like to thank Virginia's circuit court clerks and local government officials, the Compensation Board, the Department of Information Technology, the Virginia Supreme Court, the staff of the House Appropriations and Senate Finance Committees, and the Virginia Association of Realtors for their assistance in the preparation of this report.

Philip A. Leone
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January 21, 1997

JLARC Report Summary



Senate Joint Resolution 338 (1995) directed the Joint Legislative Audit and Review Commission (JLARC) to conduct an analysis of the need and feasibility of modernizing land records in the Commonwealth. Specifically, JLARC was instructed to examine the need and advisability of implementing additional modernization and automation in the clerks' offices to improve processes and provide better access to indexing and recording for users and the general public. The General Assembly also instructed JLARC to determine whether these

land records could be utilized in a future statewide land information system, such as a geographic information system (GIS).

In Virginia, 121 circuit court clerks are responsible for the administration of land records for their jurisdictions. As constitutional officers, circuit court clerks have a certain amount of discretion regarding automation and policy decisions for their offices. This has resulted in different procedures for indexing and varying levels of automation among the offices. As a result, users of land records cannot use consistent or uniform methods for obtaining information in each jurisdiction. This creates a more complex and time consuming process than necessary, and impedes the establishment of the linkage of multi-jurisdictional land records in order to improve public access.

JLARC's analysis of land records modernization found that:

- the use of automated indexes and records varies among clerks,
- uniform standards for indexing formats, land records content, and records management technology would promote more efficient administration of land records and lay the groundwork for a reliable linkage of multi-jurisdictional land data;
- an intergovernmental task force could be useful in developing recommended statutory standards and encouraging a more coordinated and conceptually-sound approach for the modernization of land records;
- the State's current funding approach, using the information technology trust fund, would benefit from a clearer

expression of legislative intent and greater emphasis on technology planning; and

- funding for a broader-based approach to land records modernization should be based on a sound conceptual framework.

Automation Status and Local Cooperation Varies Among Jurisdictions

Circuit court clerks administer land records using various policies and procedures. Currently, 60 percent of the clerks' offices use an on-line automated indexing system. Several (12 percent) of the offices provide remote access to their automated indexes. A smaller amount (10 percent) have optical disc imaging. The Supreme Court of Virginia, two private companies, and local governments' information technology departments are the providers of automation equipment installation and maintenance services.

The level of communication and coordination between clerks and local government offices vary. Given the multiple uses of land records data in a locality, a lack of communication and coordination can lead to the formation of several systems which may not be compatible with one another. This can result in inefficient use of public funds and could possibly jeopardize opportunities to reduce duplicative tasks for both local personnel and public users of land records.

Land Records Modernization Would Benefit from Standards

Clerks' offices in the State do not employ a uniform set of statewide standards for their indexing and recording processes. Land instruments have historically been maintained using methods and formats adopted by each local clerk's office. As a result, clerks' offices differ regarding the type and quality of access users have to the records. Consequently, users must employ different

techniques in every clerk's office in order to obtain the same type of information. The adoption of uniform indexing standards in Virginia would substantially improve the current process by providing a basic set of guidelines and procedures which would be followed by all offices in the Commonwealth.

For example, the State of North Carolina has already undergone a standardization process. Starting on January 1, 1997, registers of deeds must use minimum standards for indexing real property instruments. The North Carolina Bar Association, the North Carolina Association of Registers of Deeds, and the North Carolina Secretary of State's Land Records Management Division worked together to draft uniform formatting standards for indexing. These uniform indexing procedures were recommended to and subsequently adopted by the North Carolina legislature. The standards provide detailed explanations and descriptions of the correct formatting procedures, and clarify directions for clerical staff by including examples of improper indexing methods to be avoided.

If the State is interested in pursuing future development of sophisticated land information systems, such as statewide remote access to a land records database or a geographic information system (GIS), standardization of land record content would help ensure a more feasible implementation process. Furthermore, additional substantive content standards may also be needed to improve land records and facilitate linkages with local GIS initiatives. Suggestions for additional content standards include: (1) the use of a unique parcel identification number and/or reference to the State plane coordinate system, (2) using metes and bounds descriptions, (3) updating legal property descriptions in deeds through surveys, (4) including a plat or reference to a previously recorded plat in all recorded deeds, and (5) marking property corners with personalized monuments on a statewide basis.

An inventory of the automation status of all clerks' offices — including factors such as system configurations, vendor choices, and hardware type — will be necessary to facilitate statewide linkages of land records. Moreover, if the State's interest lies in pursuing a complete linkage of all 121 circuit court offices, technology standards or benchmarks may be necessary to ensure that systems will have compatible features. Without standards, the creation of such a system would be substantially more complex, timely, and expensive.

Recommendation. *To facilitate land records modernization the General Assembly may wish to:*

- *adopt statewide standards for uniform indexing procedures,*
- *adopt statewide standards for land records content, and*
- *direct the Council on Information Management to develop statewide technology guidelines for future automation of land records.*

An Intergovernmental Task Force Would Aid Land Records Automation

A permanent intergovernmental task force on land records management is needed to develop a recommended policy framework and structure designed to define and advance the State's interests in modernizing land records and facilitate linkages with local and statewide GIS initiatives. The task force should have a two-part mission. Its first mission should be to explicitly define how the State should operationalize the concept of land records modernization, and make appropriate recommendations to the General Assembly regarding necessary format, content, and technology standards for land records. In its second mission the task force would promote and support land records modernization efforts in the State, and coordinate implementation efforts in the localities.

A number of duties are related to the proposed mission of the task force. These duties include: preparing an inventory of automated land records technology in clerks' offices; providing guidance to localities for future automation of land records; identifying any negative privacy-related implications for automating land records; building a consensus to adopt desirable features for modernization efforts; and developing options to fund these efforts.

Recommendation. *The General Assembly may wish to establish an intergovernmental task force on land records management to develop a recommended policy framework and structure designed to define and advance the State's interests in modernizing land records. The task force should be composed of local government representatives, constitutional officers, land record users, and representatives from the Office of the Executive Secretary of the Supreme Court of Virginia, the Department of Information Technology, the Council on Information Management, and The Library of Virginia.*

The Technology Trust Fund for Clerks Needs a Clearer Statement of Legislative Intent

The information technology trust fund consists of revenues obtained from an additional three dollar recordation and filing fee collected by each circuit court clerk. The fund is to be used to help circuit court clerks obtain office and information technology, preserve and maintain court records, improve public access to court records, and to study the design of a statewide system of remote access to the clerks' land records. The trust fund is scheduled to sunset on June 30, 1997 unless re-authorized by the General Assembly.

One of the fundamental problems with the structure of the trust fund is that funding was made available prior to adequately defining the purposes for which the additional

State revenue would be used. The development of an allocation policy for the trust fund has been marked by difficulties in making important decisions concerning how money will be allocated from the trust fund and ultimately spent by the circuit court clerks. The specific types of expenditures that may be made with trust fund money, and the criteria and methodology that will be used by the Compensation Board to make funding decisions, have not yet been determined. Substantial variation in technology planning among clerks' offices, reflective of significant differences in workload and automation requirements, have impeded the development of an allocation policy.

Due to differing interpretations of the trust fund's statutory provisions, a potential conflict may be developing between the Compensation Board and some of the circuit court clerks regarding the types of expenditures that may be made using trust fund money. There has also been some disagreement over the legislative intent of the trust fund, primarily between the circuit court clerks and the real estate industry. The appropriate definition of technology, the potential application of the State's fiscal stress factor to allocations, and the amount of discretion the clerks should have in making expenditures have contributed to these disagreements. The trust fund's statutory provisions currently lack a clear statement of legislative intent on these issues.

The number of significant unresolved issues concerning an allocation policy provides adequate justification for the revision of the trust fund's statutory provisions. The trust fund should be re-authorized, and expenditures made, only when clerks, in cooperation with local governments, have developed information technology plans which are consistent with legislative intent. There are a number of potential options available to the General Assembly for restructuring the trust fund. These options vary in a number of respects, including:

- amount of discretion granted to the clerks concerning types of expenditures,
- level of technology and automation planning required prior to the receipt of State funds,
- relationship between trust fund and land records modernization,
- extent to which State funding for land records modernization should focus only on clerks' offices, and
- whether the collection and receipt of trust fund money should be optional.

Over the longer term, if the General Assembly wishes for the State and localities to adopt a broader-based approach to land records modernization — one that is not just focused on the clerks and their office equipment — a new type of funding approach would be beneficial. Under such an approach, a determination should be made concerning the role that State funding could play in promoting the State's interests and objectives related to land records modernization. Funding designed to support a broader approach is more ambitious, but could be highly effective in promoting the State's interests over the long term.

Recommendation. *The General Assembly may wish to clarify its intent regarding the information technology trust fund, and postpone the expenditure of trust fund money pending development of adequate information technology plans that are consistent with legislative intent.*

Recommendation. *The General Assembly may wish to direct the intergovernmental task force on land records management to make recommendations for a funding mechanism to support a broad-based land records modernization initiative in the State.*

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I. Introduction

Senate Joint Resolution (SJR) 338, passed by the 1995 General Assembly, directed the Joint Legislative Audit and Review Commission (JLARC) to conduct an analysis of the need and feasibility of modernizing land records in Virginia (Appendix A). Specifically, SJR 338 directed that this analysis focus on the need, costs, and advisability of modernizing and automating land records and identifying opportunities for coordinating such a system with a statewide geographic information system. Further, the study mandates an analysis of what impact, if any, such a system would have on the implementation of the Virginia Freedom of Information Act.

The study was prompted by concerns regarding the administration of land records in Virginia and public access to these records. The primary users of land records — title examiners, real estate attorneys, and surveyors — have expressed concerns relating to access to land records and the lack of uniformity in how these records are maintained and administered across the State. Users also maintain that additional uniformity of land record management would help facilitate linkages with a statewide geographic information system.

Land records modernization has been characterized as a slow process with high start-up costs, and with most societal benefits occurring only after system implementation. These benefits can include increases in efficiency and effectiveness. Efficiency gains are commonly associated with automation efforts, since tasks performed manually can be accomplished faster and more economically after automation. Increases in effectiveness can be realized when a new land records system is used to perform analyses that were not previously feasible.

In calendar year (CY) 1995, 1,086,274 land record instruments were recorded in the deed books of the 121 circuit court clerks' offices in Virginia. The offices maintain disparate procedures for administering and automating land records. As a result, there is no uniform system for maintaining and accessing land records in the State at this time.

ADMINISTRATION OF LAND RECORDS IN VIRGINIA

Circuit court clerks are responsible for maintaining land records documenting real property ownership in the State in their respective localities. The *Code of Virginia* requires that circuit court clerks maintain a deed book which documents all writings which affect real property. While the *Code of Virginia* prescribes some requirements for what information must be included in land records, some discretion in the formatting and recording of these documents is allowed.

Land records are considered public records, and as a result are open for public inspection by any person requesting access. There is currently no expectation of

protection for either manual or automated land records under the Freedom of Information Act (FOIA). In fact, increased ease of access to land records through automation efforts may enhance the original spirit in which the FOIA was enacted.

Land information is collected widely by localities and is used extensively to provide services to citizens. Historically, much of this data has been maintained in manual formats. Recently, however, significant efforts have been undertaken by clerks and localities to automate land records, and in some cases the localities have developed land information or geographic information systems.

Circuit Court Clerks Are the Keepers of Land Records

Historically, the responsibility for maintaining records documenting real property ownership in Virginia has been delegated to local governments. Documents conveying real property interests are used to meet legal requirements and provide parcel information for the informational needs of local jurisdictions. In Virginia, clerks of the circuit courts are responsible for maintaining the official record of real property transactions in their respective localities.

The *Code of Virginia* requires the clerk of the circuit court to maintain a deed book of records which contains: (1) all writings relating to or affecting real estate (§ 17-60); (2) all writings relating to or affecting personal property (§ 17-61); and (3) instruments affecting liens which are “authorized by law to be recorded” (§ 17-59). Specifically, these documents include deeds, deeds of trust, deeds of release, leases of personal property, bills of sale, contracts or liens regarding personal property, grants, transfers, and mortgages of real estate (Exhibit 1). The names of all the grantors and grantees are required to be recorded along with these documents.

Land record instruments recorded in the deed book, which is required to be maintained by each circuit court clerk, comprise a significant portion of the land records which are recorded in circuit court clerks’ offices. The number of land record instruments recorded increased during CY 1993 to 1,440,514 and have significantly decreased since then (Table 1). The large number of land record instruments recorded during CY 1993 coincides with some concerns expressed regarding recordation delays that were occurring in circuit court clerks’ offices during the early 1990s.

Several real estate attorneys and title examiners stated that recording delays were making it difficult to comply with the provisions of the Wet Settlement Act as contained in the *Code of Virginia*. This statute requires that settlement agents — for example, real estate attorneys and agents — disburse any proceeds from the transfer of real property within two business days of the settlement. While it appears that recording delays were most acute during CY 1993 due to the large volume of land records being recorded, it is likely that any recording delays that occurred in prior years have since been mitigated due to the decreasing volume of land record transactions.

Exhibit 1**Definitions of Key Land Record Terms**

Contract: The writing which contains the agreement of parties, with the terms and conditions, and which serves as a proof of the obligation.

Deed: A conveyance of property; a writing signed by grantor, whereby title to property is transferred from one to another.

Grant: Operative word in conveyances of real estate.

Grantee: One to whom a grant of property is made.

Grantor: One who transfers property.

Grantor-Grantee Index: Master index, as kept by the circuit court, to all recorded instruments. Such index contains the book and page or instrument number where the instrument can be located.

Lien: A charge against or interest in property to secure payment of a debt or performance of an obligation.

Plat Map: A plat map is generally drawn after such property has been described by some other means, such as a Government Survey System. Once a plat map is set, legal descriptions are defined by referring to the given map, in a lot or block description.

Real Estate: Land and anything permanently affixed to the land, such as buildings and fences which would be considered personal property if not attached.

Real Property: Land, and generally whatever is erected or growing upon or affixed to land.

Record: To make an official note of; to write, transcribe, or enter in a book, file, docket, register, computer tape or disc.

Source: *Deed Book Manual* (1995), Virginia Court Clerks Association.

According to the *Deed Book Manual* prepared by the Virginia Court Clerks Association in conjunction with staff from the Supreme Court, each circuit court clerk should perform a number of functions in order to ensure that documents are recorded in a responsible and orderly manner. Exhibit 2 illustrates the procedural steps clerks should follow in their daily recording operations.

Table 1

Total Number of Land Record Instruments Recorded in the Deed Books Statewide

Calendar Year	Number
1992	1,147,926
1993	1,440,514
1994	1,381,924
1995	1,086,274

Source: JLARC staff analysis of Compensation Board documents.

While the *Code of Virginia* prescribes some requirements for what information is to be included in the land records, circuit court clerks have some discretion in the formatting and recording of these documents. Therefore, automation of and access to land records varies substantially among the circuit courts. These variations in the content, format, access, and automation of land records are particularly bothersome to the real estate industry, which is the primary user of these records. These users include title examiners, real estate attorneys, and surveyors.

Additional Document Requirements Imposed by Clerks for Land Records Vary. Currently, the *Code of Virginia* (§§ 55-106, 55-106.5, 55-108, 55-109, 17-59, and 17-60) requires a document to meet the following requirements for form and content to qualify for recordation:

- original signatures,
- properly acknowledged (by party and/or witnesses),
- legibility,
- original writing (all writings must be an original or first generation printed form, or legible copy thereof),
- certified copy from other clerk's office (if needed),
- recording a counterpart of a deed of trust document (if needed),
- business or residence address, and
- names of grantors and grantees.

It is at the clerk's discretion to impose any additional requirements of form, structure, or procedure for administering land records. Because of this, standard format procedures are not utilized by the clerks, resulting in somewhat individualized filing

Exhibit 2**General Procedural Steps for Recordation of Documents**

- STEP 1** **PROCEDURE DECISION:** Is Instrument signed and acknowledged or proved as provided by law?
If yes: GO TO STEP 2
If no: Refuse to record
- STEP 2** Is Instrument recognizable as one “authorized by law to be recorded” in the Deed Book?
If yes: GO TO STEP 3
If no: Refuse to record
- STEP 3** Does Instrument meet all standards for recordation?
If yes: GO TO STEP 4
If no: Refuse to record
- STEP 4** Is Instrument tendered with correct amount of recordation tax and fees?
If yes: Record Instrument
If no: Refuse to record

If the document offered for recordation meets the above requirements, the clerk will generally follow the procedures set out below:

- STEP 1** Collect all recording fees and taxes at time of tender.
- STEP 2** Place instrument number on the instrument.
- STEP 3** Issue an office receipt for payment.
- STEP 4** Place clerk’s Certificate on the instrument.
- STEP 5** Place original or copy of recorded instrument in a safe, secure place for indexing, microfilming or scanning. (A copy must also be prepared for the State Library archives.)
- STEP 6** **REJECTED DOCUMENTS:** Record documents which have been rejected for recordation because only partially proved in a separate book known as “Writings Partially Proved”. If documents offered for recordation are rejected for other reasons, return the documents to the proponent with instructions explaining how to cure the defects.

