



# Office of the State Controller

## OFFICIAL MEMORANDUM

**To:** Chief Fiscal Officers, Vice Chancellors, and Business Managers

**From:** Dr. Linda Combs, State Controller *Linda Combs*

**Date:** October 25, 2019

**Subject:** 2019 OSC Financial Conference

I am pleased to announce that on December 10, 2019, the Office of the State Controller will hold its annual Financial Conference for Chief Fiscal Officers and agency designated representatives at NCSU's McKimmon Center in Raleigh. This year's conference will include topics such as the fiscal condition of states, economic outlook for the State and nation, issues affecting the accounting profession, State Controller updates, cybersecurity, and professional development.

In addition, the recipients of the State Controller Fiscal Integrity Award and the Internal Audit Award of Excellence will be announced during the conference. Attendance will qualify for up to eight hours of CPE credit. The course announcement is attached for your review. Instructor biographies are available on [OSC's website](#).

The registration fee is **\$70 per attendee** and includes breakfast and a buffet lunch. To register for this conference, visit the Office of the State Controller's website at <https://www.osc.nc.gov/training/cpe-events/2019-osc-financial-conference>. Please register as soon as possible as the **registration deadline is Monday, December 2, 2019. Payments must be made on or before this date.** After this date, no requests for refunds will be considered.

Payment can be made by credit card or electronic transfer in the Cash Management Control System (CMCS) to the **Office of the State Controller**. Agencies should register attendees individually (with separate email addresses). Agencies using CMCS can submit one payment to cover all registration fees if all necessary notations have been made.

If you are paying by electronic transfer, please follow the instructions below:

- **NCAS agencies:** Use IGO vendor number 561611588-03. For the cash management transfer – in the description or remit message line you must include the following for proper processing: Attendee full name; Reference 2019 OSC Financial Conference.
- **Non-NCAS agencies paying through CMCS:** Use department code 4161 for payment – in the description or remit message line you must include the following for proper processing: Attendee full name; Reference 2019 OSC Financial Conference.

If you have questions, please contact Jan Prevo at [jan.prevo@osc.nc.gov](mailto:jan.prevo@osc.nc.gov) or 919-707-0714. We look forward to your participation in the conference and thank you for your service to our State.

Attachment

SA 20-20

DR. LINDA COMBS, STATE CONTROLLER  
MAILING ADDRESS: 1410 Mail Service Center, Raleigh, North Carolina 27699-1410  
STREET ADDRESS: 3512 Bush Street, Raleigh, North Carolina 27609  
Phone (919) 707-0500  
<http://www.osc.nc.gov> -- An EEO/AA/AWD Employer



## 2019 OSC Financial Conference

### Continuing Professional Education

#### North Carolina Office of the State Controller

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- Date:** December 10, 2019  
8:15 a.m. to 4:45 p.m.
- Location:** The McKimmon Conference and Training Center  
N.C. State University  
1101 Gorman Street  
Raleigh, NC 27606
- Objective:** To offer training on recent topics of interest to Chief Fiscal Officers and agency representatives including the fiscal condition of state governments, the State and national economic outlook, issues affecting the accounting profession, State Controller updates, cybersecurity, and professional development.
- Content:**
- Fiscal Condition of the States
  - Issues Affecting the Accounting Profession
  - Economic Update
  - State Controller Updates
  - Cybersecurity Threats and Mitigation
  - Professional Development
- Instructors:** Stacey Mazer – Senior Staff Associate, NASBO  
Sharon Bryson – Chief Executive Officer, NCACPA  
Dr. Michael Walden – Professor and Extension Economist, N.C. State University  
David Lloyd – Program Director Financial Backbone Replacement Program, Office of the State Controller  
Clayton Darnell – Business Lead Financial Backbone Replacement Program, Office of the State Controller  
Sandra Fields – Application Systems Manager, Office of the State Controller  
Seth Barun – Cyber/Mission Command Branch Chief, NC National Guard  
Michael Euliss – Communications/Government Relations/Training Director, Office of the State Controller
- CPE Credit Offered:** Eight hours
- Materials:** Will be available in advance on the OSC web page
- Teaching Method:** Lecture
- Breakfast:** Available beginning at 7:30 a.m. (scrambled eggs, bacon, potatoes, and pastries)
- Lunch:** 12:00 p.m. – 1:00 p.m. (barbeque, fried chicken, sides, and dessert)
- Prerequisites:** Employed by a State agency or institution that is part of the State financial reporting entity (i.e., an entity included in the State’s Comprehensive Annual Financial Report)
- Advance Preparation:** None
- Level:** Basic
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**DEVELOPERS:** [NASBO](#), [NCACPA](#), [NCSU](#), [NC Office of the State Controller](#), [NC National Guard](#)

