

TECHNOLOGY

COMMITTEE REPORT

In September 2015, Chief Justice Mark Martin convened the North Carolina Commission on the Administration of Law and Justice (NCCALJ), a sixty-five member, multidisciplinary commission, requesting a comprehensive and independent review of North Carolina's court system and recommendations for improving the administration of justice in North Carolina. The Commission's membership was divided into five Committees: (1) Civil Justice, (2) Criminal Investigation and Adjudication, (3) Legal Professionalism, (4) Public Trust and Confidence, and (5) Technology. Each Committee independently made recommendations within its area of study.

This is the report of the Technology Committee. To access the full report of the NCCALJ, including all five of the Committee reports, visit www.nccalj.org.

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This report contains recommendations for the future direction of the North Carolina court system as developed independently by citizen volunteers. No part of this report constitutes the official policy of the Supreme Court of North Carolina, of the North Carolina Judicial Branch, or of any other constituent official or entity of North Carolina state government.

**“ADVANCES IN TECHNOLOGY ... GIVE US THE
CHANCE TO REIMAGINE HOW COURTS AND
CITIZENS INTERACT WITH EACH OTHER.”**

Chief Justice Mark Martin

INTRODUCTION

Innovative use of technology can revolutionize the way that organizations and people conduct business and live their lives. Recent examples of the technology revolution include Amazon’s transformation of retail shopping as well as the development of smartphones and mobile apps that support banking and payment transactions.

Similarly, innovative technology has been utilized both in state and federal courts to dramatically improve the administration of justice. It is critical for North Carolina’s Judicial Branch to

employ additional technology to achieve its constitutionally mandated mission.

The implementation of technological change brings with it the promise of a truly uniform statewide court system as first envisioned by the Bell Commission almost sixty years ago. That uniformity will empower local and statewide judicial officials to better manage court performance through improved data-driven decision-making, thus promoting greater stewardship of judicial resources. It will also

remove many of the local barriers to court access for self-represented litigants and will increase the service capacity of low-income legal service providers. Additionally, through a uniform Judicial Branch online presence, the courts can meet and exceed expectations for public access to courts.

People once interacted with court officials at courthouses, face-to-face, with documents printed on paper and no ability to make instantaneous or remote contact. Due to its age, our current technology reflects these traditional practices. The preference for quick and comprehensive online access has emerged relatively recently, but there is no doubt that it is here to stay. As a recent

study shows, about 76% of Americans are willing to do some court business online. That number jumps to 86% for those under 40 years old.¹

This new preference for immediate access presents us with an opportunity. Advances in technology, together with the desire to reduce costs and improve the public's access to court services, give us the chance to reimagine how courts and citizens interact with each other. For instance, we can aim to drastically reduce manual processes and reliance on paper documents. Many state court systems have successfully transformed themselves in a similar way, leading to both increased efficiency and collaboration among court officials and the legal profession.

THE TECHNOLOGY COMMITTEE AND ITS WORK

The North Carolina Commission on the Administration of Law and Justice (NCCALJ) is an independent, multidisciplinary advisory body convened by the Chief Justice of the Supreme Court of North Carolina to recommend improvements to the judicial system. The Technology Committee is one of five Committees of this Commission. As the Commission's convener, Chief Justice Mark Martin, recently noted, "We need to make these changes because courts are essential — as essential as grocery stores or the Internet. Let's never forget the role that judicial expertise and judicial independence play in safeguarding the rule of law — a role that no one else can do better, or even equally well. If we lose business to other methods of dispute resolution, society at large will suffer. Courts are too indispensable to yield in the face of better technology, so we have to stay technologically up-to-date." The Technology Committee has focused on identifying significant

ways that technology can support the Judicial Branch's mission of providing a fair, independent, and accessible forum for the just, timely, and economical resolution of the legal affairs of the public.

The Judicial Branch's 6,000 employees work hard each day to carry out the Branch's mission. The Technology Committee's goal is to recommend ways that technology can enhance our court officials' and staffs' efficiency and effectiveness, and the timeliness of court processes, while at the same time meeting the public's expectations for accessibility and transparency. The Committee's challenge is to reimagine the courthouse and to produce a strategic plan to deliver on that vision.

The Committee held nine public meetings and heard presentations from states that are already using innovative technology to address the needs

of their citizens, from national court technology experts, and from current North Carolina judicial officials, as well as from other members of the public. In early 2016, the consulting group BerryDunn was retained to assist the Committee with the legislatively mandated need to create a strategic plan for eCourts.² The goal of an eCourts system is to increase both the efficiency and effectiveness of court processes by converting the courts' current paper-driven workflow to an electronic one, including processes such as filing and payment that have public interfaces. An eCourts system will provide the foundation for further innovation throughout the court system.

To understand the current state of the Judicial Branch's technology, BerryDunn conducted an online survey of court employees and members of the public, collecting responses from over 1,000 individuals. In addition, BerryDunn organized in-person interviews with more than 200 Judicial Branch employees and members of the bar from across the state.

Having heard from these end users, BerryDunn then reviewed the Judicial Branch's infrastructure and capabilities, and fielded reports from the other Committees of the Commission about the role that technology should play in their areas of reform.

ISSUES IMPACTING TECHNOLOGY

The Technology Services Division (TSD) of the North Carolina Administrative Office of the Courts is primarily responsible for the Judicial Branch's technology needs. TSD provides network infrastructure, hardware, software applications, technical support, and services to more than 500 courtrooms and offices spread throughout all 100 North Carolina counties. Included in the Judicial Branch are nearly 550 independently elected judges, district attorneys, and clerks of court. With the ninth largest population in the United States, the courts of our state handle roughly 2.7 million cases each year.

The approximately 200 permanent employees of TSD support more than 200 Judicial Branch software applications. They also provide ancillary services to two dozen government agencies, vendors, and private entities that interface with the court system's technology and data. The result is an extensive, statewide, inter-agency technology operation.

Within this context, the Committee and BerryDunn preliminarily identified four overarching elements that are relevant when considering the transition to greater technological functionality in North Carolina's court system:

- Technology management and governance;
- The business environment: inconsistent and paper-based;
- Technology development: software applications; and
- Anytime, anywhere access to services.

TECHNOLOGY MANAGEMENT AND GOVERNANCE

Technology management and governance address how core technology initiatives are identified,

analyzed, prioritized, and budgeted within the Judicial Branch. Without a governance process in place, important technology needs may be overlooked, less important technology projects may be prioritized, limited technology resources may be diluted or misdirected, and project completions may be delayed because of short-term changes in technology priorities. It is equally important that a governance system considers user input when developing software applications. Incorporating user input will foster effective implementation and inspire confidence in the integrity of the progress. The Committee concluded that best practices within the technology industry include a governance process that involves users and fact-based decision-making, maintains the installed technology base, and increases simplicity.

The Judicial Branch's technology governance process has historically been unstructured, irregular, and lacking external transparency. Initiatives originate haphazardly from a combination of internal ideas, field demands, executive branch or local government requests, and legislative mandates. A lack of formal technology governance has hindered the effectiveness of technology innovation and execution by being vulnerable to repeated course changes, thus making accurate and consistent budgeting and time management of technology projects difficult, if not impossible. A plan for structured governance was developed by court stakeholders in 2014 and reported to the Committee at an early meeting in 2015. The Committee has recommended that such a governance process be formalized to ensure a smooth transition through the eCourts process.

THE BUSINESS ENVIRONMENT: INCONSISTENT AND PAPER-BASED

Because the purpose of technology is to solve business problems and improve business

processes, any use of technology must be considered within the context of the state courts' business environment. North Carolina's court system is unified, but there remains a clear **lack of uniformity** with respect to the business processes that individual courts and courthouses use. Courts are managed based on local jurisdictional needs, and with 100 counties and more than 500 independently elected officials, the result is that business processes vary dramatically from courthouse to courthouse, placing an unnecessary barrier to transparent use of court services. Implementing technology improvements that accommodate a multitude of variations in local business processes would be too costly, with respect to both time and financial resources. For technology initiatives to be effective and transparent, they must be accompanied by increased business process uniformity. Systems must be designed to provide a comprehensive, vigorous, and consistent set of technology initiatives, with local variation discouraged and not centrally supported.

Another barrier to efficiency in the current North Carolina court business environment is that current processes are **primarily paper driven**. Over 30 million individual pages of paper are added to state court case files each year. Official legal records are almost entirely in paper form. System actors describe challenges resulting from an essentially paper-based case filing system. Those challenges include the fact that official decisions and notes are recorded on paper files during court and later transposed into one of the many supported software applications to create an electronic index of the same actions, leading to constant duplication of effort.

Maintaining organization of and ongoing access to court files is labor intensive because of the constraints of the paper environment.

Additionally, individuals report instances in which the only record of a case disposition is recorded on the outside of the court file before filing it in a box or filing cabinet, never to be entered into an electronic system for easy future reference. Continued reliance on a paper-based system creates data entry redundancies and limits payment processes related to cases. Simultaneous access to case files by multiple parties (e.g., judges and clerks) as well as access across county or jurisdictional lines is difficult, if not impossible.

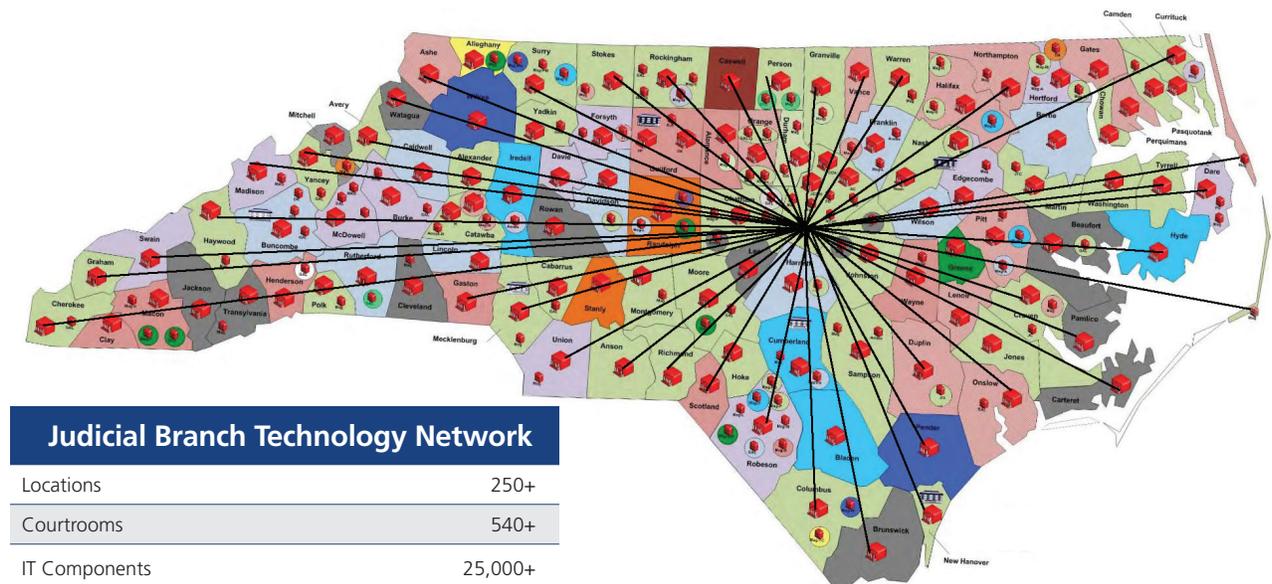
The physical impact of maintaining a paper-based system also merits scrutiny. Each year, more than four miles of shelving is needed to maintain the new case files generated during that year. Counties use attics, basements, and off-site arrangements for storage.³ Either old files must be promptly archived into microfilm or digital formats to create shelf space, or new space must be obtained. While the staffs of clerks' offices have electronic indexing systems for some case information and management tasks, paper files still serve as the primary tool for court personnel

to manage cases. Case files must be physically transported throughout courthouses, no matter what the size.

This highly paper-driven business environment is rife with opportunity for technological innovation, but the lack of uniformity across local business processes is an obstacle that needs to be thoughtfully addressed.

TECHNOLOGY DEVELOPMENT: SOFTWARE APPLICATIONS

Software applications will require an initial infusion of resources for development and implementation in addition to continuous ongoing maintenance. Software applications can be: (1) developed in house by TSD staff and contractors, (2) purchased off the shelf from third-party vendors, or (3) a combination that heavily customizes a commercial application. For example, the state's workhorse Criminal Case Information System (CCIS) was developed in house and is tied closely to North Carolina law and procedure. Microsoft Office products like Word, Excel, and



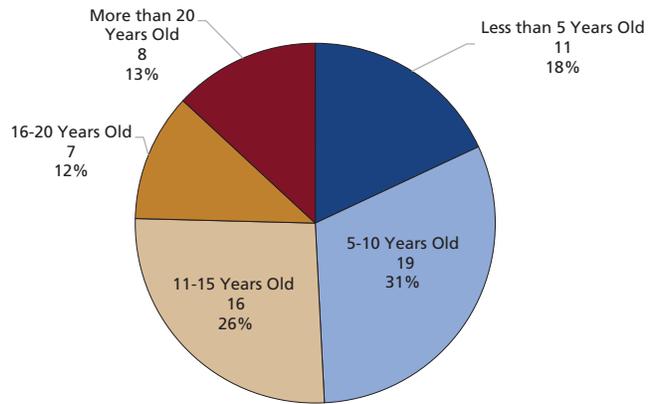
Outlook are off-the-shelf. And the clerks’ Financial Management System (FMS) is a heavily customized vendor general ledger accounting product.