Indexing is a step in document management which necessarily follows after a document has been admitted to record. *Va. Code* §§ 17-79 and 55-96 prescribe, in summary:

- STEP 1** The Clerk must immediately (daily) upon admission of an instrument to record, index the same either in the daily index or the general index of the office. (All instruments indexed in the daily index shall be indexed in the general index within 90 days after admission to record.)

Source: *Deed Book Manual* (1995), Virginia Court Clerks Association.

requirements for each office. As a result, no one standard land records system is utilized in the Commonwealth.

Besides recording practices, the clerks' offices differ regarding their level of automation of land records and providing remote access to these records. No general agreement exists regarding user fee policies, vendors, or equipment needs. The development of optical disc imaging and remote access technology, Internet applications, archival requirements, and wide-spread use of automated indexing has made the future direction of land records modernization policy dependent upon critical decisions being made in the present.

Land Records Are Considered Public Records

The *Code of Virginia* states that all records and papers of every circuit court — which includes land records — shall be open for public inspection by any person requesting access and the clerk of the circuit court shall furnish copies upon request. The *Code of Virginia* also contains provisions regarding access to public records through the Virginia Freedom of Information Act (FOIA). The primary purpose of FOIA as stated in the *Code of Virginia* is:

ensur[ing] the people of this Commonwealth ready access to records in the custody of public officials and free entry to meetings of public bodies wherein the business of the people is being conducted.

There are a number of categories of documents which are exempt from the disclosure provisions of FOIA. However, none of these exemptions apply to land records held by circuit court clerks. As a result, land records, held in either a manual or automated format, do not create any expectation of protection under the provisions of FOIA. In fact, efforts to automate and provide remote access to land records by localities will likely increase ease of public access to these records. As a result, increased ease of access to land records may enhance the original spirit of enacting FOIA, since one of its purposes is to promote heightened awareness by all persons of the activities conducted by government.

However, local efforts to automate land records may have additional implications for implementation of the Privacy Protection Act of 1976 (PPA). The purpose of the PPA is to safeguard individuals from the collection and dissemination of certain information about the individual by agencies of the Commonwealth. In enacting this statute, the General Assembly found that the increased use of computers and information technology has magnified the harm that may occur from collecting and disseminating certain information about individuals. While the discussion of any negative implications that automating land records might have on the implementation of the PPA are beyond the scope of this study, future consideration should be given to this issue.

Land Information Is Used Extensively by Localities

Land information is a vital asset that supports many governmental and non-governmental activities. Much of the data maintained and used by localities in the Commonwealth in providing services to citizens is related to land, since many services are provided to residents at individual land parcels or addresses. Such data are generated from land parcel transactions, building permits, zoning and subdivision reviews, voter registration, police and fire protection, and locality taxation functions.

Land records — including deeds, deeds of trust, maps, and plats — are a subset of land information data. Land records are being used increasingly by various departments and divisions within local governments to coordinate planning efforts, monitor zoning restrictions, provide accurate information to the tax assessor's office, and modify land parcel models being developed for automated land information or geographic information systems.

Historically most land information data has been maintained by localities in a manual format. Recently, however, several factors have increased the scope and complexity of the demands placed upon land information systems at many levels of government. These factors include: population growth, increased demands for services, environmental concerns, and heightened awareness of economic development siting opportunities. This expansion has increased the number of users and has resulted in a corresponding need for more accurate and efficient mechanisms for making use of land-related data.

Both manual and automated land information systems will be further refined and developed to meet the increasing numbers and needs of users. As a result, some localities and the majority of planning district commissions have implemented automated land information systems — otherwise known as geographic information systems (GIS) — for maintaining land information data.

GIS is a specialized data management system which is used for entering, storing, analyzing, and managing data that is associated with physical positions on the earth. One of this system's most important assets is its ability to test "what if" scenarios and graphically represent the interaction of complex variables to support decision-making at many levels of government. GIS also has the ability to perform spatial analysis to include computing distances along irregular boundaries, calculating parcel acreage, and analyzing network flow. Specific GIS applications include uses for zoning, land use planning, census analysis, economic development siting, and transportation and social services planning.

USES OF LAND RECORDS IN VIRGINIA

Land records have historically been maintained in Virginia to meet each locality's particular needs. State guidance in standardizing the format and content of

land records has been minimal. As a result, the State's land records lack uniformity in both form and content. Greater uniformity of land records is needed to create an environment in which automation efforts may be effectively pursued and potential linkages can be developed with a statewide GIS, if the State continues to pursue such a goal.

Despite the State's interest in improving land information systems since the early 1980s, the State has yet to implement a statewide land information system or GIS. It is fairly clear that previous efforts of the State have not incorporated a vision on how land records modernization can be linked with or related to GIS planning efforts. While legislation was passed during the 1996 General Assembly to create the Virginia Geographic Information Authority, this legislation included a provision for re-enactment by the 1997 General Assembly.

The State's Long-Term Interest Could Be Enhanced Through Greater Uniformity of Land Records

In Virginia, ownership rights and the right to use real property are required by law to be recorded in the appropriate jurisdiction through land records which are made up of instruments such as deeds, deeds of trust, surveys, and plats. Historically, these land records were collected and maintained to meet each locality's particular needs. Consequently, the Commonwealth's land records are now a compendium of disparate geographic data in both content and form.

Population and industry growth, environmental issues, and technological advances have expanded the scope and complexity of the demands placed on land information systems throughout the State. Users consistently appeal for access to multi-jurisdictional information in an accurate and timely manner. However, taken as a whole, the land records in the State still contain innumerable inconsistencies. This has resulted in a number of problems including:

- disputed boundaries between political jurisdictions in Virginia,
- no requirements that a standard reference system be utilized to establish boundaries, and
- few standards regarding the content, format, or consistency of recorded instruments filed in the Commonwealth.

As a result, greater uniformity of land records across the State is needed to create an environment in which land record automation efforts can be coordinated and potential linkages can be developed with a statewide geographic information system.

Currently there is no statewide organization or body responsible for setting standards or providing guidelines for the content of land records. As a result, no guidance is being provided for the creation of an environment which supports developing and

exchanging data and maps in manual and automated land information systems. Different scales, accuracy degrees, automated field lengths, and different media — paper, microfiche, and automated files — are the primary causes of inconsistent land information systems. As a greater number of localities move from manual to automated land information systems, the need for guidance or a set of uniform standards increases. Consequently, the more localities automate their records without the benefit of standards or guidelines, the more expensive it will be to adopt uniformity in the future.

Prior Efforts to Improve Land Information Systems and Create a Statewide Geographic Information System

There have been several efforts at the State level to improve land information systems and create a statewide geographic information system (GIS). A number of State agencies have participated in these initiatives, which began in the 1980s. Most recently, the 1996 General Assembly passed legislation to create the Virginia Geographic Information Authority. However, the Governor amended the bill to require approval by the 1997 General Assembly. In addition, the 1996 General Assembly passed legislation to establish an information technology trust fund for circuit court clerks.

A Statewide GIS Initiative Began in the 1980s. Attempts to encourage the State's interests in improving local land information systems began in the early 1980s. A statewide group, Virginia Applied Land Information Systems, was organized to achieve this purpose. The group included technical representatives of federal and State agencies, universities, local governments, and the private sector. Based on the recommendation of this group in 1985, the General Assembly authorized a joint subcommittee "to study the feasibility of establishing a State Coordinator for Mapping, Surveying, and Land Information Systems." In 1986, the joint subcommittee found that a broad range of mapping and land information systems programs were in various offices of the State but that no coordinating entity existed.

Based on this study the General Assembly established in 1988 the Division of Mapping, Surveying, and Land Information Systems (DMSLIS) within the Department of General Services. At about the same time, the General Assembly also created an Advisory Commission on Mapping, Surveying, and Land Information Systems to advise the DMSLIS. However, efforts of the DMSLIS to assist State agencies came to an end in 1990 when its staffing was eliminated. The Advisory Commission on Mapping, Surveying, and Land Information Systems was eliminated pursuant to a sunset clause in 1992. However, this group was continued as a committee until June 30, 1996.

In early 1989 some concern was expressed by the legislative and executive branches that DMSLIS was not adequately addressing growing State agency coordination needs in the land information area. As a result, the 1989 General Assembly directed the Council on Information Management (CIM) to conduct a study of geographic and biological land-use information systems operated by agencies of the Commonwealth. CIM issued a comprehensive report in October, 1990 which addressed key issues for the State regarding land information systems and made recommendations for an implemen-

tation plan. However, it appears that few of the recommendations resulting from this report were implemented.

Council on the Environment's Geographic Information System Efforts.

The Council on the Environment (COE) began separate GIS activities in 1988 with the Virginia Rivers Inventory, which evolved into the Environmental Conditions Management, Analysis, and Planning (EcoMAP) system. The primary goal of the EcoMAP system was to be a comprehensive natural resources and environmental inventory and clearinghouse network built within a GIS framework.

In 1993 the EcoMAP system, along with COE itself, was consolidated within the Department of Environmental Quality. Shortly thereafter the EcoMAP system was transferred to the Department of Planning and Budget (DPB). Funding for this initiative within DPB was eliminated by the 1995 General Assembly. Upon elimination of the funding for this project, copies of the GIS database were sent to the Economic Development Partnership and the Virginia Department of Transportation for their use.

Virginia Geographic Information Network Initiative. In 1992 the General Assembly directed the Commission on Population Growth and Development (CPGD) to study the creation of a comprehensive data network — the Virginia Geographic Information Network — and to work with CIM to expand upon the study it had conducted in 1990. CPGD engaged the services of a consultant to study the need for a statewide GIS. In 1993, the study report concluded that the State should: (1) take a leadership role and develop a statewide vision for a geographic information network, (2) adopt a common data model that ties the State, regional, and local databases together, and (3) assign top priority to four statewide data layers: transportation, hydrography, topography, and political boundaries.

Despite these recommendations, no further activity was undertaken on a statewide GIS initiative until the 1995 General Assembly passed House Joint Resolution (HJR) 640. This legislation established a joint subcommittee to examine the need for establishing a process and the appropriate organizational structure to build and maintain the Virginia Geographic Information Network. The joint subcommittee met several times during 1995 and early 1996 and recommended legislation to create a Virginia Geographic Information Authority (VGIA).

VGIA was to be established to: (1) develop GIS standards, (2) procure a statewide digital base map and promote the development of certain data layers, and (3) act as a clearinghouse of GIS data for State agencies and local and regional governments. The 1996 General Assembly passed House Bill 1007 to establish the VGIA. However, the Governor amended the bill to require approval by the 1997 General Assembly.

Creation of PDConnect. In late 1995 the Virginia Association of Planning District Commissions (VAPDC) announced the creation of a statewide GIS referred to as PDConnect. This effort was pursued as a result of the perceived inability of the State to form a statewide GIS.

PDCConnect is operated as a worldwide web site on the Internet but currently contains little information, except for an announcement that PDCs are available to assist with GIS development and distribute information about GIS. The VAPDC is planning to add additional information to its worldwide web site. Representatives of the VAPDC reported that PDCConnect is not a substitute for a statewide GIS, but rather a regional mechanism for informing localities that the PDCs can assist with GIS development at the local level.

Information Technology Trust Fund. The 1996 General Assembly passed House Bill (HB) 963 to establish an information technology trust fund for circuit court clerks. The statute requires that circuit court clerks assess an additional fee for filing and recording law and chancery actions, instruments recorded in deed books, and judgment liens. The revenue is to be used for various types of expenditures, including office and information technology equipment. The imposition of the additional land records recording fee is set to expire on July 1, 1997. The Compensation Board is working with clerks and others to establish an allocation policy. A portion of this fee was earmarked for a study by the Department of Information Technology (DIT) on remote access to land records in circuit court clerks' offices.

THE JLARC REVIEW

This JLARC staff review of land records modernization provides an assessment of a number of issues related to additional uniformity in managing and administering land records, the need for additional study and policy development in this area, and technology funding for land records automation efforts. This section describes the study issues and research activities undertaken by JLARC staff, and provides an overview of the remaining chapters of this report.

Study Issues

JLARC staff developed four major study issues to evaluate the concerns regarding land records modernization expressed in the study mandate:

- Is there a need for standardizing recording processes in circuit court clerks' offices?
- Would additional uniformity of land records promote automation efforts and facilitate linkages with local and a statewide geographic information system (GIS)?
- Should the State ensure coordination of the development of approaches for land records automation and standardization efforts?

- Is the State's current funding policy for circuit court clerks' offices appropriate to promote local and State interests in land records modernization efforts?

Research Activities

Several research activities were undertaken to address the study issues. These activities included site visits to selected offices of the circuit court clerks and offices of local directors of mapping and GIS, structured interviews, a mail survey of circuit court clerks' offices, telephone interviews with staff in circuit court clerks' offices, an analysis of the Department of Information Technology surveys of circuit court clerks' offices and land records users, participation in Virginia's 1996 annual GIS conference, and document reviews of the approaches that other states have taken to improve land records and land information systems.

Site Visits to Selected Offices of the Circuit Court Clerks. Site visits were made to 10 circuit court clerks' offices. Offices visited were selected based on features such as differing levels of land records automation efforts and whether the office served an urban or rural locality. During site visits, JLARC staff also observed the operation of manual and automated land records retrieval systems, including computerized indexing and optical imaging systems.

Site Visits to Selected Offices of Local Directors of Mapping and GIS. Site visits were conducted to the offices of five local directors of mapping and GIS. These local directors were selected based on their knowledge of local GIS systems and the State's efforts to create a statewide GIS. During site visits JLARC staff observed the manual and automated GIS systems in place in these localities.

Structured Interviews. In addition to the structured interviews conducted in conjunction with the site visits, structured interviews were also conducted with the following:

- current and former members of the real estate sections of the Virginia State Bar and the Virginia Bar Association,
- representatives of title examination firms,
- land surveyors,
- a representative of the Virginia Association of Realtors,
- Supreme Court of Virginia staff,
- Department of Information Technology staff,
- Compensation Board staff,
- Council on Information Management staff,

- House Appropriations Committee staff, and
- Library of Virginia staff.

Mail Survey of Circuit Court Clerks' Offices. The study team conducted a mail survey of the 121 circuit court clerks' offices. The survey was designed to obtain estimates of the offices' expenditures on automated land records systems including records indexing and optical disc imaging, the type of vendor used, and the number of land instruments recorded for the past five fiscal years. Ninety-two of 121 circuit court clerks completed and returned their survey for a response rate of 76 percent. (Appendix B lists the response status of each office of the circuit court clerk.)

Telephone Interviews with Staff in Circuit Court Clerks' Offices. JLARC staff conducted more than 100 telephone interviews with staff in offices of the circuit court clerks. These interviews were used to elicit information concerning a number of aspects of land records administration, including the use of automated systems for on-line indexing, optical disc imaging, remote access capabilities, and the level of communication and coordination between clerks and local government offices.

Analysis of the Department of Information Technology Mail Surveys of Circuit Court Clerks' Offices and Users of Land Records. As part of the Department of Information Technology (DIT) study effort required by House Bill 963 regarding automation efforts in circuit court clerks' offices, DIT conducted two separate mail survey efforts.

First, DIT conducted a mail survey of circuit court clerks' offices regarding current automation efforts which covered: (1) general information, (2) access to land records, (3) court case processing information needs, and (4) general computer automation. Second, DIT conducted a mail survey covering similar topics which was sent to the users of land records including: real estate attorneys, title examiners, and commissioners of revenue. Analyses of the results of these two DIT survey efforts were used by JLARC staff in this report and are documented where appropriate.

Participation in Virginia's 1996 Annual GIS Conference. JLARC staff attended Virginia's 1996 Annual GIS Conference held in October, 1996. The purpose of attending this conference was to collect information on the current state of GIS applications and technology in the State. Included among the conference presentations that JLARC staff attended were: (1) improving the accuracy of land surveys and mapping products, (2) models and management strategies of GIS organization, (3) GIS development at the Virginia Department of Transportation, and (4) a meeting of the Virginia Association of Planning District Commission's committee on information systems management.

Document Reviews. Document reviews were also conducted by the study team. Documents reviewed included the *Code of Virginia*; previous land information and GIS studies conducted by the Council on Information Management, the Commission on Population Growth and Development, and the joint subcommittee studying the Virginia

Geographic Information Network; and documents prepared by other selected states — including North Carolina, Wisconsin, and Minnesota — concerning their approaches to land information programs and GIS systems. These other states were selected based on significant progress made in promoting land records modernization and GIS development.

Report Organization

This chapter has provided an overview of the local administration of land records in Virginia, the State's long term interest in uniform land records, and prior efforts to develop a coordinated statewide approach to land information or geographic information systems. Chapter II examines the discretion that circuit court clerks have in administering land records, how additional uniformity in land records would promote further automation efforts, and the need for a permanent intergovernmental task force to promote improved administration of land records. Chapter III examines issues related to funding technology in the circuit court clerks' offices and potential approaches for funding land records modernization efforts.