**SPONSOR:** [NC Office of the State Controller](#)



# AGENDA

## *OSC Financial Conference*

December 10, 2019

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- 8:15 – 8:20 Call to Order – Michael Euliss, Office of the State Controller, Communications/Government Relations/Training Director
- 8:20 – 8:30 Opening Remarks – Dr. Linda Combs, State Controller
- 8:30 – 9:30 Fiscal Condition of the States – Stacey Mazer, National Association of State Budget Officers (NASBO) Senior Staff Associate
- 9:30 – 9:40 Internal Audit Award of Excellence Presentation – Beth Wood, State Auditor  
Fiscal Integrity Award Presentation – Dr. Linda Combs, State Controller
- 9:40 – 10:00 Break
- 10:00 – 11:00 Focus on the Profession – Sharon Bryson, North Carolina Association of Certified Public Accountants Chief Executive Officer
- 11:00 – 12:00 Economic Update – Dr. Michael Walden, N.C. State University
- 12:00 – 1:00 Lunch
- 1:00 – 1:05 Call to Order – Michael Euliss, Office of the State Controller
- 1:05 – 1:35 The Gift–Part 1 – Michael Euliss, Office of the State Controller
- 1:35 – 2:25 Office of the State Controller Updates  
Financial Backbone Replacement Project – David Lloyd, OSC FBR Program Director and Clayton Darnell, OSC FBR Program Business Lead  
XNET/XTND Replacement Demo – Sandra Fields, OSC Application Systems Manager
- 2:25 – 2:45 Break
- 2:45 – 3:45 Current Cyber Security Threats and Mitigation Techniques – Seth Barun, North Carolina National Guard Cyber/Mission Command Branch Chief
- 3:45 – 4:45 The Gift–Part 2 – Michael Euliss, Office of the State Controller  
Closing Remarks – Michael Euliss, Office of the State Controller

Upcoming Training Dates:

June 4, 2020 – 2020 Governmental Accounting Update

December 16, 2020 – 2020 OSC Financial Conference

**BIOGRAPHICAL SUMMARY**

7 Nov 2019

**BARUN, SETH A.**  
LTC, SC, ARNGUS

**Date and Place of Birth:** 27 May 1977, Denver, CO

**Mandatory Removal Date:** 02 June 2024

**Home Address:** 280 W Rhode Island Ave, Southern Pines, NC 28387

**Home Phone:** (630) 561-4716

**Email Address:** seth.a.barun.mil@mail.mil

**Present Assignment:** Chief, Cyber Operations

**Unit Telephone:** (984) 664-6950

**Enlisted Service:** N/A

**Commission:** United States Air Force Academy, Colorado Springs, CO, 2 June 1999

**Years of Commissioned Service:** 20 years

**Total Years of Service:** 20 years

**Military Education:**

**Year Completed:**

US Air Force Academy	1999
US Air Force Aerospace Basic Course	1999
US Air Force Undergraduate Space and Missile Training	2000
US Air Force 4 <sup>th</sup> Space Operations Satellite Mission Control School	2000
US Army Battalion/Brigade S6 Officer Course	2009
US Army Contractor Officer Representative Course	2011
US Army Signal Captain's Career Course	2013
US Army Command and General Staff Officer Course	2018

**Civilian Education:**

**Year Received:**

Waubonsie Valley High School, Aurora, IL	High School Diploma	1995
US Air Force Academy, Colorado Springs, CO	BS, Social Sciences	1999
Purdue University, Davenport, IA	MS, Information Technology	2016

**Civilian Affiliations:**

North Carolina National Guard Association

**US Decorations/Badges:**

- Bronze Star Medal
- Meritorious Service Medal
- Air Force Commendation Medal
- Army Commendation Medal
- Air Force Achievement Medal
- Army Achievement Medal

## SETH A. BARUN, LTC

Army Reserve Components Achievement Medal  
National Defense Service Medal, with 1 Bronze Service Star Device  
Afghanistan Campaign Medal  
Global War on Terrorism Medal  
Air and Space Campaign Medal  
Air Force Longevity Ribbon, with 1 Oak Leaf Cluster  
Armed Forces Reserve Medal w/ M Device  
Army Service Ribbon  
Army Overseas Service Ribbon  
Air Force Training Ribbon  
NATO/ISAF Medal  
SC Achievement Ribbon  
NC State Service Ribbon  
Basic Space and Missile Badge

### Chronological list of Appointments:

<u>Rank/Grade</u>	<u>DMOS/Branch</u>	<u>Component</u>	<u>Date</u>
Cadet	NMOSQ	USAFA	18 June 1995
Second Lieutenant/O-1	13S3A	Active Air Force	02 June 1999
First Lieutenant/O-2	13S3A	Active Air Force	02 June 2001
Captain/O-3	13S3A	Active Air Force	02 June 2003
Captain/O-3	25A/SC	NC National Guard	26 Feb 2009
Major/O-4	25A/SC	NC National Guard	30 May 2014
LTC/O-5	25A/SC	NC National Guard	30 May 2019

