State Agencies and "Legacy" Systems By Courtney King and Bruce Wright

THE COST OF AGING GOVERNMENT TECHNOLOGY



Information technologies (IT), including personal computers, the web, email, social networks, smartphone apps and more, have changed the way millions of people shop, bank and keep up with friends. And, increasingly, they expect to interact with governments in the same way, paying taxes or applying for benefits through a phone or laptop quickly and efficiently.

Yet Texas' state government, like many others, has an aging IT infrastructure, and ours must serve a population growing by nearly half a million new

Each year, the state spends hundreds of millions of dollars on maintaining such outdated legacy systems. Updating or replacing them would cost even more.

residents each year. As the population — and its expectations — continue to grow, modernizing the state's IT capabilities will become imperative to ensure public services keep pace with the speed and convenience of the private sector.

At present, however, much of the state's IT infrastructure is outmoded, often so much so that the personnel who maintain it must be trained in archaic computer languages no longer taught in universities. Each year, the state spends hundreds of millions of dollars on maintaining such outdated "legacy" systems. Updating or replacing them would cost even more.

IT SPENDING AT TEXAS STATE AGENCIES

Despite its importance, IT accounts for a relatively small share of the state budget. In fiscal 2016, Texas state agencies (excluding higher education institutions) spent nearly \$1.8 billion on IT — only 1.6 percent of total state spending (Exhibit 1).

CONTINUED ON PAGE 3

A Message from the Comptroller

We all know information technology (IT) has changed our world, upending the retail sector and reshaping the way every variety of business connects with its customers. And IT has become as essential to modern government as it is



to the private sector. It's hard to even envision a modern state agency with millions of customers coping with the files and ledger books of yesterday.

But IT hardware and software are expensive and prone to obsolescence, and Texas has a lot of IT assets that are aging, some of them running on an archaic programming language dating to the 1950s. The Texas Department of Information Resources estimates the state spends \$300 million annually on maintaining "legacy" systems — hardware and software so old they are no longer supported by their makers. In this issue of Fiscal Notes, we take a look at the challenges presented by state government's portfolio of legacy applications.

We also examine a major new IT-related project being spearheaded by our agency — the Centralized Accounting and Payroll/Personnel System, or CAPPS. This mammoth project will replace the state's main automated business applications for financial reporting and human resources. When the changeover to CAPPS is finally completed in 2023, it will provide a single, unified system for state agencies that should greatly improve data security and financial transparency.

As always, I hope you enjoy this issue!

Texas Comptroller of Public Accounts

ELECTRICAL EQUIPMENT,

AVERAGE ANNUAL WAGE

The Comptroller's office has identified 18 manufacturing subsectors within the Texas economy. This subsector includes the manufacturing

Economic Models, Inc., Emsi, U.S. Department of Commerce International Trade Administration

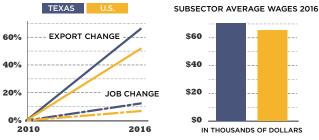
of electric transformers and switchboards, communication wires such as fiber-optic cables, household appliances and lighting fixtures.

INDUSTRIES IN THE ELECTRICAL EQUIPMENT,

APPL	IANCE AND COMPONENT		I	ı
MAN	UFACTURING SUBSECTOR	JOBS	JOB CHANGE	AVERAGE TEXAS
MANOTACTORING SOBSECTOR		2016	2010-2016	WAGES 2016
SUBSE	CTOR TOTALS / 2016	19,023	12.3%	\$70,750
	ELECTRIC LIGHTING EQUIPMENT	2,198	17.9%	\$66,559
	HOUSEHOLD APPLIANCE	1,562	-9.8%	\$80,091
	ELECTRICAL EQUIPMENT	9,028	16.7%	\$71,380
	OTHER ELECTRICAL EQUIPMENT AND COMPONENTS	6,235	11.1%	\$68,975

All industries in electrical equipment, appliance and component manufacturing are considered "advanced industries," as defined by the Brookings Institution, with R&D spending per worker in the top 20 percent of industries and a share of workers with high levels of technical knowledge exceeding the national average.

TEXAS SUBSECTOR OUTPERFORMS NATIONAL TRENDS



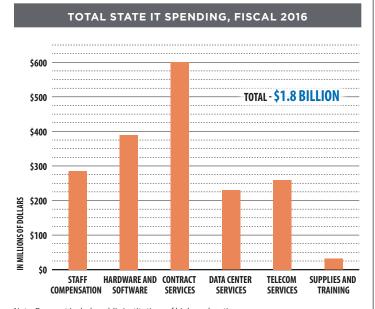
This Texas subsector pays higher average wages than the national average, while its job growth and export activity have outpaced U.S. averages since 2010.

