Measuring the Effects of the CTAS Certified County Finance Officers (CCFO) Training Program on Tennessee County Audits

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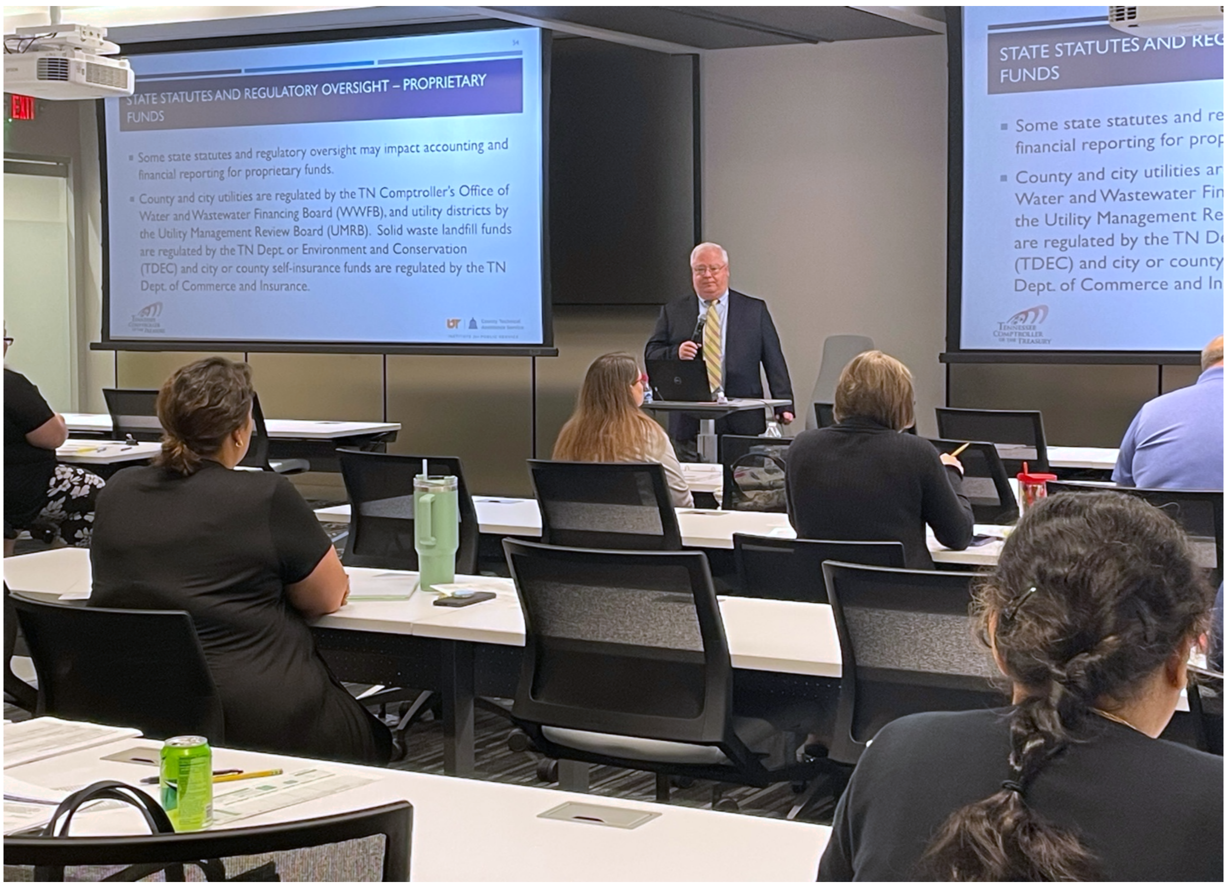

County Technical Assistance Service

INSTITUTE *for* PUBLIC SERVICE

CERTIFIED COUNTY FINANCE OFFICER

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EXECUTIVE SUMMARY

14%	34%	592	61%–59%
Decrease in total audit findings FY 2019 vs FY 2024	Decrease in severe findings (material weaknesses & significant deficiencies)	CCFO graduates produced across four cohorts, FY 2020 to FY 2024	More findings in non-centralized vs. centralized small counties

Background and Objective

Tennessee counties depend on skilled finance staff to manage complex, multi-fund governmental accounting, and the annual audit is one of the best scorecards of financial management. In July 2018, the University of Tennessee's County Technical Assistance Service (CTAS), in partnership with the Tennessee Comptroller of the Treasury's Division of Local Government Audit (LGA), launched the Certified County Finance Officer (CCFO) training program — an 11-course curriculum covering topics to include budgeting, purchasing, payroll, capital and debt management, internal controls, governmental accounting, and financial reporting.

This study examines whether the CCFO program has measurably improved county audit results by comparing the five years before the program's first graduates (FY 2015 to FY 2019) to the five years after (FY 2020 to FY 2024). CTAS reviewed audited financial statements and audit findings for all 95 Tennessee counties over a ten-year period, and separately examined the role of full, partial, and non-centralized accounting structures as a possible causation factor alongside county population and department type.

Key Findings

Statewide audit findings declined, especially the most severe categories

Total audit findings statewide fell from a five-year average of 475 (FY 2015 to FY 2019) to 357 (FY 2020 to FY 2024), a 25% decrease, and from 353 findings in FY 2019 to 305 in FY 2024, a 14% decrease coinciding with the CCFO program's growth. The decline was sharper for the most serious findings: material weaknesses and significant deficiencies dropped 34% between the two five-year averages (283 to 188). Constitutional fee offices saw the largest departmental improvement, down 59%, while road departments declined 28%; the mayor's office was roughly flat, and school systems rose 28%.

Active CCFO graduates grew as findings fell

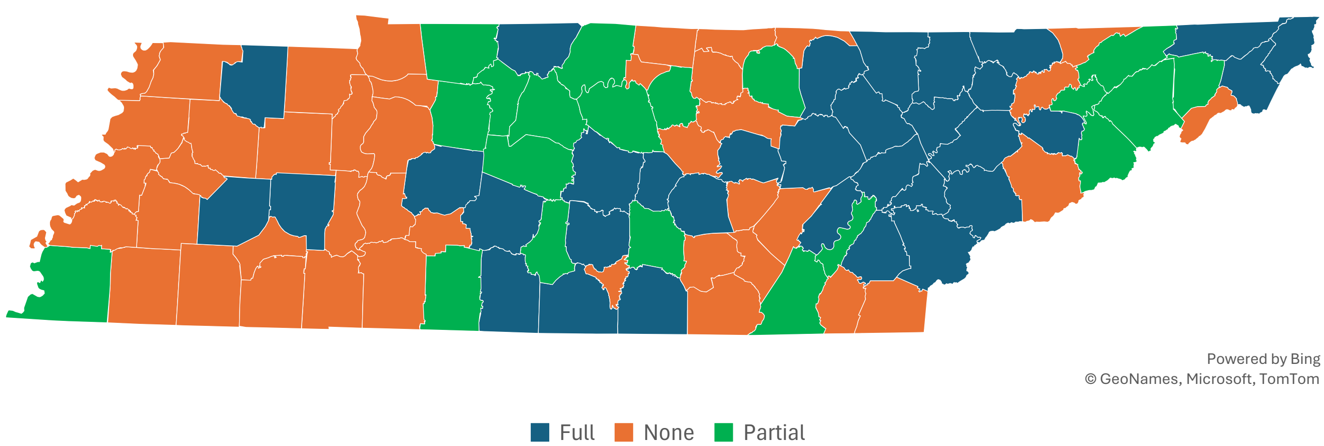
The number of active CCFO certificate holders grew from 160 in FY 2020 to 520 by FY 2024 across four cohorts (592 total graduates), while statewide audit findings fell from 351 to 305 over the same period — an 18% decline from FY 2022 to FY 2024 alone. The study characterizes this as a direct correlation between CCFO growth and improved audit outcomes, while noting that FY 2016 internal-control statutes and the FY 2022 and 2023 uptick in audit findings were related to ARPA federal-relief spending are additional factors that were not separately isolated.

Centralized accounting structure is the strongest causation factor

Three different accounting structures: Fully centralized is when one finance director manages all three main county department's finances which includes the mayor's office, road department, and school system. Under partial centralization the county finance director oversees the finances of the mayor's office and road department while the schools are separate. Non-centralization (General Law), the mayor's office, road department and school system have three different finance departments. The three departments typically hire bookkeepers who have limited authority to enforce internal control policies and procedures.

Fifty-six percent of Tennessee counties operate full or partial centralized accounting; 44% remain non-centralized. Non-centralized counties consistently had far higher findings: a five-year average of 7.0 findings (FY 2015–FY 2019) and 4.9 (FY 2020–FY 2024), versus 3.5 and 2.8 for fully centralized and 3.0 and 2.8 for partially centralized counties. Smaller counties, specifically non-centralized accounting systems, produced 61% and 59% more audit findings than centralized peers across the two periods. Centralized small counties in the second five-year period (FY 2020 to 2024) cut their average annual audit findings by 50% from 3.6 to 1.8 versus an 18% reduction for non-centralized small counties. The report concludes population alone is not a causation factor since centralized small counties perform on par with medium and large counties.

Figure No. 1 Counties by Accounting Structure FY 2024 and FY 2026



EAST TENNESSEE HAS THE HIGHEST CONCENTRATION OF FULL AND PARTIALLY CENTRALIZED ACCOUNTING AT 80% WITH 24 OF 30 COUNTIES. MIDDLE TENNESSEE IS THE SECOND HIGHEST, AT 57% WITH 25 OF 44 COUNTIES. WEST TENNESSEE HAS THE LOWEST AT 19% WITH ONLY 4 OF 21 COUNTIES.

County population was based upon the 2020 U.S. Census and defined as small (<30,000: 45 counties), medium (30,001 to 65,000: 30 counties), and large (>65,001: 20 counties).

Fraud risk is concentrated in non-centralized structures

Reported fraud across the ten-year period totaled $6.12 million over 131 cases. Non-centralized counties accounted for 58% of total dollar losses, compared with 32% fully centralized and 11% partially centralized. Fully centralized drops to 22% if the $618,404 circuit court clerk fraud is excluded since that office is not subject to oversight by the county finance department. The five largest individual fraud cases in Fentress, Claiborne, Crockett, Johnson, and Gibson counties each resulted from lack of segregation of duties and no management oversight, reinforcing that accounting structure and staffing gaps, not county population size, increases fraud risk.

Fraud risk for non-centralized counties was 3X greater than full and partially centralized.