### Chronological Record of Duty Assignments:

<u>Date</u>	<u>Status</u>	<u>Duty Assignment (Position, Unit, Location)</u>
10/18-Present	Active Duty	Chief, Cyber Operations
09/12-10/18	NCARNG M-Day	Brigade S6 (25A), 130 <sup>th</sup> MEB, Charlotte, NC
01/10-09/12	NCARNG M-Day	Company Commander (25A), 295 <sup>th</sup> SNSC, Charlotte, NC
02/09-12/10	NCARNG Mob	Battalion S6 (25A), 105 <sup>th</sup> EN BN, Raeford, NC
06/04-02/09	Inactive	Inactive Ready Reserve
04/03-04/04	Active Duty	Chief, MILSTAR Mobile Satellite Operations (13S3A) USAF- 4 <sup>th</sup> Space Operations Squadron, Schriever AFB, CO
01/03-04/04	Active Duty	Instructor, MILSTAR Satellite Control Crew Commander (13S3A) USAF- 4 <sup>th</sup> Space Operations Squadron, Schriever AFB, CO
05/00-01/03	Active Duty	MILSTAR Mobile Satellite Mission Control Operator (13S3A) USAF- 4 <sup>th</sup> Space Operations Squadron, Schriever AFB, CO
01/00-05/00	Active Duty	USAF 4 <sup>th</sup> Space Operations Satellite Mission Control School (13S3A) USAF- 392 <sup>nd</sup> Training Squadron, Vandenberg AFB, CA
06/99-01/00	Active Duty	USAF Undergraduate Space and Missile Training (13S3X) USAF- 392 <sup>nd</sup> Training Squadron, Vandenberg AFB, CA

# Cyber Security Outreach

NCNG Cyber Security Response Force



# Agenda

- Security Trends
- Cyber Threats
- Cyber Incident Handling
- Open Forum



# SECURITY TRENDS

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# Observations from recent events

- Organizations do not have an accurate network topology
  - Unknown number of devices
  - IP range and scope lacks oversight
  - Often a result of turnover and changing priorities
- Network configuration does not implement security standards
  - Network is not segmented to keep high value targets behind stronger security controls
  - Devices can talk to other devices without a business need (i.e. internal servers can reach the internet without valid need)
- Security devices are misconfigured
  - Firewalls are in place but either not configured correctly or not monitored
  - End user device security (i.e. McAfee, Symantec) not enabled or not configured



# Observations from recent events

- End of life equipment/software still being utilized
  - Outdated operating systems used to support legacy software
  - Outdated or unpatched third party software
  - Old hardware that no longer meets security standards
- Security logs only extend back a short time period
  - Limited log access makes it difficult to pin down root cause analysis
  - Hard to validate if backups are safe without known entry point of attack
- Focus on availability more than security
  - Organizations that are under-staffed prioritize system up-time over security
  - Risk is often unknown or unclear to senior management
  - If security is an additional duty, it usually gets skipped due to higher priority taskings



# Observations from recent events

- System patching not done regularly
  - Attacks are taking advantage of known vulnerabilities
  - Critical vulnerabilities still exist on some networks for more than two years
  - SysAdmins afraid to patch for fear of breaking systems and do not have a test environment
  - Organizations lack patching policy or vulnerability scan review
- Cloud services are not a fix-all solution
  - Organizations need to understand who has responsibility for maintenance and security implementation based on services rendered
  - Cloud environment still requires updates and patching
- Poor cyber hygiene
  - Accounts with admin privileges accessing the internet
  - Anonymous privilege accounts used by third parties/vendors
  - Regular users accessing admin credentials to run out of date applications



# CYBER THREATS

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C:\Documents and Settings\run
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# Cyber Threats

- Cyber crime is the use of Internet services or software with Internet access to defraud victims or to otherwise take advantage of them
  - Business E-mail Compromise
  - Data Breach
  - Denial of Service
  - Malware/Scareware
  - Phishing/Spoofing
  - Ransomware



# Cyber Crime Impact

- 137 million new malware samples in 2018
- Over 50% of devices that got infected were re-infected in the same year
- Cybercrime accounts for more than 50% of all crimes in the UK
- One attack every 39 seconds
- 92% of malware delivered by email
- Average ransomware attack cost company \$5M
- 61% of organizations have experienced a cyber security incident
- On average, it takes 191 days to identify cyber breach