The vast majority of the Judicial Branch’s 200 applications have been developed in house because they filled niche needs. This approach has provided for a greater level of technology customization interfacing with external government agencies and their various technology platforms and has allowed projects to be slowed or accelerated as agendas and funding changed. The in house approach, however, has also resulted in a proliferation of aging applications that are increasingly difficult to maintain as underlying technologies become obsolete, that require maintenance by developers who are aging out of the workforce, and that do not necessarily interface well with each other or provide the transparency that stakeholders expect and deserve.

ANYTIME, ANYWHERE ACCESS TO SERVICES

The 21st century public expects to manage their lives, their finances, their health, and a host of other things remotely from their smartphones and other electronic devices. When considering the business environment as it relates to public use of technology, the predominance of the need

Age of Existing NCAOC Enterprise-Level Technology Applications



Source: North Carolina Administrative Office of the Courts

for online information and supporting mobile technology cannot be overstated. Calendars, maps, and instructions for parties, witnesses, and jurors must be easy to access. Software applications must facilitate communications with key offices, electronic payment options, and e-filing of documents. Software applications with a public-interfacing component must be accessible across multiple types of devices, including desktops, tablets, and phones. Compatibility with smartphones is particularly important because their widespread use throughout populations of varying income levels will help reduce barriers to court access. The importance of equal access to justice has been a focal point in the Technology Committee as well as in each of the NCCALJ’s four other Committees.

STRATEGIC PLAN PRIORITIES

BerryDunn’s field work and subsequent analysis showed nearly universal Judicial Branch employee and outside user support for innovative technological improvements to increase the effectiveness, efficiency, and timeliness of court

processes. The Committee, in consultation with BerryDunn, identified the following initiatives that should be addressed in order for North Carolina’s Judicial Branch to meet the technology needs of its stakeholders. These initiatives are not ranked

because a number of them are interdependent and may need to be developed in conjunction with one another. The initiatives are:

- Governance;
- Metrics;
- Reporting and analytics;
- Enterprise Information Management System (EIMS);
- Integrated Case Management System (ICMS);
- e-Filing;
- Financial Management System (FMS);
- Electronic public access; and
- Judicial workbench.

A more extensive, technical, and detailed analysis of each of these initiatives has been provided by BerryDunn and can be found in the strategic plan attached in Appendix E. Below is an overview and summary of each of the initiatives.

• **GOVERNANCE**

As stated earlier, the Committee recognized at the beginning of the process the need for a principled governance model to implement the sweeping technology changes on the horizon. The strategic plan specifically recommends that the Judicial Branch operationalize the IT Governance Charter referenced above and implement a best-practice portfolio management framework to include

all NCAOC technology initiatives in the eCourts project. It is imperative that governance principles be established at the earliest opportunity in order to facilitate a smooth transition throughout the rest of the technology acquisition and deployment process.

• **METRICS, REPORTING, AND ANALYTICS**

The Judicial Branch's data system initially was developed to collect and compile statistics about the number of cases in the system. A master index of criminal convictions was later added. Systems were not conceived with the objective of supporting the daily management of high volume workflows. For local officials and Judicial Branch leadership to measure court performance effectively, replicate successes, and identify weaknesses, the court system must be able to collect, manage, and provide data in a useful format. That ability does not currently exist. In addition, policymakers and the public will benefit from more insight into what the aggregate data can show about the evolution of the court system through a variety of different metrics, such as changes to statutes, changes in case filing patterns, and how long it takes to resolve a particular type of case.

Initially, the strategic plan states that the Judicial Branch must identify the metrics by which to measure and run the baseline analysis — by internally determining metrics, perhaps using elements of the National Center for State Court's CourTools, defining data elements, and ensuring standardization across the state. Only after establishing baseline metrics will meaningful reporting and analytics be widely available

for internal and external judicial system stakeholders.

Case counting remains the underlying purpose for many of the Judicial Branch’s case tracking systems, and, although it provides valuable information about the status of a case, it affords little information about the case’s progression through the system. This hampers effective data-informed management decisions because system actors are unable to determine points in the case management process that require improvement. In addition, many data fields in the current case tracking systems lack standard written definitions, and this lack of uniformity in data entry creates barriers to meaningful analysis of the data that has been collected. Finally, as previously noted, much of the information pertaining to a case that would be valuable for the purpose of analysis is maintained only on paper. As a result, it is difficult, if not impossible as a practical matter, to access simple data.

These burdens on data availability prevent effective management of both the overall court system and the local needs of judicial system stakeholders across the state. Ineffective management can result in delays, inconsistent outcomes for parties, and legislative concern regarding stewardship of resources. Several of the NCCALJ’s companion Committees have stressed the importance of improving the timeliness and efficiencies of our courts. Public polling data from the Public Trust and Confidence Committee shows that the public is deeply concerned about delays in the administration of justice. Good stewardship of the courts supported by good data will positively affect every aspect of the Judicial Branch.

Significantly, Judicial Branch employees note that when data is in a format that allows for reporting, the reports provided are both useful

and informative. However, they also observe that current reporting must be accomplished by requesting new reports to be developed by TSD and the Research and Planning Division, which gets back to the issue of governance. Access to self-service information is limited in the courts, requiring days of staff time to produce and execute a report. Innovative technology solutions should offer real-time performance dashboards, providing both baseline data measurements and additional analytical modification for use by local officials and the public alike. The NCCALJ’s Public Trust and Confidence Committee has also emphasized greater access to information, because the court system’s inability to respond to its perceived shortcomings negatively affects public trust.

The demand for data in a usable format will only continue to grow. It is important for data to be available, complete, accurate, timely, and consistent throughout the court system. Similarly, use of standardized definitions is essential as the Judicial Branch implements court performance measures, such as CourTools. As the emphasis on data shifts to predictive analytics, such as assessing at case initiation whether a civil case will be simple, general, or complex in order to determine likely resourcing needs, the integrity of the data and the use of standardized definitions become increasingly important.

- **ENTERPRISE
INFORMATION
MANAGEMENT
SYSTEM (EIMS)**

TSD has procured a document management system or EIMS — a secure electronic repository,

which will be integrated with other eCourts elements, used to store, retrieve, archive, and associate a variety of documents with cases. The current process of relying upon physical access to court documents must give way to digital access in order for the system to progress.

Electronic document management provides a critical foundation for the remainder of the system and should support the transition from paper-based to digital files over time, while increasing electronic access to those files from anywhere at any time by both court employees and the public.

- **INTEGRATED CASE MANAGEMENT SYSTEM (ICMS)**

More than one million criminal and non-criminal citations — primarily traffic-related — enter the courthouse electronically each year.⁴ In most instances, however, this information is then printed out and a physical file is created. This manual process contributes significantly to the estimated 30 million pieces of paper that are added to state court case files annually.

In addition, selected data from paper files is manually keyed by authorized personnel into one or more of the Judicial Branch databases, to be accessed by various software applications. Lack of a single repository for case data significantly decreases efficiency, requires redundant data entry, and requires users to log into multiple systems, often toggling between them, to complete a business process. A single, integrated case management system would save valuable employee hours as well as reduce data entry errors.

An Integrated Case Management System (ICMS) will allow electronic processing functionality for all case types to record, track, and manage events from case initiation through case disposition, using thorough, flexible workflows that generate automated reminders and electronic notifications. The process of calendaring cases could benefit greatly from this system. To create, update, and distribute calendar information is time consuming, often requiring redundant data entry, and resulting in some courts creating their own “workarounds” (e.g., Google calendars). An electronic calendaring system that is automatically populated through a case management system would be easily accessible by both court employees and the public.

- **CENTRALIZED ELECTRONIC FILING**

Electronic filing is a means to submit documents and / or information into the EIMS and ICMS. This may occur through fillable forms or scanned documents. The e-filing system could evaluate and respond to events or initiate tasks in the ICMS. Electronic filing without robust EIMS and ICMS is of little value to the court system. Today, electronic filing is nominally an option with North Carolina’s appellate courts, the business courts, and four pilot sites for civil cases.⁵

North Carolina’s unified court system will be strengthened by the implementation of mandatory statewide electronic filing. In the near term, high-volume and forms-driven case types may present the greatest opportunity for significant and immediate savings and convenience. While some filings may still require paper to be converted to an electronic format

for storage at a later date, the document should be retrievable through an integrated case management system. A case should be maintained by an electronic workflow that allows varied dashboard views for court officials and parties, depending upon their role within the court system. Functionality should give individuals the ability to manipulate documents and information at the case level. The Civil Justice Committee has observed that uniform, technology-enhanced filing has the potential to make representation of indigent clients less burdensome for both the lawyers and the litigants themselves.

The use of electronic filing and electronic information management systems will require a thorough review and revision of filing and recordkeeping rules prior to implementation. This will ensure that all parties — including self-represented litigants — have equal access and understanding. It will also ensure that the rules address changes necessitated by electronic filing. Training both internal and external Judicial Branch stakeholders will be essential and may be accomplished by a combination of in-person training and the creation of web-based instructional videos. Developing integrated e-filing, EIMS, and ICMS is critical in order to achieve the successful modernization of the court system.

- **FINANCIAL
MANAGEMENT
SYSTEM (FMS)**

The Judicial Branch should determine the requirements for a financial management system, which will integrate with ICMS, make real-time adjustments at the clerk’s office cashier’s

**IN FISCAL YEAR
2015-16,
\$737,000,000+
WAS PROCESSED
IN CLERKS’ OFFICES
ACROSS THE STATE.**

North Carolina Judicial Branch Annual Report:
July 1, 2015 – June 30, 2016

window, support multiple charge codes, accept payment through multiple means, generate a statement, produce management reports, export and transmit transaction activity, and provide the ability to maintain case-related transaction activity. Staff using the current Financial Management System (FMS) report significant redundancies and inefficiencies with the system. Specifically, the system does not integrate well with the case management systems, requiring paper printouts of financial obligations and access to multiple systems (FMS and a case management system) to cross-reference the obligations. The Committee sees substantial benefits from rolling the financial management system into a single integrated case management system, and the recommendations from the strategic plan have the opportunity to yield significant benefits for clerks and their staffs, as well as for the public.

- **ELECTRONIC
PUBLIC ACCESS**

Electronic public access will provide the public with access to available Judicial Branch

information (including information from ICMS) through self-service kiosks and personal devices; web-based capabilities will provide the ability to conduct online searches of publicly available court records and documents, submit online payments, complete online forms, etc.

Many clerks interviewed during BerryDunn’s focus groups reported that a majority of their time is spent servicing public requests for information — information that is a public record but is not readily available to the public without calling or visiting a clerk’s office. This service is important but is also interruption-driven, causing clerks to spend time “reorienting” themselves to the task that they were working on before the inquiry. A statewide effort to make basic, relevant courthouse information available online will improve clerk’s office productivity, customer service, and transparency. In addition to making information available online, the clerk’s office should be able to provide the public with the option to conduct many other routine transactions online.

From a customer service standpoint, maintaining information available online saves individuals from having to take time off of work to drive to the courthouse. Making forms available online, creating portals for the submission of documents to the courthouse electronically, and providing

for online payment of court costs and fees are just three examples of the level of online access the 21st century public has come to expect from its institutions. As the NCCALJ’s Public Trust and Confidence Committee notes, increased access to the courts and to information about the courts has the potential to foster greater confidence in our courts.

The Judicial Branch is currently involved in a complete overhaul of its website. In the near future, public access to basic information such as forms, directories, calendars, etc. should be more easily available. Availability across platforms focusing on mobile devices is being prioritized.

• JUDICIAL WORKBENCH

Judicial Workbench, or a workbench for any courthouse actor, will serve as a dashboard / portal application that provides the electronic tools to meet the specific case processing, judicial decision-making, and management needs of trial court judges on the bench and in chambers. Dashboards should enable staff to interact digitally regarding all types of matters handled within the courthouse.

CONCLUSION

The Technology Committee has gathered a tremendous amount of information during the last fifteen months. The Committee envisions a court system that will fulfill the vision of a 21st century courthouse — where technology is used to enhance efficiency, effectiveness, and timeliness

of process, leading to greater public access to and increased confidence in the courts.