What This Means

Together, the study's findings point to two reinforcing factors for reducing audit findings and fraud risk: (1) adopting full or partial centralized accounting structures, and (2) building finance staff capability through CCFO training. Centralization appears to be the stronger single driver, but the sharpest improvements occur when both are present as illustrated by Cannon County, which changed from non-centralized to fully centralized accounting in FY 2021, eliminated all audit findings, grew its general fund balance from $2.2 million to $3.8 million, earned four consecutive *Clean Audit Awards*, and has three active CCFOs on staff.

The Tennessee Comptroller of the Treasury *Clean Audit Awards* over the ten-year period were also skewed toward full and partially centralized counties of 77% vs. 23% non-centralized, and toward medium/large counties of 84% vs.16% small, further supporting the structural link. Because the Tennessee Comptroller's Local Government Audit (LGA) office audits 91 of the 95 counties, auditor quality was treated as a constant rather than a study variable.

Recommendations

- Encourage the 42 non-centralized counties — 44% of the state's 95 counties — to adopt full or partially centralized accounting; smaller counties should pursue full centralization given the outsized gains observed in that group.
- Continue to expand CCFO enrollment, particularly in non-centralized and smaller populated counties, where the training can help finance staff to implement centralized accounting.
- Monitor the county annual audit reports and *Clean Audit Award* process as an ongoing accountability benchmark, and continue tracking findings by department, severity, and accounting structure to isolate future drivers of change.
- Treat accounting centralization and workforce training as complementary investments rather than substitutes since the data show each contributes independently to fewer and less severe audit findings which reduces fraud risk.

Conclusions

Over its first five years, the CTAS CCFO program coincided with a 14% drop in total statewide audit findings and a 34% drop in the most severe findings, alongside growth to 520 active CCFO certificate holders. The ten-year data also shows that centralized accounting structures are the single strongest predictor of fewer findings and lower fraud losses, independent of county population. The report's overall conclusion: full or partial centralized accounting, combined with ongoing CCFO training, reduces audit findings and fraud risk and strengthens Tennessee county finance departments' ability to better serve their citizens, taxpayers, and county commissions.

INTRODUCTION

One of Bejamin Franklin's most famous quotes is "*an investment in knowledge pays the best interest*" which certainly applies to Tennessee County government finances. Counties deliver critical services like public safety, roads, and K-12 education, which require effective and efficient financial operations. If the county's money is not handled well, then nothing else will be.

A county's financial operations are only as good as the skills, knowledge, and experience of its employees. From the finance director to the entry level accounts payable or payroll staff, continuous training is necessary to operate in a fast-changing and complex environment.

Earlier in my career one of my mentors made two astute observations about training: (a) "*you don't know what you don't know"*, and (b) *"you can sometimes learn more from the other attendees than from the speaker"*. The first observation means if you do not keep up with current issues or trends, then how do you know if you have a problem? The second encourages us to be good listeners and learn from the best practices and mistakes of others. From cybersecurity threats, to supply chain shortages, and the recruitment and retention of good staff there are constant threats but also opportunities. County leaders should view training costs as an investment in their people and organization rather than an expenditure.

The annual audit is one of the best scorecards to evaluate financial management operations. A county's internal controls operate as checks and balances to protect taxpayers' funds and to prevent, deter, and to detect fraud. Audit findings can indicate if a county's financial operations are improving, stagnating, or worsening.

Objective

To determine the impact of the University of Tennessee's County Technical Assistance Service (CTAS) Certified County Finance Officer (CCFO) training program on Tennessee county audit results for the five-year period before the start of the program from FY 2015 through 2019 and the five-year period after from FY 2020 through 2024 after the program began.

Correlation and Causation

What is the **correlation** between the number of CCFO program graduates or other external factors that contribute to the number and severity of audit findings? What **causation** factors could affect county audit findings such as population, accounting structure, or audit quality? ***For purposes of this study the term causation is defined as cause and effect.***

CCFO Program

The CCFO training program is a joint program between CTAS and the Tennessee Comptroller of the Treasury Division of Local Government Audit (LGA) and began July 2018. Participation in the CCFO training program is voluntary for county and board of education employees. The CCFO program starts a new cohort approximately every 15 months with no classes scheduled for July or December. The program consists of 11 all-day classes, typically with nine in-person and two virtually, and includes the following subjects:

1. Government Environment
2. County Budgeting
3. Purchasing & Risk Management

4. Cash & Grants Management
5. Payroll, Fringe Benefits & Retirement
6. Capital Projects & Debt Management
7. Internal Control & Audit
8. Governmental Accounting I
9. Governmental Accounting II
10. Financial Reporting I
11. Financial Reporting II

CCFO students must pass a test for each class with a score of 70% or greater. Course materials are emailed to students approximately two weeks in advance of the first-class date which includes a power point presentation, detailed course manual, exercises, and a summary study guide. Course materials are updated by CTAS and reviewed by LGA. In-person classes consist of approximately 30 people taught by two CTAS CCFO instructors. Past CCFO teaching locations have included Chattanooga, Cookeville, Jackson, Kingsport, Knoxville, Memphis, Nashville, and Pulaski.

Upon completion of the CCFO program, graduates who are county, county board of education, or special school district employees are awarded a one-time stipend of $1,000. Elected and appointed county officials and non-county employees are not eligible for the stipend. The State of Tennessee reimburses the student's county for monthly course fees and related travel expenses, if applicable. CCFO graduates are required to annually complete 16 hours of continuing professional education (CPE) in financially related topics.

CCFO Graduates

The table below shows the number of active CCFO certificate holders for cohort #1 through cohort #4 during FY 2020 through 2024:

Fiscal Years	Cohort #	Graduates	Active CCFO's
2020	1	167	160
2021	2	127	280
2022 and 2023	3	128	388
2024	4	170	520
Total		592	

Note: There was no separate CCFO cohort in FY 2023 since this group did not complete their last class until September 2023 during FY 2024. Of the total 592 CCFO graduates, there were 520 still active as of June 30, 2024. A CCFO certificate holder can become inactive due to several reasons such as retirement, termination, resignation or failure to complete annual CPE.

Study

CTAS completed a ten-year study by reviewing all 95 Tennessee county audited financial statements and audit findings from FY 2015 through 2024. The study was performed by the CTAS

CCFO training team during FY 2026 and reviewed audit findings from audited financial statement filed with the [Tennessee Comptroller of the Treasury Division of Local Government Audit] (LGA).

Definitions

Department or office:

includes the (a) mayor, (b) schools, (c) road, and (d) constitutional fee offices. Constitutional fee offices include the county trustee, register of deeds, sheriff, property assessor, county clerk, and clerks of courts. If a reported audit finding covered several departments or offices, it was counted as one finding for each of respective departments or offices to better measure accountability.

County Population:

was defined as small, medium, and large based upon the 2020 U.S. Census. (See Appendix A)

a. small <30,000: **45 counties, 47%**,
b. medium 30,001 to 65,000: **30 counties, 32%,**
c. large >65,000: **20 counties, 21%**

Accounting structure:

is defined as full centralization, partial centralization, or no centralization of **accounting functions**. Structure is based on various state laws **adopted and implemented** by the county commission by 2/3 vote or passed by a majority of voters by referendum. Full or partial centralization of accounting functions can provide stronger internal controls and improved budgeting and financial reporting. To enhance consistency between counties the study **did not** classify counties that may have full or partially centralized budgeting or purchasing functions. (See Appendix B)

a. **Full centralization of accounting** includes the mayor, schools, and road departments with enabling statutory authority such as the 1981 Financial Management System Act (1981 Act), 1957 Fiscal Acts (1957 Act with Schools), Charter, or Private Act.

b. **Partial centralization of accounting** includes the mayor and road departments but excludes the schools. Statutory authority is granted by the 1957 Fiscal Acts without Schools, Charter, Metro Charter, Private Act, or County Commission Resolution.

Note: The 1957 Fiscal Acts, 1981 Act, Charter, Metro Charter, and Private Acts that require full or partial centralized accounting contain statutory requirements for Finance Directors to have the relevant education, experience, skills and knowledge to maintain complex multi-fund governmental accounting records and to operate internal controls. Centralized accounting can improve efficiency and reduce overall costs by consolidating three finance departments into one fully centralized or two partially centralized system. Typically Finance Directors managing full and partially centralized accounting systems have bachelor's degrees in accounting, finance or business administration and several are CCFOs and certified public accountants (CPAs).

Full or partially centralized accounting systems can create the organizational structure necessary to help improve skills, knowledge and experience of the finance department staff, thereby creating institutional knowledge. This approach can build trust and stability that can endure for decades regardless of elections and changes in administrations of county mayors, schools, and road officials.

c. **Non-centralized accounting** consists of General Law and two Metro Charter counties, Trousdale-Hartsville and Moore-Lynchburg, that have not adopted and implemented a state statute, private act, or metro charter provision for full or partially centralized accounting.

   Note: Counties with no centralization of accounting are managed by three main county officials: the mayor, director of schools, and road superintendent. These three officials are responsible for the management of the accounting functions and typically hire bookkeepers. This accounting structure can result in the hiring of less experienced finance staff and in the long term provide less institutional knowledge and stability resulting in more staff turnover due to county elections.

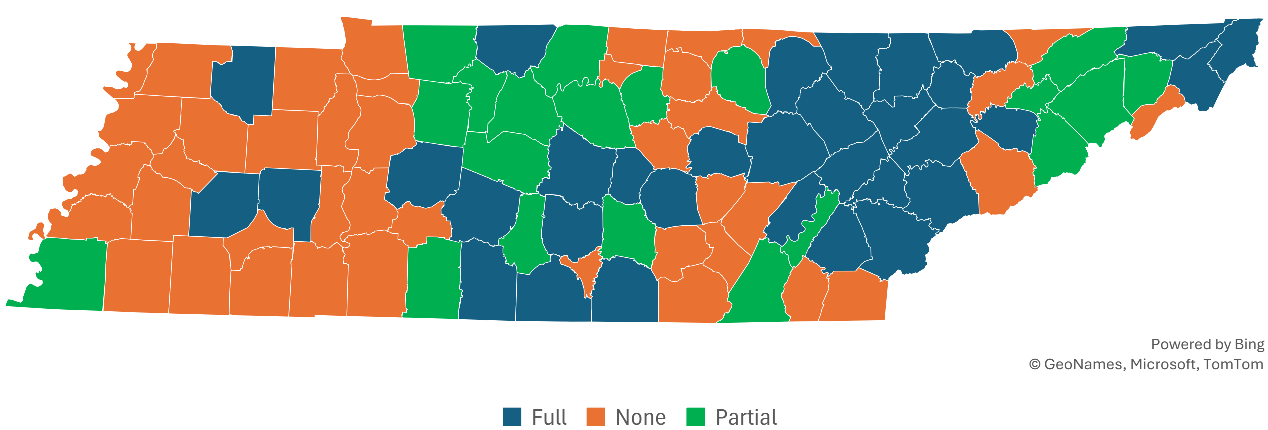
d. **Constitutional fee offices** conduct daily financial operations and other functions that **do not** come under the supervision of the county finance department, regardless of the accounting law or structure implemented.