II. The Modernization and Automation of Land Records

In general, clerks' offices in the Commonwealth do not employ a uniform set of statewide standards in their administration of land records. Instead, land instruments are maintained using methods and formats adopted by each local clerk's office. The lack of uniform standards and procedures has necessitated the formation of the individualized land records policies in place today. As a result, clerks' offices differ regarding the type and quality of access users have to the records. Despite continued variances in techniques and policies, efforts in the past to standardize clerks' procedures have been limited.

Consequently, the Commonwealth's land records as a whole are a compendium of disparate geographic data in both content and form. The absence of uniform recordation standards has produced a working environment for recurrent users of land records which can often be complex, frustrating, and inefficient. In addition, the lack of consistent land data among offices will impede any future attempts to develop automated multi-jurisdictional links of land records for the provision of usable and reliable land data on a statewide basis. Therefore, unless statewide standards are adopted, technological advances to provide better access to land data will remain fragmented and underutilized.

At the present time, there appears to be no general agreement among the clerks regarding the ultimate goal or direction for the future automation of land records, the provision of standard indexing policies, or the level of effort which should be made to improve clerk/local government cooperation. State coordination of these efforts would facilitate a more consistent and efficient land records process for the citizens of the Commonwealth. In addition, statutory adoption of uniform records procedures would set a standard for clerks' daily maintenance of land records. Moreover, additional standardization would provide more reliable and consistent information for any future linkages of land records data on a statewide basis.

MANAGEMENT OF LAND RECORDS IS PRIMARILY A LOCAL RESPONSIBILITY

Each of the 121 clerks in Virginia has an individualized process for managing the court's land records. Therefore, it is not surprising that the level of automation of an office's records system varies across jurisdictions. For example, more than half (60 percent) of the offices maintain on-line indexing systems, while a much smaller number (ten percent) utilize imaging technology. The remaining clerks' offices continue to use manual indexing systems.

While there is no clear-cut trend, it appears that urbanizing localities which are experiencing growth in population, construction demand, and consequently, increases in

real estate transactions, are more likely to adopt automated systems. Moreover, localities in which the clerk and other local government offices work together on technological issues appear to have a more coordinated and less duplicative land records automation process.

Automation Status of Land Records Differs Among Offices

Land records are housed in clerks' offices in a variety of map and textual formats. Depending on the jurisdiction, users of land records can expect to find real estate documents recorded in bound deed books, microfilm, microfiche, photostats, optical disc, and/or computer databases. While a growing number of clerks are upgrading their office automation, a significant number of jurisdictions remain on a manual system in which records are indexed and maintained in paper deed books and listings.

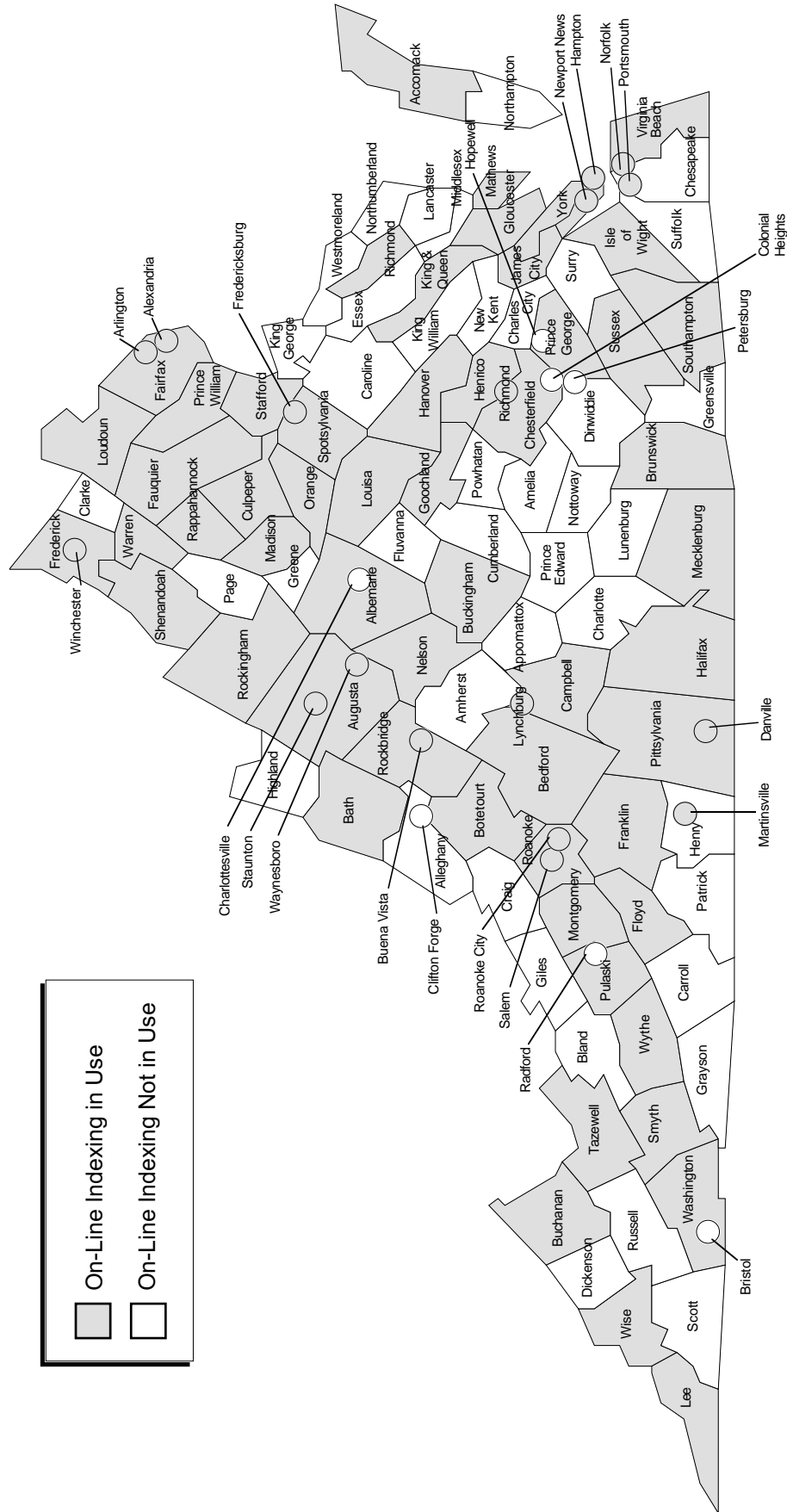
More Clerks Are Instituting Automated Indexes. Perhaps the most prevalent sign of the automation trend is the growing number of clerks' offices which utilize an on-line automated index of land records. Section 17-78 of the *Code of Virginia* requires that each office have a land records index which provides references on where to find land record information in the deed book. Those offices which have a manual system utilize a paper list of names which contains the needed reference information to point the user to the correct deed book and page number.

However, an increasing number of clerks' offices are moving to on-line systems in which a user types in an identifier (in most cases, the grantor or grantee name) and accesses the reference information on a computer screen (Figure 1). An automated indexing system is designed to shorten the amount of time spent searching for a name on a piece of paper; instead the system finds and displays the deed book information for the user after an identifier is provided. The Supreme Court of Virginia (Supreme Court), two private companies, and local governments' information technology departments are the main providers of automation equipment installation and maintenance services.

The Supreme Court Records Indexing System was first installed in 1991 in the Madison County circuit court. The Supreme Court's technical staff developed the system in-house and designed its features based on input from circuit court clerks. Upon installation of the system in an office, the Supreme Court provides a Unix-based server and, based on the size of the circuit court, the necessary number of terminals. The system enables land records users to type in a grantor/grantee name at a terminal, which subsequently displays deedbook and page number references and the address and description of the property.

Currently, 73 clerks' offices have an on-line automated indexing system (Table 2). However, in most cases only a few years of records are electronically indexed in the system. An office using the Supreme Court system has its index of deeds automated from the day of installation forward. Therefore, anything recorded before that day is still in a paper index. For example:

Figure 1
Local Circuit Court Clerks' Offices Using On-Line Indexing



Source: JLARC staff analysis of data provided by the Supreme Court of Virginia, the Department of Information Technology Circuit Court Survey (1996), and JLARC staff on-site and telephone interviews with circuit court clerks.

Table 2

Types of Land Records Indexing Systems

Type of Indexing System	Number of Circuit Courts	Percentage of Circuit Courts
Automated On-Line	73	60%
Supreme Court Records Indexing System	50	41%
Private Vendor Records Indexing System	19	16%
County Installed Records Indexing System	4	3%
Manual	48	40%

Source: JLARC staff analysis of data provided by the Supreme Court of Virginia and JLARC staff telephone interviews.

Goochland County had its Supreme Court records indexing system installed on July 1, 1994. Therefore, users are able to electronically access the index of land records from July 1, 1994 forward.

* * *

The City of Danville also uses the Supreme Court's system and has automated indexing for records from January 1, 1995 forward.

Fifty clerks' offices currently utilize the Supreme Court's records indexing system. From FY 1992 through FY 1996, these offices paid more than \$845,000 to the Supreme Court for equipment, installation, and maintenance services. Eight more clerks' offices are scheduled for installation of this system within the next two years. However, while the majority of those with an on-line index use the Supreme Court system, 19 percent of the clerks chose to work with a private vendor or with their local information technology offices. For example:

Fairfax County's indexing system currently provides automated indexing for only the prior year's land records. However, a new system is scheduled for installation by the county's information technology department in January 1997 and current plans include the automation of records from 1942 forward. Fairfax expects to spend more than \$161,000 for the system in FY 1997.

* * *

The Rockingham County clerk's office receives technical assistance from the county and has an on-line index for records filed since 1978. The clerk's office spent \$12,000 for the system in FY 1993 and FY 1994.

* * *

Chesterfield County's index is maintained by a private company and contains 29 years of data.

JLARC staff interviews with clerks showed that while some place a high priority on automating deeds from prior years, others do not plan to do so, mostly because of the lack of funding and staff time.

Interest in Optical Disc Imaging Is Growing. Another fairly new technology which a number of clerks have already adopted is the concept of optical disc imaging of land records. In general, an imaging system is capable of scanning deeds and plats into the system and storing the data on optical discs. This enables the user to view an image of a deed and plat on the terminal screen using the index as a reference pointer. Without an imaging system, a user may be able to find a grantor/grantee reference on the automated index but would still need to manually search microfilm or the deed book for the corresponding copy of the deed and plat.

Currently, 12 circuit court clerks' offices (ten percent) utilize an imaging system (Table 3). Eight of these offices use the Supreme Court's imaging system, which has been available since FY 1995. In the past two fiscal years, these clerks' offices have paid more than \$537,000 to obtain imaging equipment and maintenance services from the Supreme Court. An additional 17 offices are on a waiting list, which spans over two years, for installation of the Court's system. Other clerks' offices have expressed interest in imaging technology and are currently researching vendor and equipment options as well as financial feasibility.

While an imaging system can allow a user to access deeds and plats on the same screen as the index, the amount of data available in the system is limited. Currently, for most offices with this feature, electronic images date back less than two years. For example, the Richmond City clerk's office contracted with the Supreme Court for an imaging system which began with records submitted on September 1, 1995 and after. Consequently, the absence of data from previous years often necessitates additional manual and microfilm searches by users.

As with indexing, clerks differ on whether they plan to image past documents. Some do not feel they can justify the effort required given their offices' funding and staff constraints. Imaging databases collect more data each day they are in operation. This gradually builds up the amount of past records available. Consequently, some clerks feel they should wait and let time take its course. According to the Richmond City clerk, "it is expensive to go backwards and Richmond City is not a wealthy locality."

Other offices which have the ability to fund such an effort do plan to image past documents. For example, the Arlington County clerk's office began imaging its land records in 1995. It is currently in the process of imaging records from 1951 forward. According to the clerk, the office should be finished with this process in six months.

Some Clerks Are Pursuing Remote Access Options. Remote access provides users of land records with the option of accessing a jurisdiction's land records from a

Table 3

Clerks' Offices with Imaging Systems

Clerk's Office	Vendor/Provider of System
Arlington County	County
Bedford County	Supreme Court of Virginia
City of Charlottesville	Private Vendor
Chesterfield County	Private Vendor
City of Danville	Supreme Court of Virginia
Floyd County	Supreme Court of Virginia
Gloucester County	Supreme Court of Virginia
Isle of Wight County	Supreme Court of Virginia
City of Richmond	Supreme Court of Virginia
Stafford County	County
Tazewell County	Supreme Court of Virginia
Warren County	Supreme Court of Virginia

Source: JLARC staff analysis of data provided by the Supreme Court of Virginia, the Department of Information Technology Circuit Court Survey (1996), and JLARC staff telephone surveys with circuit court clerks.

computer terminal in their homes or offices. Therefore, a user would not have to go physically to the courthouse in order to obtain a copy of the records but instead could link with the circuit court's system using a modem. Clearly, remote access would not be possible unless that clerk's office had an automated on-line system.

Currently, offices which offer remote access provide linkage to their automated indexes. Several offices have expressed the desire to extend this access to optical images of deeds and plats as well. Since 90 percent of the clerks' offices do not have an imaging system at this time, remote access to records other than the index would be very limited. Nevertheless, because substantially more offices have an on-line indexing system, several clerks have been able to offer remote access to the index.

As Table 4 illustrates, 14 clerks' offices (12 percent) provide remote access to their on-line indexes. Four of them charge a fee for that access. Several of the larger clerks' offices expressed excitement that remote access would reduce user congestion and the number of public computer terminals needed in their offices. In contrast, some clerks of small jurisdictions commented that the relatively low volume of land instruments recorded in their offices does not warrant remote access technology.

Both the JLARC circuit court clerk survey and data from the Compensation Board show that the two jurisdictions with the largest volume of land instruments recorded are Fairfax County and the City of Virginia Beach. According to JLARC survey results, in FY 1996 the Fairfax County clerk's office recorded 180,135 land instruments and the Virginia Beach office recorded 87,767. During interviews with JLARC staff, both clerks expressed similar sentiments regarding the utility of remote access. Specifically,

Table 4**Clerks' Offices with Remote Access Options**

Clerk's Office	Currently Charges a Fee?*
Accomack County	Yes
Arlington County	No
Augusta County	Yes
Bedford County	No
Fairfax County	Yes
Floyd County	No
Nelson County	No
Richmond City	No
Rockbridge County	No
Smyth County	No
Staunton City	Yes
Tazewell County	No
Warren County	No
Wise County	No

*Does not include initial hook-up charge.

Source: JLARC staff on-site and telephone interviews with staff from circuit court clerks' offices.

each clerk stated that remote access will ultimately be cheaper for their offices because it will enable them to buy fewer readers, reader-printers, and terminals (which can cost as much as \$10,000 each). Fairfax already has remote access capability and, as of late October 1996, had 88 subscribers for this option.

Not all clerks, however, feel that remote access would be a valid use of funds for their offices. For example, the clerk for the City of Clifton Forge, which is one of the smallest jurisdictions in the State, does not think her office needs new technology for land records that involves imaging and remote access. According to JLARC survey results, 511 land instruments were recorded in Clifton Forge in FY 1996. In JLARC staff interviews, the clerk commented that "the city is shrinking and records are decreasing as well. We are only on deed book number 88. There is no difficulty keeping up with the few records we have." The clerk indicated that her office needs additional automation for other functions rather than for land records management.

Local Cooperation in Land Records Automation Efforts Varies

Currently, the level of communication and coordination between clerks and other local government offices vary. Given the multiple uses of land records data in a locality, a lack of communication and coordination among these offices can lead to the

formation of several systems which may or may not be electronically compatible with one another. This would result in inefficient utilization of public funds and possibly jeopardize opportunities to decrease duplicative tasks for both local personnel and public users working with land records.

As elected constitutional officers, circuit court clerks are not under the purview of local governing bodies. Therefore it is not surprising that in many localities clerks have traditionally been considered separate entities from the local government. However, continued residential and commercial development in some areas has created a need for greater cooperation between clerks and local officials in order to address increasing demands for land instrument recordings. It has also created a need to deal with a decreasing amount of records storage space in the courthouse. The ensuing coordination by the clerk and local government seems to have resulted in the development of county-wide land records systems which allow for less duplication of effort and greater systems compatibility.

For example:

The circuit court clerk of Wise County has worked closely with the county administrator's office and the board of supervisors in developing future policies and plans for land information in the county. The clerk chairs the county's GIS/Net committee which consists of local staff and several members of the board of supervisors. In addition, the clerk's office is working with the county's commissioner of revenue, treasurer, and sheriff's offices in efforts to cross-reference data and to look at merge options for land information material.

* * *

Stafford County has the Supreme Court indexing system and a county-developed imaging system. The county's department of information technology developed an automated land records system which is housed in the clerk's office but is capable of linking with other local government offices such as the commissioner of revenue. In designing this system, the clerk and the board of supervisors agreed that the main priority was ensuring compatibility of computer systems among the various offices and integrating the land information data.