The electrical equipment, appliance and component subsector lost a significant number of jobs in the 2000s, yet one study estimates that nearly 90 percent of those losses were due to productivity gains. Since 2010, the subsector in Texas has experienced healthier job growth than the U.S. as a whole.

To see more in-depth Texas manufacturing data, visit: comptroller.texas.gov/economy/economic-data/manufacturing/

If you would like to receive paper copies of Fiscal Notes, contact us at fiscal.notes@cpa.texas.gov

EXHIBIT 1



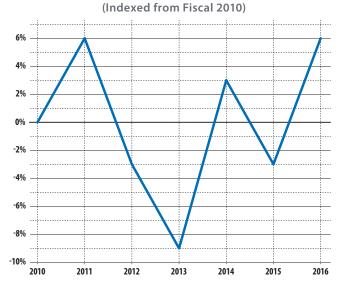
Note: Does not include public institutions of higher education. Sources: Texas Department of Information Resources and Texas Comptroller of Public Accounts

> Note that contract services accounted for the largest share of state agency IT expenditures — a sign of outdated systems.

> IT spending has fluctuated in recent years but in all rose by 6 percent between fiscal 2010 and 2016; **Exhibit 2** shows this growth as percentage variations from the index year of 2010. IT as a share of total state spending, however, fell slightly during this period (Exhibit 3).

EXHIBIT 2

CHANGE IN STATE AGENCY IT SPENDING, FISCAL 2010-2016



Sources: Texas Department of Information Resources and Texas Comptroller of Public Accounts

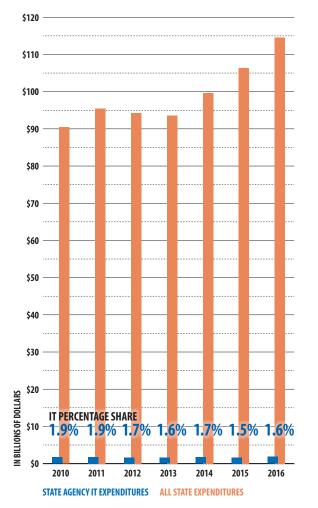
THE LEGACY PORTFOLIO

The Texas Department of Information Resources (DIR) provides state agencies with a variety of IT-related services including purchasing, data-center and telecom services and information security products. In 2013, the Legislature required DIR to evaluate the state's use of legacy business applications, combining software and hardware products, which support many users at once. The resulting 2014 study found state agencies using about 4,130 applications, of which about 58 percent included either legacy software or hardware, and in most cases, both.

Almost two-thirds of "mission-critical" business applications — those considered essential to the agency's basic responsibilities — relied on unsupported legacy components, as did more than half of other business applications.

EXHIBIT 3

TEXAS STATE AGENCY IT SPENDING AS A SHARE OF TOTAL STATE SPENDING, FISCAL 2010-2016



Sources: Texas Department of Information Resources and Texas Comptroller of Public Accounts

DIR estimates the one-time cost of either replacing or modernizing the state's entire legacy application portfolio to be at least \$450 million.

The DIR study thus found the state's most important applications were more likely to rely on outdated components. Business applications used for licensing, business automation, systems management and reporting most commonly involve unsupported hardware and software.

DIR estimates the ongoing maintenance of the state's legacy application portfolio costs more than \$300 million each year.

Despite obsolescence, legacy business applications often can be kept running reliably for years and even decades, although at a steadily increasing price. They persist largely due to organizational inertia and the high cost of replacement, as well as the inherent risks involved in adopting new systems.

Over time, however, legacy applications become more difficult and expensive to support. Workers familiar with older systems inevitably become scarcer as the years roll on. Legacy systems are more difficult to adapt to new business needs and new file and data formats. They're also more prone to cyberattack. The nature and type of threats in the digital arena evolve constantly, and the fixes and "patches" needed to counter them may not be available for older systems.

And when vendors go out of business or stop supporting older applications, agencies are forced to contract for support or develop their own in-house expertise in outmoded technologies.

Ironically, given state budget constraints, the increasing cost of supporting outdated systems inevitably reduces the funding available for newer, more efficient technologies. DIR estimates the one-time cost of either replacing or modernizing the state's entire legacy application portfolio to be at least \$450 million.



JAY WALDO Director, Information Technology Division, Texas Comptroller's Office

GROWING SKILLS GAP

Texas' ability to maintain and protect its legacy systems will become more difficult as veteran personnel who understand the technologies retire or resign.

A 2015 study by the National Association of State Chief Information Officers found nearly a third of government IT staff members would be eligible for retirement within five years. Survey respondents also noted a significant legacy skills gap between those close to retirement and younger workers. In Texas, DIR estimates half the state's IT workforce is 50 or older, and about 14 percent is 60 or older.

Recruiting, training and retaining younger employees with the right skills to support legacy systems poses a unique set of challenges for Texas state agencies, according to Jay Waldo, director of Information Technology at the Comptroller's office.