As we look to that future, let us continue to bear in mind three principles to guide us in the tasks ahead. First, we must continue to be responsible

stewards of the resources that we have been given, and that we will eventually pass on to the next generation. Second, we must work to restore public trust and confidence in the judicial process and in our courts. Finally, it is of vital importance that we always look to improve access to justice for all citizens.

We live in a time of great transition in our society, and our courts play an important role in this changing environment. The digital age has brought new ways to connect to each other and to the world around us. But it also has led to new dispute resolution options for the people that we serve. Our goal should be to modernize our courts to keep up with the digital revolution, and to make it as easy as possible for our stakeholders to interact with the court system and conduct business with our courts. If we intend to keep pace with the competition, we need to view litigants the way that we would view customers in a marketplace — not in a way that shortchanges justice, but in a way that recognizes that people have choices. And if our courts are too costly, too complicated, or too slow, the citizens that we serve will try to address

their legal needs outside of the court system, often to their own detriment.

By modernizing the resources that we have, we can continue to be responsible stewards of those resources. By working toward greater access to justice for all, we can all do our part to secure equal justice under law. And not incidentally, we can increase public trust and confidence in our courts through these efforts. As our courts do justice in every case — as they treat every citizen and every party with fairness and respect — prospective litigants will entrust more of their disputes to us, further promoting justice and fairness.

As Chief Justice Mark Martin recently remarked, “Advances in technology, together with the desire to reduce costs and improve the public’s access to court services, give us the chance to reimagine how courts and citizens interact with each other.” With the adoption of this technology plan, North Carolina will join the ranks of those other states on the vanguard of technology. North Carolina’s citizens should expect no less.

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1. National Center for State Courts, *The State of State Courts: A 2014 NCSC Public Opinion Survey*. Available at <http://bit.ly/2ikyKJN>. Accessed January 12, 2017.
 2. Per S.L. 2015-241, the Technology Committee served a dual role both as a Committee of the Commission on the Administration of Law and Justice, and as the Advisory Committee for the eCourts Strategic Plan effort.
 3. The Edgecombe County Courthouse was forced to close after flood waters from Hurricane Matthew engulfed the courthouse basement in October 2016. This is a risk that the court system will continue to face as it maintains paper records. See Lindell John Kay, “Edgecombe County Courthouse Closed Due to Flooding,” *Rocky Mount Telegram*, October 13, 2016. Available at <http://bit.ly/2ik12p6>. Accessed November 22, 2016.
 4. Per the NCAOC, more than 1.25 million electronic citations were issued in Fiscal Year 2016. These citations were issued for both criminal and non-criminal violations, such as motor vehicle and seat belt, traffic, hunting and fishing, underage drinking, and speeding violations. See <http://bit.ly/2ihlzhD>.
 5. By contrast, electronic filing is now mandatory in all federal courts.

This report contains recommendations for the future direction of the North Carolina court system as developed independently by citizen volunteers. No part of this report constitutes the official policy of the Supreme Court of North Carolina, of the North Carolina Judicial Branch, or of any other constituent official or entity of North Carolina state government.

APPENDIX E

eCOURTS STRATEGIC TECHNOLOGY PLAN

September 29, 2016

BerryDunn Report

State of North Carolina Administrative Office of the Courts



e-Courts Strategic Technology Plan

September 29, 2016

Prepared for:

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Table of Contents

Table of Contents	i
Executive Summary	1
Overview of the Current Environment	1
Drivers for the Development of an e-Courts Strategic Technology Plan	2
Overview of Strategic Initiatives Included in this Report.....	3
Budget Estimates and Timeline.....	4
Success Factors.....	5
1.0 Introduction	6
1.1 Project Background and Approach.....	6
1.2 Format of the Report	10
2.0 Gap Analysis	11
2.1 Peer State Analysis and e-Courts Maturity Model	11
2.2 Gap Analysis Categories	14
Category 1: Management and Governance	14
Category 2: Business Environment	16
Category 3: Technology.....	17
3.0 e-Courts Strategic Technology Initiatives	20
3.1 Strategic Initiatives Development	20
3.2 Prioritized List of Strategic Technology Initiatives	21
4.0 Implementing the e-Courts Strategic Technology Plan	29
4.1 Budget and Timeline.....	29
4.2 Updating the Plan.....	35
4.3 Success Factors for the Plan.....	35

Executive Summary

The North Carolina Judicial Branch has been a unified court system for over 50 years and is among 26 legally defined unified court systems in the United States. The North Carolina Administrative Office of the Courts (NCAOC) was established to provide administrative services in this unified system, including court programs and management services; information technology (IT) support; human resources; financial, legal, and legislative services; research and planning services; court services; and purchasing services. Elements of the Judicial Department Act of 1965, which established the unified court system, include:

- Consolidation of a multiplicity of lower courts into a two-tier trial court system
- Centralization of judicial administration for the State's courts
- Centralized rule-making authority
- State funding of the court system
- State-level budgeting of State funds for court expenses

Overview of the Current Environment

The IT environment in the Judicial Branch in North Carolina has evolved over the course of more than 30 years. Throughout this time, steady progress has been made in providing judicial and law enforcement professionals with a comprehensive suite of applications and tools to use in the performance of their duties. Most of these systems were developed by NCAOC staff using technologies considered to be “modern” at the time they were developed. The design of these systems was influenced by many factors, including, but not limited to:

- Funding pressures
- Court-specific practices and policies
- Policy and statute changes
- Requirements of specific user populations, such as judges, district attorneys (DAs), clerks, public defenders, magistrates, and law enforcement
- The dynamic information needs of Judicial Branch and legislative leadership
- The dynamic and evolving nature of available technology

North Carolina can boast an inventory of modern, sector-leading applications. However, the technology used to develop them applications spans more than three decades. In recent years, the NCAOC Technology Services Division (TSD) has interconnected many of the applications with sophisticated and complex application program interfaces (APIs), web services, and message queues. These methods have greatly increased the usability of the application portfolio, but have also created an intricate environment to support and maintain.

Many of these technologies have aged to the point that the skills required to maintain them have become scarce. During the last decade, there has been a substantial movement toward integration of the various system components across judicial and law enforcement functions, as well as toward the need to provide seamless access to the information that is housed within those systems.

Drivers for the Development of an e-Courts Strategic Technology Plan

Pursuant to S.L. 2015-241, the NCAOC set out to develop an e-Courts Strategic Technology Plan. Section 18A.21.(a) of S.L. 2015-241 is defined below.

SECTION 18A.21.(a) *The Administrative Office of the Courts shall establish a strategic plan for the design and implementation of its e-Courts information technology initiative by February 1, 2016. The e-Courts initiative, when fully implemented, will provide for the automation of all court processes, including the electronic filing, retrieval, and processing of documents. The strategic plan shall:*

- (1) Clearly articulate the requirements for the e-Courts system, including well-defined milestones, costs parameters, and performance measures*
- (2) Prioritize the funding needs for implementation of the various elements of the system, after consultation with the e-Courts advisory committee established by subsection (c) of this section*
- (3) Identify any potential issues that may arise in the development of the system and plans for mitigating those issues*
- (4) Address the potential for incorporating any currently existing resources into the e-Courts system*

Additionally, the North Carolina Commission on the Administration of Law & Justice (NCCALJ) was already established as an independent, multidisciplinary commission to undertake a comprehensive evaluation of the North Carolina judicial system and make recommendations for strengthening its courts within the existing administrative framework. The NCCALJ includes five committees designed to focus on five areas of inquiry:

- Civil Justice
- Criminal Investigation and Adjudication
- Legal Professionalism
- Public Trust and Confidence
- Technology

The NCCALJ Technology Committee governed the development and approval of the e-Courts Strategic Technology Plan and served as the e-Courts Advisory Committee. The other four committees provided interim progress reports to the Technology Committee. Many of these reports included technology requirements supporting the committees' charters. These technology requirements were considered during the development of the e-Courts Strategic Technology Plan.

The North Carolina Judicial Branch has expressed a growing need for "anywhere, anytime" access to information. Whether within the courtroom, chambers, office, police car, or home, judicial and law enforcement officials and the public have expressed the desire to interact with court processes and data seamlessly, interactively, and remotely. This desire is a fairly recent divergence from traditional interactions with courts in the stakeholders' geography and is aligned with modern expectations to interact with government and private services providers electronically. Historically, local judicial officials interacted with citizens on a face-to-face basis, with information and data (mostly paper-based) being the sole province of those officials; legacy applications reflect these traditional practices.

Advances in technology, together with the desire to reduce costs and improve access to court services by the public, provide the opportunity to reimagine how court officials and citizens interact with each other. The Judicial Branch desires to drastically reduce manual processes and reliance on paper documents. The federal government and many state court systems have successfully undergone similar technology transformations. These advancements in technology have led to increased efficiencies and collaboration among court officials and the legal profession.

In an effort to support this vision, and in order to support a more cohesive, unified court system, the NCAOC retained BerryDunn in January 2016 to assist in an assessment of the current IT environment and to produce a multiyear strategic plan for e-Courts in North Carolina (e-Courts Strategic Technology Planning Project). The resulting plan is the cornerstone for the evolution of technology in support of North Carolina’s e-Courts vision.

Overview of Strategic Initiatives Included in this Report

Table ii summarizes the initiatives developed collaboratively by the Judicial Branch and BerryDunn; a detailed description of each initiative is provided in Section 3.0 and Appendix A.

Table ii: Prioritized Strategic Technology Initiatives

Strategic Initiative		Implementation Complexity	Anticipated Benefits
A	Management & Governance	Moderate	★ ★ ★ High
B	Baseline Metrics	Low	★ ★ ★ High
C	Reporting & Analytics	Moderate	★ ★ ★ High
D	Enterprise Information Management System (EIMS)	Moderate	★ ★ ★ High
E	e-Filing	Low	★ ★ ★ High
F	Integrated Case Management System (ICMS)	High	★ ★ ★ High
G	Financial Management System (FMS)	Moderate	★ ★ Moderate
H	Electronic Public Access	Moderate	★ ★ ★ High
I	Judicial Workbench	Low	★ ★ Moderate

Budget Estimates and Timeline

Table iii summarizes the budget estimates for the recommended initiatives presented in this e-Courts Strategic Technology Plan.

Table iii: Initiative Budget and Timeline Matrix

Initiative Budget and Timeline Matrix (\$)										
Strategic Initiative	Year 0 FY2017	Year 1 FY2018	Year 2 FY2019	Year 3 FY2020	Year 4 FY2021	Year 5 FY2022	Year 6 FY2023	Base Total	Budget Target	Total with Risk Adjustment
Initiatives Starting in Year Zero										
A	Management & Governance	\$438,264	\$918,926	\$870,202	\$870,681	\$865,749	\$223,149	\$4,410,120	\$4,919,621	\$5,429,123
B	Baseline Metrics	\$70,540	\$43,647	\$29,098	\$29,098	\$14,549	\$14,549	\$216,030	234,612	\$253,194
C	Reporting & Analytics	\$411,708	\$1,025,902	\$697,750	\$334,048	\$250,492	\$97,200	\$2,914,300	\$3,218,786	\$3,523,272
D	EIMS	\$2,312,180	\$6,613,359	\$6,951,675	\$5,573,191	\$1,968,436	\$1,357,956	\$25,724,654	\$28,163,407	\$30,602,161
E	e-filing	\$793,500	\$2,210,996	\$2,165,354	\$1,563,169	\$1,135,042	\$360,892	\$8,589,845	\$9,381,414	\$10,172,983
F(a)	ICMS (build)	\$300,141	\$3,704,495	\$9,872,789	\$11,787,013	\$12,446,525	\$6,274,836	\$46,438,366	\$52,098,002	\$57,757,639
F(b)	ICMS (buy)	\$239,241	\$296,955	\$6,450,347	\$9,889,899	\$11,510,353	\$8,130,298	\$38,756,926	\$43,233,506	\$47,710,086
G	FMS	\$40,800	\$644,150	\$911,150	\$0	\$0	\$0	\$1,596,100	\$1,714,312	\$1,832,524
H	Electronic Public Access	\$30,030	\$462,877	\$26,899	\$450,627	\$413,377	\$225,477	\$1,752,710	\$1,925,171	\$2,097,632
Initiatives Starting in Year One										
I	Judicial Workbench	\$0	\$135,222	\$84,018	\$63,974	\$39,493	\$18,605	\$351,755	\$388,029	\$424,303
Total Including F(a) ICMS-Build	Capital	\$4,397,163	\$15,138,055	\$21,608,935	\$17,687,733	\$10,704,523	\$4,929,496	\$75,092,270	\$83,213,780	\$91,335,290
	Operational	\$0	\$0	\$0	\$2,984,068	\$6,429,140	\$3,643,168	\$16,901,611	\$18,733,073	\$20,564,536
Total Including F(b) ICMS-Buy	Capital	\$4,336,263	\$12,352,033	\$18,186,493	\$15,790,618	\$10,379,911	\$5,492,807	\$66,542,973	\$73,485,230	\$80,427,488
	Operational	\$0	\$0	\$0	\$2,984,068	\$5,817,579	\$4,935,319	\$17,769,468	\$19,664,625	\$21,559,783

Success Factors

The e-Courts Strategic Technology Plan is designed to significantly impact the operations of the Judicial Branch and its services. One of the critical success factors for the implementation of the Plan is continued active executive engagement for the initiatives described in the Plan and a disciplined approach to identifying, approving, and managing major technology initiatives. This will help to ensure that projects outside the scope of this Plan are thoroughly evaluated before adjusting the existing priorities of the initiatives described herein.