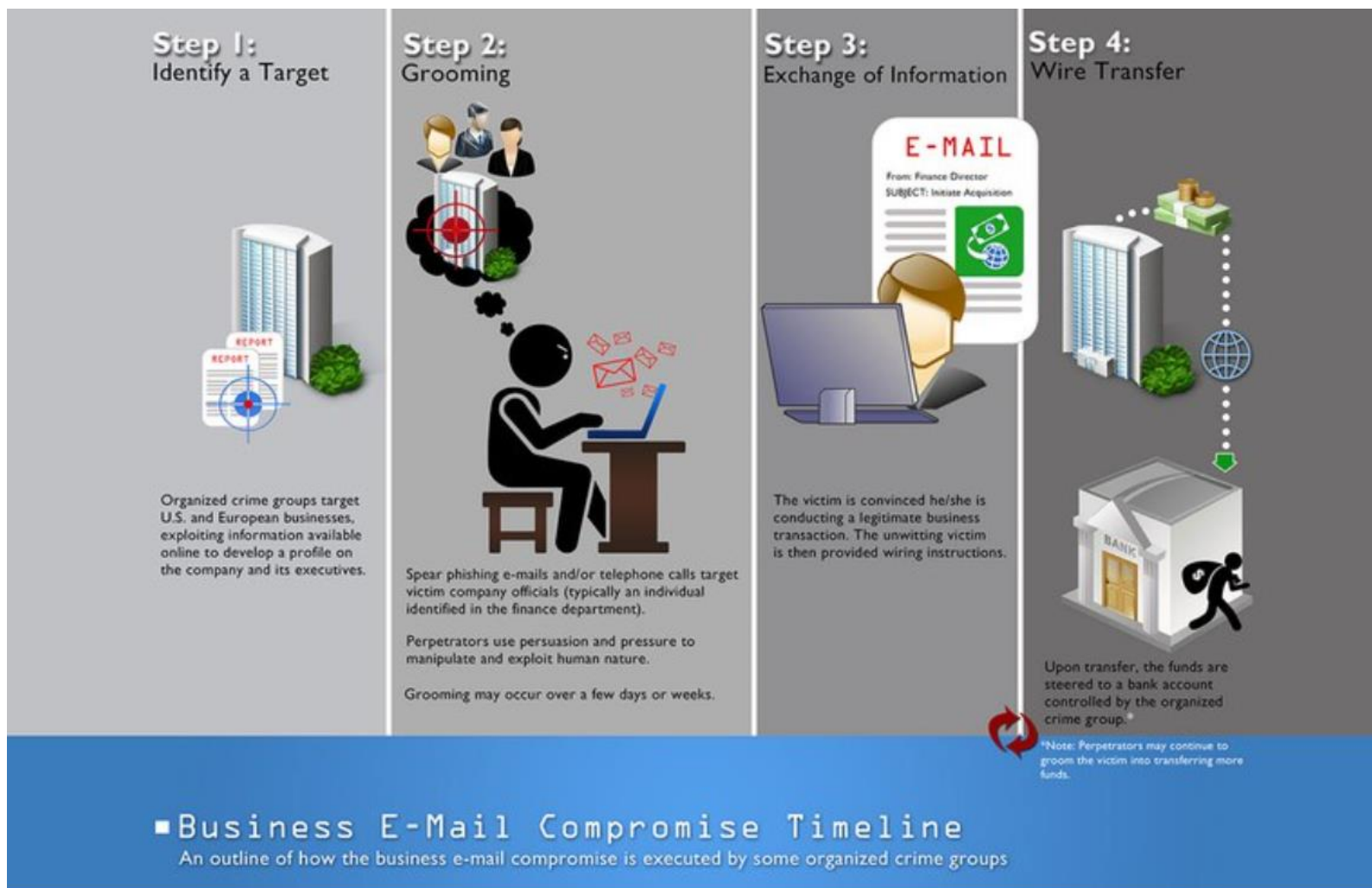
# Business Email Compromise

- As of 2015, BEC losses exceed \$3B
- Carried out by large criminal organizations
- Target is finances of companies
- Scam tries to get companies to perform wire transfers using existing partnerships
- Sophisticated attacks employ lawyers, social engineers, hackers
- CEO impersonator attacks
- Malware utilized through spear-phishing