"There's high competition for qualified IT staff in general, since most state agencies are based in the city of Austin where there are so many high-paying tech companies," Waldo says.

Many legacy applications were coded using outmoded languages such as Common Business-Oriented Language (COBOL), first developed in 1959 and often unknown to younger recruits. In 2013, Computerworld magazine reported that 73 percent of universities no longer included COBOL in their computing curriculum.

"There are limited external training options for some older languages, so a lot has to be done internally using textbooks and exams to make sure the material is mastered," Waldo says. "New employees also are trained on the job by their coworkers. But it's a circular thing once they're trained up, they eventually want to move on to work with newer tech, even if they'd really prefer to stay with the agency. We try to give opportunities to work with newer systems and keep growing marketable skills, while also maintaining our legacy systems."

And again, inadequate vendor and staff support often force state agencies to contract for IT workers to maintain legacy systems.

"A technical contractor is twice as expensive as an FTE [full-time equivalent employee]," Waldo says. "Since contractors tend to get paid by the hour, unplanned work on evenings and weekends costs the agency additional money. And it's preferable to put critical business or tech knowledge in the hands of people with a vested interest in the organization, rather than contractors."

IMPROVING COST-EFFECTIVENESS

A lot can, and often does, go wrong in major IT changes. According to a 2012 study by consultants McKinsey & Co. and the University of Oxford, large software projects tend to run an average of 66 percent over budget and 33 percent behind schedule, and deliver 17 percent less value than originally predicted. More recently, cloud computing consultant Innotas reported more than half of all IT projects fail altogether due to poor planning and execution.

To avoid these pitfalls, DIR develops cost-effective, collaborative approaches to modernizing the IT infrastructure.

DIR's Data Center Services (DCS) program, for instance, created by the Legislature in 2005, consolidated and standardized certain IT products and services across agencies, employing a consumptionbased pricing model so that customers pay only for what they use. By 2016, DCS had fully consolidated mainframe, print-mail and service-desk services across a number of the largest state agencies.

Many legacy applications were coded using outmoded languages such as COBOL, first developed in 1959.

DIR's statewide project delivery team consults with agencies in planning major IT projects and provides oversight through the project lifecycle. The agency reports the average cost of major state IT projects has fallen from \$28 million in 2012 to \$18 million in 2016.

DIR also is working with state agencies to introduce an Application Development Decision Framework (ADDF), a strategy for modernization designed to guide its users toward best practices in areas such as the identification of user needs, purchasing and development, deployment of cloud technologies, staffing models, changes to organizational culture and more. Each ADDF topic area includes recommendations to improve agencies' current approaches.

In 2016, as agencies prepared to submit their legislative appropriations requests for fiscal 2018 and 2019, DIR provided the Legislative Budget Board (LBB) with a report suggesting priorities for legacy modernization or replacement.

"The report was used by the LBB and state leadership to clarify funding allocations based on impact, risk and legacy characteristics," says John Van Hoorn, DIR's director of Enterprise Solution Services. "The 85th Texas Legislature used it to fund agencies that significantly needed to modernize or replace costly legacy systems."

DIR will provide the report again for the next legislative session.



JOHN VAN HOORN Director, Enterprise Solutions Services, Texas Department of Information Resources

IT modernization efforts must address agency business needs while maintaining or improving customer service. Thus, it's important to understand that the effects of these changes go far beyond agency IT divisions; they affect the organization as a whole, as well as its customers.

"Organizational culture, change readiness and change management are key concepts agencies address as part of modernization," Van Hoorn says. "Agency leaders must promote vision for the change, build support and trust and show value throughout the change." FN

Meet CAPPS: Centralized Accounting and Payroll/Personnel System for Texas By Jackie Benton

AUTOMATED SYSTEM IMPROVES FINANCIAL TRANSPARENCY AND EFFICIENCY



Texas state government is a \$100 billion enterprise, and the Texas Comptroller's office is charged with following every penny of it. In its role as the state's accountant, the agency's tasks include paying and auditing the state's bills, monitoring and reporting on spending, accounting for state property and managing updates and security for the automated financial systems used by dozens of state agencies.

These responsibilities are conducted largely out of the public eye, but changes to the state's business processes can have a big effect on state government, the transparency of its finances and the accountability of its agencies.

And the Texas Legislature spurred very big changes indeed with the adoption of H.B. 3106 in 2007. This law charged the Comptroller's office with implementing enterprise resource planning (ERP), the consolidation of the state's various automated business functions into a single, common set of systems to be used by all. Information can be entered into the system once and automatically carried over to other functions, thereby reducing errors and labor hours while increasing efficiency.

The ERP project is a mammoth one, incurring about \$242 million in costs through August 2017. "It's undoubtedly one of the bigger undertakings this agency has embarked on in many years," says Phillip Ashley, associate deputy comptroller, "and Comptroller Hegar has supported the project enthusiastically since taking office."