Another critical success factor entails committing appropriate resources toward the completion of initiatives. Resources may include, but are not limited to, funding, contractors, and Judicial Branch staff. In many cases, the use of external resources (e.g., contractors) is required. Factors determining the use of external resources may include availability of TSD, NCAOC, and Judicial Branch staff; urgency of initiative completion (relative to availability of TSD, NCAOC, and Judicial Branch staff); and the need for long-term knowledge of a specific technology.

New e-Courts technologies create significant opportunities to change how the Judicial Branch manages daily operations. The Judicial Branch must plan for significant business process changes that streamline operations and focus on using technology to improve customer service. In planning for the implementation of recommendations from this Plan, the Judicial Branch should consider the following:

- Active executive and management involvement and sponsorship will be critical to the successful adoption and continued support of the Plan.
- Implementing a successful e-Courts Strategic Technology Plan will require significant planning, increased capital investment, and human resources.
- A rigorous communication plan should be established to communicate project goals and objectives to stakeholders prior to, during, and after the implementation of the initiatives .
- Current business processes should be evaluated and redesigned where necessary to take advantage of new technologies.
- Many changes will be non-technical, cultural shifts—e.g., process changes—that should be facilitated by structured change management and policy and procedure adjustments.
- Departments must work cooperatively and collaboratively to facilitate effective change that is in the best interest of the Judicial Branch.
- Technical support staff will be critical to the success of the e-Courts Strategic Technology Plan's implementation.
- Internal stakeholders must be ready, willing, and able to use new technology to facilitate effective change.

1.0 Introduction

1.1 Project Background and Approach

The NCAOC has established an e-Courts vision that includes virtual courthouses; electronic filing, retrieval, and processing of documents; convenient access to services and information for the public; integration of financial and case data; judicial decision support; and caseload administration tools. This vision is encapsulated in the expression:

“The right information, at the right time, right where you are.”

In support of this vision, the NCAOC will create an environment in which court technology is advanced, making it easier for the public and stakeholders to access court services, while minimizing the need to physically travel to a courthouse.

The approved Project Charter for the e-Courts Strategic Technology Planning Project provides a set of objectives to be achieved as a result of an e-Courts Strategic Technology Plan. These objectives are provided in Table 1.1 and support the need to remain current in advances in technology, to reduce costs, to improve access to the court services, and to eliminate wasteful, manual processes.

Table 1.1: NCAOC Project Objectives and Anticipated Value

No.	NCAOC Project Objectives
1	Improve access to justice for North Carolinians
2	Improve efficiencies for public safety and law enforcement partners
3	Capture data that supports metrics the Judicial Branch may use to gauge performance
4	Reduce reliance on paper and the other constraints that a paper-based system imposes
5	Increase the quality of data collected and maintained, and improve its usefulness
6	Promote the use of the electronic flow of funds over physical methods, both with regard to collections and disbursements
No.	Anticipated Value
1	Improve faith and confidence by the public in judiciary operations
2	Improve the ability to dialog effectively and confidently with the legislature and the public
3	Increase buy-in and support from Judicial Branch stakeholders regarding initiatives that are presented as enablers of process improvement
4	Ensure security of non-public data

This e-Courts Strategic Technology Plan supports these objectives and the e-Courts vision and promotes a more cohesive, unified court system. This Plan is the cornerstone for the evolution of technology in support of North Carolina’s e-Courts vision.

To develop the e-Courts Strategic Plan, BerryDunn utilized a proven bottom-up strategic planning methodology, which began by identifying bottlenecks and barriers inhibiting the maturity of the Judicial Branch's court technology. This approach involved in-person interviews with over 240 Judicial Branch staff in small, large, rural, and urban locations throughout the state. To extend the breadth of this outreach, BerryDunn also conducted a web-based survey in which over 2,800 Judicial Branch staff and external stakeholders participated. These outreach activities provided BerryDunn with an understanding of how current technology enables business functions, while also identifying areas in which the lack of technology is a barrier to the advancement of business functions. As a result of these preliminary information gathering activities, a technology maturity model was developed, including desired performance metrics upon which the NCAOC expects to evaluate its progress.

The BerryDunn team then identified eight peer states that recently underwent a similar technology transformation: Utah, Iowa, Missouri, Oregon, Nebraska, Colorado, Wisconsin, and Georgia. Peer states were selected based on meeting most or all of the following criteria:

- Use of a statewide Case Management System (CMS) implementation method
- Progressive interfaces with other justice systems within the state
- Broad-based and of similar jurisdictional structure to North Carolina (technically "unified" or not)
- Similar demographics and population to North Carolina
- Implemented performance metrics and maintained statistics available for review
- Evolution to an e-Court environment is underway and far enough along that the state can share lessons-learned and reflect on the process as a whole

BerryDunn conducted interviews with each of the states via email and telephone, and supplemented our research by reviewing published reports and National Center for State Courts (NCSC) court technology findings. BerryDunn's research included considering best practices set forth by the NCSC, the Project Management Institute (PMI), and the Integrated Justice Information Systems (IJIS) Institute.

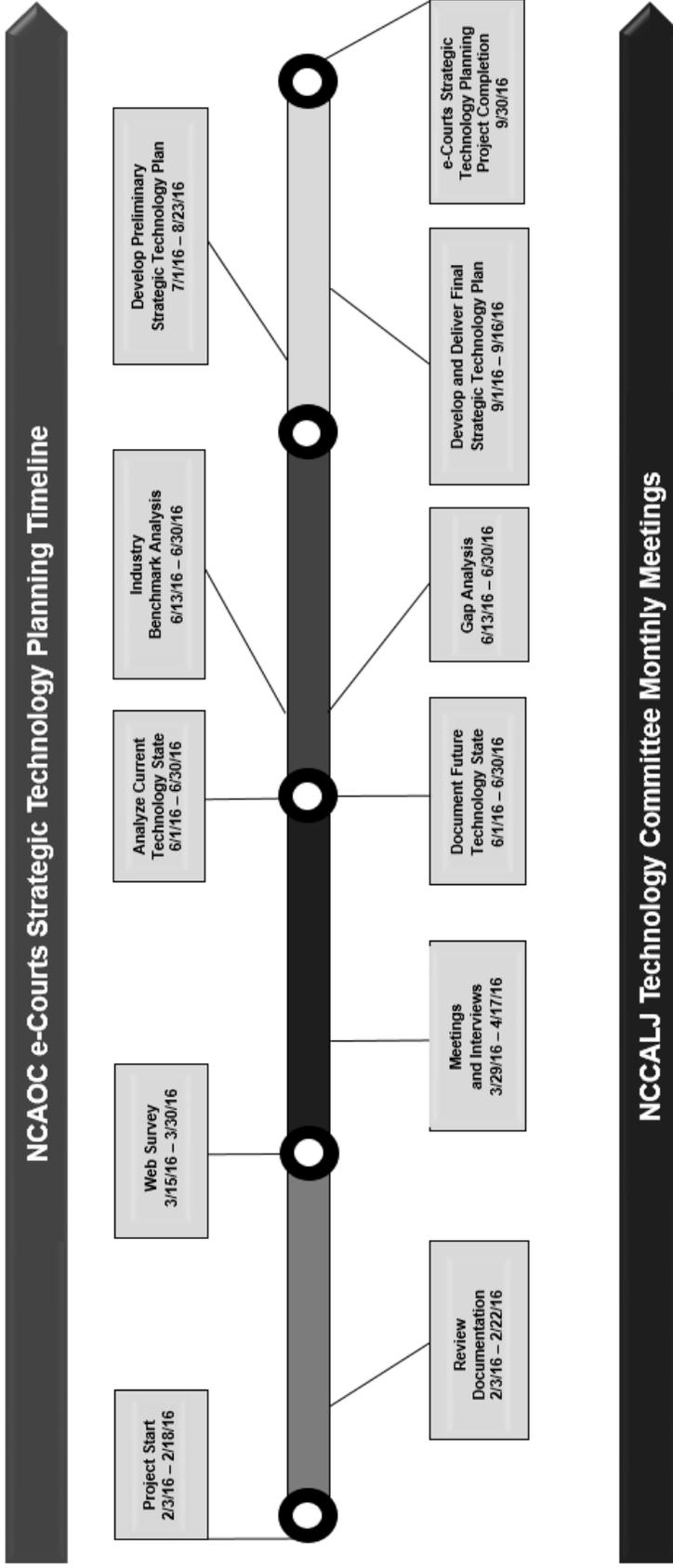
As a result of the market research and the gap analysis, the BerryDunn team developed a preliminary list of e-Courts Strategic Technology Initiatives. BerryDunn then collaborated with a subcommittee of the NCCALJ Technology Committee and the Judicial Branch to refine and prioritize the technology initiatives during an on-site work session. Once a series of technology initiatives were identified and prioritized, BerryDunn developed a budget for each, and overlaid the execution of the initiative onto a timeline matrix depicting each initiative's financial implications over a multi-year planning horizon.

Project closure activities included the transfer of knowledge and artifacts gathered during the execution of the e-Courts Strategic Technology Planning project to NCAOC personnel. This information is critical for the implementation and ongoing evolution of the resulting e-Courts Strategic Technology Plan, supported by the proposed Management and Governance approach.

This e-Courts Strategic Technology Plan includes the prioritized list of initiatives, along with the budget and timeline implications. It serves as a roadmap for the Judicial Branch's overall technology objectives, and provides a repeatable methodology in order to verify progress, address new issues, and make updates as necessary.

Figure 1.1 on the following page shows the key tasks and timeline in completing this e-Courts Strategic Technology Planning project.

Figure 1.1: NCAOC e-Courts Strategic Technology Planning Timeline



Detailed information regarding activities resulting in the e-Courts Strategic Technology Plan can be found in the Supplemental Materials.

1.2 Format of the Report

This report is comprised of two components. The **e-Courts Strategic Technology Plan** contains the following sections:

Executive Summary. This section provides a summary of the projects and initiatives described in further detail later in the report.

Section 1 – Introduction. This section describes the background of the project leading up to the e-Courts Strategic Technology Plan, the format of the Plan, and the work performed in the development of the Plan.

Section 2 – Gap Analysis Results. This section describes the gaps between the “as-is” and desired “to-be” e-Courts environment.

Section 3 – Strategic Technology Initiatives. This section provides a high-level description of each initiative.

Section 4 – Implementing the e-Courts Strategic Technology Plan. This section describes the budget and timeline for the e-Courts Strategic Technology Plan Initiatives, funding considerations, and the approach to ongoing maintenance and governance of the Plan.

Appendix A – Detailed Strategic Technology Initiatives. This appendix provides a detailed description of the Strategic Technology Initiatives presented in Section 3, including tasks required to implement the recommendations, rationale for its strategic priority rankings, impacts on stakeholders, anticipated benefits, best practice considerations, and assumptions.

Appendix B – Detailed Initiative Budget and Timeline Matrix. This appendix provides budget details for each initiative, including capital expenditures and operational costs.

Appendix C – Glossary of Terms and Acronyms. This appendix contains a glossary of the terms and acronyms that were included in this document.

The **Supplemental Materials** is a set of appendices that includes supplemental materials used to support the generation of the e-Courts Strategic Technology Plan.

2.0 Gap Analysis

This section describes a Maturity Model for e-Courts technology and how this aligns with the Judicial Branch's current ("as-is") and desired ("to-be") environment, as well as how the Judicial Branch's current environment relates to the peer states that were interviewed. In addition, this section illustrates the gaps between the current state of the Judicial Branch's technology environment and the Judicial Branch's future vision and objectives. Gaps are organized into three categories:

1. Management and Governance
2. Business Environment
3. Technology

The purpose of identifying the gaps in these three areas is to understand the Judicial Branch's current state, the issues facing the court system, and how they impact the overall functionality of the Judicial Branch.

A gap is identified by comparing the resources and assets in the current environment with the desired "to-be" environment and industry best practices. A gap results when the existing technology provides no or partial functionality in the current environment to meet current and anticipated future needs.