Counties by Accounting Structure

The following table shows the accounting structure of the 95 Tennessee counties as of June 30, 2024:

Full Centralized Accounting	33	35%
Partial Centralized Accounting	20	21%
No Centralized Accounting	42	44%
Total	**95**	**100%**

Figure No. 1 Counties by Accounting Structure FY 2024



Observations

Concentration of centralized accounting varies across the Three Grand Divisions:

- East Tennessee has the highest concentration at 80% with 24 of 30 counties.
- Middle Tennessee is the second highest at 57% with 25 of 44 counties.
- West Tennessee has the lowest at 19% with only 4 of 21 counties.
- Fifty-six percent of Tennessee counties are fully or partially centralized, while 44% are not.

(See Figure No. 1 and Appendix B)

During the 10-year period four counties changed their accounting structure.

Cannon County previously had no centralized accounting. However, in FY 2018, voters approved a referendum to adopt the 1981 Act and mandated centralized accounting which was implemented in FY 2021.

Smith County operated with no centralized accounting from FY 2015 through FY 2017; then implemented the 1957 Act without Schools. It then operated partially centralized accounting from FY 2018 through FY 2024. The county commission approved the 1981 Act in FY 2023, but it was not implemented until FY 2025.

Maury County operated as partially centralized accounting under the 1957 Fiscal Act without Schools through FY 2018. The county commission adopted a 2018 Private Act which implemented fully centralized accounting that began in FY 2019.

Sullivan County had partial centralized accounting under the 1957 Fiscal Act without Schools through FY 2021. However, the county commission approved a 2020 Private Act that implemented fully centralized accounting that started in FY 2022.

Of the four largest counties by population, which includes Metro Nashville-Davidson, Hamilton, Knox, and Shelby, only Knox has fully centralized accounting, while the other three are partially centralized. For other larger population counties, only three are non-centralized: Bradley, Putnam, and Sevier. Of the medium sized counties, six are non-centralized: Dyer, Fayette, Gibson, Henry, Obion, and Tipton.

Observation

During the 10-year study period, Cannon and Smith counties changed from non-centralization to full or partial centralized accounting, which represents only 5% of the 44 previously non-centralized counties.

Audit Finding Severity

is based upon the following definitions from the U.S. Governmental Accounting Office (GAO) and the Tennessee Comptroller of the Treasury:

a. **Material weakness** is a deficiency, or combination of deficiencies, in internal control over financial reporting, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected, on a timely basis.

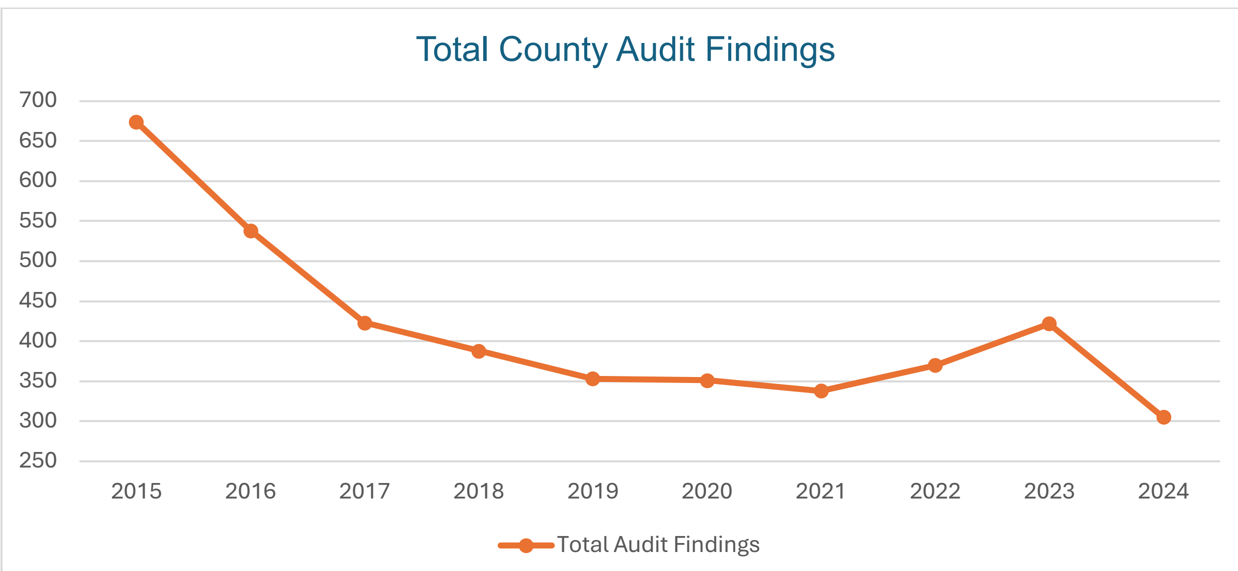
b. **Significant deficiency** is a deficiency, or combination of deficiencies, in internal control over financial reporting that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.
c. **Noncompliance** is the failure to act in accordance with applicable laws, regulations, contracts, and grant agreements.
d. **Fraud** is willful misrepresentation or intentional deception to hide, steal, embezzle funds or improperly use government resources for personal gain or the benefit of others.

Material weaknesses and significant deficiencies are generally considered the most severe categories of annual audit findings. We noted earlier that some individual audit findings combine multiple departments, offices, and severity types. However, for the study we counted one finding from each separate category of severity and office or department as one finding for each individual major county department or elected office.

County Audit Findings

Figure No. 2: Total County Audit Findings

The following graph illustrates the trend in the total number of county audit findings statewide for all 95 counties for the past ten years.



FY	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Total Audit Findings	674	538	423	388	353	351	338	370	422	305

Observations

During FY 2015 to 2019 period, the five-year average of audit findings was 475 before the start of the CCFO program compared to the FY 2020 to 2024 five-year average of 357, a

25% decrease. In FY 2016 new state statues required counties, including constitutional fee offices, to document internal control policies and procedures and it required counties to submit a written corrective action plan for each audit finding.

A temporary increase in audit findings was noted during FY 2022 and 2023, when COVID era federal assistance including the American Rescue Plan Act (ARPA) funding was being spent.

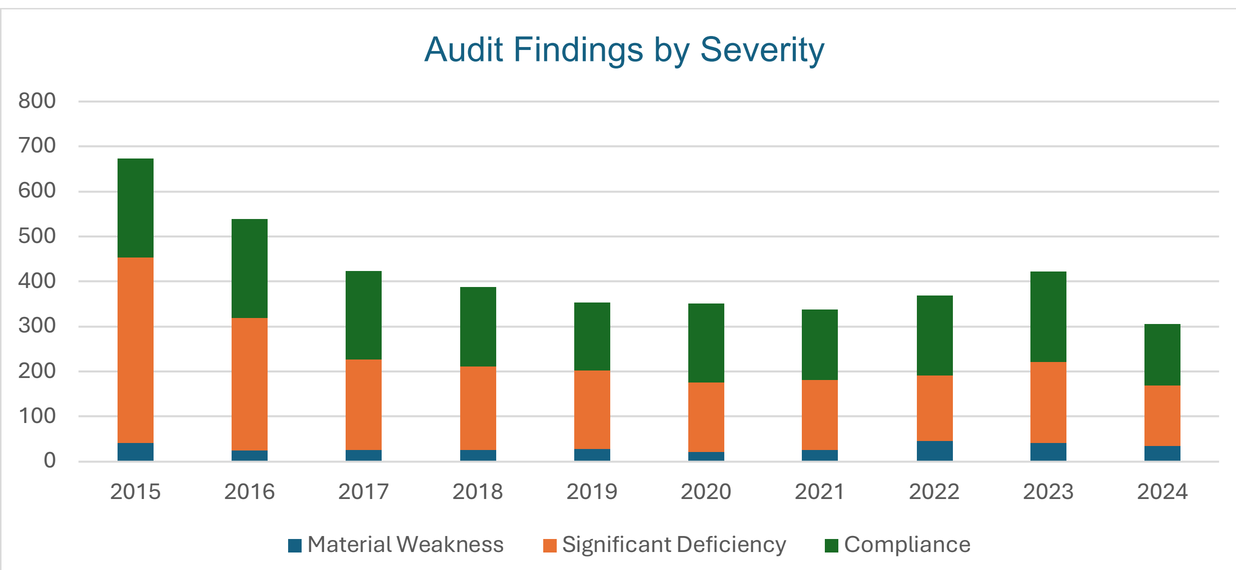
Correlation

The significant decline in total audit findings during FY 2015 to FY 2017 from 674 to 423 may be related to new state statutes requiring written internal control policies, procedures and corrective action plans. The effects of the new state statutes were not measured. There were 353 findings in FY 2019, the year before CCFO cohort no. 1, compared with 305 in FY 2024 after five years of the CCFO program resulting in a 14% decrease which can be linked to the increase in CCFO graduates.

Audit Findings by Severity

Figure No. 3 Audit Findings by Severity

The following graph illustrates the total number of county audit findings by severity statewide for all 95 counties over the study's ten-year period.