The ERP project is a mammoth one, incurring about \$242 million in costs through August 2017.

To provide a workable ERP solution, the Comptroller's office created the ProjectONE (Our New Enterprise) Team. It didn't take long for team members to realize that a single, one-size-fits-all approach wouldn't address the needs of the state's dozens of different agencies.

"We are decentralized as a state," Ashley says. "Trying to find a solution that meets the various needs of so many different agencies with such diverse missions and different organizational structures has been our biggest challenge. We've had to be very flexible in our approach."



PHILLIP ASHLEY Associate Deputy Comptroller, Texas Comptroller's Office

ProjectONE

"I think we knew from the start that this project was going to be a major challenge, and that certainly proved to be correct," Ashley recalls. Creating a system that would handle so much information from so many different state agencies with their own sub-systems would become a massive task for the ProjectONE Team. Five years were required for the first ERP deployment.

With input from key state agencies, ProjectONE created the Centralized Accounting and Payroll/ Personnel System, or CAPPS, a consolidated business program featuring two parts: CAPPS Financials and CAPPS Human Resources (HR)/Payroll. Each of these, in turn, consists of a series of modules providing different functions (Exhibit 1). A "core" group of functions must be adopted to participate in CAPPS Financials or HR/ Payroll, while other, non-core modules are available at each agency's discretion. More functions may be added to CAPPS in time.

Once all state agencies are using CAPPS, both agency-level and statewide data will be much more accessible and useful. (It should be noted that the state's public institutions of higher education currently are not participating in the CAPPS project.)

"Right now, we have certain barriers to getting complete information about how agencies are using their funds," Ashley says. "Getting everyone on a uniform platform will provide better insight, and there will be ways to leverage that for the good of the state.

"We've been relying on software and systems dating back to the 1980s and '90s," he says. "We knew the new system would need to be much more robust and nimble enough to allow for changes, updates and upgrades."

BUILDING ON WHAT WORKS

CAPPS ultimately will replace the state's Uniform Statewide Accounting System (USAS) and Uniform Statewide Payroll/Personnel System (USPS). USAS currently serves as the state's central accounting system, while USPS records personnel transactions and processes state agency payrolls.

CAPPS also will replace the Integrated Statewide Administration System (ISAS), originally created in 1997. While all Texas state agencies use USAS and many use USPS, some large agencies negotiated separate contracts and licensing for PeopleSoft Enterprise Financials. The Comptroller's office created ISAS by

modifying the Financials software to address their requirements and work across multiple agencies through a web-based interface. Some also use PeopleSoft Human Capital Management software to address their particular business needs.

The ProjectONE Team decided to leverage all these individual licenses to negotiate a statewide license covering all state agencies. Thus, CAPPS is built on the PeopleSoft platform as well.

Sandra Woodruff, assistant director of the Comptroller's Fiscal Management Division, says this



SANDRA WOODRUFF Assistant Director, Fiscal Management Division, Texas Comptroller's Office

allowed the Comptroller's office to avoid the need for an entirely new ERP software solution that would still require customization for individual agencies.

"We already had a foot in the door with PeopleSoft, so we decided to use it as a base and not throw away what works," Woodruff says. "We wanted to move to a common technology that more people knew, with a vendor that would support it."

Woodruff also says the statewide license helps with another important issue for agencies: maintenance. With CAPPS, agencies don't have to keep up with the latest technology updates. Instead, the Comptroller's

EXHIBIT 1

CAPPS MODULES

CORE MODULES:	CAPPS FINANCIALS Accounts Payable Asset Management General Ledger/Commitment Control Purchasing/eProcurement	CAPPS HR/PAYROLL Core HR Payroll Position Management Time and Labor
NON-CORE MODULES: (Available for agencies requiring additional abilities)	Billing/Accounts Receivable Customer Contracts Grants Inventory Project Costing	Recruiting Training Performance Management

Meet CAPPS: Centralized Accounting and Payroll/Personnel System for Texas

office can modify and upgrade applications once and then roll them out to all agencies. Security updates also can be applied consistently across all agencies participating in CAPPS.

THE CAPPS PROGRAM MODEL

The CAPPS program model provides two alternatives for joining CAPPS – as a central agency or a CAPPS hub agency.

CAPPS central agencies use a CAPPS version, centrally managed and maintained by the Comptroller's office, consisting of the PeopleSoft-based CAPPS Financials and HR/Payroll applications and their related components. The Comptroller covers the deployment

and transition costs involved as well as ongoing licensing, maintenance and support costs.