2.1 Peer State Analysis and e-Courts Maturity Model

As a result of the peer state reviews, the BerryDunn team determined North Carolina's current state as compared with the desired future e-Courts state, and peer states. In general, the largest gaps between North Carolina and peer states relative to the three domain areas and e-Courts elements are found in the following areas:

- Operational and mature initiative **governance** models
- Centralized **ICMS**

In these areas, the peer states seem to be further advanced than North Carolina. However, there were two areas in which the gap between the NCAOC and the peer states is not as wide. These include:

- Use of a modern, fully functional **FMS**
- **Reporting and analytics**

The NCAOC and the peer states were significantly similar (i.e., little or no gap identified) in the following areas:

- **Document management** (and the use of the fully integrated document management system as a component of the e-Courts strategy)
- Availability of a "**Judicial Workbench**"
- **Electronic public access** to court services
- Judicial Branch-wide use of **e-filing**

Based on analysis of the peer states, who are generally considered to be ahead of the curve regarding technology transformation, the NCAOC seems to be remaining current regarding functionality, but falling behind when it comes to the technology used to support the functionality. Of particular concern is the technology used to support case management functionality, where the NCAOC seems to be further behind the peer states.

Table 2.1 (on the following page) displays the current state of the NCAOC technology-related e-Courts elements, depicted in peach; desired future e-Courts state, depicted in green; and comparison peer states, indicated by ovals. White indicates a transitional maturity level between North Carolina's current state and desired future state.

Table 2.1: NCAOC e-Courts Current State, Future State, and Peer State Comparison

eCourts Tools Maturity Model			
eCourts Element	Maturity Stage		
	Paper	Basic	Intermediate
e-filing	Paper documents, handwritten or typed and printed	Paper documents scanned, uploaded to court and then printed	Integrated document viewing Some paper sorting/ filtering Pre-populated forms
Document Management	Paper documents and folders in filing cabinets Casework limited to physical proximity of the files	Scan and distribute documents through electronic means	Documents submitted and stored electronically Basic indexing
Financial Management	Paper invoices, receipts, and checks Paper ledger Spreadsheets	Credit card capabilities Basic accounting, cashiering, and bookkeeping Financial transactions that are not integrated into the case	Real-time access to financial history of payments and balances
Case Management	Paper statistical reports Dictated by attorneys and litigants	Limited reports are generated	Court sets future dates and monitors continuance and delays Real-time access to case management info
Reporting & Analytics	Admin Reports Highly manual Data is driven from multiple disparate sources	Centralized reporting mechanisms with delay and batch reporting	Real-time queues Future queues Case load reports Staff has real-time access to data required
Public Access	Paper case files Docket lists Courthouse driven	Online access, with basic court info Kiosks in the courthouse Paper requests for public documents	Online forms to print and file Online listing of scheduling and printed lists
Judicial Workbench	Day planner Case files Manual wet-ink signatures Library of legal resources	Word processing for document creation Electronic calendar Simple viewing tool for electronically scanned files	Integrated electronic multi-document viewing Prepopulated forms Sorting/filtering configurable views
			Advanced
			Electronic Annotations eSignatures
			Retrieval of advanced metadata stored electronically Indexed and retrievable Electronic interpretation and presentation
			Mobile online payments Seamless integration of financial interactions Real-time reports Direct deposits / automated payments
			Ticklers and alerts Support for multiple case types Configurable business rules and workflow
			Real-time access to information Court-wide stats Trend and predictive analysis Identified set of metrics
			Real-time updates and notices Online access to publically available documents
			100% electronic case file Secure document annotation Integrated electronic signatures Document rights management Real-time electronic case updates

2.2 Gap Analysis Categories

Category 1: Management and Governance

The gaps identified relative to the Management and Governance domain specifically related to the value of having a fully operational and mature governance model in place to support the identification, consideration, prioritization, and approval of initiatives, followed by a disciplined portfolio management methodology to track the portfolio of enterprise initiatives.

Peer states cited the importance of management and governance as the primary critical success factor for prioritizing initiatives that best support the overall mission of the courts, including court improvements expected from the implementation of technology.

BerryDunn identified the following gaps in the Management and Governance domain area:

- **The North Carolina Judicial Branch has defined, but not yet made operational, a governance framework** – Industry organizations (e.g., PMI and NCSC) and peer states indicate that a formal management and governance model is the most critical success factor and will allow for the allocation of funds and personnel to prioritized initiatives. The Judicial Branch does not currently have such a framework in operation.
- **Business rules are not defined nor applied consistently from county to county** – Though county courts are part of the unified court system, they operate autonomously and define elements and conditions of their own business and court processes and procedures. These process variations were acknowledged by court clerks and others interviewed, as well as by private practice attorneys and district attorneys (DAs), during focus group sessions. Additionally, prompted by the lack of modern technology, many county courts have developed local point solutions, which has spawned a set of unsupported “micro applications” to bridge the gaps between the current technology and the requirements of the business. These point solutions result in decreased process and technology uniformity across the courts within North Carolina.
- **The NCAOC does not own or manage the court facilities (this is a county-level responsibility)** – Although the NCAOC provides the majority of technology to the courts throughout the state, the counties are currently accountable for implementing technologies that are related to specific court facilities. The projects undertaken by the individual courts to implement local technology are driven by financial resources and priorities within the counties themselves and, as a result, are not uniform from county to county. These technologies include, but are not limited to, courtroom exhibit management technology, audio/video equipment, and electronic calendar displays in public areas of the courthouse. Because these projects are not centralized NCAOC initiatives, economies of scale (e.g., leveraging centralized volume purchasing power, centralized management of common technologies) may not be realized.
- **The NCAOC is not establishing the standards of all judicial education programs, nor administering the education and training for all judges and staff** – This may result in business processes that are inconsistent from court to court. Industry organizations and peer

states indicate that increased common business processes across the state result in standardization in how participants interact with the courts and normalization of data that is captured and utilized during the disposition of cases. This increases the ability to report on metrics for the purposes of defining court performance.

- **The NCAOC is currently functioning consistent with best practices in project management and program management but not portfolio management, as described by PMI standards** – The NCAOC has a strong Project Management Office (PMO), leveraging industry best practices in the areas of project and program management. The primary gap between the current practices and best practices is the implementation of a formal and rigorous portfolio management process to support the approved enterprise-level initiatives.

Review of the peer states and current best practices promulgated by the NCSC, PMI, and IJIS suggests that solutions exist to close all of these gaps, which would enable the NCAOC to effectively implement its e-Courts vision. It will require the NCAOC to operationalize its endorsed governance initiative across all phases of the strategic planning process. This includes implementing a streamlined approval process that can efficiently advance the initial tasks included in the nine initiatives described in this report. The approval and governance process must be implemented as soon as possible so that initiative working groups can be formed, resources allocated and committed, and sponsorship and support from all participating stakeholders strengthened.

While high-level tasks key to implementing the specified service or technology were defined for each initiative, the Management and Governance initiative must be consistently applied across all aspects of the e-Courts initiatives to:

- Maintain a coordinated and timely schedule and process
- Limit scope creep
- Enable periodic performance review
- Assess progress against defined objectives and deliverables
- Ensure resource commitment to completing specific tasks
- Ensure coordination across initiatives
- Identify integration and collaboration processes and needs
- Enable fiscal and operational continuity

The most frequently cited lessons learned from courts endeavoring a statewide e-Courts vision are the need for strong endorsement of overall portfolio management, governance, and stakeholder commitment to assigned tasks, deliverables, and scheduled activities. Due to the NCAOC's multiple jurisdictional and administrative management priorities, consistent and regular restatement of objectives and renewal of buy-in by key stakeholders is essential to maintaining forward progress. This includes ensuring that benefits continue to support to the longer-term vision and continue to engage individual stakeholders in achieving success over the length of each initiative. Often the terms "Quick Wins" or "Phased Deliverables" are used to ensure that stakeholders see value and some immediate return on the investment of their time in the short term.

Category 2: Business Environment

The gaps identified relative to Judicial Branch's Business Environment are largely centered around the use of performance metrics to gauge court performance. These may be related to measuring a court's performance improvement as a result of technology change, business process change, or both. The NCSC defines a set of performance metrics, known as "CourTools," which includes 10 performance measures for trial courts and six performance measures for appellate courts. It also provides guidance for "specialty courts and cases," such as drug courts, mental health courts, and elder abuse cases. Some states have adopted these CourTools measures in their totality; however, most peer states indicated that they selected a subset of these measures, while also using other measures that were not specifically identified within the CourTools model. Most peer states indicated that the use of performance measures did not drive decisions regarding the prioritization and funding of technology initiatives. Instead, they indicated that, once new technology was implemented, the availability of metrics to measure court performance was an important and useful byproduct of the implementation of the new technology and its impact on court performance.

The BerryDunn team found no substantive gap between how the Judicial Branch is currently using available performance metrics and how other states are using them. The Judicial Branch is currently using a subset of available CourTools metrics to determine court performance in these areas. They are also capturing metrics that are not specifically aligned with the CourTools model, but are generally available by mining data in the current data repositories that are used by current systems and applications. However, for states that recently implemented modern technology solutions, the availability of performance metrics to determine court improvements increased, enabling them to better use these metrics to determine areas of improvement.

The following gaps were identified in the Business Environment domain area:

- **While the NCAOC is seeking to implement standard metrics, including CourTools metrics, the current statistical reporting is inadequate to effectively measure business processes and performance** – Metrics provided to and reviewed by BerryDunn did not present elapsed time for tasks within a larger workflow. Having these metrics would allow the NCAOC to determine where bottlenecks occur and where the judicious application of technology or process change might prove beneficial.
- **Limited use of performance metrics makes it difficult to determine if there is a quantifiable improvement resulting from any change in technology** – Industry best practices support defining performance metrics, conducting an initial baseline analysis of court performance against these metrics, and performing ongoing analysis of the advancement of court performance. Peer states report that, although the approval of technology initiatives is largely not driven by the need for metrics, once the approved technology has been operationalized, the availability of data to support the defined metrics is important for measuring court improvements.

Category 3: Technology

The Technology Gap Analysis is broken into the following e-Courts areas:

- e-Filing
- Document Management
- Financial Management
- Case Management
- Reporting and Analytics
- Electronic Public Access
- Judicial Workbench

e-Filing

The NCAOC has undertaken a pilot of e-filing capabilities, currently supporting a small percentage of the total number of cases and case types that may be filed electronically. Other forms of “electronic filing” are currently in place (e.g., eCitations), but are not fully automated and require clerks to print many of the citations that are filed with the Judicial Branch electronically. To support a paperless environment and the Judicial Branch’s e-Courts vision, e-filing must support all relevant case types. Peer states report that full adoption of e-filing may require policy or statute changes to ensure that all filings are conducted electronically, with waivers in place to support those that may not have access to computers. Some peer states have such statutes in place and are achieving nearly 100% compliance. Other peer states are still early in the implementation of e-filing technology, waiting until core supporting technology is in place before fully deploying e-filing. Supporting technology includes, but is not limited to, a fully integrated CMS and fully functioning EIMS. The current process is time-consuming and involves an excessive use of paper for certain case types that are not set up for e-filing. Court clerks must maintain both manual and e-filed documents, resulting in duplicative business processes for case management.

Document Management

The NCAOC supports the storage and retrieval of some forms of electronic document currently; however, the initiative to implement a fully functioning EIMS is in its infancy. An EIMS solution has been identified and acquired, and there are efforts underway to determine its configuration and utilization. The gap between the NCAOC and some peer states in this area is negligible; however, the implementation of an EIMS is a predecessor to fully enabling e-filing capabilities. In the current process, searching and archiving is limited because storage flows through a shared network linked to the CMS. Additionally, traveling judges and justices continue to be burdened and slowed down because they are tethered to paper files.

Financial Management

The NCAOC currently supports an FMS that has evolved over several years. However, the technology is nearing obsolescence, making it difficult to find personnel to support it. This system is not fully integrated with the case management functionality, requiring duplicate data entry and increasing the potential for errors. Peer states report that they are utilizing more modern technologies to support the financial needs of the courts and administration. As such, they are slightly more

advanced than the Judicial Branch. As a whole, though, they have still not advanced to the highest level of maturity for financial management. For example, limiting how many cases a clerk can have open at a time delays the amount of work they can accomplish. Additionally, the current process for credit card payments is cumbersome and error-prone, and sometimes charges are mistakenly processed twice, which results in reduced confidence in the system.

Case Management

Case management is the area in which the largest gaps exist between the North Carolina Judicial Branch and peer states. NCSC and the peer states indicated that a centralized case management system is a critical success factor to support business process consistency and improvement for all courts and case types within a unified court system. An ICMS is distinguished from a CMS in that it supports multiple case types through multiple levels of a court system; whereas a traditional CMS has historically targeted a single case type or court level. Additionally, the user community for an ICMS extends beyond clerks and administrative staff to include judges and justices. Many of the peer states report that they are implementing an ICMS model—some of which began with an ICMS vision, others of which started with a traditional CMS model and have been expanding the capabilities to support multiple case types, courts, and users.