In Stafford, the clerk and the local government wanted to ensure that making an entry into the system only once would be adequate for, and accessible by, the different offices. The county wanted to avoid duplication of effort by staff. According to the clerk, "all of us involved realized that we had to have a system which was compatible for all the offices using land records or else we'd be wasting time and money inputting the same data time and time again into different systems down the road."

The City of Virginia Beach and Arlington County are also pursuing clerk and local government coordination of records management:

The Virginia Beach circuit court clerk is currently working with other city officials on a concept called the Public Access Information Retrieval System (PAIRS). This system would link the clerk, treasurer, commissioner of revenue, and the city assessor's office in a information system which would provide users with relevant data from each office.

* * *

Arlington County's office of technology and information services has developed a county-wide system which links the circuit court clerk, treasurer, commissioner of revenue, real estate assessment, and survey offices.

According to the Arlington County clerk, communication between his office and other local offices has been extremely good. With this new system, "these other [local government] offices do not have to get a copy of my office's microfilm and then look things up. They have access to my records and I have access to theirs by one push of a button." He also stated that this new method was much less duplicative than those practiced in the past and now his office provides the basic information for the majority of land records data used in the county.

However, not all localities have the same level of communication and coordination between their clerks and local offices. For example:

Charles City County currently has an automated system which links the treasurer, commissioner of revenue, and department of planning's land data. The clerk's office is not a part of the system.

Because the clerk and these local offices need much of the same information for their records, it would have been more efficient to design a system which included the clerk's office so that information could have been entered in the system once. This could have prevented or reduced future duplication of effort.

Regardless of the level of automation of an office's land records, it is evident that a good coordinative relationship between clerk and local offices provides a greater potential for the development of a more efficient and integrated land records process for that jurisdiction. Therefore, future efforts in this area should be pursued by these offices throughout the Commonwealth.

UNIFORM LAND RECORDS WOULD PROMOTE AUTOMATION EFFORTS

In Virginia, statutory requirements governing the format, content, and procedures for recording land instruments are minimal. The *Code of Virginia* provides some general guidelines concerning the management of land records but leaves a substantial portion of the process unaddressed. Consequently, circuit court clerks have a consider-

able amount of discretion regarding the format and process used to record land instruments submitted to their offices. Within this statutory framework, key aspects of land records systems such as indexing procedures lack uniformity and can vary substantially among offices.

The absence of uniform standards has long been a concern of frequent users of land records in the Commonwealth. Frequent users include real estate attorneys, title examiners, real estate agents, and surveyors. Factors such as different formats for the same corporate name, the subjective use of articles, and a miscellaneous choice of abbreviations require users to spend substantially more time and effort in examining deeds than would be the case with uniform standards. For many of the frequent users of land records, the nature of their jobs require visits to multiple clerks' offices which all have different procedures and format policies. Consequently, users are required to operate in an overall structure which can be complex, uncertain, and inefficient.

If the State is interested in pursuing efforts to electronically link land records on a statewide basis, additional mandatory standards are needed to ensure that indexes are in consistent formats that enable users to have access to reliable and functional data. Without standardization, any linkages of land records would produce a haphazard collection of information with no uniform format, and consequently, with no assurance that users can use a set of standard procedures to obtain needed information. Therefore, if a dependable and efficient linkage of land records is a goal of the Commonwealth, current statutes will need to be amended before the adoption of uniform standards can be effectuated. Moreover, if the State's interest lies in further developing this land records linkage into a more sophisticated land information system which links records with mapping data, additional content requirements and technology standards would make the transition easier and less time consuming.

Circuit Court Clerks Have Discretion in Administering Records Indexing

According to the *Deed Book Manual* prepared by the Virginia Court Clerks Association in conjunction with staff from the Supreme Court, each circuit court clerk should perform a number of functions in order to ensure that the documents are recorded in a responsible and orderly manner. However, while the *Code of Virginia* prescribes some basic composition requirements for land records, it generally does not address aspects such as indexing formats and structures. Consequently, the makeup of the index is subject to each clerk's discretion.

Because of this, the content and organization of a land records index can vary substantially among the circuit courts. Rather than forming a statewide uniform policy, each clerk's office constructed its own individualized records indexing mechanism. This has resulted in no standard structure or requirements for indexing formats and policies in the Commonwealth. During interviews with JLARC staff, clerks agreed that indexing formats do vary by locality. As one clerk stated "when you have 121 elected personalities, you have 121 ways of doing things." Without additional statutory requirements, the

likelihood of all 121 clerks adopting one set of uniform indexing procedures is highly improbable.

Problems Exist with Current Land Records Indexing

Currently, frequent land record users cannot follow a standard, uniform method while using an index. Instead, they must practice a multitude of techniques that vary by jurisdiction. This often adds uncertainty to their working environment which, in many cases, depends on producing an exhaustive and complete search of land records. Users of land records claim that standards for indexing would result in more efficient, timely, and accurate products which would not only benefit them but also their clients — the general public.

In addition, without standardization, the dependability of data provided from a linkage of multi-jurisdictional land records indexes would be suspect. No index would be the same and therefore, a standard set of procedures for searching the linked data would be not be possible to implement. Consequently, the efficiency gains which a compilation of data could provide would be substantially hindered by this lack of uniformity.

Recurrent Land Record Users Often Utilize Multiple Clerks' Offices. In general, title examiners, real estate attorneys, surveyors, and realtors make up the majority of users who frequently utilize land records in the clerks' offices. For many of these individuals, their jobs require records examination in more than a single clerk's office. JLARC staff interviews and the results of the DIT title examiners survey (July 1996) show that users often visit several jurisdictions in any given week (Exhibit 3).

Despite the relative proximity of some of the offices illustrated in Exhibit 3, indexing procedures and formats are rarely, if ever, the same. Therefore, title examiners must use different methods for index searches in every court. Users claim that this lack of consistency creates an inefficient working environment which threatens the reliability of title examination results. In a JLARC staff interview, a title examiner commented that:

it is a pain to have to learn different systems. I must go to (each) clerk's office to get information and learn the system and find out what its requirements and procedures are. My service area is Newport News, Hampton, James City County, Isle of Wight, Surry, Gloucester, Mathews, and occasionally New Kent.

This individual then stated that his greatest desire would be "to have land records be standardized across the State and to have remote access to this information from anywhere in the State."

Variations in Indexing Format Hinder the Land Records Process. Since no one indexing procedure is utilized among the clerks, users must envision the many

Exhibit 3**Examples of Multiple Courthouses Regularly Accessed by Individual Title Examiners**

Courthouses Per Title Examiner

1. Fairfax, Arlington, Alexandria
2. Prince William, Loudon, Fairfax, Stafford, Fauquier, Warren
3. Chesterfield, Colonial Heights, Petersburg, Henrico, Dinwiddie
4. Loudon, Clarke, Fauquier, Fairfax
5. Richmond City, Henrico, Chesterfield, Hanover
6. Stafford, King George, Orange, Spotsylvania, Caroline, Westmoreland
7. Virginia Beach, Norfolk, Portsmouth, Chesapeake, Accomack, Northampton, Newport News, Hampton, York, James City, Suffolk, Isle of Wight

Source: Examples taken from results of the Circuit Court Automation Survey (Title Examiners), Department of Information Technology (July 1996) and JLARC staff interviews with title examiners.

ways court personnel could have entered the information and then try to duplicate these options in their searches. For example, one of the primary problems arising from inconsistent indexing procedures involves the format of corporate names.

According to a real estate attorney who is a frequent user of land records:

sometimes John Smith Truck Co. will be indexed as “Smith, John Truck Co.,” and at other (offices) as “John Smith Truck Co.” Of course this will place the names in two different parts of the index and the user would need to remember to check two different locations...Another problem deals with corporate names beginning with “the.” Some offices will index such names under the word “the” while others will use the following word. It appears that there are instances in which the word “the” is not technically a part of the name, such as “the City of...” but the name is still indexed under “the.”

Other examples of indexing disparities which often cause confusion for users include:

- the lack of a consistent standard for number formats,

Example 1: For names beginning with a digit, some clerks index the name in a separate section for numbers while others index according to the spelling of the number (e.g. “eight”)

and others index according to the spelling of the number but still input the name in its numerical format (e.g. "8")

Example 2: According to a respondent on the DIT survey, "I have seen 123 Commerce Corp. indexed under "one," lowercase "L" ("1"), and the number "1."

- the lack of a consistent standard for indexing churches,

Example: Some clerks index churches in a separate section while others index according to the spelling of the name

- the lack of a consistent standard for indexing localities,

Example: There are at least three ways to index Charlottesville:
(1) "Charlottesville City"
(2) "The City of Charlottesville"
(3) "City of Charlottesville"

- the lack of a consistent standard for spacing formats, and

Example: Depending on the spacing by the typist entering the information on an automated indexing system (such as "NA" and "NA " or "ABC" and "A B C"), a name can appear in different locations in the index

- the lack of a consistent standard for abbreviation formats.

Example 1: A name starting with the word "Saint" can be indexed in at least three different ways:
(1) "Saint"
(2) "St."
(3) "St"

Example 2: A name starting with the word "Virginia" can be indexed as:
(1) "Virginia"
(2) "VA"
(3) "Va."
(4) "Va"

All of these formatting problems are exacerbated by the use of automated indexes. An automated index relies on matching the format of the words a user enters into the system; therefore, even slight differences in formats can affect the resulting information which is subsequently displayed on the screen. As a result, users must type in a substantial number of iterations in order to ensure all possibilities have been exhausted. This lengthens the amount of time needed for each computer terminal at the

clerks' offices, affects overall congestion in the records room, and makes the process less efficient. According to one clerk:

indexing standards have become more important because more and more people are converting to an on-line automated system. Before, when indexes were still manual or typed in, it was not such an issue because title examiners had the whole list in front of them. With an automated index, if a user doesn't input a name in the same format that the clerk's personnel did, the user may not be able to find the right reference. Therefore, users have had to learn to type in different iterations.

The lack of uniform indexing procedures prevents the user from practicing a records search process which is straightforward and consistent. Until this changes, users will be unable to follow a standard uniform method for searching land record indexes in the Commonwealth.

Absence of Indexing Format Standards Hinders a Reliable Linkage of Multi-Jurisdictional Land Records Data. The lack of standard formatting procedures not only affects the efficiency of land record users' daily operations, it also impedes the feasibility of developing a reliable product from the linkage of land records from the clerks' offices. Given the present individualized indexing procedures practiced by the clerks, any linkage of current indexes would produce an assembly of data which lack uniform structure and format. There would be no standard set of procedures users could follow to obtain information on a multi-jurisdictional basis. Indeed, users would still need to envision the many different ways court personnel could have entered the information.

Consequently, without standardization, any multi-jurisdictional linkage of records would continue to promote confusion, uncertainty, and redundancy in the title examination process. The absence of indexing standards would result in the uniting of inconsistent information and would still require a substantial amount of guessing and repetition in the utilization of the data. This is not an efficient or effective way to develop a statewide database of land records data. If the State's interest lies in providing access to land records on a statewide basis, then statewide standards are needed to produce a reliable and user-friendly product.

Indexing Standards Would Increase Efficiency of Land Records Process

The lack of uniform standards for records indexing formats and procedures has created a process which is not always effective or efficient. Users must employ different techniques in every clerk's office in order to obtain the same type of information. Having experienced these same type of problems, the State of North Carolina has already adopted uniform formatting standards for all of its 100 counties. The adoption of uniform indexing standards in Virginia would substantially improve the current process by

providing a basic set of guidelines and procedures which are followed by all offices in the Commonwealth.

Moreover, if the State wishes to make land records data available on a statewide or regional basis, uniform standards would help ensure that the data are in a consistent format and structure. Without uniformity, any linkage of records indexes would produce a host of miscellaneous information with no consistent basis for review. Indeed, moving forward with a linkage of land records without adopting standards for the data would perpetuate current problems of uncertainty and inconsistency.

Standards Would Make Daily Utilization of Land Records Indexes More Efficient for Users. In its 1989 *Study of Land Information*, the United States Department of the Interior's Bureau of Land Management defined a standard as "a specification...or practice that has been approved...and adopted in accordance with the procedures established within the appropriate laws, regulations, [and] directives...governing such data." As described in the previous sections, indexing procedures vary by jurisdiction, which makes it impossible for the public and recurrent users to practice a consistent technique for finding the same type of information in each office. According to one clerk:

if there were standards, there wouldn't be this uncertainty and the users would have a lot more peace of mind. That is important. If clerks don't adopt the same indexing standards, then as computer indexing becomes more prevalent, title searchers will have quite a time trying to get into the mind of the clerks' personnel. As it is now, users are left on their own.

The adoption of uniform standards will not eradicate inconsistencies in the index due to human error, either on the part of the person submitting the land instrument for recordation or the clerical staff entering it into the index. Given the multitude of records in the Commonwealth, it would not be possible for indexing standards to address all possibilities and nuances that can arise in the indexing process. As one user commented, "as long as there are many people involved in the process, the weakest link will continue to undermine the system."

However, many of the problems users face today have to do with the lack of basic uniform rules for indexing. Adoption of uniform standards will not create a perfect system, but it would transform a process replete with uncertainty and inconsistency into one with a stable foundation based on consistent procedures and formats.

The *Deed Book Manual* states that "the Virginia Court Clerks' Association should develop some policy outlining a standard procedure for indexing." It then provides approximately two pages of suggested rules for indexing. However, no clerk is obligated by law to follow any of these formatting procedures. In fact, given the independent status of the clerks as constitutional officers, unless the State provides direction and statutory authority for the adoption of statewide indexing standards, the execution of standard indexing practices by all 121 clerks cannot be ensured or mandated.

Statutory statewide standards for indexing would require that each clerk's office practice basic uniform procedures for the formatting of information entered into a jurisdiction's land records index. Since users pay both taxes and recordation fees for the maintenance of land records, steps to improve the current process into a more user-friendly and consistent mechanism seem appropriate. A standardized indexing system would result in efficiencies in time and accuracy and therefore would make the cost of handling land transactions less expensive.

North Carolina Has Adopted Uniform Indexing Standards. The State of North Carolina has already undergone a standardization process. Starting on January 1, 1997, registers of deeds (North Carolina's counterpart for circuit court clerks) must follow minimum standards for indexing real property instruments. According to staff from North Carolina's Land Management Program, a legislative task force examined the practice of registers of deeds in the state and found that "it was very difficult for someone doing real estate work in multiple counties to figure out how all of this information was maintained in the different offices. Users were absolutely lost." Therefore, uniform indexing format procedures were recommended and subsequently adopted by the legislature to ensure that there was a common ground for specific factors in land records indexing among counties.

As in Virginia, an increasing number of registers of deeds offices in North Carolina are installing automated indexes in their offices. Land Program staff commented that:

as more and more counties automated, they wised up to the fact that there was a need for standards in indexing. They wanted to ensure that those counties who still had manual systems would not have to go through the same growing pains as they had to. When you truly leave a manual system for a computer one with an automated index, simple variations in spacing and punctuation dramatically affects how a name appears and sorts on an alphabetical list generated by the computer.

He then emphasized that "there is no question that you need consistency before you can do any more in the land records automation area which deals with linking records."

The North Carolina Bar Association, the North Carolina Association of Registers of Deeds, and the North Carolina Secretary of State's Land Records Management Division worked together to draft uniform formatting standards for indexing. The standards provide detailed explanations and descriptions of the correct formatting procedures. The standards also provide examples of incorrect methods in order to clarify directions for clerical personnel.

Indexing Standards Would Promote a Usable and Consistent Linkage of Land Records on a Statewide Basis. Uniformity in indexing would not only benefit users in current practices, it would also provide an easier path for future linkages of land

records based on reliable, straightforward data. By establishing a strong uniform foundation for all clerks to follow, the State would provide the needed direction and authority to establish a compatible environment which will allow for the linkage of land records between and among clerk's offices in the Commonwealth.

Moreover, if the State decides to implement proposed recommendations made in DIT's December 1996 draft report entitled *A Conceptual Model for Remote Access to Circuit Court Clerk's Electronic Records*, the need for standardization will become even more pronounced. DIT recommends in the draft a "central statewide electronic repository concept" which would involve creating one central data repository by consolidating land records data from the clerks' offices. According to the DIT draft report, "[a] centralized data repository is a physical location containing hardware, data, and applications. The central data center must be able to serve as a data distribution mechanism...."

Clearly, if all of the State's land records were deposited into one database without standardizing the current inconsistent indexing formats, there would be no consistency in how information would be listed and how it could be found. A 1990 land-use information and mapping study conducted by the Council on Information Management echoes this concern: "if everyone uses different data, in different formats, with different standards for describing the land, the inventory will be piecemeal and chaotic; the moneys spent on data development will be misspent...."

The State of Maryland has recently completed a project which links 20 of its 24 circuit court land record indexes. While some minimal content requirements were put in place for software reasons, uniform formatting standards were not adopted before the system was administered. Staff from the Administrative Office of the Courts, which is the oversight entity for the Maryland clerks' offices, stated that they hope to have indexing standards in the future. They also commented that users have lobbied for standards for years.