Audit Findings by Severity

FY	Material Weakness	Significant Deficiency	Compliance	Total Audit Findings
2015	43	412	219	674
2016	25	294	219	538
2017	26	201	196	423

2018	27	185	176	388
2019	28	175	150	353
2020	22	154	175	351
2021	27	154	157	338
2022	47	145	178	370
2023	42	179	201	422
2024	35	134	136	305

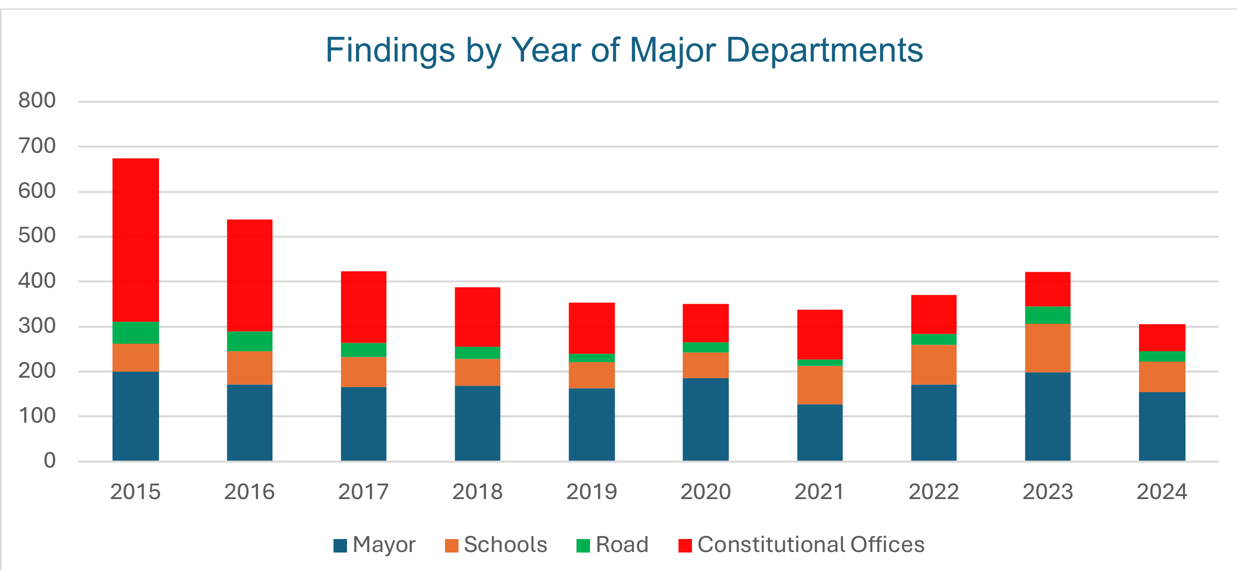
Correlation

The five-year average of material weaknesses and significant deficiency audit findings during FY 2015 to 2019 period was 283 before the start of the CCFO program, compared to the FY 2020 to 2024 five-year average of 188, a 34% decrease. Material weaknesses and significant deficiencies were 203 in FY 2019 compared to 169 in FY 2024 resulting in a decrease of 17%. The decrease in audit findings can be attributed to the increase in CCFO graduates during the second five-year period.

Audit Findings by Year for Major County Departments

Figure No. 4: Audit Findings by Year for Major County Departments

The following graph illustrates the audit findings by the four major county departments statewide for all 95 counties over the study's ten-year period.



FY	Mayor	Schools	Road	Constitutional Fee Offices	Total
2015	200	62	49	363	674
2016	172	74	43	249	538
2017	166	66	32	159	423
2018	169	60	26	133	388
2019	163	58	19	113	353
2020	186	57	22	86	351
2021	127	86	14	111	338
2022	171	89	24	86	370
2023	199	107	39	77	422
2024	154	69	23	59	305

The following table summarizes the five-year averages of audit findings for FY 2015 to 2019 before the start of the CCFO program compared to FY 2020 to 2024 after the start of the CCFO program:

5 Year Averages	Mayor	Schools	Roads	Constitutional Fee Offices
FY 2015-2019	174	64	34	203
FY 2020-2024	167	82	24	84
(Inc.) Dec.	7	-18	10	119
(% Inc.) % Dec.	4%	-28%	28%	59%

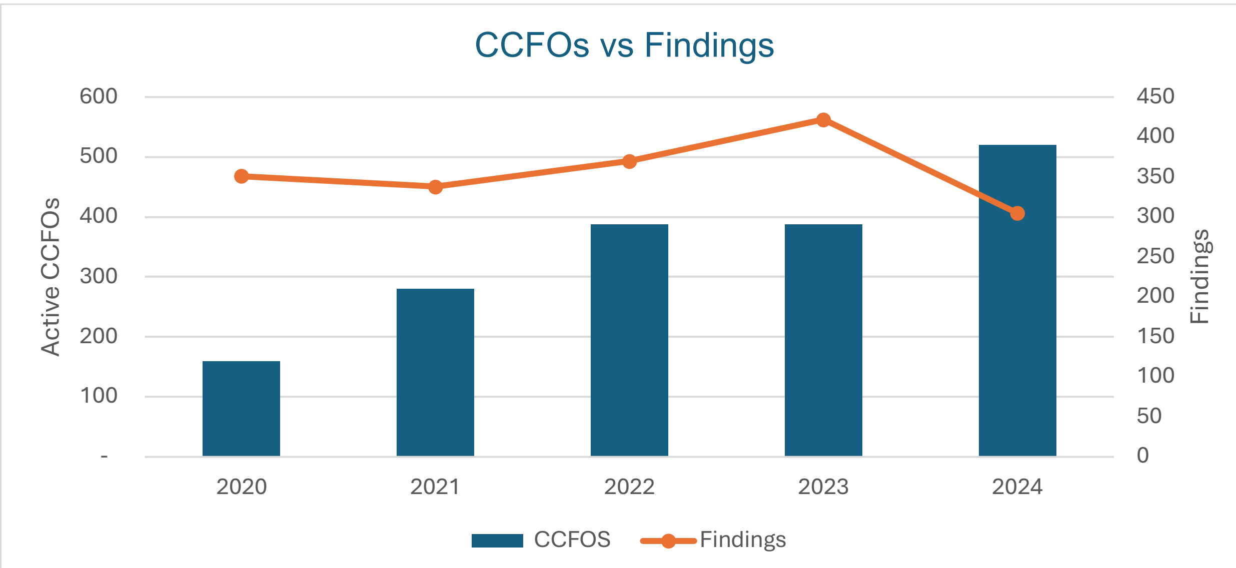
Observations

The road departments and constitutional fee offices had the largest percentage decreases of 28% and 59% in annual average audit findings between the two five-year periods. Audit findings for the mayor's office remained relatively flat, while the schools increased by 28%.

Active CCFO's vs. Audit Findings

Figure No. 5: Active CCFO's vs. Audit Findings

The following graph and bar chart illustrates the relationship between total county audit findings and number of CCFO graduates.



FY	Active CCFOs	Total Findings
2020	160	351
2021	280	338
2022	388	370
2023	388	422
2024	520	305

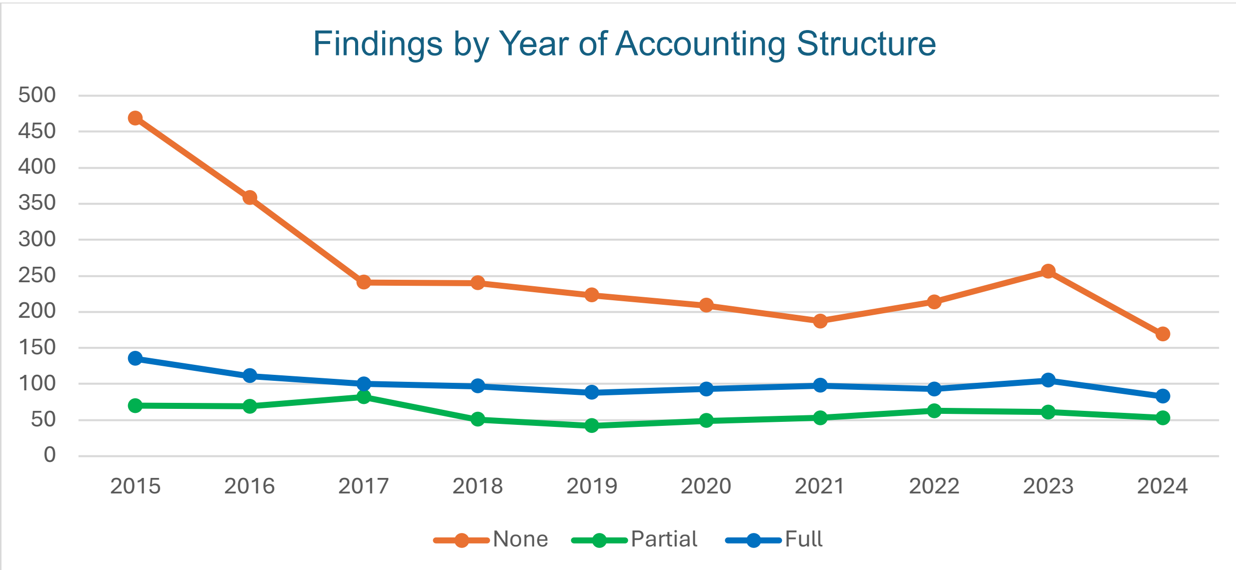
Correlation

During FY 2020 to 2024, total audit findings over a five-year period decreased from 351 to 305, by 13%. Since there was no CCFO graduation in FY 2023, the total number of active CCFOs increased from 388 in FY 2022 to 520 in FY 2024, or 34%. During the three-year period from FY 2022 through FY 2024 total state-wide audit findings decreased by 65, or 18%.

Audit Findings by Year of Accounting Structure

Figure No. 6: Audit Findings by Year of Accounting Structure

This graph shows the total number of audit findings by accounting structure for the past 10 years. (See Appendix B for county listing by accounting structure.)



FY	None	Partial	Full	Total
2015	469	70	135	674
2016	358	69	111	538
2017	241	82	100	423
2018	240	51	97	388
2019	223	42	88	353
2020	209	49	93	351
2021	187	53	98	338
2022	214	63	93	370
2023	256	61	105	422
2024	169	53	83	305

Causation

Total audit findings of non-centralized counties are higher than those with some form of centralization. The following table compares the average audit findings for the two five-year periods of FY 2015 to 2019 and FY 2020 to 2024:

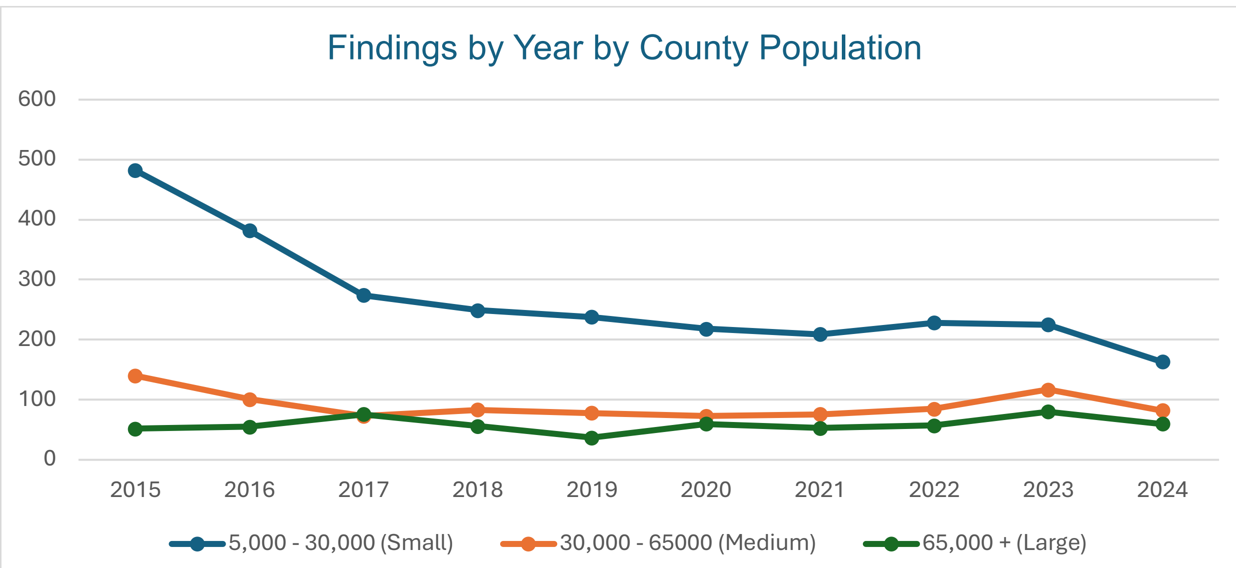
5 Year Averages	None	Partial	Full
FY 2015-2019	306	63	106
FY 2020-2024	207	56	94
(Inc.) Dec.	99	7	12
(% Inc.) % Dec.	32%	11%	11%

The two five-year average audit findings for non-centralized counties were 7.0 and 4.9, partial 3.0 and 2.8, and full 3.5 and 2.8.