The NCAOC supports a system of eight case management modules that provide limited CMS functionality. These modules have evolved over the past 30 years (some are more modern) and were designed to support specific case types. As currently implemented, the modules comprising case management functionality are used inconsistently, which results in redundancy in workflow, the potential for loss of information and/or files, and increased time spent to correct errors.

Reporting and Analytics

Currently, most reports must be requested from the NCAOC (specifically the TSD) for development. This process can be time-consuming, limiting the availability of reports in a timely manner. Most reports are executed in a batch (e.g., overnight) mode, and ad hoc queries and reporting are generally not available for users in the courts to execute. Peer states with modern CMS technology in place claim that reporting has become much more real time and accessible to those that require it. Modern ICMS technology enables the definition and utilization of common business practices across the organization, further supporting the use of common data element definitions. Because the data is stored in a common manner, reporting on performance metrics is much more accurate and useable to determine where the courts may require improvement.

Electronic Public Access

Most peer states and the Judicial Branch support some level of electronic access to the courts. This is typically enabled through a public website or portal, and can also be supported through the use of kiosks that are strategically placed throughout the state. There is no significant difference between the Judicial Branch's maturity and capabilities in this area and those of the peer states. However, many industry publications describe mature electronic access to the courts models, in which case participants, the public, and other stakeholders have access to appropriate information at any time, using technology that is not location dependent. Increasing the Judicial Branch's maturity in this area

will require an ICMS and a fully functional EIMS. It may also require statute or policy changes to enable access to files that currently must be accessed solely by visiting a courthouse.

Judicial Workbench

The NCAOC supports elements of a Judicial Workbench, including access to jury instructions technology and links to electronic versions of statutes, judicial briefs, and other related documents for use on the bench and during case preparation. The industry generally refers to the Judicial Workbench as an interactive view into case information that may be stored in various locations, such as an ICMS and EIMS. One working definition of the Judicial Workbench is provided in the context of “Judicial Tools” through the JTC, established by the Conference of State Court Administrators (COSCA), the National Association for Court Management (NACM), and the NCSC. Of the judges and justices interviewed, many of them were unaware of the value of a Judicial Workbench, including the ability to interact with cases in real time and actively manage their dockets.

3.0 e-Courts Strategic Technology Initiatives

3.1 Strategic Initiatives Development

A set of nine initiatives were identified as a result of the gap analysis phase. These initiatives are intended to advance the NCAOC technology environment towards a more evolved e-Courts maturity. Many of these initiatives are currently in some stage of implementation already. This section includes a proposed order of implementation based on best practices, initiative dependencies, and feedback from a subcommittee of the NCCALJ Technology Committee during a workshop conducted in July 2016. A summary of these initiatives is provided in the table below.

Table 3.1: Summary of Initiatives

Initiative	Summary of Initiatives
A	Management & Governance
B	Baseline Metrics
C	Reporting & Analytics
D	Enterprise Information Management System (EIMS)
E	e-Filing
F	Integrated Case Management System (ICMS)
G	Financial Management System (FMS)
H	Electronic Public Access
I	Judicial Workbench

The initiatives, rated in terms of the anticipated benefits and implementation complexity for each, and graphic of each is depicted as shown in Table 3.2.

Table 3.2: Implementation Complexity

Complexity Rating	
 High	<p>Highly Complex (“High”) characteristics include:</p> <ul style="list-style-type: none"> • Detailed planning and/or requirements determination • Development and execution of a robust and detailed schedule • High utilization of Judicial Branch staff and management resources • Significant business process reengineering • Disciplined change management and acceptance by operational staff • Strong and consistent governance to manage change and to reduce the risk of stakeholder rejection and scope creep
 Moderate	<p>Moderate Complexity (“Moderate”) characteristics fall between the High and Low complexity rankings.</p>

Complexity Rating	
 Low	<p>Minimal Complexity (“Low”) characteristics include:</p> <ul style="list-style-type: none"> • Predefined and accepted requirements already in place • Straightforward with regard to scheduling • Limited impact on Judicial Branch resources • Limited change management to the current processes • Low risk of operational staff and stakeholder rejection

Additionally, the initiatives were assigned an indicator of the level of anticipated benefit, as depicted in Table 3.3.

Table 3.3: Anticipated Benefits Rating

Anticipated Benefits Rating	
 High	<p>Highly Beneficial (“High”) characteristics:</p> <ul style="list-style-type: none"> • Impact a large number of stakeholders • Provide significant value
 Moderate	<p>Moderately Beneficial (“Moderate”) characteristics fall between the High and Low benefit rankings.</p>
 Low	<p>Narrow Value (“Low”) characteristics:</p> <ul style="list-style-type: none"> • Impacts a small number of stakeholders • Provide limited value

3.2 Prioritized List of Strategic Technology Initiatives

This section contains a short description of the nine e-Courts Strategic Technology Initiatives in priority sequence, along with a graphic depicting the Anticipated Benefits Rating and the Complexity Rating. While listed in ascending order, some initiatives will overlap and run concurrently. For a complete description of the nine e-Courts Strategic Technology Initiatives, see Appendix A.

Initiative A – Fully Implement Management and Governance Process
<p><u>Initiative Description:</u></p> <p>Two separate technology committees have endorsed an IT governance model and charter. The charter sets forth a method by which decisions are made and by whom; however, it has not yet been fully operationalized and expanded. The governance model is the foundation of the e-Courts vision.</p> <p>BerryDunn recommends that the NCAOC operationalize the Governance Charter. The charter establishes a set of policies and procedures that dictate the process by which chief strategic decisions are made, and is less focused on tactical or smaller projects. The overarching governance model will serve as the method to achieve all of the remaining initiatives laid out in this Plan. The NCAOC should consider implementing a best-practice portfolio management framework (such as is recommended in PMI’s Project Management Book of Knowledge [PMBOK]) and apply it to all NCAOC initiatives. Additionally, the NCAOC should consider updating the current initiative or project submission and</p>

Initiative A – Fully Implement Management and Governance Process

prioritization process to address all project sizes (e.g., large multiyear projects, small ad hoc projects, projects that may arise within the fiscal year).

Ranking and Impact		
Priority Ranking	Implementation Complexity	Anticipated Benefits
	 Moderate	 High

Initiative B – Identify Metrics and Conduct a Baseline Analysis

Initiative Description:

Disciplined tracking and reporting of performance metrics will help the Judicial Branch determine where personnel and funding are best applied in order to achieve its vision and improve performance against organizational goals.

The NCAOC has metrics it currently monitors and analyzes. Three of the measures are drawn from CourTools. We suggest the NCAOC determine the metrics on which it wants to base its effectiveness and efficiency. We recommend the NCAOC define the data elements it wishes to use and take steps to ensure they are standardized across the state. The NCAOC should also define the “to-be” business process descriptions when developing the metrics.

In addition, the stakeholders or audience for whom the measures are of interest should be considered, along with how that information or the results of that analysis are presented to them. The baseline analysis should occur as soon as possible, but it may need to wait until after Initiative C – Reporting and Analytics has commenced and the tools needed to analyze the data are in place.

Ranking and Impact		
Priority Ranking	Implementation Complexity	Anticipated Benefits
	 Low	 High

Initiative C – Reporting & Analytics

Initiative Description:

Judicial Branch staff across the state with direct daily operational management duties do not have comprehensive ad hoc reporting and querying capabilities and are unable to drill down into core court business processes for data analysis and reporting. By expanding the reporting and analytics capabilities, parties performing queries and analyzing data will be able to identify areas within business processes that need change. They will also be able to review performance and the status of case workflow, and be better able to manage case activity.

In order to expand upon current reporting and analytics capabilities, the e-Courts Strategic Technology Plan needs to include a robust, feature-rich reporting and management analysis toolkit. The data source upon which the reporting and management analytics occurs could take the form of a “data lake,” data warehouse, or some other repository that consolidates disparate data sources. Sources of data could include the ICMS, FMS, EIMS, and others. This reporting and analytics capability could be acquired and implemented after a Request for Proposals (RFP) and procurement process, and the system selected will provide pre-formatted reports that allow for drill-down in data from query results. It will also allow for scheduling standard, periodic, or batch report runs.

Additionally, this functionality will be configurable; allow for standard and ad hoc reporting; include user-friendly query tools common in standard statistical or analytical software; have the ability to create and run ad hoc reports by any set of criteria; have the ability to save, copy, and manipulate reports and report data; and allow authorized users to redact or hide private or sensitive data as necessary. The CourTools integration standards and other performance measures to evaluate court metrics in a standardized manner is essential.

Ranking and Impact		
Priority Ranking	Implementation Complexity	Anticipated Benefits
	 Moderate	 High

Initiative D – Enterprise Information Management System (EIMS)

Initiative Description:

An EIMS is a secure electronic repository used to store, retrieve, archive, and associate a variety of documents with cases and court proceedings. The EIMS is integrated with other e-Courts applications to create a consolidated electronic court case record with data from the ICMS, the FMS, e-payment, and e-filing components.

The EIMS facilitates other applications’ ability to use data accumulated in association with a case. Using the EIMS’ workflow features, the court may electronically route documents and include individuals’ annotations. The EIMS would support document scanning, document processing, indexing, sorting, reporting, and tracking and search functions. Currently, these activities are performed manually on documents received by the court.

Including an EIMS in the NCAOC e-Courts applications suite provides internal and external stakeholders with access to documents appropriate for their role in court interactions. The EIMS enables information

Initiative D – Enterprise Information Management System (EIMS)

sharing, exchange, and document access to occur electronically. An EIMS replaces paper transactions, whether within the courtroom, chambers, the office, police car, or at home.

The NCAOC is in the early stage of implementing an EIMS to support future e-filing and related e-Courts initiatives. This initiative, as presented here, is intended to prioritize and formalize the implementation approach. The NCAOC should consider leveraging the current EIMS capabilities specific to creating portals for the “Actor Views.” The use of portals that are tailored specific to the actor/user to display the reports and dashboards generated from Initiative C – Reporting and Analytics gives the user the exact information in a manner that it can be best utilized.

The documents within the EIMS may originate from a variety of sources, including from the ICMS or another e-Courts application, or as e-filed by parties and external stakeholders. The EIMS may access images from a repository of converted hardcopy back-up files, documents submitted electronically as images (not e-filing), converted microfilm, and other media. Images/documents within the EIMS can be made accessible online for searches, through a portal, and to the court and external case parties as needed for case processing, without the need to produce a hardcopy when the file moves from one workflow stage to another.

Though the EIMS would provide paperless electronic filing capabilities, court order and legislative statutory changes may be required in instances where original record regulations and/or court policy requires maintenance of a hardcopy record, or when certain original documents require a “wet signature” and manual filing with the clerk’s office.

Ranking and Impact

Priority Ranking	Implementation Complexity	Anticipated Benefits
	 Moderate	 High

Initiative E – e-Filing

Initiative Description:

An e-filing system provides a means for anyone involved with the court system—the public, attorneys, and court officials—to submit documents and/or information to the court electronically. This includes forms submitted to the court from law enforcement, litigants, district attorneys, and pro se defendants, and includes search warrant requests, citations, criminal complaints, indictments, and dismissals, as well as civil, juvenile, and appellate complaints and responses. Some electronic filings will originate from fillable forms available on the web. The NCAOC should take into consideration the “actors” and their respective “views” through the e-filing system as it works through this initiative.

With e-filing, once the data is submitted via the fillable form, it may be evaluated and processed to respond to triggered events or initiate other tasks or events within the ICMS. As a component of the NCAOC e-Courts strategy, receipt of documents submitted through e-filing should trigger events within defined workflows. These would include notification, financial tracking, case event status, and other management-specific processes.

As was noted in Initiative D – EIMS, the Judicial Branch may eventually need to change rules and statutes to require that all submissions to the court come through e-filing, enabling the appropriate

Initiative E – e-Filing

component(s) of the NCAOC e-Courts system to incorporate the data included in the e-filed document and eliminating the need to reenter data in the ICMS, FMS, or other system modules.

Based on a set of requirements defined in 2007, the NCAOC has previously licensed an e-filing system and rolled out functionality to a subset of counties in a pilot project. Additionally, the NCAOC has developed electronic filing capabilities for both criminal and non-criminal violations, such as motor vehicle and seat-belt, traffic, hunting and fishing, underage drinking, and speeding violations. The NCAOC should define a fresh set of business requirements in regard to e-filing and consider issuing either a Request for Information (RFI) or RFP to identify possible e-filing solutions/vendors.