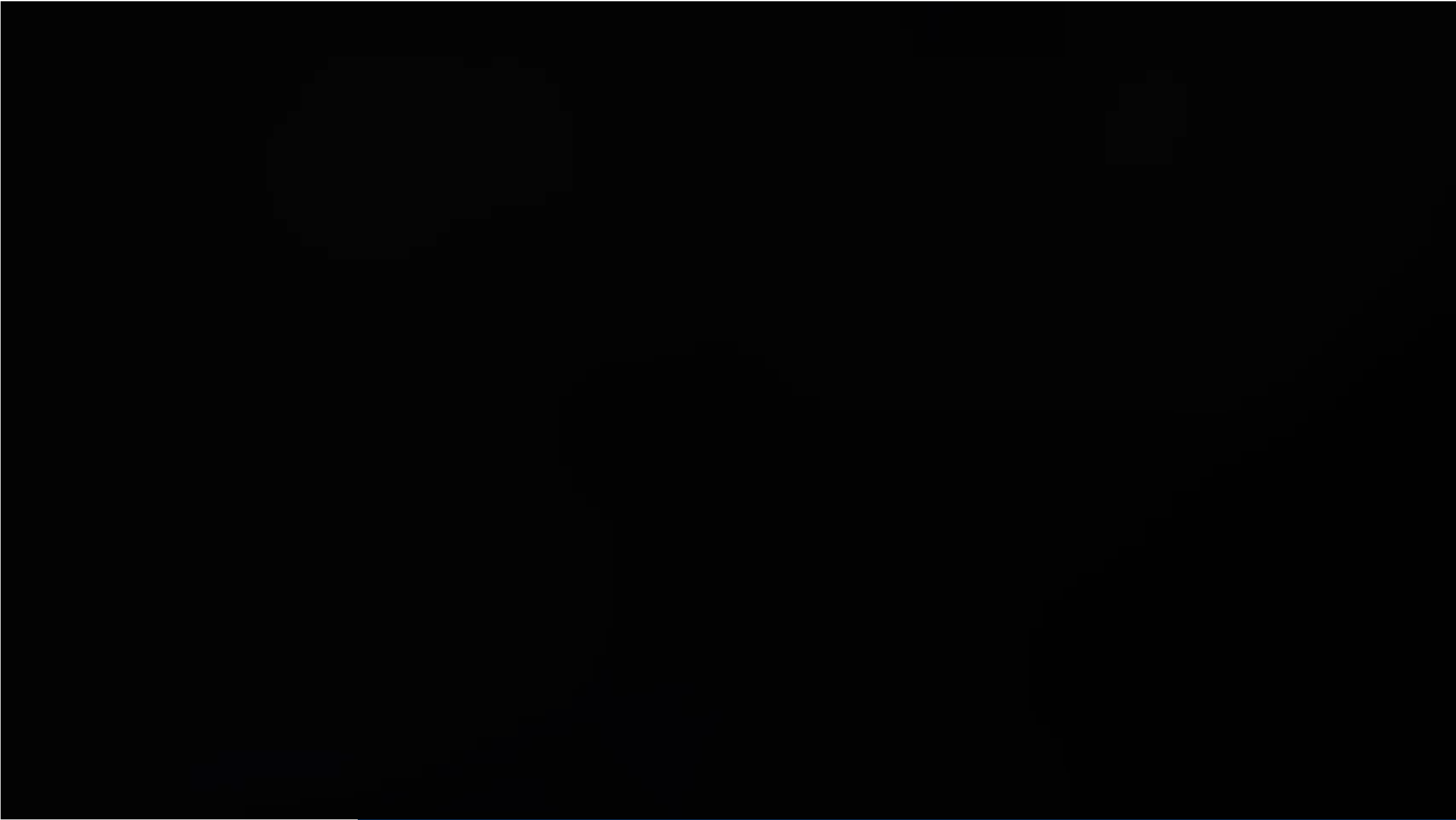
# Business Email Compromise Steps



# Business Email Compromise Prevention

- Safeguards against email only directives
- Employee training
- Intrusion detection systems on email
- Two-factor authentication for changes in payments
- Multiple verifications for wire transfers





# Scoular Co

- Attack targeted company corporate controller
- Emails appeared to originate from CEO, but not from normal company email
- Emails refer to secret international deal and should be kept private to avoid SEC regulations
- Controller then received email from accounting firm with wire instructions that appeared to be from real accounting firm
- Sophisticated research done to understand corporate structure and payment patterns
- More than \$17.2M wired to bank in China



# Data Breach

- Incident in which information is stolen or taken from a system without authorization
- Information can be financial, personal, proprietary...
- Often results in financial loss, as well as a betrayal of trust perception
- Multiple types of data breaches
  - Hacking
  - Malware
  - Phishing
  - Insider Attack
  - Human Error



# Data Breach Cycle



# Data Breach Prevention

- Patch systems and networks
- Implement security standards and monitor activity
- Educate and enforce policies
- Perform regular audits and assessments
- Develop and practice disaster recovery plan



# Target

- Attack started on Nov 27, 2013 and discovered on Dec 13, 2013
- 110M shoppers had information compromised
- 11GB data taken from network
- Microsoft website details Target's technical infrastructure, including POS information
- Third party vendor (Fazio Mechanical) compromised through phishing email installed malware which stole credentials
- Enterprise anti-malware would have discovered malware (Citadel), free version did not
- Web portal then compromised, alert of possible malware went unnoticed
- Servers and then POS systems compromised through multiple vulnerabilities





# Denial of Service

- Attack prevents users from being able to access systems, services, devices, or network
- Most common attack is a flood of network server to the point of overload
- Distributed Denial of Service (DDOS) uses multiple machines to attack a target
  - Usually hijacked machines
  - Makes finding source very difficult
  - Can be traded between hackers



# Denial of Service Prevention

- Use and maintain antivirus software
- Keep firewall updated and configured correctly
- Monitor network traffic
- Use DoS protection services
- Create and practice disaster recovery plan



# Rio Olympics

- Sep 2015, multiple organizations affiliated with Olympics started receiving DDOS attacks
- LizardStresser is a DDOS-for-hire service that previously took down Xbox Live and Sony Playstation networks
- Utilized botnets to send up to 540Gbps attacks to flood network
- Arbor Networks had done network baselines and understood traffic prior to attacks
- Knowledge allowed them to mitigate attacks