Findings by Year Categorized by County Population

Figure No. 7A: Findings by Year Categorized by County Population

The graph below illustrates the 10-year trend of audit finding by county population.



Findings by Year of County Population Size (See Appendix A)

FY	5,000-30,000 (Small)	30,000 - 65,000 (Medium)	65,000+ (Large)	Total
2015	482	140	52	674
2016	382	101	55	538
2017	274	73	76	423
2018	249	83	56	388

2019	239	77	37	353
2020	218	73	60	351
2021	209	76	53	338
2022	228	85	57	370
2023	225	117	80	422
2024	163	82	60	305

Observations

The five-year average period FY 2015 to 2019 audit findings for county population sizes was 325 for small, 94 medium, and 55 large. During FY 2020 to 2024, the five-year average audit findings were 209 small, 87 medium, and 62 large.

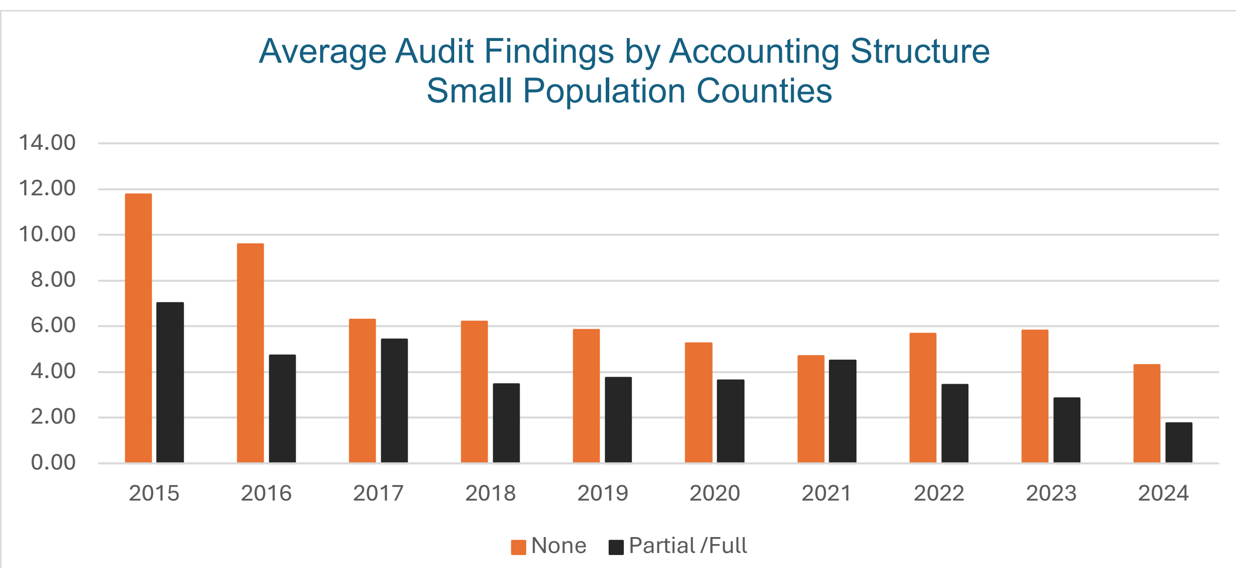
Causation

Average annual audit findings for smaller populated counties declined the most from 7.2 in FY 2015 to 2019 to 4.6 during FY 2020 to 2024, for a 36% decrease. For medium populated counties, it declined from 3.2 in FY 2015 to 2019 compared to 2.9 during FY 2020 to 2024. Larger counties had a slight increase from 2.8 in FY 2015 to 2019 to 3.1 during FY 2020 to 2024.

Average Audit Findings by Accounting Structure for Smaller Counties

Figure No. 7B: Average Audit Findings by Accounting Structure for Smaller Counties

This bar chart shows the average number of audit findings for smaller populated counties with either non-centralized or partially/fully centralized accounting structures for a 10-year period.



Observations

During the 10-year study of the 45 smaller population counties, 10 counties used full or partial centralized accounting from FY 2015 through 2017, 11 from FY 2018 to 2020, and 12 from FY 2021 to 2024. From FY 2015 to 2019, average audit findings in smaller counties with non-centralized accounting were 7.9 compared to 4.9 for full and partially centralized accounting. During FY 2020 to 2024, which was after the start of the CCFO program, the five-year average audit findings were 5.1 for non-centralized and 3.2 for full and partially centralized counties.

Causation

The two five-year periods reveal that smaller populated counties which are non-centralized incurred 61% and 59% more audit findings than full and partially centralized counties within the same peer group.

During the five-year period from FY 2020 to FY 2024, the 12 smaller populated counties using fully and partially centralized accounting averaged 3.2 audit findings per year compared to 5.1 for non-centralized counties. The total peer group of 53 counties, which includes small, medium, and large counties operating full and partially centralized accounting systems, had a five-year average of 2.8 annual audit findings. In summary, the use of fully and partially centralized accounting systems in smaller populated counties had about the same average number of annual audit findings as medium and larger populated counties.

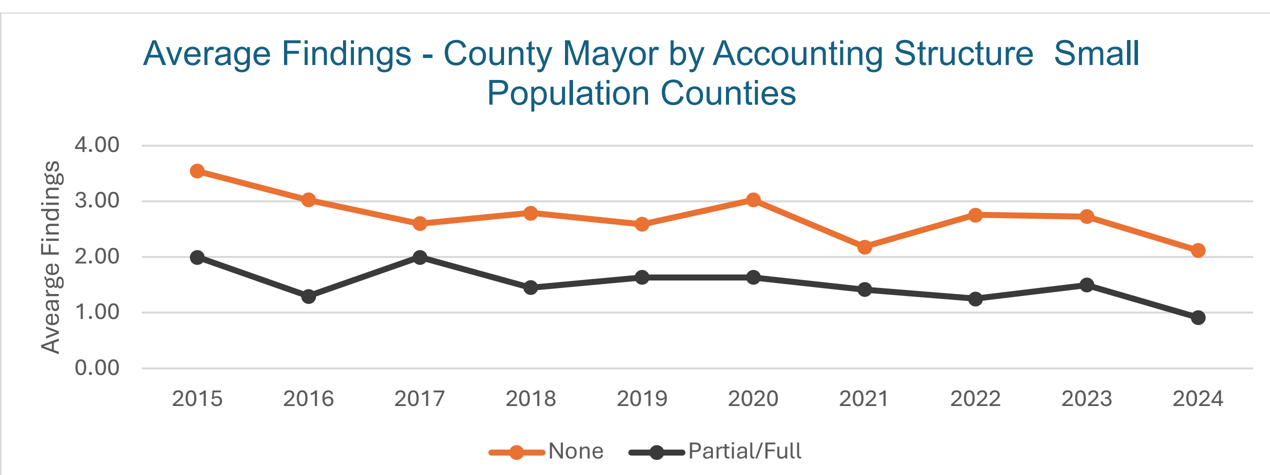
Conclusion

*County **population alone is not** a causation factor that results in more audit findings.*

Average Audit Findings for Small County Mayor's Department

Figure No. 7C: Average Audit Findings for Small County Mayor's Department

The graph below illustrates the trend of average annual audit findings for the mayor's department for smaller population counties that are non-centralized vs. partial/full centralized accounting structures over 10 years.



Average Audit Findings - County Mayor - Small Population

FY	None	Partial/Full
2015	3.54	2.00
2016	3.03	1.30
2017	2.60	2.00
2018	2.79	1.45
2019	2.59	1.64
2020	3.03	1.64
2021	2.18	1.42
2022	2.76	1.25
2023	2.73	1.50
2024	2.12	0.92
FY 2015 to 2019	2.91	1.68
FY 2020 to 2024	2.56	1.34
Dec. (Inc.)	0.35	0.33
% Change	11.93%	19.92%

Causation

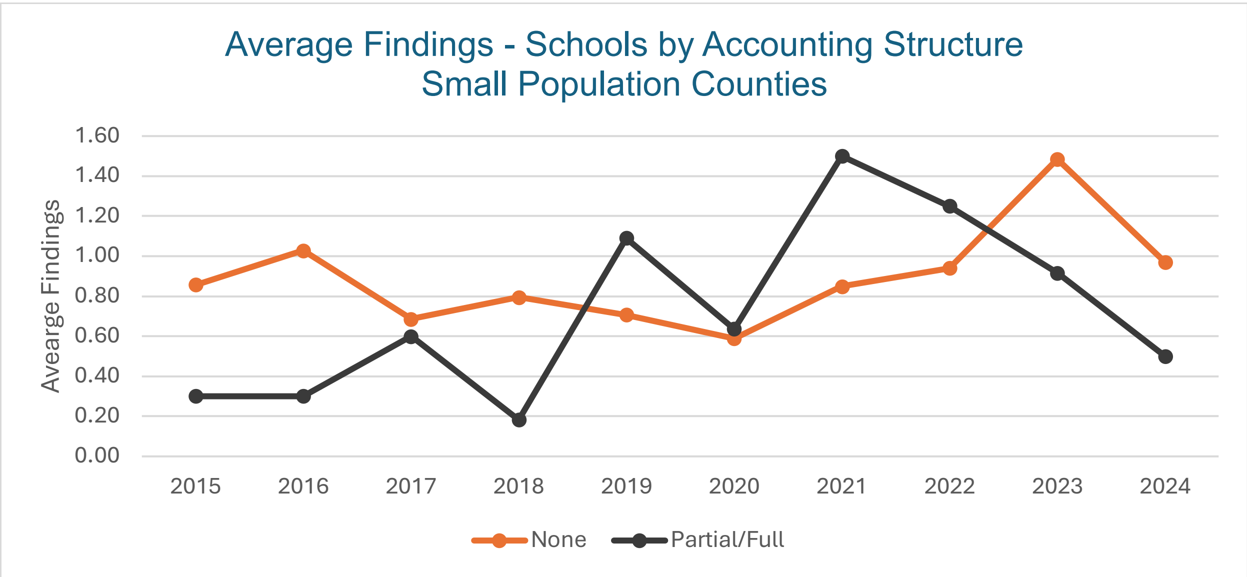
The average annual audit findings for smaller county mayor's office declined at a faster rate for full and partially centralized as compared to non-centralized accounting systems. During the two five-year periods non-centralized counties incurred 73% and 91% more audit findings when compared to full and partially centralized counties.