CAPPS hub agencies are those already using individually licensed, PeopleSoft-based systems. Generally, these are larger state agencies with complex missions. Unlike CAPPS central agencies, hub agencies receive their own copy and regular updates of the CAPPS Financials and HR/Payroll applications to manage within their own infrastructure. Hub agencies bear financial responsibility for the cost of transition, deployment, ongoing maintenance, support and all other internal costs.

Not every agency can be a CAPPS hub; the Comptroller's office conducts an assessment to

EXHIBIT 2

CAPPS ROLLOUT TIMELINE

 The Department of The five health and • The Texas Two agencies deploy human services Information Resources Department of CAPPS Financials. comes on board as the agencies and the Cancer Transportation becomes 26 agencies deploy first CAPPS Financials Prevention & Research the first large agency to CAPPS HR/Payroll. Institute of Texas come agency in early fiscal be deployed on the 2012. on board as the first complete CAPPS system In late fiscal 2012, five CAPPS HR/Payroll - CAPPS Financials plus additional agencies agencies. CAPPS HR/Payroll. ioined CAPPS Eight additional Financials. agencies deploy CAPPS, four adopting CAPPS Financials and four using CAPPS HR/Payroll. Fiscal 2012 2013 2015 2016 2014 CAPPS Financials **HR/Payroll agencies**

determine whether it is in the agency's best interest. So far, the Texas Department of Transportation, Texas Workforce Commission, Texas Education Agency and Texas Health and Human Services Commission have deployed CAPPS Financials, CAPPS HR/Payroll or both as hub agencies.

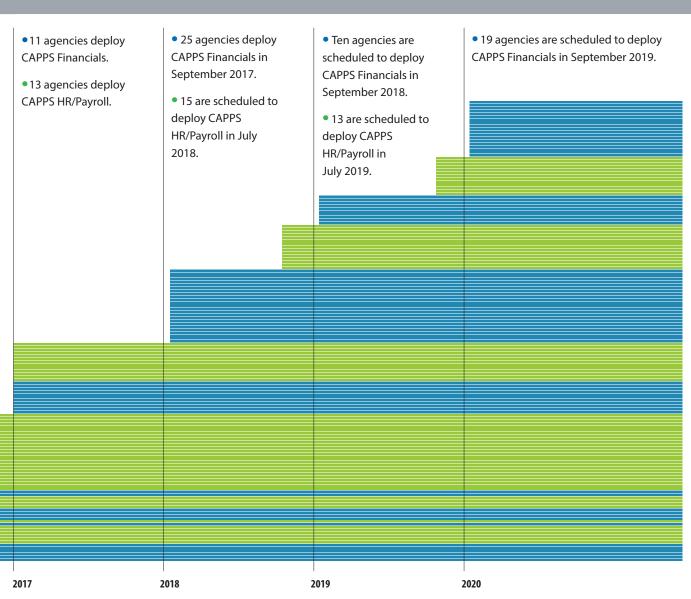
CAPPS COMES IN WAVES

"We made the decision to deploy in waves, and every year we introduce a new wave of agencies to the CAPPS system," Ashley says. "That has gotten easier in some respects, as we gain more experience with each new wave and solve common issues. But there's always going to be new challenges we encounter with each new

wave, because CAPPS affects the way agencies conduct their business. It requires changes to their business processes, so helping agencies work through that is always a little different each time."

Early fiscal 2012 saw the first deployment of CAPPS, when the Department of Information Resources adopted the financial portion (Exhibit 2). Later that fiscal year, five more agencies joined CAPPS Financials. At this writing, 56 Texas state agencies have deployed either CAPPS Financials or CAPPS HR/Payroll; 40 have deployed both.

Woodruff reports an additional 42 agencies will begin using either one or both portions of CAPPS during the 2018-19 biennium, bringing the total number



Source: Texas Comptroller of Public Accounts

Meet CAPPS: Centralized Accounting and Payroll/Personnel System for Texas

CAPPS will yield significant benefits in the area of government transparency and enhanced internal security controls.

of state agencies on the system to 98; 55 will be using both modules. More agencies are expected to deploy CAPPS through fiscal 2023.

The Comptroller's office anticipates that 92 percent of all state spending will flow through CAPPS and 68 percent of state full-time employees will be administered through the system by early fiscal 2020 (and again, these figures do not include the nonparticipating higher education institutions).

SO FAR, SO GOOD

"CAPPS has a lot of functionality agencies didn't have before," Ashley says. "When we get to the end of deployment, there will definitely be financial benefits. With CAPPS and ERP, we'll have a centralized strategy. We can pay for the PeopleSoft technology once, instead of having 10 agencies paying for the same technology 10 different times. We leverage the whole purchasing power of Texas, and provide the greatest benefit to the state."

Woodruff says the centralization offered by CAPPS will yield significant benefits in the area of government transparency.

"Before, when you asked a question, you would get different answers, because one did it this way and another did it completely differently," she says. "You never knew how to compare apples to apples — you got a whole fruit basket because there wasn't a central system, a central calculation, a central way of managing the data and reporting."