# Malware/Scareware

- Malware is short for malicious software
- Designed to gain access to or damage a computer
- Multiple types
  - Spyware-monitor activities
  - Viruses-usually harmful activities such as data destruction
  - Backdoors-allows for unauthorized access to systems
  - Trojan horse-hidden software that looks normal that can be destructive or provide access
  - Adware-installs forced advertising or additional browsers
- Scareware tries to trick you into buying fake or unnecessary software such as antivirus which will then install additional malware



# Malware Prevention

- Anti-virus software is critical
- Keep anti-virus updated
- Ensure browser is updates
- Be conscious of emails with attachments or links
- Keep computer updated
- Don't plug unknown devices into computer





# Stuxnet

- Worm that targeted Programmable Logic Controllers built by Siemens
- Iran used the PCLs in their nuclear centrifuges
- Worm designed to speed up centrifuges past tolerance, causing them to shatter
- Worm had three parts
  - Execute payload
  - Spread the worm
  - Hide all evidence
- Introduced via USB to bridge Air Gap
- Accidentally spread outside of Natanz facilities



# Phishing/Spoofing

- Email or instant message that tries to obtain sensitive information
- Social engineering process that can appear to be from trusted sites or senders
- Multiple types
  - Spear phishing targets specific individuals
  - Whaling targets senior executives or high-profile targets
  - Clone phishing uses a previous email to make malicious identical email
  - Link manipulation changes the URL just enough to appear legitimate
  - Website forgery uses code to appear to be the correct website





# Phishing Prevention

- **User training**
- Spam filter rules
- Safe browsing services
- Multi-factor authentication



# Operation Phish Phry

- Egyptians set up phishing scam that sent emails to people getting them to log into their bank accounts
- The link in the email went to a fake site that stole the credentials
- Only used banks that did not have two-factor authentication
- Egyptians sent credentials to criminals in California, who opened bank accounts at the same institutions, then transferred money from the compromised accounts
- Money then wired to Egypt
- Involved more than 100 people and \$1.5M



# Ransomware

- 39% of global data breaches caused by malware attributed to ransomware
- Malware that encrypts data or threatens to publish data unless ransom is paid
- Ransomware usually is the last step in a larger breach
  - First step is usually a credential theft malware
  - Second step is to spread malware throughout network
  - Third step is to steal data/information
  - Fourth step is to encrypt systems
- Should you pay the ransom?
  - Attackers will almost always send the decryption key once they receive money
  - They still have access to the system, administrator accounts, networks
  - The only real way to ensure attackers are gone is to rebuild the systems



# Ransomware Prevention

- Employee training
- Keep your systems patched and updated
- Segment the network
- Enforce smart security policies
- Pay attention to system logs and network traffic
- Use proper backup procedures, including validation and keeping them offsite



# Baltimore

- Ransomware victim that will cost more than \$18M
- RobbinHood variant of ransomware, same used in Greenville, NC
- Hackers asked for \$76,280 which city refused to pay
- Second attack in two years
- Speculation around how attack happened either exploited unpatched server or phishing email
- EternalBlue is suspected to have been used in attack in some way





# Unnamed Agency

- Agency noticed unusual activity from an administrator account
- Agency tried to isolate activity of user
- When specific unknown IP addresses were identified, they were blocked at the firewall
- Blocking the beaconing triggered the encryption protocol which then encrypted their entire infrastructure, including backups
- Agency then received popup message on systems with two email addresses
- Agency breach traced back to administrator allowing user access to admin credentials to run application
- Breach traced back at least four weeks prior to encryption



# Prevention Trends

- Employee Training
- System patching and maintenance
- Security Policies
- Incident Response Plan
- Use your tools correctly





# OPEN FORUM

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Sharon H. Bryson, M.Ed.  
Chief Executive Officer

As CEO of the NC Association of CPAs, Sharon Bryson works closely with the Board of Directors and the Executive Committee to help set the direction of the Association. In addition to working with the NCACPA Taxation Committee, she also represents the membership with the NC State Board of CPA Examiners, the NC Department of Revenue, the North Carolina General Assembly, and various other advocacy entities.

Sharon is a Past President of the Association Executives of North Carolina, and currently serves as a member of the AICPA National Commission on Diversity & Inclusion, the NC State Master of Accounting Advisory Board, the Louisburg College Board of Trustees, and the ECU College of Business Advisory Board. Sharon received both her undergraduate and graduate degrees from the University of North Carolina.



# FOCUS ON THE PROFESSION

2019 OSC Financial Conference

Sharon Bryson, M.Ed., CEO  
NC Association of CPAs

December 10, 2019  
Raleigh, North Carolina

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## Today's Session

- Who is NCACPA?
- Advocacy & Awareness
  - Changes to CPE regulations in North Carolina
- Have you heard...the profession is changing?
  - Change in desired skillsets
  - Impact on demand for CPAs
  - CPA Evolution
- Resources for YOU and the profession!



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## Who is NCACPA?

The North Carolina Association of CPAs is the only statewide association for CPAs in North Carolina.