A further analysis for FY 2024 revealed that 10 non-centralized counties, Benton, Chester, Crockett, Hancock, Lake, Moore, McNairy, Perry, Van Buren, and Wayne were responsible for 71% of the total mayor department's audit findings for the 33 non-centralized smaller counties and 32% for all 95 counties.

Average Audit Findings for Small County Schools Department

Figure No. 7D: Average Audit Findings for Small County Schools Department

The graph below illustrates the trend of average annual audit findings for the school's department for smaller population counties that are non-centralized vs. partial/full centralized accounting structures over 10 years.



Average Findings - Schools - Small Population

FY	None	Partial/Full
2015	0.86	0.30
2016	1.03	0.30
2017	0.69	0.60
2018	0.79	0.18
2019	0.71	1.09
2020	0.59	0.64
2021	0.85	1.50
2022	0.94	1.25
2023	1.48	0.92
2024	0.97	0.50

FY 2015 to 2019	0.81	0.49
FY 2020 to 2024	0.97	0.96
Dec. (Inc.)	-0.15	-0.47
% Change	-18.65%	-94.24%

Causation

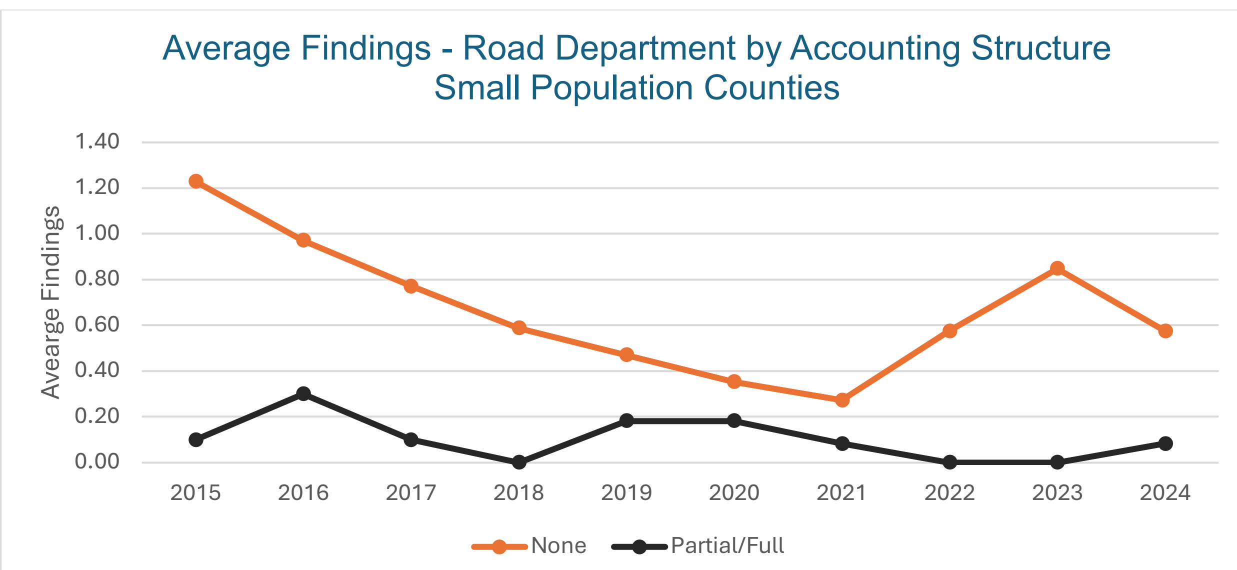
The average annual audit findings for schools in smaller populated counties that use non-centralized accounting systems are approximately the same when compared to those who use fully and partially centralized accounting systems. During the five-year period from FY 2020 to 2024, schools had the same average audit findings of .97 and .96, regardless of the accounting centralization.

A further analysis for FY 2024 revealed that three non-centralized counties, including Lewis, Polk, and Lake, were responsible for 72% of the total school department's audit findings of the 33 schools using non-centralized accounting systems and 33% for all 94 county school systems state-wide. (Note: Gibson County does not have a county school system.)

Average Audit Findings for Small County Road Department

Figure No. 7E: Average Audit Findings for Small County Road Department

The graph below shows the trend of average annual audit findings for the road departments for smaller population counties that are non-centralized vs. partial/full centralized accounting systems over 10 years.



Average Findings - Road - Small Population

FY	None	Partial/Full
2015	1.23	0.10
2016	0.97	0.30
2017	0.77	0.10
2018	0.59	0.00
2019	0.47	0.18
2020	0.35	0.18
2021	0.27	0.08
2022	0.58	0.00
2023	0.85	0.00
2024	0.58	0.08

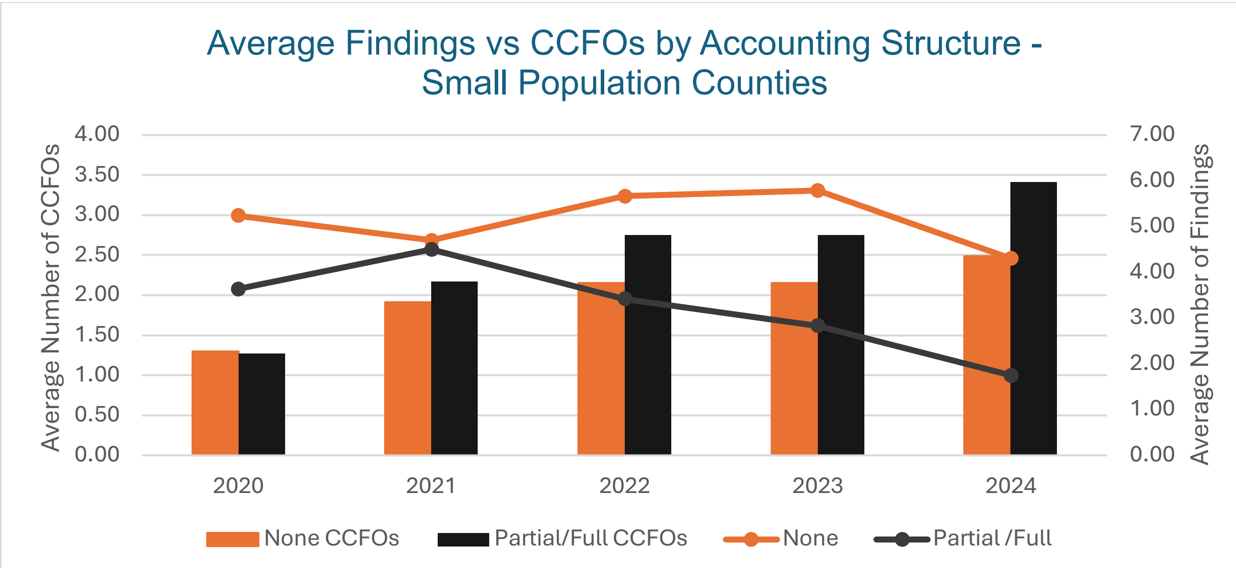
FY 2015 to 2019	0.81	0.14
FY 2020 to 2024	0.53	0.07
Dec. (Inc.)	0.28	0.07
% Change	34.85%	48.89%

Causation

Annual average audit findings for road departments in smaller populated counties are the lowest of the four main departments, regardless of accounting system centralization. Full and partially centralized counties had virtually no road department audit findings.

Average Number of Audit Findings vs. CCFO Graduates by Accounting Structure for Small Counties

Figure No. 7F: Average Number of Audit Findings vs. CCFO Graduates by Accounting Structure for Small Counties



	Full & Partial Centralization		Non-Centralized	
FY	Audit Findings	CCFOs	Audit Findings	CCFOs
2020	3.6	1.3	5.2	1.3
2021	4.5	2.2	4.7	1.9
2022	3.4	2.8	5.7	2.2
2023	2.8	2.8	5.8	2.2
2024	1.8	3.4	4.3	2.5

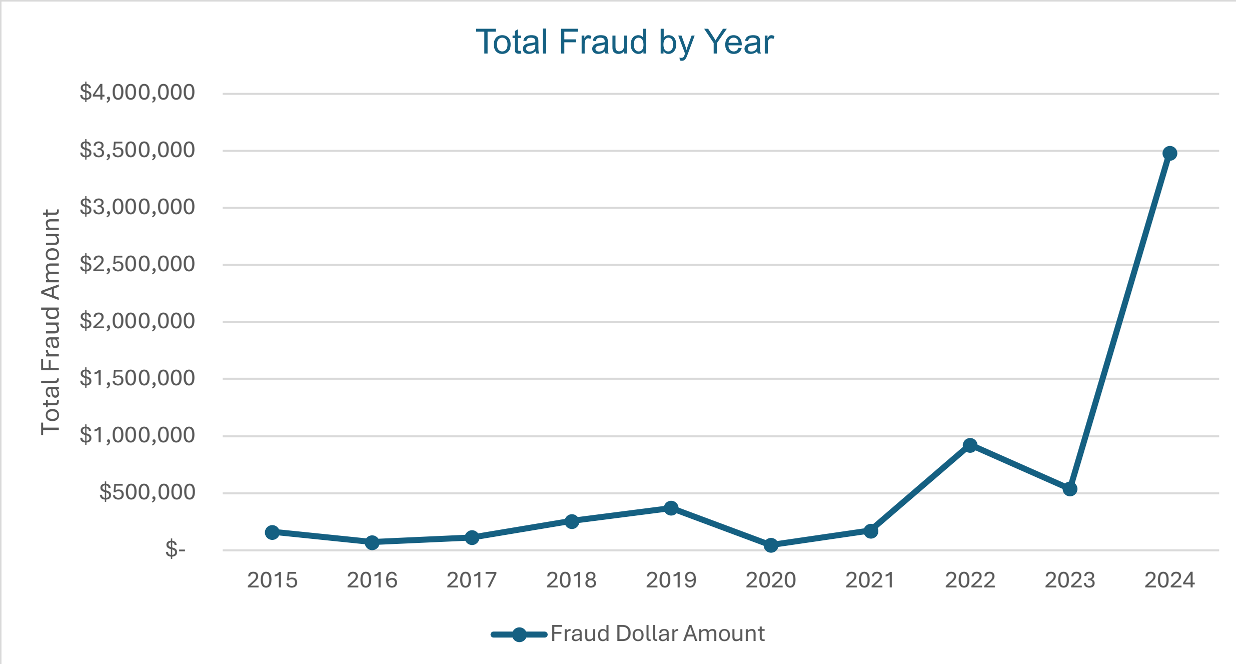
Correlation and Causation

The FY 2020 to 2024 five-year period provides evidence that increasing CCFOs in smaller counties can help reduce the number of audit findings. Full and partially centralized counties annual average audit findings decreased by 50% from 3.6 to 1.8. Non-centralized counties annual average audit findings decreased by 17% from 5.2 to 4.3.