It appears that a more efficient and less duplicative approach for Virginia would be to follow a protocol similar to North Carolina's: standardize first and then link or consolidate the records. If the goal is to merely produce linked data, in whatever format, the Maryland example shows that this can be done. However, if the goal is to provide public access to data that is user-friendly, reliable, and consistent, indexing standards are essential.

Finally, the adoption of uniform indexing would constitute a responsible, foundation approach to any future land systems development in the Commonwealth. If the State is interested in pursuing any future evolution of sophisticated land information systems, such as statewide remote access to a land records database, it is crucial that land records be standardized first to ensure a feasible implementation process. Adopting uniform indexing procedures would be an important first step in the developmental process. Without standards, the creation of such a system would be substantially more complex, timely, and expensive.

Recommendation (1). The General Assembly may wish to amend the *Code of Virginia* to require the use of uniform statewide formatting standards for land records indexing.

Additional Content Standards May Improve Land Records and Facilitate Linkages with a GIS

Many suggestions for additional substantive content standards to modernize land records and facilitate linkages with a statewide GIS have been made by users of land records and GIS staff in localities. Land surveyors, title examiners, real estate attorneys, and directors of local GIS have stated that additional substantive content standards may be needed to achieve uniformity in the contents of land records — particularly deeds and plats. Additional content standards would help modernize land records and provide a better linkage of local land data with a GIS.

The State has made little progress to date in standardizing the contents of land records. CIM's Advisory Committee on Mapping, Surveying, and Land Information Systems had intended to study additional needs in this area. However, the committee was terminated on July 1, 1996 prior to any significant work being accomplished in this area.

Current Substantive Content Standards for Deeds and Plats Are Minimal. There are currently few required standards for the contents of deeds and plats. The *Code of Virginia* requires that all deeds contain certain information prior to recording the document with the circuit court clerk. This includes original signatures, proper acknowledgments, and a current business or residence address of the grantee. However, the *Code of Virginia* is silent as to the substantive content of the written legal property description, which is one of the most important aspects of the deed.

The *Code of Virginia* also requires that subdivision plats contain certain information prior to recording the document with the circuit court clerk. This includes a certificate signed by the certified professional engineer or land surveyor which sets forth the title source of the owner of the land that is subdivided, and the place of record where the last instrument in the chain of title can be located.

The Department of Professional and Occupational Regulation's Board for Architects, Professional Engineers, Land Surveyors, and Landscape Architects is the primary entity responsible for promulgating regulations which set forth the required minimum standards for the contents of plats. The Board accomplishes this through setting minimum standards and procedures for the land boundary surveying practice and for surveys determining the location of physical improvements to land parcels.

The Virginia Association for Mapping and Land Information Systems (VAMLIS) was formed to bring together individuals and organizations interested in mapping sciences (including cartography, land information and geographic information systems,

engineering, surveying, geography, photogrammetry, and land records management). VAMLIS is a statewide, nonprofit membership association which exists to provide advice and assistance to private and governmental entities in the areas of land information and geographic information systems. However, VAMLIS has no authority to promulgate standards in any of these areas.

Suggestions for Additional Contents of Deeds and Plats. As mentioned, a number of suggestions for additional standards for the contents of deeds and plats have been made for the purpose of modernizing land records and facilitating linkages with local and statewide GIS. Perspectives on these content standards, in addition to any other content standards which would assist with GIS development, should be obtained from those localities which have implemented a GIS. Current suggestions include: (1) the use of a unique parcel identification number and/or reference to the State plane coordinate system, (2) using metes and bounds descriptions, (3) updating legal property descriptions in deeds through surveys, (4) including a plat or reference to a previously recorded plat in all recorded deeds, and (5) marking property corners with personalized monuments on a statewide basis.

Unique Parcel Identification Number and/or Reference to the State Plane Coordinate System. Land surveyors, real estate attorneys, title examiners, and local GIS directors have suggested that requiring the use of a unique parcel identification number (PIN) and/or reference to the State plane coordinate system on recorded deeds and plats would help facilitate linkages with both local and a statewide GIS.

Currently the *Code of Virginia* gives 12 circuit court clerks' offices the discretion to require that deeds contain either a tax map reference number or PIN identifying the affected land parcel. These circuit court clerks' offices include: the counties of Arlington, Chesterfield, Fairfax, Fauquier, Loudoun, Montgomery, Prince William, and Spotsylvania; and the cities of Alexandria, Fairfax, Falls Church, and Virginia Beach. As a result, the vast majority of circuit court clerks' offices are not authorized to require this information.

The State plane coordinate system is referred to as the geodetic control layer in an automated land information or GIS. The geodetic control layer consists of a horizontal network defining 10,000 foot grids within the State with verified corner locations. This system was designed to minimize mapping distortion stemming from the curvature of the earth and to facilitate location of land survey monuments during the mapping process.

The benefit of requiring that all deeds and plats contain a unique PIN and/or reference to the State plane coordinate system is directly related to creating parcel layer data in an automated GIS. Parcel layer data in a GIS are actually parcel models which are created by fitting together plats with the benefit of parcel descriptions contained within other land records recorded in the circuit court clerks' offices. While parcel models are not meant to be a substitute for the legal property descriptions contained within deeds, these models are used in a GIS as the basis for many useful applications, including zoning and subdivision reviews, voter registration, police and fire protection, and routing for emergency services.

The required use of a unique PIN and/or reference to the State plane coordinate system would assist both a local and a statewide GIS in tracking parcel layer changes. In those localities using a GIS, a copy of the recorded plat is frequently used to modify the parcel model which results from further subdivision of the parcel or changes to the plat from a new survey.

Some localities that have developed a local GIS have already recognized the need for such a linkage. For example, Loudoun County adopted a Land Subdivision and Development Ordinance which requires that all plats recorded contain a reference to the State plane coordinate system. Loudoun County reported that this requirement has made the majority of new plats easier to incorporate into the parcel layer.

Metes and Bounds Descriptions. A metes and bounds description consists of a written mathematical description of the property which includes both distances and angles. The mathematical description resulting from a metes and bounds description is considered to be a highly accurate mechanism for describing property boundaries. Some surveyors have suggested that the Board should require that a metes and bounds description be completed by the land surveyor when performing a boundary survey in every instance.

While the Board's regulations currently state that a land surveyor prepare a metes and bounds description if requested by the client or their agent, this type of description is not required. Some surveyors have suggested that requiring land surveyors to prepare a metes and bounds description would improve the legal property descriptions contained in deeds. This would enable either the attorney or surveyor drafting the legal property description to provide an accurate assessment of the property boundaries.

Updating Legal Property Descriptions in Deeds Through Surveys. Some members of VAMLIS have suggested that outdated legal property descriptions contained within deeds should be updated through a survey of the property. It appears that some real property is being transferred in the State which contains legal property descriptions that were written as early as the 19th century.

Currently the *Code of Virginia* does not require that a survey be conducted to update the legal property description, as the decision to obtain a survey is generally left to the buyer of the real property. However, a survey is usually required by the lender if a mortgage is involved in the purchase of the property. While requiring a survey of the property in all instances could help protect the buyer from a boundary dispute and assist the locality with the development of its parcel models, the expense to buyers of requiring a survey in all instances would likely be prohibitive.

Inclusion of Plat or Reference to Previously Recorded Plat in All Recorded Deeds. There is no requirement that all deeds recorded in the circuit court clerks' offices contain either a copy of the plat or make reference to a previously recorded plat. Some land surveyors have suggested that such a requirement would improve the

content of deeds and facilitate location of the appropriate plat when title examinations are conducted. In addition, VAMLIS currently supports such a requirement.

Property Corners Marked with Personalized Monuments. The Board requires as part of the land surveying practice that property corners be marked with objects made of a permanent material and that their locations be physically marked onto the copy of the plat. This requirement was enacted by the Board in an effort to help reduce legal disputes over property boundaries, since properly-marked property corners may be used as legal monuments and are likely less susceptible to legal challenges. However, the *Code of Virginia* contains a provision which states that land surveyors are not required to follow this practice in 13 localities in northern Virginia. Some land surveyors have suggested that this practice should be required throughout the entire State.

Conclusion. While a number of suggestions for additional substantive content standards for deeds and plats have been addressed here, this discussion is not meant to be fully inclusive of all possible opportunities for improving content standards. Additional content standards for deeds and plats may be required to bring additional uniformity to land records and facilitate linkages with automated land information or GIS.

Recommendation (2). The General Assembly may wish to amend the *Code of Virginia* to require the adoption of additional standards for the content of land records in all Virginia localities.

Technology Standards or Guidelines Do Not Exist for Land Records Automation

Currently, there appears to be no general agreement among the clerks regarding the ultimate goal or direction for the future automation of land records equipment. As illustrated previously in this chapter, the level of automation in each office varies widely by locality. Clerks are not required to follow a set of guidelines when pursuing automation in their offices. Therefore, the progression of automation steps undertaken by one clerk can vary from the path chosen by another. This could encumber efforts to develop regional or statewide linkages of electronic data because there is no assurance that jurisdictions are automating the same features.

The absence of a statewide inventory regarding the automation and configuration status of clerks' offices could also impede a statewide linkage of land records, since there is a lack of information regarding the overall compatibility of the equipment for future interfacing procedures. At this time, no State agency or clerk's office has a comprehensive listing of the automation status, hardware, and vendor choices of each jurisdiction's clerk's office.

Automation Guidelines for Clerks Could Help Ensure Greater Systems Compatibility. Automation guidelines outlining costs, benefits, and logical progres-

sions of different land record technology options would provide clerks with more information about their automation choices. They could also promote a more consistent automation approach by the clerks and therefore make future linkages of land records more feasible.

During a JLARC staff interview with the clerk for the City of Charlottesville, the clerk indicated that he had recently hired a private vendor to begin optically scanning some of his office's land documents in order to make imaged records available to users at some point in the future. However, the clerk did not contract with a vendor to automate the records index, which is still in a manual format. Other clerks interviewed by JLARC staff automated their index first and then considered and/or implemented imaging options. In several of these cases, the offices are providing remote access to the electronic indexes.

In Charlottesville's case, a user will still need to go to the courthouse in order to examine the manual index and then utilize any imaging equipment. Clearly, this would not relieve congestion in the records room since users are more likely to stay and utilize the office's terminals. Therefore, it is doubtful if many users would utilize remote access options for this office. Moreover, it would not be possible to electronically link this office's index with other jurisdictions with automated systems.

Inventory of Automation Status and Components Would Be Beneficial to the State. During this study analysis, it became evident that no State agency or clerk's office had a comprehensive listing of the automation status of all of the clerk's offices. There was no complete inventory of the different automation status of each office. For example, although remote access has been the subject of substantial research and analysis in the past year by a number of State agencies, staff involved in circuit court automation issues were unable to identify during JLARC staff interviews which circuit courts provided remote access to their land records.

Staff from the Supreme Court, the Compensation Board, and the Department of Information Technology could not provide a definitive list of the remote access status of the clerks' offices. JLARC staff encountered the same uncertainty with regard to obtaining a complete list of offices with automated on-line indexes and a listing of those with imaging technology. JLARC staff interviews with several clerks revealed similar uncertainty regarding the status of other jurisdictions. Therefore, it appears that there was no summary of the automation status of circuit court clerks in the Commonwealth before this study.

If the State is interested in pursuing technology to develop linkage of multi-jurisdictional land records and/or to assess the utility of a GIS in the future, an inventory of land records technology in clerks' offices, to include items such as system configurations, vendor choices, and hardware types will be necessary. Moreover, if the State's interest lies in pursuing a complete linkage of all 121 circuit court offices, technology standards or benchmarks may be necessary to ensure that systems will have compatible features.

***Recommendation (3).* The General Assembly may wish to amend the Code of Virginia to authorize the Council on Information Management to issue technology guidelines and standards for land records management systems in the Commonwealth.**

AN INTERGOVERNMENTAL TASK FORCE WOULD PROMOTE IMPROVED MANAGEMENT OF LAND RECORDS

A mechanism is needed to advance the State's interests in modernizing and automating land records and facilitating linkages with local and statewide GIS initiatives. This mechanism should consist of the use of a permanent intergovernmental task force on land records management, which would define and operationalize the concept of land records modernization for the State, and build a consensus regarding how subsequent efforts should proceed. In addition, the task force would help identify and promote needed improvements to land records.

The task force should be composed of local government representatives (including circuit court clerks and commissioners of revenue), land records users, and representatives from several State agencies. The task force should be a permanent body with a two part mission. Its first mission should be to explicitly define as a matter of public policy how the State should operationalize the concept of land records modernization, and make appropriate recommendations to the General Assembly regarding necessary format, content, and technology standards for land records. In its second mission, the task force should promote and support land records modernization efforts in the State, and coordinate implementation of these efforts in the localities.

The role of the task force should be distinguished from the role established for the Virginia Geographic Information Authority (VGIA). If re-enacted by the 1997 General Assembly, VGIA will be charged with: (1) overseeing the development of conventions and standards for GIS, (2) procuring a statewide digital base map and promoting the development of certain data layers, and (3) acting as a clearinghouse of GIS data for State agencies and local and regional governments.

In contrast, the role of the intergovernmental task force would be to define the concept of land records modernization and build a consensus regarding needed improvements to land records in the clerks' offices. While there would be no direct overlap in the proposed role of the VGIA and the role of the task force, some communication between these two entities would be beneficial concerning the need for additional standards for land records which will facilitate linkages with local and statewide GIS.

Composition of the Task Force on Land Records Management

A number of options exist for the membership composition of the task force. Of most importance, however, is that the majority of the task force members be local

government representatives. A strong local government orientation is important, because it is at this level of government that land records are maintained and used most extensively. In addition, local governments likely have most to gain from modernization efforts. The task force should also have adequate representation from land records users and members representing several State agencies. Finally, staff support for the task force should be drawn from the State agencies represented on the task force.

Local Government Membership Orientation. The membership of the task force should consist of a majority of local government representatives, including clerks of the circuit court and commissioners of revenue. These constitutional officers represent the local government officials most directly involved in managing and using land records at the local level. In addition, the responsibilities of these constitutional officers would likely be affected by any subsequent efforts to modernize and automate land records. The task force should also include members from other departments of local government which are users of land records. These departments include local tax assessment, planning and zoning, building and development, and technology and information services.

Land Record Users. The task force should also include members of groups which make up the primary users of land records. Primary land record users consist of real estate attorneys, title examiners, and land surveyors, among others. These users have a great deal of experience working with land records and — as previously discussed in this chapter — are familiar with a number of issues involved in modernizing these records. Furthermore, the work of the primary land record users will likely be significantly affected by any subsequent modernization and automation efforts.

State Agency Representation and Staffing. State agency representation on the task force will also be important to its success. The task force should include upper-level management staff from the Supreme Court of Virginia (Supreme Court), the Department of Information Technology (DIT), the Council on Information Management (CIM), and the Library of Virginia. Additional staff from each of these agencies should also be used to support the work of the task force. Each of these agencies are appropriately positioned to provide valuable input and support into the work and deliberations of the task force.

The Supreme Court provides administrative assistance to circuit court clerks' offices by developing policies and procedures and offering technical assistance as requested. This assistance includes efforts related to improving circuit court clerks' administration of land records and automation efforts. As a result, Supreme Court staff are familiar with the process of administering land records in circuit court clerks' offices and the difficulties associated with this administration.

DIT recently conducted a study of remote access to land records as required by House Bill 963. This study contained a number of findings and recommendations concerning a remote access system for land records. Therefore, DIT staff are familiar with land records automation needs and can provide technical guidance to the task force as necessary.

CIM is responsible for helping State government make the best use of its growing investment in information technology. CIM also facilitates the development of computer systems and telecommunications networks that serve more than one State agency or which link State and local governments. In this capacity, CIM was chosen to provide staffing to the former Advisory Committee on Mapping, Surveying, and Land Information Systems. As a result, CIM staff are familiar with the concepts involved in facilitating linkages between land records and local and statewide GIS. CIM staff could also assist the task force in developing a structure that helps local governments make the best use of investments in land records modernization technology.

The Library of Virginia (LVA) is responsible for overseeing the proper management and preservation of public records retained by State agencies and local governments, including land records held by circuit court clerks. In this role LVA develops policies and procedures addressing records retention and disposition, reproduction and microfilming standards, and technology guidelines. Consequently, LVA staff are familiar with the need for land record preservation and access and can assist the task force in its deliberations concerning the need for additional standards for these records.

Responsibilities of the Task Force on Land Records

The task force should have a variety of responsibilities to complete. Its most important task will be to define and operationalize the concept of land records modernization for the State to follow over the long term and to develop and recommend to the General Assembly various standards for the form, content, and technology for land records. A number of duties have been identified which would help the task force perform these functions. These duties include preparing an inventory of automated land records technology in clerks' offices; providing guidance to localities for future automation of land records; identifying any negative privacy-related implications for automating land records; building a consensus on desirable features for land records modernization efforts; and developing options to fund these efforts.