CAPPS also offers agencies enhanced internal security controls.

"We're always concerned with security," Ashley says. "With state agencies using public-facing systems, securing information is a big priority at all times, and it's been a major focus of this project. CAPPS has good security controls in place, and we've put a premium on security."

Ashley also says CAPPS will allow the Comptroller's office to better track and report where the state's

"We're on a path here," says Ashley. "It's very straightforward to measure, and we're picking up speed now. At the end of the CAPPS deployment, we'll have everyone on a uniform platform, with more complete data that we will be able to leverage for the good of the people of Texas." FN



State Revenue Watch

This table presents data on net state revenue collections by source. It includes the most recent monthly collections, year-to-date (YTD) totals for the current fiscal year and a comparison of current YTD totals with those in the equivalent period of the previous fiscal year.

These numbers were current at press time. For the most current data as well as downloadable files, visit comptroller.texas.gov/ transparency.

Note: Texas' fiscal year begins on Sept. 1 and ends on Aug. 31.

NET STATE REVENUE — All Funds Excluding Trust

(AMOUNTS IN THOUSANDS)

Monthly and Year-to-Date Collections: Percent Change From Previous Year

Monthly and Year-to-Date Colle			
Tax Collections by Major Tax	NOVEMBER 2017	YEAR TO DATE: TOTAL	YEAR TO DATE: CHANGE FROM PREVIOUS YEAR
SALES TAX	\$2,784,661	\$7,599,871	9.52%
PERCENT CHANGE FROM NOVEMBER 2016	11.12%	4./522/6. 1	3.52%
MOTOR VEHICLE SALES AND RENTAL TAXES	415,347	1,250,984	6.74%
PERCENT CHANGE FROM NOVEMBER 2016	9.24%	1,230,304	0.7470
MOTOR FUEL TAXES	308,179	913,039	1.93%
PERCENT CHANGE FROM NOVEMBER 2016	1.66%	713,037	1.5570
FRANCHISE TAX	-22,774	-49.903	-58.78%
PERCENT CHANGE FROM NOVEMBER 2016	-12.26%	47,703	30.7070
OIL PRODUCTION TAX	237,157	619,889	30.31%
PERCENT CHANGE FROM NOVEMBER 2016	30.81%	019,009	30.3170
INSURANCE TAXES TAX	25,934	65,867	27.46%
		03,807	27.40%
PERCENT CHANGE FROM NOVEMBER 2016	38.64%	272.504	-26.34%
CIGARETTE AND TOBACCO TAXES	115,225	272,504	-20.34%
PERCENT CHANGE FROM NOVEMBER 2016	-10.61%	216 515	AE 440/
NATURAL GAS PRODUCTION TAX	117,446	316,515	45.44%
PERCENT CHANGE FROM NOVEMBER 2016	62.65%	206.060	4.000/
ALCOHOLIC BEVERAGES TAXES	108,024	306,960	4.08%
PERCENT CHANGE FROM NOVEMBER 2016	8.08%	440.600	12.100/
HOTEL OCCUPANCY TAX	56,501	148,680	12.10%
PERCENT CHANGE FROM NOVEMBER 2016	17.44%		
UTILITY TAXES ¹	3,348	108,142	-3.95%
PERCENT CHANGE FROM NOVEMBER 2016	-87.26%		
OTHER TAXES ²	19,698	56,984	75.61%
PERCENT CHANGE FROM NOVEMBER 2016	61.29%		1
TOTAL TAX COLLECTIONS	\$4,168,746	\$11,609,531	9.80%
			1
PERCENT CHANGE FROM NOVEMBER 2016	11.13%		
PERCENT CHANGE FROM NOVEMBER 2016 Revenue By Source		YEAR TO DATE: TOTAL	YEAR TO DATE: CHANGE FROM PREVIOUS YEAR
	11.13%	YEAR TO DATE:	CHANGE FROM
Revenue By Source	11.13% NOVEMBER 2017	YEAR TO DATE: TOTAL	CHANGE FROM PREVIOUS YEAR
Revenue By Source TOTAL TAX COLLECTIONS	11.13% NOVEMBER 2017 \$4,168,746	YEAR TO DATE: TOTAL	CHANGE FROM PREVIOUS YEAR
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016	11.13% NOVEMBER 2017 \$4,168,746 11.13%	YEAR TO DATE: TOTAL \$11,609,531	CHANGE FROM PREVIOUS YEAR 9.80%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993	YEAR TO DATE: TOTAL \$11,609,531	CHANGE FROM PREVIOUS YEAR 9.80%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71%	YEAR TO DATE: TOTAL \$11,609,531 10,365,789	CHANGE FROM PREVIOUS YEAR 9.80% 4.80%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45%	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441	CHANGE FROM PREVIOUS YEAR 9.80% 4.80%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³	NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797	YEAR TO DATE: TOTAL \$11,609,531 10,365,789	9.80% 4.80% 3.15%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39%	