The average number of CCFO certificate holders for full and partially centralized counties increased by 2.1 positions or 161%. Non-centralized counties increased CCFO positions by 1.2, or 92%. Full and partially centralized smaller counties had significantly less audit findings and increased CCFO positions by a greater margin than non-centralized counties.

Fraud by Fisal Year

Figure No. 8A: Total Fraud by Fisal Year



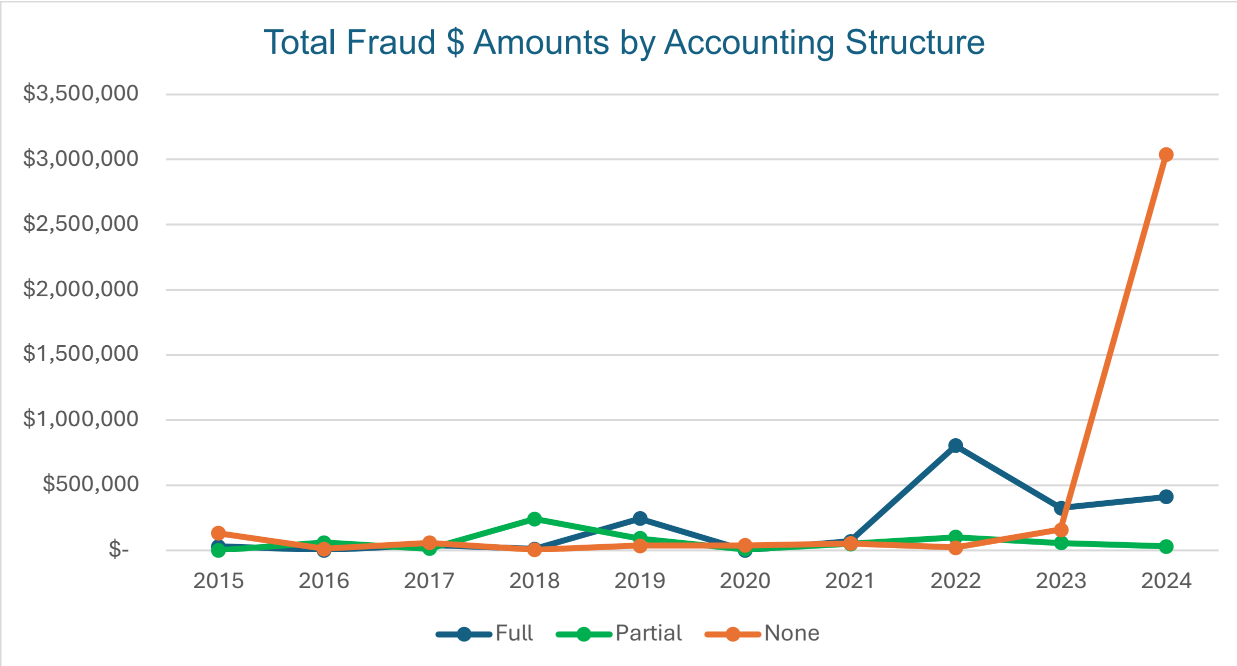
FY	Total Fraud Dollar Amount	Number of Fraud Cases
2015	$158,977	11
2016	$70,916	8
2017	$111,927	9
2018	$254,453	16
2019	$370,474	11
2020	$44,793	11
2021	$169,831	16
2022	$923,767	22
2023	$539,492	13
2024	$3,478,633	14
Total	$6,123,263	131

Observations

There were five large individual dollar amounts of fraud which are described on page 26.

Dollar Amount of Fraud by Accounting Structure

Figure No. 8B: Total Dollar Amount of Fraud by Accounting Structure – 10 Years



FY	Full	Partial	None	Total
2015	$28,760	$402	$129,815	$158,977
2016	$1,095	$60,376	$9,445	$70,916
2017	$43,220	$12,461	$56,246	$111,927
2018	$10,367	$241,075	$3,011	$254,453
2019	$243,661	$91,479	$35,334	$370,474
2020	$0	$8,400	$36,393	$44,793
2021	$68,403	$49,826	$51,602	$169,831
2022	$802,141	$101,219	$20,407	$923,767
2023	$324,664	$56,604	$158,224	$539,492
2024	$409,637	$30,742	$3,038,254	$3,478,633
Total	$1,931,948	$652,584	$3,538,731	$6,123,263

Fraud

The five largest county frauds during the 10-year study period:

Fentress County (Fully Centralized)

In FY 2019, an accounts payable staff person in the finance office used the county's Walmart card to charge $237,616 for personal purchases. This fraud was due to the lack of segregation of duties since the employee was issued a card, making purchases, reconciling the receipts to the monthly credit card statements, approving vendor payment requests, preparing checks, and entering the transactions into the accounting system with no supervision.

Clairborne County (Fully Centralized)

In FY 2022, a bookkeeper in the Circuit Court Clerk's Office embezzled $618,404 by skimming cash collections from bank deposits over several years. This scheme was perpetrated by a bookkeeper who created fictious bank statements so the fraudulent transactions would match the accounting records. There was a lack of segregation of duties since the bookkeeper maintained the accounting records, prepared the daily cash receipts and deposits, and reconciled the bank statements with no supervision.

The Circuit Court Clerk is a separately elected constitutional fee office, and the daily financial operations were **not** under the oversight of the finance department.

Crockett County (Non-Centralized)

During FY 2024, the County Mayor's bookkeeper used the county's credit card to make personal purchases of $101,069 and received $66,389 in unauthorized wages and paid benefits. There was a lack of segregation of duties since the bookkeeper was assigned a county credit card, used the card for purchases, reconciled the receipts to the monthly card statements, prepared vendor checks, maintained payroll records, and entered the transactions into the accounting system.

Johnson County (Fully Centralized)

In FY 2024, the county was the victim of a $3.4 million external cybersecurity fraudulent payment scheme. The county's bank notified the county finance director two weeks after the electronic payment was completed. After notifying law enforcement, including the FBI, the county recovered all except $300,000 as of FY 2026. The cybersecurity breach was due to the lack of internal controls over verifying and confirming legitimate vendor invoices.

Gibson County (Non-Centralized)

In FY 2024 it was discovered that the Sheriff had created three for profit businesses that illegally billed and collected $2,690,758 from the State of Tennessee for state prisoners held in the county jail. The Sherrif and the related owned companies were generating profits to benefit the Sheriff in violation of conflict-of-interest laws, and transactions were not conducted in compliance with numerous state laws and regulations.

These fraud reports can be found on the Tennessee Comptroller of the Treasury – Division of Investigations website.

Causation

Total reported fraud over the 10-year period of $6,123,263 was fully centralized 32%, partially centralized 11%, and non-centralized 58%, respectively. If the one largest fraud in a fully centralized county that involved a constitutional fee office totaling $618,404 were removed, the percentage for fully centralized drops to 22%.

Fraud risk for non-centralized counties was 3X greater than full and partially centralized.

Audit Quality

The Tennessee Comptroller's Office of LGA performs 91 of the 95 county's annual audits; therefore, auditor quality is not a study variable. The four largest counties, Metro Nashville-Davidson, Hamilton, Knox, and Shelby are audited by large CPA firms who have audited these counties for many years.

Tennessee Comptroller's Office Clean Audit Award

During the ten-year period the Tennessee Comptroller's Office issued the *Clean Audit Award* to counties with no audit findings.

Observation

This award was given to full and partially centralized counties 77% vs. 23% for non-centralized. Smaller populated counties earned 16% of the awards vs. 84% for medium and larger populated counties.

Conclusions

Impact of CCFO Program

The CCFO program has helped counties reduce total audit findings by 14% during the five-year period from FY 2020 to 2024 after the start of the program (Figure No. 2). Severe audit findings showed a more significant decrease of 34% when comparing the two five-year periods (Figure No. 3). The decrease in audit findings has been more significant in the road department at 28% while constitutional fee offices reported an impressive decline of 59%. Audit findings in the mayor's office have remained flat while the schools reported an increase of 28% (Figure No. 4). In FY 2024 smaller populated counties who operate full or partially centralized accounting systems have on average 0.9 more CCFO graduates and 58% less audit findings than non-centralized counties (Figure No. 7F).

The data proves there is a **direct correlation** between an increase in CCFO graduates and a decrease in the total number and severity of audit findings.

Testimonials from county finance directors and past CCFO graduates:

Diane Hickman, Cannon County Finance Director: "The CCFO training program was invaluable as our small county was changing from a non-centralized to a fully centralized accounting system under the 1981 Financial Management System Act. As finance director the CCFO program helped me better prepare for the transition. We have two other finance department staff who have completed the program which has enabled us to work better with other departments and officials. As a result, we have earned the Tennessee Comptroller's Office *Clean Audit Award* for four consecutive years. I highly recommend the CCFO program to all counties no matter the size or structure."

Eric Buchanan, Hawkins County Director of Accounts and Budgets: "The CCFO training program was very informative and helped me better understand the concepts of governmental fund accounting which uses the modified accrual basis of accounting. One important topic I learned was the importance of maintaining good capital assets and depreciation records for internal control, insurance, and year-end financial reporting purposes. I recommend that others complete the CCFO program since it can improve your knowledge, skills and help you better manage your county's finances."

Robby Holbrook, Anderson County Finance Director: "The CCFO program helped me better understand our annual government-wide financial statements and the importance to external users such as credit rating agencies and our responsibility to comply with the U.S Securities and Exchange Commission regulations. Eight members of the county and Board of Education finance departments have completed the CCFO program. We have enrolled two additional employees for the upcoming cohort. The program has helped improve our staff's communication skills and knowledge."

Accounting Structure

The accounting system is the most significant causation factor of audit findings**.** Statewide full and partially centralized counties had lower total audit findings during the two five-year periods of 169 and 150 vs. non-centralized of 306 and 207. The two five-year average audit findings for partially centralized counties were 3.0 and 2.8, full 3.5 and 2.8, and non-centralized 7.0 and 4.9 (Figure No. 6). Full and partially centralized counties represent 56% of total counties while 44% are non-centralized (Figure No. 1).