Define Concept of Land Records Modernization and Develop Necessary Standards. One of the initial functions of the task force should be to explicitly define the concept of land records modernization. This operational definition should be used to guide the State's future efforts in modernizing and automating land records. As a part of this effort, the task force should develop recommended format, content, and technology standards for land records. These recommendations should be directed to the General Assembly.

As mentioned earlier, additional format and content standards for land records are needed to bring about uniformity, allow for more efficient retrieval of automated land record data, and facilitate linkages with local and a statewide GIS. The task force will contain members with the necessary expertise to develop standards, and can build a consensus on standards to be recommended for enactment by the General Assembly.

To the extent that the State currently supports land records modernization efforts, it does so through the information technology trust fund. This approach involves efforts to fund specific technological equipment in the clerks' offices, which may or may not be used to support land records modernization efforts. As a result, this approach is limited and poorly defined. While efforts supported by the trust fund may be necessary, they are not currently sufficient. An overall State plan needs to be developed to envision how these activities fit within the State's long-term goals regarding efforts to modernize and automate land records. The technology trust fund is discussed in greater detail in Chapter III.

As demonstrated by a few other states, other broader-based approaches are available for consideration by the task force in defining the concept of land records modernization and developing specific objectives to operationalize this definition. For example, a broad view of land records modernization has been taken by the states of North Carolina and Wisconsin.

North Carolina's Approach to Modernization. The North Carolina Land Records Management Division (LRMD) was established in 1977 as a comprehensive program to encourage the modernization and standardization of land records systems maintained in each county throughout the state. In carrying out this program, LRMD provides land records management consulting services to counties which request this assistance. The range of activities conducted by LRMD is varied in nature and scope, and involves many areas of land records management. These areas include aspects of register of deeds functions, cadastral and base mapping, and GIS.

Technical assistance to local governments constitutes a significant component of the LRMD's efforts to improve county land records. Technical assistance provided by LRMD covers a broad spectrum, and addresses: (1) uniform indexing of land records, (2) uniform recording procedures for maps and plats, (3) security and reproduction of land records, (4) centralized filing systems, (5) filming, filing, and recording techniques and equipment, (6) computerization efforts, and (7) storage and retrieval of documents.

Wisconsin's Approach to Modernization. The Wisconsin Land Information Program (WLIP) was established by the state legislature in 1989, following years of study and analysis. Program participation is voluntary, but conditioned upon establishment of a county land information office, and the development of a county-wide plan for land records modernization. Presently, all 72 Wisconsin counties participate in the program.

An important characteristic of WLIP is that it provides for flexibility and discretion on the part of local governments in developing their own land information programs based upon their own needs, priorities, and constraints. Furthermore, each county can determine what land records modernization projects it will undertake to qualify for program participation, as long as these projects fit within the definition of land records modernization developed by WLIP.

The conceptual model for WLIP was developed by the Wisconsin Land Records Committee (WLRC) in a two-year study conducted during the mid-1980's. WLRC identified several reasons to support land records modernization efforts, including:

- reduction of duplicative data collection efforts,
- use of guidelines for development of land information systems to promote compatible data and efficient data collection,
- improved competitive advantage in economic development,
- promotion of fair and efficient taxation of real property,
- promotion of more effective management of the state's natural resources,
- improved coordination of developing technologies used by agencies, and
- improved decision making through data integration and increased analytical capability.

WLIP is administered in accordance with land records modernization principles and policy objectives developed by the Wisconsin Land Information Board (WLIB). WLIP statutes define five separate components which comprise the duties of WLIB. These components include: (1) developing recommendations and requirements for locality-wide plans for land records modernization, (2) facilitating State agency integration of land information and land information systems, (3) acting as a State clearinghouse for land information and land information systems, (4) administering a grants-in-aid program for local governments concerning uniform land records and land information systems, and (5) providing technical assistance to State and local governments.

If a broad view to modernizing land records is seen as beneficial by the task force, some consideration may be given to creating a land management program in Virginia. This program could be based upon the approaches taken by North Carolina and Wisconsin. (Appendix C describes the land records modernization efforts of other states in more detail).

Inventory of Automated Technology Used in the Circuit Court Clerks' Offices for Land Records. As mentioned previously, the level of land records automation in each clerks' office varies widely by locality. Since clerks are not required to follow any guidelines for implementing land records automation, there are many different types of system approaches in place to support these efforts. Future efforts to promote a more consistent statewide approach to land records automation are likely dependent upon the compatibility of systems in use in the clerks' offices.

Currently, no inventory exists which details the automation efforts in place in the circuit court clerks' offices. An inventory of current automation efforts — including

hardware type, system configuration, costs to implement, and staff time to maintain — would likely benefit clerks' offices in their decision-making process when choosing how to automate. With this information, clerks' offices could learn from the automation experiences of other offices.

Further, this inventory would also benefit the State, since this information would likely be necessary if the State chooses to pursue a complete linkage of land records contained within the 121 circuit court clerks' offices. This linkage would require the development of statewide technology standards to ensure that the features of individual systems are compatible. As a result, there is a need for the task force to collect and prepare a comprehensive inventory of the automated technology in place at all of the circuit court clerks' offices.

Provide Guidance to Localities for Future Automation of Land Records.

The extent of technology and automation planning on the part of all the circuit court clerks is unknown. The Compensation Board staff stated that some circuit court clerks' offices — particularly those in large jurisdictions — have prepared technology plans, while most clerks' offices located in small and medium-sized jurisdictions have not done as much planning for the use of technology. This likely variation is understandable, and in most cases is probably explained by the overall level of automation in the clerks' offices. Those which have more technology and automation probably have done more planning in that regard than those which have not.

As a result, there appears to be no agreed upon goals for a future direction in land records automation for the offices on a statewide basis. Moreover, there are no statewide technology standards or guidelines in place to assist clerks in their automation planning efforts. Consequently, each clerk's office must develop its own technology standards once it makes the decision to automate its land records.

If the State is interested in promoting a future linkage of land record data, some consistency and shared goals will need to be developed and implemented on a statewide basis. The development of technology standards and guidelines for subsequent automation efforts would promote a more consistent approach and make future linkages of land records more feasible. As a result, the task force should develop statewide technology standards or guidelines for land records automation efforts and make recommendations to the Council on Information Management.

The need also exists for greater communication and coordination between clerks and local government offices regarding automating land record data. As discussed earlier, the level of communication and coordination between clerks and local government offices varies. Inadequate communication can lead to the formation of systems in these offices which are not linked electronically, and, consequently, may not be compatible. Incompatibility of systems within the same political subdivision will likely result in the duplicative entry of land records data and inefficient mechanisms for retrieving this data.

As a result, the task force should develop mechanisms to promote additional communication and coordination between clerks' and local government offices regarding efforts to automate land record data. Enhanced communication and coordination between these offices will likely provide a greater potential for the development of locally integrated land records systems. In addition to being a more efficient and effective mechanism for processing land record data in political subdivisions, the use of locally integrated land records systems could hold greater promise for future statewide linkages of land records data.

Review of Privacy Issues. Efforts by the circuit court clerks' offices to further automate land records and provide remote access to these records may have implications for the implementation of the Privacy Protection Act of 1976 (PPA). The General Assembly passed the PPA to safeguard individuals from the collection and dissemination of certain information about individuals by agencies of the Commonwealth and political subdivisions, including offices of the circuit court clerks.

The General Assembly found it necessary to establish certain procedural safeguards to protect individuals, after finding that: (1) a person's privacy is affected by the collection, maintenance, and use of personal information, (2) increased use of computers and information technology has magnified the harm that may occur from these practices, and (3) a person's opportunities to secure insurance, credit, employment, and right to due process and other legal protections are endangered by the misuse of certain information collected about the individual. As a result, the task force on land records management should address whether continued efforts to automate and provide remote access to land records may have any negative implications for implementation of the PPA.

Potentially Desirable Features for the Modernization of Land Records. JLARC staff identified a number of potentially desirable features which should be considered in pursuing future land records modernization efforts and facilitating linkages with local and statewide GIS. These features were identified through interviews with circuit court clerks, land surveyors, title examiners, real estate attorneys, and directors of local geographic information systems. While an integrated statewide automated system for land record information may be the ultimate goal of the State, a number of interim steps in the form of potentially desirable features will likely be necessary to move localities towards this goal.

Exhibit 4 illustrates these potentially desirable features and the criteria by which these features should be assessed by the task force. These features are listed in order of increasing sophistication. For example, the first feature refers to providing other types of search parameters for use in automated on-line deed indexing systems. Some title examiners have expressed the desire to be able to search these systems using search parameters other than grantor and grantee. Title examiners reason that building additional search parameters into the system — for example, property address — would allow for a more efficient retrieval of information, as fewer records would need to be reviewed to locate the property of interest.

Exhibit 4

Potentially Desirable Features for Modernizing Land Records and Criteria for Assessment

Potentially Desirable Features

- Require automated on-line deed indexing systems to provide search parameters in addition to grantor and grantee.
- Require additional content standards for deeds.
- Require additional content standards for plats.
- Promote additional connectivity of land record data between clerks' offices and departments of local government within the political subdivision.

Criteria for Assessment

- | | |
|-------------------------|--------------------|
| • Technical feasibility | • Cost to State |
| • Promotes accuracy | • Cost to locality |
| • Promotes connectivity | • Cost to user |

Source: JLARC staff analysis of interviews with circuit court clerks, land surveyors, title examiners, real estate attorneys, and local GIS directors.

Other desirable features identified during the task force's deliberations should be assessed using the same six criteria identified in Exhibit 4. The task force will also need to identify appropriate methods by which each desirable feature could be analyzed using the criteria for assessment. Based on the results of this analysis the task force should build a consensus as to which of these features are most desirable to the Commonwealth, methods to implement these features, and appropriate timeframes for implementation.

***Recommendation (4).* The General Assembly may wish to establish an Intergovernmental Task Force on Land Records Management to develop a recommended policy framework and structure designed to define and advance the State's interests in modernizing land records. The Task Force should be charged to: define and operationalize the concept of land records modernization for the State; prepare an inventory of automated land records technology in clerks' offices; provide guidance to localities for future automation of land records; identify any negative privacy-related implications for automating land records; build a consensus to adopt desirable features for land records modernization efforts; and recommend appropriate statutory changes to the General Assembly. Membership should be composed of local government representatives, consitutional officers, land record users, and State agency**

representatives from the Office of the Executive Secretary of the Supreme Court, the Department of Information Technology, the Council on Information Management, and The Library of Virginia.

Funding Options Need to Be Addressed. If the task force defines the concept of modernizing land records broadly, then a framework will be needed to appropriately fund land records modernization efforts. Input from local government representatives is needed to help the State determine the role that State funding should play in supporting achievement of policy objectives related to land records modernization. A number of potential approaches for funding land records modernization efforts, identified for consideration by the task force, are discussed in Chapter III.

III. Funding for Land Records Modernization

Historically, the State has provided little if any financial support to the land records modernization efforts in localities. Specifically, in the past the State has not provided funding to circuit court clerks for the purchase of technology or other equipment, including that which could be used to modernize and automate land records. However, the State has recently begun to provide technology and equipment funding for circuit court clerks.

In 1996, the General Assembly established an information technology trust fund for the benefit of circuit court clerks and the users of land records kept by the clerks. The size of the trust fund is projected to reach \$4.1 million by June 30, 1997, with two-thirds designated for the clerks and one-third designated for DIT studies to design and implement a remote access system. Based on Compensation Board projections, 46 percent of this amount will be collected in just 10 of 121 jurisdictions (Figure 2).

There are several problematic aspects of trust fund allocation policy that the General Assembly may wish to address. These problems concern the types of expenditures that are appropriate using trust fund money, and the amount of discretion that the clerks should have in making such expenditures. In order to ensure that appropriated State funds are spent pursuant to legislative intent, the General Assembly may wish to more explicitly define the conditions under which trust fund money can be spent.

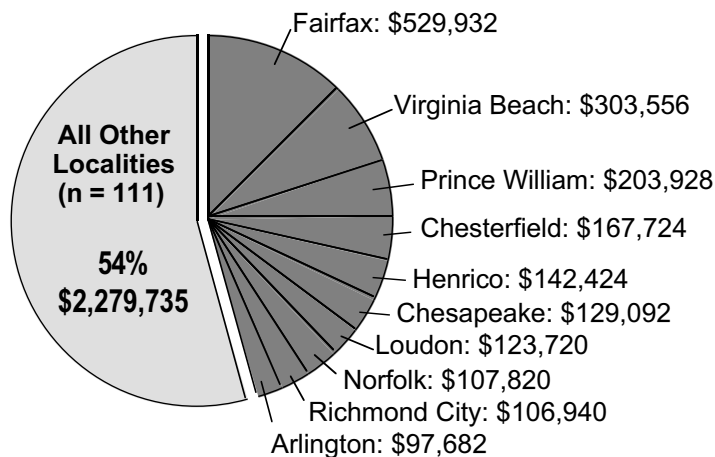
In addition, if the General Assembly wants the State to pursue broader-based efforts to modernize land records — beyond the relatively narrow approach currently supported by the trust fund — it would be beneficial to develop a funding mechanism that is linked to a broader conceptual framework for land records modernization. In doing so, the General Assembly should determine the role that State funding should play in promoting land records modernization efforts by the constitutional officers and by political subdivisions. Depending on legislative intent, the trust fund could potentially be used as a means of providing support for such a broad-based land records modernization effort.

INFORMATION TECHNOLOGY TRUST FUND DEVELOPMENT AND IMPLEMENTATION

Section 14.1-125.2 of the *Code of Virginia* establishes a trust fund which consists of revenues obtained from an additional three dollar recordation and filing fee collected by each circuit court clerk. A portion of the fund is to be used to help circuit court clerks obtain office and information technology, preserve and maintain court records, and improve public access to court records. A smaller portion of the fund is to be used by the Department of Information Technology (DIT) to design and implement a statewide system of remote access which interfaces with the multiple systems used by the clerks'

Figure 2

Forty-Six Percent of the Projected Revenues for the Information Technology Trust Fund Come from Ten Localities



Total Projected Collections: \$4,192,553
Ten-Locality Total: \$1,912,818

Source: JLARC staff analysis of Compensation Board data.

offices. The trust fund is scheduled to sunset on June 30, 1997 unless re-authorized by the General Assembly.

Disagreement over the legislative intent of the trust fund has been compounded by difficulties in establishing an allocation policy. The design and implementation of the trust fund has been characterized by difficulties in making fundamental decisions concerning how money will be allocated from the trust fund and ultimately spent by the circuit court clerks. Several significant decisions have still not been made, such as the specific types of expenditures that may be made with trust fund money, and the criteria and methodology that will be used by the Compensation Board to make funding decisions.

Overview of Information Technology Trust Fund Legislation

HB 963 of the 1996 Session created an information technology trust fund to provide financial support to circuit court clerks and to DIT. An additional three dollar recordation and filing fee is assessed and collected by each circuit court clerk on three categories of legal documents: "in each law and chancery action, upon each instrument to be recorded in the deed books, and upon each judgment to be docketed in the judgment

lien docket book.” These funds are transmitted to the State Treasurer and ultimately are to be allocated by the Compensation Board to the circuit court clerks and DIT. Concurrent with the enactment of HB 963, the Compensation Board received an appropriation of \$5.4 million for FY 1997 for the information technology trust fund. This appropriation was based on a projection of funds to be collected by the clerks. Table 5 summarizes the key statutory provisions of the trust fund.

Origins of Information Technology Trust Fund Legislation

Historically, the State’s role in funding circuit court clerks’ offices has been limited to providing support for personnel expenses. The State provides general fund support to pay the salary expenses of approved positions based on formal workload standards. In contrast, non-personnel expenses of clerks’ offices have traditionally been the responsibility of the political subdivisions. Section 15.1-19 of the *Code of Virginia* states that:

The governing body of each county and city shall, at the expense of the county or city, provide suitable books and stationary in addition to supplies furnished by the Commonwealth, for the use of clerks of all courts of record, together with appropriate cases and other furniture, for the safe and convenient keeping of all the books, documents and papers, in the custody of such officers and also official seals for such officers, when the same are required by law; and also such other office equipment and appliances, including typewriters and adding machines, as in their judgment may be reasonably necessary for the proper conduct of such offices.

The extent to which localities provide support to their circuit court clerk appears to vary. The equipment needs of clerks’ offices can vary based on workload and the extent of prior financial support from the locality.

Prior to the 1996 session, the circuit court clerks had tried unsuccessfully for several years to convince the General Assembly to provide supplemental funding for equipment directly to the clerks’ offices out of additional recordation fees. This type of additional, direct funding was seen as necessary in order to automate the clerks’ offices. The clerks’ position was based on the following points:

- Automation is vital for the preservation and enhancement of current court records, the effective and efficient recordation of new records, and to provide individuals and businesses with greater and more flexible access to the records.
- Providing this kind of access will require computer hardware and software that can prove to be quite expensive, especially for start-up costs.