### VISION

To be the essential resource for the North Carolina CPA.

### MISSION

NCACPA promotes the competence, integrity, civic responsibility, and success of North Carolina CPAs.



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# Advocating for YOU

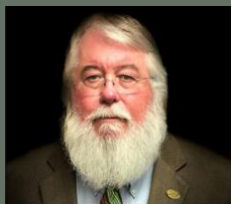
- NC General Assembly
- NC Department of Revenue
- Governor's Office
- NC State Board of CPA Examiners
- State Auditor's Office
- State Treasurer's Office



*ncaCPA*

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## NC STATE BOARD of CPA EXAMINERS



Barton W. Baldwin, CPA



Bernita W. Demery, CPA



Jennifer K. Van Zant, Esq.

- State Board member appointments
- Rule-making changes
- Disciplinary matters
- CPE compliance
- Joint Task Force approach



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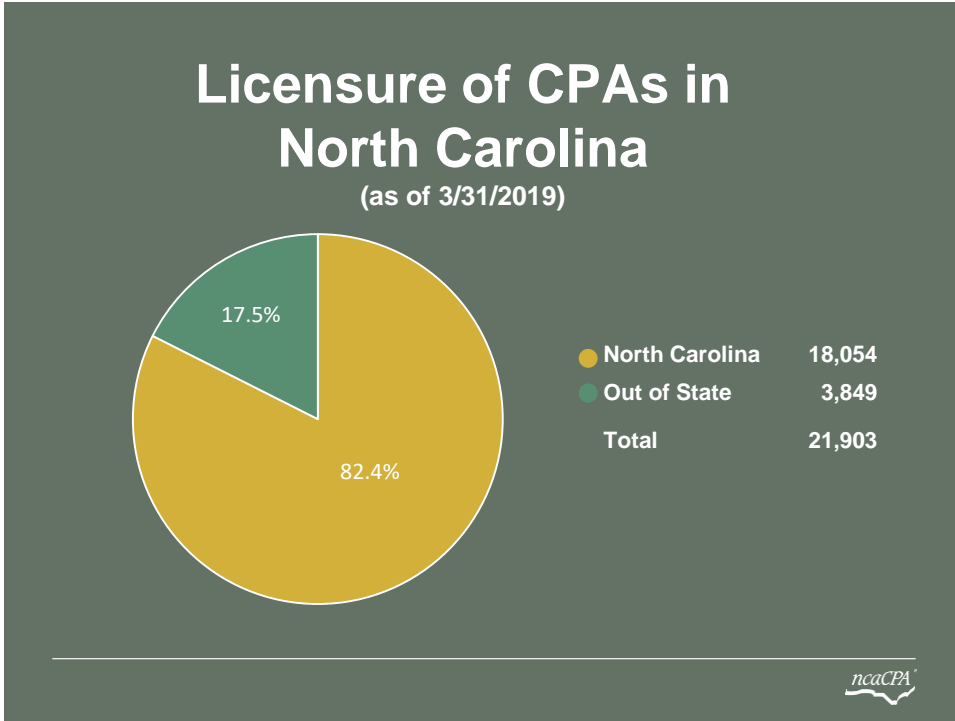
## Did someone say CPE rules are changing?



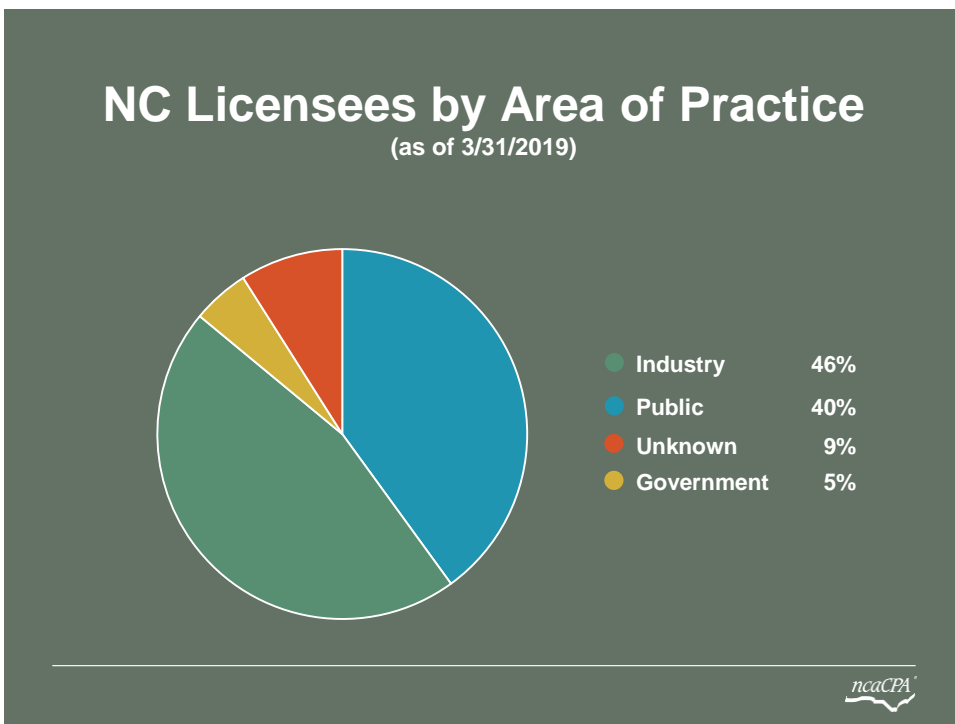
- CPE hours to contact minutes
- Ethics – from 2 to 1 hour
- Expansion to allow more educators to claim credit
- Nano learning now allowed