The study proves there is a **direct causation** between the accounting structure and number of audit findings.

County Population and Accounting Structure

The study evaluated audit findings for small, medium, and larger populated counties and found that over the two five-year periods the annual average audit findings for smaller counties decreased from 7.2 to 4.6, a 36% decrease. Medium-sized counties experienced a smaller decrease from 3.2 to 2.9 while larger counties increased slightly from 2.8 to 3.1 (Figure No. 7A).

A further analysis of smaller populated counties comparing the 12 full and partially centralized vs. 32 non-centralized counties revealed that during the two five-year periods the annual average audit findings for full and partially centralized counties were 4.9 and 3.2 compared to non-centralized of 7.9 and 5.1. The overall difference in audit findings was that smaller populated counties who were non-centralized incurred 61% and 59% more audit findings than full and partially centralized counties during the two five-year periods before and after the start of the CCFO program (See Figure No. 7B).

The annual average audit findings for the smaller populated counties who are full or partially centralized showed a significant decline from 3.6 in FY 2020 to 1.8 in FY 2024, a 50% decrease. Non-centralized counties had a slower rate of decrease in audit findings from 5.2 in FY 2020 to 4.3 in FY 2024, or 18% (Figure No.7F).

During FY 2020 to 2024, the 12 smaller populated counties who are full or partially centralized incurred a five-year average annual audit findings of 3.2 compared to 2.8 for the total 53-county peer group of all fully or partially centralized systems including medium and larger size counties.

Causation

The data proves that county **population alone is not a causation factor** resulting in more audit findings. Smaller populated counties who have fully or partially centralized accounting systems have almost the same average number of audit findings as medium and larger sized counties.

Mayor's Department

In smaller populated counties the mayor's department with non-centralized accounting incurred 73% and 91% more audit findings than full or partially centralized systems during the two five-year periods. A further analysis for FY 2024 revealed that 10 non-centralized counties were responsible for 71% of the total mayor's audit findings for the 33 non-centralized smaller counties and 32% for all 95 counties state-wide (Figure No. 7C).

Causation

This could be attributed to mayor's bookkeepers in non-centralized counties who lack the education, skills, knowledge, and experience managing a multi-fund governmental accounting system. Bookkeepers often have little or no authority to enforce financial policies and procedures under this structure as they are not serving in a management role. This can result in ongoing audit findings leading to poor accounting practices and increased fraud risks due to the lack of segregation of duties.

School Department

During FY 2020 to 2024, five-year period non-centralized and full and partially centralized accounting structures of the 45 smaller populated school systems had the same average audit findings of .97 and .96 (Figure 7D).

Road Department

Audit findings for the road department in smaller populated counties operating both non-centralized and full and partially centralized systems are the lowest of the three main departments. Full and partially centralized smaller counties had almost no road department audit findings (Figure No. 7E).

Fraud

Of the five largest county frauds totaling $4,014,236 there were two in a full or partially centralized county which was $537,616, or 13%. The three other frauds were in non-centralized counties, and a constitutional fee office where financial operations are independent from the county finance department's internal controls (Figure No.8B).

Causation

Non-centralized accounting systems can **increase fraud risk**. This accounting system typically lacks enough qualified personnel to operate internal controls or provide adequate segregation of duties which is necessary to prevent, detect, and deter fraud.

Summary

The CTAS CCFO program is part of a journey and not a destination. County leaders should embrace Benjamin Franklin's wisdom that investing time and resources in employee training benefits not only the individual but the county.

CTAS Recommendation

We encourage non-centralized counties to adopt and implement some form of full or partially centralized accounting structure. For smaller populated counties we recommend full centralization. Implementing a centralized accounting structure can improve efficiencies, reduce audit findings and build trust with the public by helping county commissioners make better informed decisions. Centralized accounting can reduce fraud risk and create long-lasting institutional knowledge and financial management stability.

Result

Cannon County (pop. 14,506) is a good example of a smaller populated county that was previously non-centralized. After a voter referendum approval of the 1981 Financial System Management Act, the county implemented fully centralized accounting in FY 2021. Four years after implementing fully centralized accounting the county eliminated all audit findings and increased the general fund balance from $2.2 million in FY 2020 to $3.8 million in FY 2024. The finance department has three active CCFO certificate holders and has received the Tennessee Comptroller of the Treasury *Clean Audit Awards* for four consecutive years.

Final Conclusions

Full or partially centralized accounting combined with the CTAS CCFO program can reduce audit findings, fraud risks, and help build a stronger finance department to serve the citizens and county commission. The CTAS CCFO training program helps Tennessee county government better serve its citizens.

Appendix A: Tennessee County Population Categories: 2020 U.S. Census

Note: Counties highlighted in yellow operate fully or partially centralized accounting systems.

Small 0-30,000		Medium 30,000 – 65,000		Large 65,000 +	
Benton	15,864	Bedford	50,237	Anderson	77,123
Bledsoe	14,913	Campbell	39,272	Blount	135,280
Cannon	14,506	Carter	56,356	Bradley	108,620
Carroll	28,440	Cheatham	41,072	Davidson	715,884
Chester	17,341	Claiborne	32,043	Greene	70,152
Clay	7,581	Cocke	35,999	Hamilton	366,207
Crockett	13,911	Coffee	57,889	Knox	478,971
Decatur	11,435	Cumberland	61,145	Madison	98,823
DeKalb	20,080	Dickson	54,315	Maury	100,974
Fentress	18,489	Dyer	36,801	Montgomery	220,069
Grainger	23,527	Fayette	41,990	Putnam	79,854
Grundy	13,529	Franklin	42,774	Robertson	72,803
Hancock	6,662	Gibson	50,429	Rutherford	341,486
Hardeman	25,462	Giles	30,346	Sevier	98,380
Hardin	26,831	Hamblen	64,499	Shelby	929,744
Haywood	17,864	Hawkins	56,721	Sullivan	158,163
Henderson	27,842	Henry	32,199	Sumner	196,281
Hickman	24,925	Jefferson	54,683	Washington	133,001
Houston	8,283	Lawrence	44,159	Williamson	247,726
Humphreys	18,990	Lincoln	35,319	Wilson	147,737
Jackson	11,617	Loudon	54,886	**Total Counties**	**20**
Johnson	17,948	Marshall	34,318		
Lake	7,005	McMinn	53,276		
Lauderdale	25,143	Monroe	46,250		
Lewis	12,582	Obion	30,787		
Macon	25,216	Rhea	32,870		
Marion	28,837	Roane	53,404		
McNairy	25,866	Tipton	60,970		
Meigs	12,758	Warren	40,953		
Moore	6,461	Weakley	32,902		
Morgan	21,035	**Total Counties**	**30**		
Overton	22,511				
Perry	8,366				
Pickett	5,001				
Polk	17,544				
Scott	21,850				
Sequatchie	15,826				
Smith	19,904				
Stewart	13,657				
Trousdale	11,615				
Unicoi	17,928				
Union	19,802				
Van Buren	6,168				
Wayne	16,232				
White	25,841				
Total Counties	**45**				

Appendix B: Tennessee Counties by Accounting Structure

Fully Centralized	**Partially Centralized**	**Non-Centralized**
Anderson	Cheatham	Benton
Bedford	Cocke	Bledsoe
Blount	Coffee	Bradley
Campbell	Davidson	Carroll
Cannon	Dickson	Chester
Carter	Greene	Clay
Claiborne	Hamblen	Crockett
Cumberland	Hamilton	Decatur
Fentress	Hawkins	DeKalb
Franklin	Lawrence	Dyer
Giles	Marshall	Fayette
Henderson	Meigs	Gibson
Hickman	Montgomery	Grainger
Jefferson	Overton	Grundy
Johnson	Shelby	Hancock
Knox	Smith	Hardeman
Lincoln	Sumner	Hardin
Loudon	Washington	Haywood
Madison	Williamson	Henry
Maury	Wilson	Houston
McMinn	**Total: 20**	Humphreys
Monroe		Jackson
Morgan		Lake
Rhea		Lauderdale
Roane		Lewis
Robertson		Macon
Rutherford		Marion
Scott		McNairy
Sullivan		Moore
Union		Obion
Warren		Perry
Weakley		Pickett
White		Polk
Total: 33		Putnam
		Sequatchie
		Sevier
		Stewart
		Tipton
		Trousdale
		Unicoi
		Van Buren
		Wayne
		Total: 42

Source: Tennessee Comptroller of the Treasury, *Report on Centralized Budgeting, Accounting, and Purchasing Systems,* Jim Arnette, Director of Local Government Audit (LGA), July 23, 2024.

Authors' Biographies

John Sutton, MBA, CPA, Certified Professional in Training Management (CPTM) is the CTAS CCFO Program Manager and Instructor and has over 42 years' experience in Tennessee local governmental accounting, auditing, and financial reporting. John joined CTAS in July 2019 and previously he was a Senior Audit Manager with PUGH CPAs, an RSM McGladrey Alliance Firm, and with another local CPA firm both located in Knoxville, TN. He became a certified public accountant (CPA) in 1987 and spent 33 years in public accounting with a primary focus on auditing, accounting and consulting with cities, counties, utility districts, and other local governments. After graduating from Middle Tennessee State University in 1984 with a BBA major in accounting, he began his career as a staff auditor with the Tennessee Comptroller of the Treasury - Division of Local Government Audit. In 2024 John earned his MBA from the University of Tennessee at Martin with the distinction of being one of the oldest graduates.

John's grandfather John H. Howe was the Hawkins County TN Sheriff during the 1930s and his uncle J.B. Howe was the Hawkins County Mayor from 1966 to 1985.

He is a scholar of U.S. military history and is an eighth-generation East Tennessean and has been married to Cynthia Dockery for over 32 years. Their oldest daughter Savannah is a graduate from the University of Tennessee at Chattanooga and works in the Anderson County finance department. Their youngest daughter Sophie is a graduate of Austin Peay State University and is currently pursuing her master's degree at Western Kentucky University. John and his wife reside in Knox County.

Brandon Marks, MBA, CPA, is a CTAS CCFO Training Instructor and Finance and Accounting Consultant who joined CTAS in March 2022. Previously, Brandon served as a legislative auditor with the Tennessee Comptroller of the Treasury's Division of Local Government Audit (LGA) for nine years.

Brandon holds a BS in Business Administration with a major in accounting from the University of North Alabama and earned his MBA from Tennessee Technological University in 2012. In 2025, he became a licensed Certified Public Accountant (CPA).

Originally from Lawrence County, Brandon lives with his wife, Elissa, in Hamilton County.