Table 5

Statutory Provisions Concerning Information Technology Trust Fund	
Fund Source	Three dollar fee upon each instrument recorded in each law and chancery action, each document recorded in the deed book, and upon each judgment docketed in the judgment lien book
Entities to be Funded	Two dollars of the fee to the circuit court clerks; One dollar of the fee to DIT
Use of Funds by Clerks	(i) Obtaining office and information technology equipment, including software and conversion services; (ii) Preserving, maintaining, and enhancing court records including, but not limited to, repairs, maintenance, service contracts and system upgrades; and (iii) Improving public access to court records
Use of Funds by DIT	(i) Design of a remote-access system accessible to end-users on a uniform, statewide basis which interfaces with the multiple systems used by the clerks' offices; (ii) Determination of uniform statewide implementation strategies, allocations to circuit court clerks and a budget for the remote-access system; (iii) Establishment of guidelines for additional fees, such as hook-up fees, connect-time charges, and transaction fees to be charged by the clerks for remote-access; and (iv) Implementation of the remote-access system
Fund Allocation Process	Compensation Board in consultation with the clerks shall develop policies governing allocation of funds. Compensation Board shall consider the current automation of the clerks' offices and recommendations made in any study conducted by DIT regarding automation of clerks' offices. Annual budget submitted by each clerk to the Compensation Board shall include a request for technology improvements in the upcoming fiscal year. Clerk's budget request shall not exceed amount of the technology trust fund fees collected by the clerk. Allocation by Compensation Board to a clerk shall not exceed the amount of the technology trust fund fees collected by the clerk.
Information Technology Programs	Information regarding programs adopted by the circuit court clerks shall be shared with the Department of Information Technology, the Library of Virginia, and the Supreme Court of Virginia.
Role of Locality	These provisions shall not be construed to diminish the statutory duty of local governing bodies to furnish equipment and supplies to the clerks. Revenue raised from the technology trust fund fee shall not supplant current funding to clerks' offices by local governing bodies.
Effective Date	Effective July 1, 1996, with expiration date of June 30, 1997
Source: JLARC staff analysis of Section 14.1-125.2 of the <i>Code of Virginia</i> .	

- Imposing an additional recordation fee may be the most reliable source for such funding.
- Once established such automated systems can be maintained by reasonably small user fees.

In addition, many clerks were of the opinion that they were not receiving their fair share of recordation fees to support technology improvement efforts. In FY 1996, the State collected more than \$90 million in tax revenue from the recordation of deeds. According to the clerks, prior increases in State recordation fees had all gone to the general fund, and none had been designated for use in support of clerks' equipment needs.

State Revenue Derived from Land Transactions. In addition to the three dollar technology trust fund fee, Virginia's circuit court clerks assess and collect two state taxes, and several other statutory fees that are related to the recordation of land instruments. Table 6 describes the various recordation taxes and fees.

With a few exceptions such as the Library of Virginia fee, revenue from State recordation taxes and fees is deposited into the State general fund. While comprising a relatively minor source of revenue for the State, the total amount of revenue collected for the State as a result of land recordation is nonetheless substantial. During FY 1996, circuit court clerks collected \$91 million for the State in taxes, and an additional \$16 million in fees, paid by individuals recording and filing real estate instruments.

It is not known what percentage of trust fund revenue is attributable to land recordation as opposed to civil filings in law and chancery actions. This is because no State agency tracks the three different revenue stream components of the trust fund: law and chancery actions, deed recordations, and judgment liens on real property. However, based on the number of land instruments recorded by the clerks, JLARC estimates that 79 percent of trust fund revenues are attributable to the recordation of deeds, and an additional nine percent is attributable to the filing of judgment liens on real property.

Upon receipt of revenue and expense reports from the clerks, the Compensation Board calculates the amount by which revenues exceed or trail expenses. Those offices with revenues greater than expenses are referred to as being "in excess." Two-thirds of the net excess for a clerk's office is returned to the governing body of the clerk's political subdivision. One-third of any excess is retained by the State. In FY 1996, 25 clerks' offices were in excess, with the excess revenue of these offices totaling more than \$12 million.

HB 963 of the 1996 Session. During the 1996 Session, the circuit court clerks again proposed legislation for an information technology trust fund. According to the clerks' original legislative proposal, two dollars of the additional three dollar fee collected by a clerk would be retained by the clerk and utilized for obtaining information technology equipment. The additional one dollar was to be paid into a special fund administered by the State Treasurer, in cooperation with the circuit court clerks, for the same purpose. Therefore, two-thirds of trust fund expenditures would have been entirely discretionary on the part of the clerks.

Table 6

State and Local Land Recordation Taxes and Fees Collected by Circuit Court Clerks

Description	Amount	Code of Virginia Section
State Recordation Tax (paid by grantee)	15 cents per \$100 value	§§58.1-801 through 58.1-811
State Grantor Tax	25 cents per \$500 value	§58.1-802
State Transfer Fee (on deeds)	\$1	§§58.1-3314 - 58.1-3315
State Transfer Fee (on deeds of partition)	\$1.75	§58.1-3314(2)
State Recording and Indexing Fee	\$12 for up to four pages; Additional \$1 for each additional page, and additional \$1 for each name indexed over ten names	§14.1-112(2)
State Plat Recordation Fee (assessed on plats too large to be recorded in deed book)	\$12 (plus additional \$1 for the Library of Virginia)	§14.1-112(2)
State Judgment Lien Docketing and Indexing Fee	\$5	§14.1-112(22)
Library of Virginia Fee	\$1	§14.1-112(2)
Local Recordation Tax (optional for localities - paid by grantee)	5 cents per \$100 value	§58.1-814
Local Grantor Tax	25 cents per \$500 value	§58.1-802

Source: JLARC staff analysis of documentation provided by the Office of the Executive Secretary of the State Supreme Court.

Concerns of the Virginia Association of Realtors. The real estate industry, and in particular the Virginia Association of Realtors (VAR), is opposed to State recordation fees as a matter of principle. The VAR believes that there is no historical connection between the amount of recordation fees and the services provided by the clerks. The VAR is also not satisfied with the fact that recordation fees go to the State's general fund. The VAR, which had been instrumental in defeating prior attempts of the clerks to establish an information technology trust fund, was confident that it could also defeat the proposal during the 1996 Session. Nevertheless, the VAR decided to approach the Virginia Court Clerks Association (VCCA) to determine if some sort of compromise arrangement could be developed that would benefit both sides.

Three key concessions were obtained by the VAR during consideration of the legislation in the 1996 Session. First, the clerks were not given complete discretion in how to spend these funds. Rather, the Compensation Board was given the responsibility

for allocating money from the trust fund for purposes to be agreed upon with the clerks at a later date. Second, part of the additional fee would be used to design and implement an automated system whereby an individual — such as a real estate attorney, a realtor, or a title examiner — could electronically access land records in a circuit court clerk's office from a remote location. Third, the legislation authorizing the collection of the additional fee would sunset after one year.

The enactment of HB 963 was the result of a series of compromises among interested parties — particularly the VCCA and the VAR — acting under significant time constraints. The legislation was rewritten several times prior to enactment. In retrospect, it appears that HB 963 would not have been enacted without the support and cooperation of the VAR. Unfortunately, expectations that several interested parties, including the VAR, apparently had during the 1996 Session regarding the legislation do not seem to be on track for realization.

Many Aspects of Trust Fund Design and Implementation Are Problematic

One of the fundamental problems with the structure of the information technology trust fund is that funding decisions — such as the amount of the additional recordation fee and the date to begin collecting the additional fee — were made and implemented prior to adequately defining the purposes for which this additional State revenue could be used. The fact that issues related to the use of the funds have not yet been resolved raises questions about the effectiveness of the policy development process used to date. It also raises questions about the adequacy and appropriateness of the underlying statutory provisions.

It appears as if a potential conflict may be developing between the Compensation Board and at least some of the circuit court clerks regarding the types of expenditures that may be made using trust fund money. Based on interviews with JLARC staff, it appears that each group has differing interpretations of the trust fund's statutory provisions. For example, the Executive Secretary of the Compensation Board told JLARC staff that the types of equipment specified in Section 14.1-125.2 merely refer to those items for which the clerks may request reimbursement from the trust fund. Actual funding decisions, according to the Executive Secretary, will be made based on the following funding priorities previously established by the Compensation Board: computers, office equipment (for example, fax machines), and furniture. However, some of the clerks interviewed by JLARC staff do not appear to share that interpretation, and believe rather that the list of equipment in the statute refers to items for which funding approval should be granted. One clerk from a large county told JLARC staff that, if his office is denied reimbursement for an item that fits within the agreed upon definition of technology, the Compensation Board better have a good reason "because the trust fund was intended to move clerks' offices forward."

In light of the problems that have arisen in an attempt to develop an allocation policy for the trust fund, the future of the trust fund may be approaching a critical point. A representative of the VAR told JLARC staff that the VAR does not know whether it will

support renewal of the trust fund. Currently, the VAR does not believe it has enough information to make a decision. The VAR remains committed to the concept of remote access to records, but will not support renewal of HB 963 if the operational definition of technology remains so broad. In an interview, a representative of the VAR also told JLARC staff that an increase in the three dollar fee would not be supported.

Trust Fund Allocation Policy and Process Not Yet Fully Defined. The *Code of Virginia* requires the Compensation Board, in consultation with the circuit court clerks, to develop allocation policies for the trust fund. Efforts to develop an allocation policy are still in progress. The development of the potential dispute over the fund is attributable to various administrative and implementation issues that have proved to be problematic since the establishment of the trust fund. These issues include the following:

- What is technology?
- What should be done with any unexpended funds?
- How will the fiscal stress index be utilized regarding the fund?
- How will information be disseminated to the clerks?
- How will the fund be allocated?
- How will the sunset provision be dealt with?
- How will interest on deposits to the fund be allocated?
- How will revenue limitations of courts in small jurisdictions be taken into account?
- Will fund revenue continue to be derived from recordation fees?
- Will the trust fund be reappropriated, and can clerks carry over an allocation to the following year?
- How should any unexpended balance from the DIT study allocation be used?

The Compensation Board has not yet developed criteria or a methodology for evaluating equipment funding requests from the clerks. In late October 1996, staff of the Compensation Board informed JLARC staff that such a methodology and criteria will be ready by February 1, 1997, or shortly thereafter.

Definition of Technology Lacks Focus. Once the trust fund was established, and after the clerks' began to collect the additional three dollar fee, the Compensation Board asked the clerks to form a committee to make recommendations concerning the trust fund. According to the Compensation Board, one of the primary issues to be resolved was to reach consensus on what did and did not constitute "technology." In other words,

what types of items could be purchased using trust fund money? The clerks formed a technology trust fund committee to work with the Compensation Board.

The Compensation Board, in consultation with DIT, proposed the following definition of technology to the clerks:

Technology is an electronic interface with court records that are in an automated media and which will allow for remote access to those records during regular and extended hours. Products and services which support that interface and meet one of a series of interface standards as well as the capturing of court data in a digitized format will be considered to be technology for the purpose of Compensation Board funding.

The focus of the proposed definition was thus on the concept of remote access to records.

The definition of technology proposed by the Compensation Board and DIT was unacceptable to the VCCA's Executive Board on the grounds that it was too narrow and did not conform with the "plain and unambiguous intent of the legislature." Moreover, the VCCA believed that such a narrow definition of technology would disproportionately hurt clerks' offices in small jurisdictions. In reiterating its opposition to the proposed definition of technology, the VCCA's Executive Board described its opinion of the legislative intent of HB 963:

The VCCA's intent in pushing this legislation was to allow small, medium, and large courts to improve the efficiency of their offices while at the same time providing better customer service, including improved access to court records.... The trust fund money was never intended to be a remote access bill nor was it intended to be limited to land records applications. It was intended to allow Clerks to obtain equipment to improve their operations, preserve court records and improve customer service, including access to court records.

The VCCA also noted that while, in many jurisdictions, expenditures by clerks using trust fund money might be interrelated with a remote access system, such a relationship was not mandated according to a strict interpretation of the statute. However, there is apparently not a consensus among all of the clerks on this issue. The clerk of one large jurisdiction told JLARC staff that he had been intimately involved in the clerks' efforts to establish a technology trust fund over the past five years. In his opinion, that effort had always been directed toward the goal of remote access.

At about the same time, the VCCA's technology trust fund committee proposed the following policy for the technology trust fund:

As a general rule, monies collected pursuant to Section 14.1-125.2(B) of the Code of Virginia should be allocated as prescribed in said statute. The VCCA encourages all Clerks to use said funds for information

technology; preserving, maintaining and enhancing court records; and improving public access to court records. However, the VCCA recognizes the vast diversity in size between Clerks' Offices, the unique needs of individual Clerk's Offices, and the varying degrees of automation in each Clerk's Office. Therefore, based upon Section 14.1-125.2(B) directive that the Compensation Board "consider the current automation of Clerks' Offices..." in allocating funds, it is permissible for Clerks to have requests for office equipment granted.

Based on the VCCA Executive Board's response to its proposed definition, the Compensation Board adopted the following definition of technology in September 1996:

Technology is any office and information technology equipment used to preserve, maintain, and enhance court records, including software and conversion, costs of repairs, maintenance, service contracts, system upgrades, and improving public access to court records.

This definition is taken almost word for word from the statute establishing the trust fund. The problem with this definition is that it includes the term to be defined. In other words, technology is defined as being technology.

Authorized Expenditures Have Not Yet Been Determined. The fact that the Compensation Board ultimately agreed with the VCCA's definition of technology did not end the uncertainty concerning how trust fund money could be spent. Based on a proposal from the VCCA's technology trust fund committee, the Compensation Board proposed a definitive list of hardware, software, peripherals, contractual services and other equipment which clerks may request to purchase using trust fund money (Exhibit 5).

The president of the VCCA stated that the proposed list of equipment as stated in Exhibit 5 is satisfactory, provided that it is understood that the list includes some but not all items that the VCCA might consider permissible under the statute. According to the VCCA president, "the Compensation Board must understand that there may be items clerks may ask for beyond those encompassed in the list, and that door must remain open." It is the position of the VCCA president that clerks may request items not contained in the list. This is consistent with a statement of the Executive Secretary of the Compensation Board to JLARC staff that the VCCA is having difficulty reaching consensus on how trust fund money should be spent.

The *Code of Virginia* requires that the Compensation Board take the current level of automation in each clerk's office into consideration when allocating money from the trust fund. Partly in response to this requirement, the Compensation Board has suggested the creation of another clerks' committee dealing with the technology trust fund. This committee, which might also include a representative from DIT, would review expenditure requests from individual clerks and make recommendations to the Compensation Board. The Compensation Board envisions that the committee would be able to examine automation data compiled by DIT from its recent survey of circuit court clerks.

Exhibit 5

Proposed Agreement Between VCCA and Compensation Board on Equipment that Clerks' May Request to Purchase Using Information Technology Trust Fund

Hardware	CD ROM drive, CD ROM media, Optical Disk Platters, Juke Box, Communication/Network Cards (Token Ring, etc.), Memory Upgrade (Boards/Chips), Disk Drives, Tape Backup Systems, File Server, Modem, Personal Computer, Computer Monitor (upgrades for scanning and retrieval purposes), Printer, Scanner, VCIN terminal
Software	Bar Coding Devices, Software
Peripherals	Disk/Tape Storage Carousels, Computer Cables/Adapters, Battery Packs for Emergency Backup in Case of Electrical Outage
Contractual Services	Maintenance Contracts, Vendor Services/Consulting
Other	Electronic Numbering Machines, Fax Machine, Microfilm Reader and/or Printer, Microfilm Camera, Microfilm Processor, Courtroom Audio-Visual Devices (i.e. transcription/recording devices), Archival Storage Materials
Source: JLARC staff review of correspondence from VCCA president to Compensation Board dated October 24, 1996.	

The president of the VCCA responded to this proposal by noting that the trust fund statute does not require such a committee to play a role in the allocation of funds. "However, if such a committee is appointed...the clerks should have the majority vote. Anything other than a majority vote on such a committee is unacceptable." It is not known if such a committee will be appointed and, if so, what effect its recommendations will have on the Compensation Board's ultimate decisions.

Extent of Technology Planning Varies Among Clerks' Offices. Overall, the staff of the Compensation Board has doubts about the extent of technology planning on the part of clerks, and would like to see a greater degree of formality in such planning. According to the Executive Secretary of the Compensation Board, each clerk's office needs its own unique plan that, at a minimum, states the objectives that the clerk wishes to achieve, specifies the actions necessary to achieve those objectives, and identifies how automation technology will facilitate the ability to carry out those actions. In other words, there is a need for each of the 121 clerks to develop technology plans.

The Compensation Board staff are of the opinion that some circuit court clerks' offices — particularly those in large jurisdictions — have prepared technology plans, while most clerks' offices located in small and medium-sized localities have not done as

much planning for the use of technology. As discussed in Chapter II, this likely variation is understandable, and in most cases is probably explained by the overall level of automation in the clerks' offices. Those clerks' offices which have more technology and automation probably have done more planning in that regard than those which have not.