Ranking and Impact

Priority Ranking	Implementation Complexity	Anticipated Benefits
	 <p>Low</p>	 <p>High</p>

Initiative F – Integrated Case Management System (ICMS)

Initiative Description:

One of the most prevalent requests for a near-term initiative during the interviews was for the provision and implementation of a comprehensive (feature-rich) ICMS. The various participants in the interviews often referred to specific system components, such as a scheduling system, electronic notification, date and event-driven “ticklers,” reporting, and docketing. From a strategic technology planning perspective, all such features are considered functionality contained in a single solution—that being an ICMS.

The overall goals of the ICMS could be achieved through the implementation of a centralized, statewide, uniform platform that includes all functionality necessary to complete all tasks for clerks, judges, court administrators, and prosecutors necessary for case initiation, docketing, scheduling, processing, decision making, adjudication, and disposition. This includes incorporation and maintenance of all case-related documentation and electronic approval processes necessary to initiate and seamlessly process a case electronically from initiation through dismissal. Whether the NCAOC chooses to implement a new ICMS – either through acquisition of a commercial off-the-shelf (COTS) product or through in-house integration and upgrade of the existing standalone components – the resulting system should provide specific views and access based upon the roles and actors who will use the ICMS to complete specific actions for case-specific, case-type functions or roles. To achieve the goals, the ICMS should:

- Provide electronic processing functionality for all case types to record, track, and manage events and actions from case initiation through case disposition, utilizing thorough, flexible workflows that generate automated reminders (ticklers) and electronic notification to court staff and case participants/parties of case events, decisions, and court calendars.
- Enhance the concept of a fully, or near-fully, paperless case records and document management system.
- Integrate with an e-filing solution that enables electronic access, signature, and authorization capabilities for court-related events, warrants, and other court criminal and civil processes, dispositions, and judicial actions. This includes the ability to create, docket, electronically deliver, electronically sign, and print relevant court notices and case-related documents and notices.

Initiative F – Integrated Case Management System (ICMS)

- Collect the data necessary to enable ongoing management reporting, workload management, and performance measurement and analytics.
- Integrate the case and financial management features of the case and support existing interfaces to enable automated data exchange, financial and case disposition reporting, and search and query both internally and with other State and local agencies and justice partners.
- Provide comprehensive functionality to integrate documents, images, and exhibits maintained in the EIMS to the ICMS, including archiving and retrieval capabilities.

As FMS functionality is incorporated into most COTS ICMS solutions, BerryDunn recommends including the FMS requirements in the ICMS model if it is acquired by RFP. These requirements can be used to evaluate flexibility and scope of the COTS solutions proposed to meet both the ICMS and FMS, as well as address the NCAOC expectations for quality and performance improvement goals included in the performance reporting and analytics initiatives.

Ranking and Impact

Priority Ranking	Implementation Complexity	Anticipated Benefits
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Initiative G – Financial Management System (FMS)

Initiative Description:

During focus group sessions with court clerks, attendees routinely describe the FMS and the process of determining and collecting fees, fines, and costs as cumbersome, with a variety of shortcomings. The NCAOC should look at the ICMS solution that has commenced in Initiative F to make sure the capabilities sought do not already exist and need to be leveraged out of the ICMS solution. The NCAOC should also take into consideration the “actors” and their respective “views” through the FMS as it works through this initiative.

Capabilities of any standalone FMS deployed, or an FMS component within the ICMS, should include the ability to integrate with the ICMS across all courts and case types. In addition, it should have real-time presentation of fees, fines, and costs with any offsetting prior payments. It should also have the ability to make real-time adjustments at the cashier’s window when presented with authenticated documentation. Additionally, the FMS should have the ability to:

- Support multiple charge codes with varying costs based on location
- Support payment through multiple means, including credit card, debit card, cash, personal check, and cashiers/bank check
- Generate a statement of charges and payments for a case or range of cases, and print or email the statement(s)
- Produce a range of management reports
- Export and transmit transaction activity, in detail or in aggregate, to external systems or other financial systems maintained at NCAOC or elsewhere
- Maintain case-related transaction activity within the FMS and available for presentation through self-service kiosks, browser-enable workstations, smartphones, or other devices to support inquiry and payment online

Ranking and Impact

Initiative G – Financial Management System (FMS)		
Priority Ranking	Implementation Complexity	Anticipated Benefits
	 Moderate	 Moderate

Initiative H – Electronic Public Access

Initiative Description:

The Electronic Public Access capability provides the public with access to available Judicial Branch information (including that from ICMS) through self-service kiosks and personal devices (e.g., smart phones, tablets, and desktop and notebook computers). Web-based Electronic Public Access capabilities will provide the public the ability to conduct an online search of publicly available court records and documents, submit online payments, and complete online forms (eForms) related to case initiation, processing, and requests for services.

Currently, the NCAOC provides access to standard forms from the Judicial Branch website and the public may only obtain publicly available case documents in hardcopy format on-site at a court location. The e-Courts vision includes expanding the Electronic Public Access capabilities and the need to provide access to publicly available case documents from anywhere, at any time, as supported by State statute and Judicial Branch policy. As part of this initiative, the Judicial Branch should review its policies around the scope and restrictions of publically available documents. Leveraging the practices of other states, as well as the best practices recommended by the NCSC, should help guide the NCAOC when tailoring its policies to find a balance between the intended transparency of the Judicial Branch and the privacy rights of citizens.

The Electronic Public Access capabilities will interface with the EIMS, which will interface with the e-filing capabilities of the ICMS, to enable documents to be filed, retrieved, and work-flowed electronically, without a need for printing or creation of manual files. The result of the Electronic Public Access initiative will provide the public stakeholders with a readily accessible self-service capability and e-access to the right information, at the right time, right where they are.

Ranking and Impact		
Priority Ranking	Implementation Complexity	Anticipated Benefits
	 Moderate	 High

Initiative I – Judicial Workbench

Initiative Description:

The Judicial Workbench is a dashboard/portal application that provides the electronic tools to meet the specific case processing, judicial decision making, and management needs of trial court judges on the bench and in chambers. Utilizing a dashboard or workspace format, the Judicial Workbench provides a single point of entry into the day-to-day operational and managerial information needed by a judge. It

Initiative I – Judicial Workbench

provides access to the data included in the e-Courts ICMS, summary case and defendant history, and information from other justice agencies. The Judicial Workbench also brings together – under one umbrella system – traditional office applications, legal research capabilities, web portal access to external applications, and a powerful decision support capability to judges.

Judicial Workbench functionality will assist in meeting the overall e-Courts objective to provide internal and external stakeholders with the right information, at the right time, right where they are. A Judicial Workbench enables judges to access the right information needed to enable them to better manage their workload and to carry out their daily activities more effectively than in the current environment.

Ranking and Impact

Priority Ranking	Implementation Complexity	Anticipated Benefits
	 Low	 Moderate

4.0 Implementing the e-Courts Strategic Technology Plan

This section provides guidance on implementing the e-Courts Strategic Technology Plan, including a listing of the initiatives in priority sequence, the estimated cost of each initiative, the year in which the initiative is proposed to begin, and guidance for the ongoing governance of the Plan.

4.1 Budget and Timeline

Section 3.2 of the e-Courts Strategic Technology Plan provided descriptions for each initiative and what each entails, identified implementation complexity and timing for the initiative, and listed anticipated benefits of the initiative.

Table 4.1 summarizes the budget estimates for the recommended initiatives that have been presented in this plan. The timeline provides a framework for budgeting initiative costs and for planning implementation timeframes over a six-year horizon (including the current fiscal year as “Year 0”). The initiative costs are presented as estimates and will vary based on the budget of the Judicial Branch, competing technology initiatives, the availability of support resources, and the specific technical approach used to undertake an initiative. Table 4.2 depicts the estimated operational costs post implementation.

Each initiative in the table can be started and/or completed within a given fiscal year. Rather than attempting to determine exactly when a particular initiative would be undertaken, this table is intended to identify the fiscal year(s) in which an initiative should be initiated. A dash symbol indicates that there are no planned activities for the initiative during the respective fiscal year. For a detailed list of budget assumptions made for each of the nine initiatives, see Appendix A.

For each of the initiatives, the major assumptions used in preparing the budgetary estimates are described with Appendix A. All of the estimates assume that TSD will make available resources in addition to the Judicial Branch and consultant hours. Resources were priced based upon staff role estimates for specific role-based positions and tasks and segmented by:

- TSD Staff
- Judicial Branch subject matter experts (SMEs)/Non-TSD staff
- External consultants

For each staffing classification, blended rates and industry standard costs for major staff roles were developed. The major staff roles include, but are not limited to, Programmers, Web Developers, Senior Business Analysts, Planners, and Judicial Branch SMEs.

The NCAOC provided staffing data and case management data that was used for planning and cost estimations.ⁱ

Generally, implementation go-live resource cost estimates included tasks assigned to the NCAOC SME, non-TSD staff, TSD, and either contractor staff or vendor staff as relevant. Implementation costs also include the following assumptions:

-
- All software will be loaded and installed by the NCAOC and TSD according to current procedures.
 - Local on-site technical support for end users in the courts will be provided by the TSD as an overall expansion of the current support procedures.
 - Helpdesk volume estimates for end users and local court staff were based upon NCAOC-provided data.

The initiatives and associated assumptions are provided in Appendix A.

ⁱ NCAOC email groups list with FTE count (J. Williams 2-23-16 email to Berry Dunn), Trial Courts Report – North Carolina Judicial Branch 2014 – 2015 Statistical and Operations Report; General Fund Permanent Positions Reports

Table 4.1: Project and Initiative Budget and Timeline Matrix (\$)

Initiative Budget and Timeline Matrix (\$)										
Strategic Initiative	Year 0 FY2017	Year 1 FY2018	Year 2 FY2019	Year 3 FY2020	Year 4 FY2021	Year 5 FY2022	Year 6 FY2023	Base Total	Budget Target	Total with Risk Adjustment
Initiatives Starting in Year Zero										
A	Management & Governance	\$438,264	\$918,926	\$870,202	\$870,681	\$865,749	\$223,149	\$4,410,120	\$4,919,621	\$5,429,123
B	Baseline Metrics	\$70,540	\$43,647	\$29,098	\$29,098	\$14,549	\$14,549	\$216,030	\$234,612	\$253,194
C	Reporting & Analytics	\$411,708	\$1,025,902	\$697,750	\$334,048	\$250,492	\$97,200	\$2,914,300	\$3,218,786	\$3,523,272
D	EIMS	\$2,312,180	\$6,613,359	\$6,951,675	\$5,573,191	\$1,968,436	\$1,357,956	\$25,724,654	\$28,163,407	\$30,602,161
E	e-filing	\$793,500	\$2,210,996	\$2,165,354	\$1,563,169	\$1,135,042	\$360,892	\$8,589,845	\$9,381,414	\$10,172,983
F(a)	ICMS (build)	\$300,141	\$3,704,495	\$9,872,789	\$11,787,013	\$12,446,525	\$6,274,836	\$46,438,366	\$52,098,002	\$57,757,639
F(b)	ICMS (buy)	\$239,241	\$296,955	\$6,450,347	\$9,889,899	\$11,510,353	\$8,130,298	\$38,756,926	\$43,233,506	\$47,710,086
G	FMS	\$40,800	\$644,150	\$911,150	\$0	\$0	\$0	\$1,596,100	\$1,714,312	\$1,832,524
H	Electronic Public Access	\$30,030	\$462,877	\$26,899	\$450,627	\$413,377	\$225,477	\$1,752,710	\$1,925,171	\$2,097,632
Initiatives Starting in Year One										
I	Judicial Workbench	\$0	\$135,222	\$84,018	\$63,974	\$39,493	\$18,605	\$351,755	\$388,029	\$424,303
With Risk Adjustment										
Total Including F(a) ICMS-Build	Capital	\$4,397,163	\$15,138,055	\$21,608,935	\$17,687,733	\$10,704,523	\$4,929,496	\$75,092,270	\$83,213,780	\$91,335,290
Total Including F(b) ICMS-Buy	Operational	\$0	\$0	\$0	\$2,984,068	\$6,429,140	\$3,643,168	\$16,901,611	\$18,733,073	\$20,564,536
Total Including F(a) ICMS-Build	Capital	\$4,336,263	\$12,352,033	\$18,186,493	\$15,790,618	\$10,379,911	\$5,492,807	\$66,542,973	\$73,485,230	\$80,427,488
Total Including F(b) ICMS-Buy	Operational	\$0	\$0	\$0	\$2,984,068	\$5,817,579	\$4,935,319	\$17,769,468	\$19,664,625	\$21,559,783

Table 4.2: Project and Initiative Budget and Timeline Matrix (\$) Years 7-10

Initiative Budget and Timeline Matrix (\$) Post Implementation – Operational Costs	
Strategic Initiative	Years 7-10
A	Management & Governance \$892,596
B	Baseline Metrics \$46,144
C	Reporting & Analytics \$388,800
D	EIMS \$5,431,824
E	e-Filing \$1,000,000- \$1,200,000
F(a)	ICMS (build) \$4,800,000-\$12,400,000
F(b)	ICMS (buy) \$6,800,000-\$15,200,000
G	FMS Subsumed within Initiative F
H	Electronic Public Access \$573,700
I	Judicial Workbench \$41,776
Total	
Years 7-10	
Total Including F(a) ICMS-Build	\$13,374,840-\$20,974,840
Total Including F(b) ICMS-Buy	\$15,374,840-\$23,774,840

The following figures depict the six-year trend of the combined budget amounts for the Strategic Initiatives in each of the Plan years with either an ICMS-build or an ICMS-buy.