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579	9.80% 4.80% 3.15%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441	9.80% 4.80% 3.15%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴ PERCENT CHANGE FROM NOVEMBER 2016	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582 4.48%	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579 488,393	CHANGE FROM PREVIOUS YEAR 9.80% 4.80% 3.15% 18.27%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴ PERCENT CHANGE FROM NOVEMBER 2016 LAND INCOME	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582 4.48% 123,050	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579	9.80% 4.80% 3.15%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴ PERCENT CHANGE FROM NOVEMBER 2016 LAND INCOME PERCENT CHANGE FROM NOVEMBER 2016	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582 4.48% 123,050 11.10%	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579 488,393 487,423	CHANGE FROM PREVIOUS YEAR 9.80% 4.80% 3.15% 18.27% 4.63%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴ PERCENT CHANGE FROM NOVEMBER 2016 LAND INCOME PERCENT CHANGE FROM NOVEMBER 2016 LAND INCOME PERCENT CHANGE FROM NOVEMBER 2016 INTEREST AND INVESTMENT INCOME	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582 4.48% 123,050 11.10% 47,499	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579 488,393	CHANGE FROM PREVIOUS YEAR 9.80% 4.80% 3.15% 18.27%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴ PERCENT CHANGE FROM NOVEMBER 2016 LAND INCOME PERCENT CHANGE FROM NOVEMBER 2016 INTEREST AND INVESTMENT INCOME PERCENT CHANGE FROM NOVEMBER 2016	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582 4.48% 123,050 11.10% 47,499 -3.60%	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579 488,393 487,423 177,515	CHANGE FROM PREVIOUS YEAR 9.80% 4.80% 3.15% 18.27% 4.63% 38.15% 14.54%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴ PERCENT CHANGE FROM NOVEMBER 2016 LAND INCOME PERCENT CHANGE FROM NOVEMBER 2016 INTEREST AND INVESTMENT INCOME PERCENT CHANGE FROM NOVEMBER 2016 SETTLEMENTS OF CLAIMS	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582 4.48% 123,050 11.10% 47,499 -3.60% 12,310	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579 488,393 487,423	CHANGE FROM PREVIOUS YEAR 9.80% 4.80% 3.15% 18.27% 4.63%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴ PERCENT CHANGE FROM NOVEMBER 2016 LAND INCOME PERCENT CHANGE FROM NOVEMBER 2016 INTEREST AND INVESTMENT INCOME PERCENT CHANGE FROM NOVEMBER 2016 SETTLEMENTS OF CLAIMS PERCENT CHANGE FROM NOVEMBER 2016	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582 4.48% 123,050 11.10% 47,499 -3.60% 12,310 294.13%	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579 488,393 487,423 177,515	CHANGE FROM PREVIOUS YEAR 9.80% 4.80% 3.15% 18.27% 4.63% 38.15% 14.54% 214.12%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴ PERCENT CHANGE FROM NOVEMBER 2016 LAND INCOME PERCENT CHANGE FROM NOVEMBER 2016 INTEREST AND INVESTMENT INCOME PERCENT CHANGE FROM NOVEMBER 2016 SETTLEMENTS OF CLAIMS PERCENT CHANGE FROM NOVEMBER 2016 SETTLEMENTS OF CLAIMS PERCENT CHANGE FROM NOVEMBER 2016 ESCHEATED ESTATES	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582 4.48% 123,050 11.10% 47,499 -3.60% 12,310 294.13% 15,871	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579 488,393 487,423 177,515	CHANGE FROM PREVIOUS YEAR 9.80% 4.80% 3.15% 18.27% 4.63% 38.15% 14.54%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴ PERCENT CHANGE FROM NOVEMBER 2016 LAND INCOME PERCENT CHANGE FROM NOVEMBER 2016 INTEREST AND INVESTMENT INCOME PERCENT CHANGE FROM NOVEMBER 2016 SETTLEMENTS OF CLAIMS PERCENT CHANGE FROM NOVEMBER 2016 SETTLEMENTS OF CLAIMS PERCENT CHANGE FROM NOVEMBER 2016 ESCHEATED ESTATES PERCENT CHANGE FROM NOVEMBER 2016	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582 4.48% 123,050 11.10% 47,499 -3.60% 12,310 294.13% 15,871 -18.16%	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579 488,393 487,423 177,515 25,536 57,763	CHANGE FROM PREVIOUS YEAR 9.80% 4.80% 18.27% 4.63% 14.54% 214.12% -12.92%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴ PERCENT CHANGE FROM NOVEMBER 2016 LAND INCOME PERCENT CHANGE FROM NOVEMBER 2016 INTEREST AND INVESTMENT INCOME PERCENT CHANGE FROM NOVEMBER 2016 SETTLEMENTS OF CLAIMS PERCENT CHANGE FROM NOVEMBER 2016 SETLEMENTS OF CLAIMS PERCENT CHANGE FROM NOVEMBER 2016 ESCHEATED ESTATES PERCENT CHANGE FROM NOVEMBER 2016 SALES OF GOODS AND SERVICES	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582 4.48% 123,050 11.10% 47,499 -3.60% 12,310 294.13% 15,871 -18.16% 21,652	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579 488,393 487,423 177,515	CHANGE FROM PREVIOUS YEAR 9.80% 4.80% 3.15% 18.27% 4.63% 38.15% 14.54% 214.12%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴ PERCENT CHANGE FROM NOVEMBER 2016 LAND INCOME PERCENT CHANGE FROM NOVEMBER 2016 INTEREST AND INVESTMENT INCOME PERCENT CHANGE FROM NOVEMBER 2016 SETTLEMENTS OF CLAIMS PERCENT CHANGE FROM NOVEMBER 2016 ESCHEATED ESTATES PERCENT CHANGE FROM NOVEMBER 2016 SALES OF GOODS AND SERVICES PERCENT CHANGE FROM NOVEMBER 2016	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582 4.48% 123,050 11.10% 47,499 -3.60% 12,310 294.13% 15,871 -18.16% 21,652 17,93%	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579 488,393 487,423 177,515 25,536 57,763 64,359	CHANGE FROM PREVIOUS YEAR 9.80% 4.80% 3.15% 18.27% 4.63% 38.15% 14.54% -12.92% -0.23%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴ PERCENT CHANGE FROM NOVEMBER 2016 LAND INCOME PERCENT CHANGE FROM NOVEMBER 2016 INTEREST AND INVESTMENT INCOME PERCENT CHANGE FROM NOVEMBER 2016 SETTLEMENTS OF CLAIMS PERCENT CHANGE FROM NOVEMBER 2016 ESCHEATED ESTATES PERCENT CHANGE FROM NOVEMBER 2016 SALES OF GOODS AND SERVICES PERCENT CHANGE FROM NOVEMBER 2016 OTHER REVENUE	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582 4.48% 123,050 11.10% 47,499 -3.60% 12,310 294.13% 15,871 -18.16% 21,652 17.93% 88,816	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579 488,393 487,423 177,515 25,536 57,763	CHANGE FROM PREVIOUS YEAR 9.80% 4.80% 18.27% 4.63% 14.54% 214.12% -12.92%
Revenue By Source TOTAL TAX COLLECTIONS PERCENT CHANGE FROM NOVEMBER 2016 FEDERAL INCOME PERCENT CHANGE FROM NOVEMBER 2016 LICENSES, FEES, FINES, AND PENALTIES PERCENT CHANGE FROM NOVEMBER 2016 STATE HEALTH SERVICE FEES AND REBATES ³ PERCENT CHANGE FROM NOVEMBER 2016 NET LOTTERY PROCEEDS ⁴ PERCENT CHANGE FROM NOVEMBER 2016 LAND INCOME PERCENT CHANGE FROM NOVEMBER 2016 INTEREST AND INVESTMENT INCOME PERCENT CHANGE FROM NOVEMBER 2016 SETTLEMENTS OF CLAIMS PERCENT CHANGE FROM NOVEMBER 2016 ESCHEATED ESTATES PERCENT CHANGE FROM NOVEMBER 2016 SALES OF GOODS AND SERVICES PERCENT CHANGE FROM NOVEMBER 2016	11.13% NOVEMBER 2017 \$4,168,746 11.13% 3,577,993 2.71% 566,543 -2.45% 678,797 119.39% 198,582 4.48% 123,050 11.10% 47,499 -3.60% 12,310 294.13% 15,871 -18.16% 21,652 17,93%	YEAR TO DATE: TOTAL \$11,609,531 10,365,789 1,693,441 2,182,579 488,393 487,423 177,515 25,536 57,763 64,359	CHANGE FROM PREVIOUS YEAR 9.80% 4.80% 3.15% 18.27% 4.63% 38.15% 14.54% -12.92% -0.23%

¹ Includes public utility gross receipts assessment, gas, electric and water utility tax and gas utility pipeline tax.

Notes: Totals may not add due to rounding. Excludes local funds and deposits by certain semi-independent agencies.

Includes certain state revenues that are deposited in the State Treasury but not appropriated.

PERCENT CHANGE FROM NOVEMBER 2016

10.13%

² Includes taxes not separately identified.

³ Includes various health-related service fees and rebates that were previously in "license, fees, fines and penalties" or in other non-tax revenue categories.

⁴ Gross sales less retailer commission and the smaller prizes paid by retailers



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