The level of real estate development and sales activity in a jurisdiction is one of the leading causes of increased land recordation workload in a clerk's office. This is true whether the jurisdiction is large, small or medium-sized. However, most of the State's circuit court clerks are from small or medium-sized jurisdictions, and probably do not have an extensive level of technology and automation in their offices. Nevertheless, they could benefit from more extensive technology planning in connection with their land recordation activities.

A circuit court clerk from a medium-sized county that is beginning to experience significant real estate development told JLARC staff that the office did not have a technology plan. The clerk said that there is not any time for the office to devote to planning. The county has an information services department but the clerk was not aware of any efforts to include the clerk's office in county technology initiatives. The clerk believes that the State ought to make funds available to support technology planning on the part of the clerks.

It does not appear that the circuit court clerks are assessing whether a long term future policy or strategy for modernization and automation can be formulated. Furthermore, it does not appear that many clerks have a clear idea concerning specific purposes for which they would use money from the trust fund. Many clerks may not spend any trust fund money in FY 1998 and instead seek to carry their allocations over to subsequent years. The absence of adequate technology planning could make trust fund expenditure decisions more difficult, and perhaps less effective, for clerks' offices that are located in small or medium-sized localities. Typically, these clerks' offices have not yet felt the effects of increased recordation workloads resulting from local real estate development.

The clerk of a small, rural county told JLARC staff that he does not have a specific plan for how the office will spend money from the technology trust fund. The clerk noted that first the office needed to determine what the money could be used for. Although still rural, the clerk told JLARC staff that the county now perceives real estate development pressures along all of its boundaries.

The statute governing the technology trust fund states that, "Information regarding the information technology programs adopted by the circuit court clerks shall be shared with the Department of Information Technology, the Library of Virginia, and the Office of the Executive Secretary of the Supreme Court." From a public policy perspective, it would probably be more beneficial if this type of information were shared — in order to assist with planning efforts — prior to funding decisions, rather than after the fact.

Fiscal Stress Index May Apply to the Trust Fund. The potential application of the State's fiscal stress index to the trust fund is a significant source of concern to some of the circuit court clerks. Item 71(I) of the 1996-98 Appropriation Act states that:

The Compensation Board shall apply the current fiscal stress factor, as determined by the Commission on Local Government, to any funds approved by the Board for the purchase, lease, or lease purchase of equipment for constitutional officers....

However, HB 963 specifically prohibits the reappropriation of one office's funds for another. Therefore, it is inconsistent with the Appropriation Act provision which requires reallocation of State funds from localities with low fiscal stress to localities with high fiscal stress.

If the fiscal stress index is applied to the trust fund, clerks' offices in some of the State's larger, more affluent jurisdictions might receive less in funding than currently anticipated. For example, the clerk of one large jurisdiction estimates his office will receive 19 percent less funding than currently anticipated if the fiscal stress index is applied. Conversely, clerks' offices in some of the State's smaller, less affluent jurisdictions might receive more funding than currently anticipated.

Some individuals involved in drafting HB 963 told JLARC staff that it was never the intent of the General Assembly to apply the fiscal stress index to the technology trust fund. As explained to JLARC staff, historically the State did not provide any funding to constitutional officers for equipment. However, a few years ago sheriffs were given some funding for radio equipment and the fiscal stress index was applied to that source of equipment funding. Apparently, no one involved in the drafting of HB 963 recognized the inherent contradiction between the statutory language and the Appropriation Act provision.

Since the Appropriation Act takes precedence over the *Code of Virginia*, statutory revision would be necessary for the fiscal stress index to legally not apply to the trust fund. The Compensation Board has recommended to the Governor that the Appropriation Act be amended to state that the fiscal stress index applies only to general funds. While application of the fiscal stress index may not have been intended, whether it should apply to the trust fund is a valid question.

Timetable for Funding Decisions Envisions Action in Spring of 1997. Circuit court clerks are scheduled to submit their budget requests to the Compensation Board in January 1997. This will be followed by the submission of additional documentation concerning equipment funding requests in February 1997. At this time, the format and content requirements of the budget requests and the additional documentation is unknown. Funding decisions by the Compensation Board will be made in the Spring of 1997.

FUNDING POLICY FOR LAND RECORDS MODERNIZATION IN VIRGINIA

The number of significant unresolved issues concerning trust fund allocation policy provides adequate justification for clarification and revision of the statutory provisions governing the expenditure of funds by the circuit court clerks. This section discusses several illustrative options — along with a recommended approach — that the General Assembly may wish to consider in determining the future of the trust fund. As previously mentioned in this chapter, the trust fund is currently scheduled to sunset on June 30, 1997.

Over the longer term, if the General Assembly wishes for the State to adopt a broader-based approach to land records modernization — one that is not just focused on the clerks and their office equipment — a new type of funding mechanism would be beneficial. This section discusses funding approaches that have been taken by a few other states that have adopted broad-based land records modernization programs. The General Assembly may wish to direct the intergovernmental task force, previously discussed in Chapter II, to recommend an appropriate funding structure to support a broader-based land records modernization effort.

Trust Fund Expended and Reauthorized Only if Legislative Intent Is Met

In order to ensure that appropriated State funds are spent only for their intended purpose, the General Assembly may wish to clarify its intent concerning the purpose of the trust fund. The following issues are in need of clarification and greater definition by the General Assembly:

- Is the trust fund intended to support only the purchase of automation technology or is it intended to support the purchase of any type of office equipment or service?
- Are expenditures from the trust fund intended to support only the automation of land records, or are they intended to support all aspects of operations within a circuit court clerk's office?
- Are the circuit court clerks intended to have a large degree of discretion in the expenditure of funds, or is the Compensation Board expected to make allocations according to its established priorities for various types of non-personnel expenditures?
- What level of planning for the use of technology and automation should the clerks be required to demonstrate prior to the allocation and expenditure of funds?

- To what extent should conditions and criteria for the allocation and expenditure of appropriated funds be specified in statute or the Appropriation Act, as opposed to being developed administratively?

Once the General Assembly clarifies its intent on these issues, determinations can be made — based on several potential options — regarding the future direction of the trust fund.

Illustrative Options for Technology Trust Fund

Depending on the expression of legislative intent, there are a number of options that can be developed for revising and restructuring the trust fund. The illustrative options discussed in this section vary in terms of a number of key variables:

- amount of discretion granted to the clerks concerning specific types of expenditures to be made using State funds,
- level of technology and automation planning required prior to the receipt of State funds,
- relationship between trust fund and land records modernization, and
- extent to which State funding for land records modernization should focus only on clerks' offices.

There are two other factors which can affect any policy decision by the General Assembly concerning the future direction of the trust fund: (1) the perceived need for automation and modernization of land records by a clerk, and (2) the amount of automation and modernization planning that has already occurred in a clerk's office. Variations in the perceived need for automation and modernization could be attributable to differences in land recordation workloads among clerks' offices. Differences in the amount of automation and modernization planning could be a function of workload, resources, and local priorities.

In order to take these differences among the 121 clerks offices into account, the General Assembly may wish to:

- make any reauthorization of the trust fund fee optional for clerks' offices by providing the clerk with the opportunity to affirmatively opt-out of the assessment and collection of the additional fee, and
- create exceptions, for those clerks' offices that currently have adequate automation and modernization plans, to any prohibition on trust fund expenditures.

Five illustrative options, ranging from the current funding mechanism to a broader, comprehensive approach are outlined below.

Illustrative Option One. This option maintains the status quo by reauthorizing HB 963 and allowing clerks to spend accumulated funds in FY 1998 according to allocation policies to be devised by the Compensation Board under the current process, which incorporates significant policy input from the clerks. This option follows an approach to land records modernization that is focused strictly on the circuit court clerks' offices. Option One provides no assurance that those clerks' offices that lack any semblance of technology or automation planning will make expenditures in a manner that is consistent with the standardized and coordinated automation of land records. Therefore, from the standpoint of improved land records management, this is likely the least desirable of the options.

Illustrative Option Two. This option also reauthorizes HB 963 and allows the clerks to spend the accumulated funds in FY 1998. However, under this option, trust fund allocation policy is revised via Appropriation Act language in the 1997 Session to reflect a clearer expression of legislative intent. Amendments to the Appropriation Act would (1) explicitly define technology for the purpose of authorizing specific types of expenditures; (2) state whether and how the fiscal stress index applies to the allocation of funds; and (3) establish provisions for any authorized carryover of appropriations and allocations into future fiscal years.

Clerks offices that are unable to demonstrate to the General Assembly — through the submission of appropriate planning documentation — that legislative intent will be honored would be prohibited from making expenditures using trust fund money. Under this option, the sooner a clerk's office develops adequate planning documents, the sooner trust fund expenditures would be authorized. In other words, trust fund expenditures are postponed pending the development of plans that demonstrate adherence to legislative intent. This option also follows an approach to land records modernization that is focused strictly on the circuit court clerks' offices.

Illustrative Option Three. Under this option, HB 963 is allowed to sunset on June 30, 1997 such that the three dollar fee is no longer collected after that date. However, as in the case of Option One, the clerks would be authorized to spend accumulated funds according to an allocation policy devised by the Compensation Board under the current process which incorporates significant policy input from the clerks. Like options two and three, this option is focused strictly on the circuit court clerks' offices and does not assume a broader-based approach to land records modernization. However, under this option the decision on reauthorization of a dedicated revenue source could be determined at a later date based on recommendations from the intergovernmental task force on land records management.

Illustrative Option Four. Under this option, HB 963 is also allowed to sunset on June 30, 1997 such that the three dollar fee is no longer collected after that date. However, as in the case of Option Two, trust fund allocation policy concerning money

already accumulated would be revised through Appropriation Act language in the 1997 Session to reflect a clearer expression of legislative intent.

Illustrative Option Five. This option is unique in that HB 963 is allowed to sunset, the three dollar fee is no longer authorized for collection by the clerks, and expenditures from the trust fund are prohibited pending completion of additional study by the intergovernmental task force concerning a possible broader approach to land records modernization. Under this approach, the accumulated funds plus accrued interest would form the initial layer of financial support for State land records modernization funding. Unlike options one through four, this option assumes that land records modernization efforts might focus on entities beyond simply the clerks, and include the commissioners of revenue and local governments.

This option is based in large part on the broader-based approaches to land records modernization taken in Wisconsin, and proposed in Minnesota. This type of approach could be beneficial to Virginia over the long term if the State wishes to pursue additional efforts in this area. These approaches are summarized below and discussed in detail in Appendix C.

The Wisconsin Land Information Program provides funding, from an additional fee of six dollars on land recordations, to those localities that choose to participate. The receipt of funding is conditioned upon establishment of a county land information office, and a county-wide land records modernization plan. Two-thirds of the additional fee is retained by the counties, while most of the remaining one-third is returned to the counties in the form of grants. The program has provided about \$30 million in support of land records modernization efforts. More than \$11 million of this amount has been in the form of grants-in-aid.

Wisconsin assumed that those localities with a relatively small number of land recordations could use the grants process as a means of acquiring sufficient funding to support local land records modernization programs. That has not proved to be entirely the case. Competition for the limited pool of grant money has increased as more localities developed expertise in the grant application process. Consequently many of the state's more affluent localities began to receive larger amounts of the total available grant money. As a result, many of the state's smaller counties believe that this funding mechanism is no longer equitable. This has caused some political problems for the program.

Possible changes to the structure of the grants program are being examined. A modified grants-in-aid approach may be adopted, wherein only a specific type of land records modernization project (for example,

soils mapping) would be considered for funding in a given year. A formula-based approach to allocating funds is also under consideration.

* * *

The Minnesota Department of Planning is developing a proposal to provide capacity to modernize county land records information systems, while also enhancing their use for other purposes related to improved land management, planning, service delivery and government operations.

Revenues would be derived from some type of fee on land transactions. This is based on the rationale that land transactions generate the most fundamental needs for accurate and current land information. The specific type of proposed fee has not been determined. A recordation fee surcharge, a deed tax, mortgage registration fee, survey registration fee, and a sales tax on surveyor services have all been mentioned as possible alternatives.

Funds would be allocated to help support local development of modernized land records systems that also promote the long-term interest of the State through data integration. All counties would receive funds proportional to the amount of land transaction activity in their respective jurisdictions. However, the ability to receive funding would be subject to approval of a local records modernization plan approved by a policy board. Plan approval would depend on responsiveness to program objectives. A portion of program funds would be earmarked for grants to counties with too few land transactions to generate significant funds. It has not yet been determined whether grants will be competitive or based on local ability to pay.

Funding Mechanism for a Broad-Based Approach to Modernization. If the General Assembly desires for the State to pursue broader-based land records modernization efforts, it may wish to develop a new funding mechanism by adapting elements from the broad-based approaches adopted in Wisconsin and proposed in Minnesota. Such an approach differs substantially from that reflected by the trust fund, in that it is focused on local government, as opposed to just one office at the local level. This broader approach is also much more ambitious, but could be highly effective in promoting the State's interests over the long term. Ideally, a new funding mechanism for Virginia should address issues concerning assessment and collection of revenue, as well as allocation and distribution of money. Table 7 summarizes the types of funding policy considerations that should be addressed.

In its recent study, *A Conceptual Model for Remote Access to Circuit Court Clerks' Electronic Records*, DIT cited the need for county-wide land information systems.

Table 7

Policy Framework for Land Records Modernization Funding: Collection of Revenue and Distribution of Funds

Issues	Possible Policy Elements	Policy Considerations
Revenue Source	<ul style="list-style-type: none"> Users of land records Participants in land transactions State appropriation Local appropriation Special taxes or fees derived from land transactions General governmental revenues 	<ul style="list-style-type: none"> Dedicated revenue stream or appropriation from general revenues? New levy or an increase in a current assessment? Any new or additional assessment likely to be passed on to the consumer by attorneys, title examiners, surveyors, and realtors Equity and desirability of appropriating funds for land records modernization from current stream of recordation taxes and fees Relative benefits of land records modernization for: State government, political subdivisions, constitutional officers, users of land records, and general public
Stewardship of Funds	<ul style="list-style-type: none"> Amount of revenue to be retained by locality Amount of revenue to be sent to State for redistribution Treatment of interest earnings and unexpended allocations 	<ul style="list-style-type: none"> Collect locally, all revenue sent to State Collect locally, only part of revenue sent to State Efficiency and effectiveness of State's redistribution mechanism Desirability of dedicating interest earnings to State land records modernization program, diverting to State general fund, or distributing to localities to support land records modernization Desirability of allowing unexpended allocation to remain with a local jurisdiction rather than reverting to the State, given State's interest in long-range planning and prudent expenditure of funds
Recipient of Funds	<ul style="list-style-type: none"> Clerk of the Circuit Court Other constitutional officers Local governing body Regional Planning District Commission 	<ul style="list-style-type: none"> Create incentives for coordination of local and regional planning and data integration efforts
Conditions for Receipt	<ul style="list-style-type: none"> Workload Planning Standards Ability to pay Amount of land recordation revenue collected locally 	<ul style="list-style-type: none"> Not all localities have the same need for automation and modernization Locally-developed plans adhering to established principles could emphasize importance of planning prior to making expenditures Advantages and disadvantages of competitive and non-competitive grant processes Administration and implementation of competitive grant process can be time-consuming and labor-intensive Allocation of grants based on local ability to pay could address some concerns of less affluent jurisdictions State program could contain opt-out provision for localities Localities that do not desire to modernize do not have to collect any revenue, and also receive no funding

Source: JLARC staff analysis.

According to DIT, clerks, commissioners of revenue and the users of land records continually cited a need for integration among:

- title and rights records available at the circuit court,
- geographic information — increasingly GIS based — available at the planning office, and
- assessment and tax data available at the Commissioner of Revenue's office.

In developing a conceptual framework for land records modernization, a determination should be made concerning the role that State funding could play in promoting the State's interests and objectives related to land records modernization. For example:

- What policy objectives would the State like to accomplish pertaining to the modernization of land records?
- How significant are the efforts of local constitutional officers and political subdivisions to the State's ability to reach its policy objectives?
- What types of local efforts does the State wish to support as part of a strategy to achieve State objectives?
- How will the State determine which specific efforts it will support?
- What type of funding source should be used to help provide that financial support?
- How will the State ensure that State funds are being spent by localities as part of agreed-upon efforts?

Recommendation (5). The General Assembly may wish to clarify its intent regarding the purpose and allocation policy of the information technology trust fund during the 1997 Session. The General Assembly may also wish to postpone the allocation and expenditure of money from the information technology trust fund pending the development of appropriate information technology plans by the circuit court clerks. In addition, the General Assembly may wish to provide exceptions to the general prohibition on expenditures to those circuit court clerks offices which are able to demonstrate, prior to June 30, 1997, that adequate planning and implementation structures are in place within their offices to ensure expenditure of funds consistent with legislative intent.

Recommendation (6). The General Assembly may wish to direct the intergovernmental task force on land records management, as proposed in this

report, to make recommendations for a funding mechanism to support a broad-based land records modernization initiative in the Commonwealth. In developing its recommendations, the task force should consider the importance of local planning in support of land records modernization and the coordination of efforts at the local level.

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