Figure 4.1: Spending Levels with an ICMS-Build

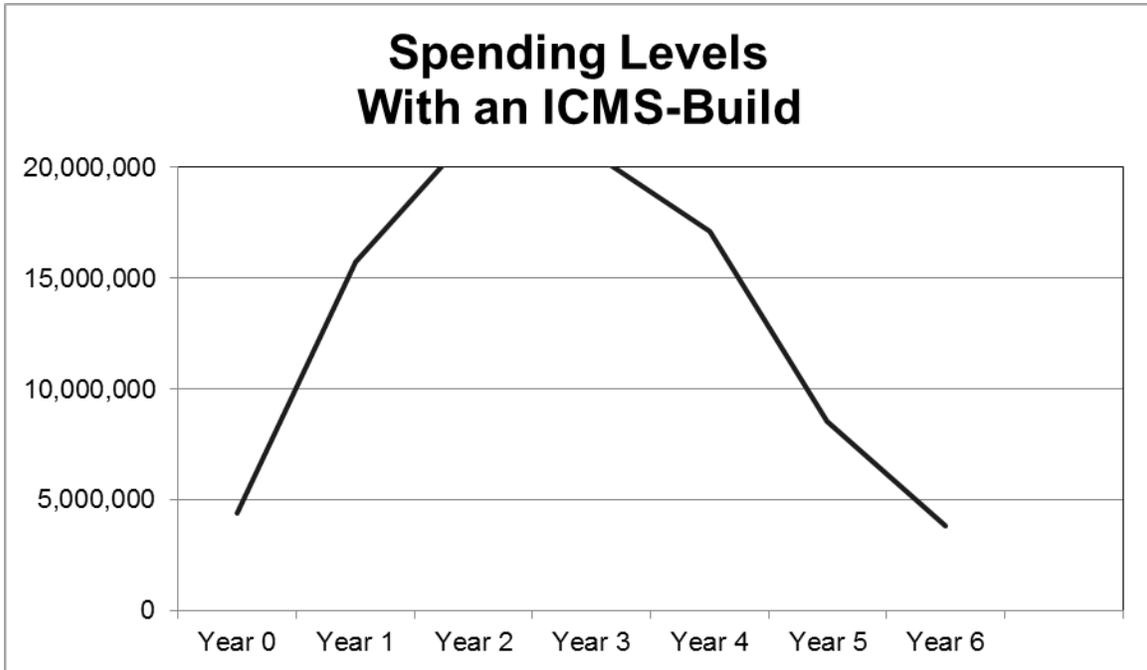
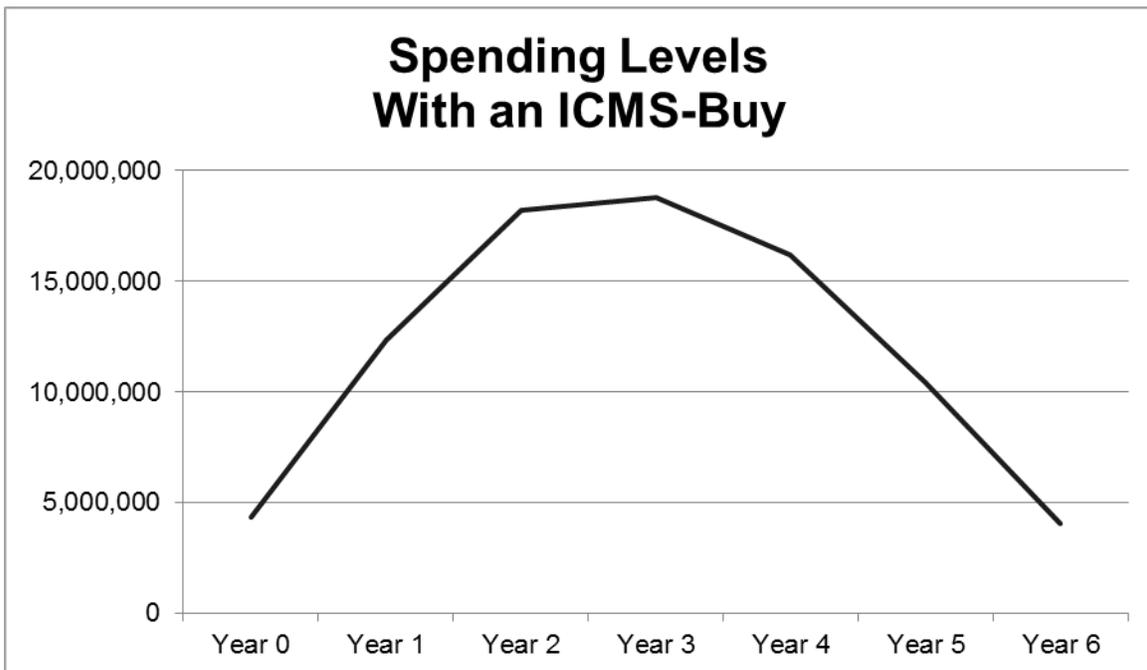


Figure 4.2: Spending Levels with an ICMS-Buy



The figures below depict the six-year trend of capital expenditures and ongoing operational costs for both the ICMS-build and ICMS-buy options.

Figure 4.3: Spending Levels of Capital Expenditures and Ongoing Operational Costs with an ICMS-Build

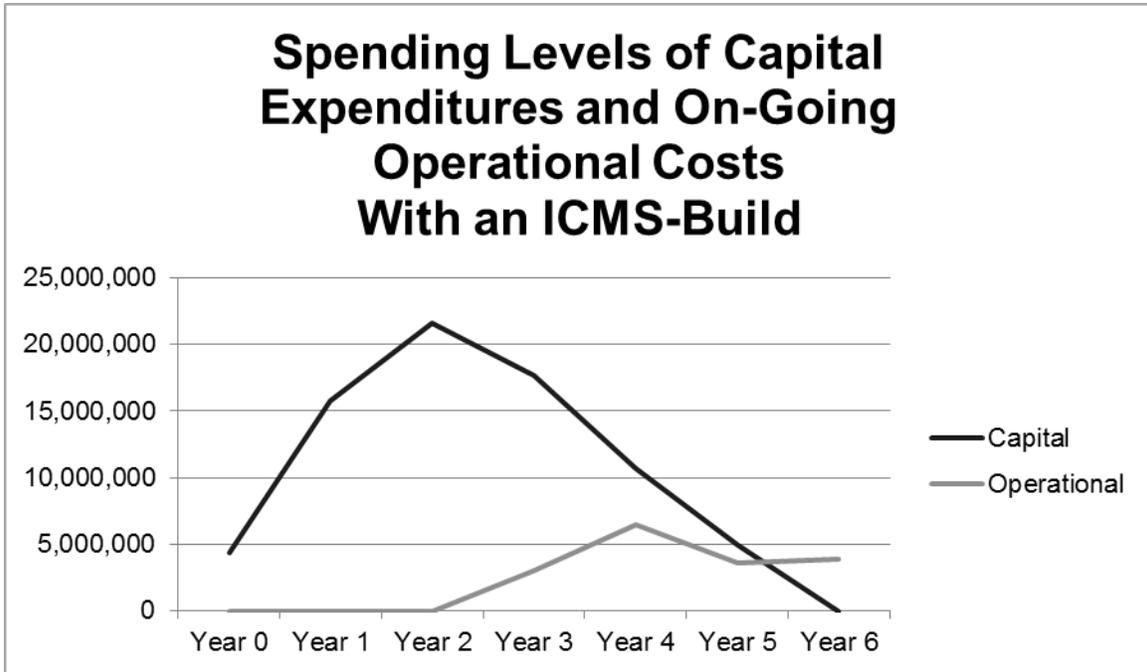
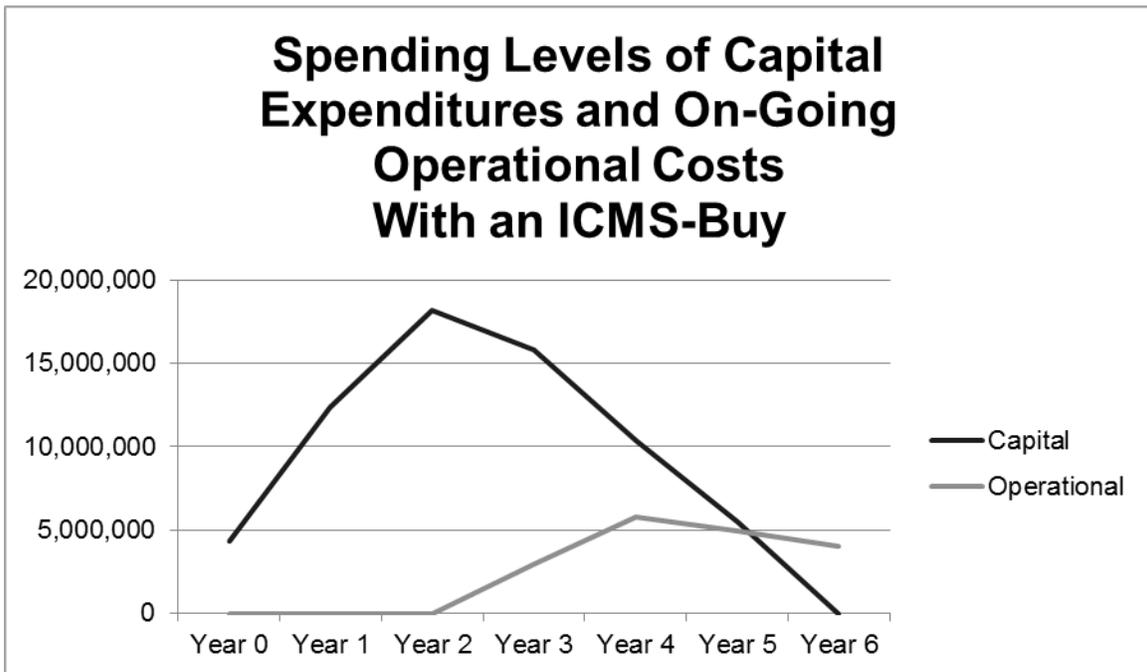


Figure 4.4: Spending Levels of Capital Expenditures and Ongoing Operational Costs with an ICMS-Buy



The first year of each initiative generally includes initiative planning work, which is typically not as funding-intensive as later years. Similar organizations undertaking strategic technology planning initiatives typically follow an approach to have the increased budget levels mostly be realized in the second, third, and fourth year of the plan to ensure adequate time to secure funding. The increase in budget levels in these years of the Plan represents the investment related to initiatives for new applications. In years six through 10, the costs shift from capital expenditures to ongoing operational costs.

In addition to new funding that may be needed to support the identified Strategic Initiatives, additional operational funding will need to be secured in cases where new applications or technologies are implemented as part of the plan.

4.2 Updating the Plan

BerryDunn recommends that the Judicial Branch review and update the e-Courts Strategic Technology Plan twice a year. It is anticipated that new initiatives will be identified throughout the year and they may impact the priority level of the initiatives proposed in this Plan. The review process should follow a ratified management and governance model and involve executive management from the Judicial Branch, as well as the TSD Chief Information Officer (CIO). The review meetings should address the following:

- The first update of the year should be to track the progress made against initiatives.
- The second update should focus on reassessing upcoming initiatives and reprioritizing the order of them for the upcoming fiscal year. The overall decision to reprioritize initiatives should be made by the Judicial Branch executive team. As part of this update, a Judicial Branch representative, along with the TSD CIO, should meet with department directors to obtain their input and communicate plans for the upcoming year.

4.3 Success Factors for the Plan

One of the critical success factors for the implementation of the e-Courts Strategic Technology Plan will be executive support for the initiatives in the plan. The Judicial Branch has committed to undertaking the initiatives in this Plan, and support will need to be provided to allocate the appropriate resources, as well as ensure that initiatives outside the scope of this Plan in current and future years are thoroughly evaluated before adjusting the existing priorities of the initiatives in the Plan.

In order to implement the initiatives in this plan, it will be critical for the Judicial Branch to implement the recommended portfolio management practices. Implementing the initiatives in this Plan will not only require Judicial Branch resources and appropriate staff, but also a structured methodology to increase the likelihood of success.

It is important that, over the next five years, the roles of the Judicial Branch and TSD continue to evolve and that they continually assess leading edge and proven technology tools to solve technology issues within the NCAOC.