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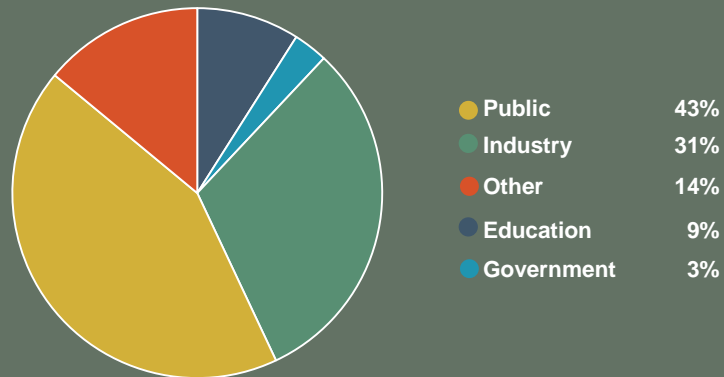


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## NCACPA Members' Area of Practice (as of 3/31/2019)



*ncacpa*

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## NC Department of Revenue

- Business Advisory Council led by Secretary Penny
  - NCACPA representatives selected:
    - Jack Schmoll
    - Ken Gibbs
    - Desmond Sheridan
    - David Oettinger
  - Analyzing issues that fall under jurisdiction of DoR

*ncacpa*

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## Legislative Updates

- ***HB 924 Teacher Contract Changes***
  - Signed into law July 8, 2019
  - Specific provision requires NC high school students to pass a course on economics and personal finance in order to graduate
  - NCACPA delivered letters to General Assembly in late April supporting passage



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## Legislative Updates

### ***Senate Bill 557: Various Finance Law Changes***

- Increases standard deduction
- ***Enacts market-based sourcing***
- Imposes state sales tax on marketplace facilitators
- Requires Revenue Laws Study Commission to study tax sunset provisions
- ***Requires Department of Revenue (DoR) to update systems to send relevant notices to taxpayers & designated power of attorney (POA)***



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## From Capital to Capitol



ncaCPA

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## TAX ADVOCACY

- Disaster relief
- IRS Practitioner Services Division
- Fiscal State of the Nation

**“I’m aware of it.  
I’m sensitive  
to it. And I  
understand  
the need for  
it.”**

–IRS Commissioner Charles Rettig on the  
creation of an IRS Practitioner Services Division

ncaCPA

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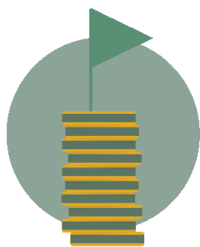
## NCACPA Advocacy – What's Next?

- Advocacy Advisory Council
  - Discussing policy priorities for 2020 NC General Assembly "short session"
- New & enhanced educational resources for members
- NC CPA Political Action Committee fundraising
- Constituent meetings with legislators in December



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**If each NCACPA member  
donated \$20.20 to the NC CPA  
PAC, we would have \$282,000.**



**Support our fundraising goal  
of \$50,000 for the 2020  
election cycle by making a  
contribution of \$20.20!**

*[ncacpa.org/nc-cpa-pac](http://ncacpa.org/nc-cpa-pac)*



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# Changes in the Profession



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Every company  
is *reimagining*  
who they are.



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## 2000 Top 10 best global brands

Source: Interbrand

According to Interbrand:

	—	Beverages
	—	Technology
	—	Business services
	—	Technology
	—	Technology
	—	Diversified
	—	Automotive
	—	Media
	—	Restaurants
	—	Telecommunications





*ncaCPA*

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## 2018 Top 10 best global brands

Source: Interbrand

According to Interbrand:

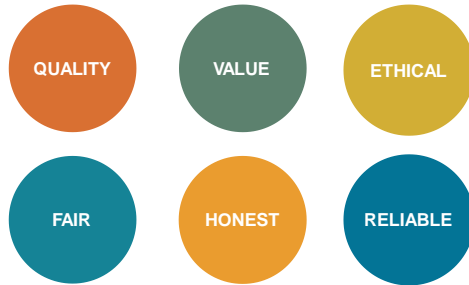
	—	Technology
	—	Technology
	—	Retail (Technology)
	—	Technology
	—	Beverages
	—	Technology
	—	Automotive
	—	Automotive
	—	Technology
	—	Restaurants

*ncaCPA*

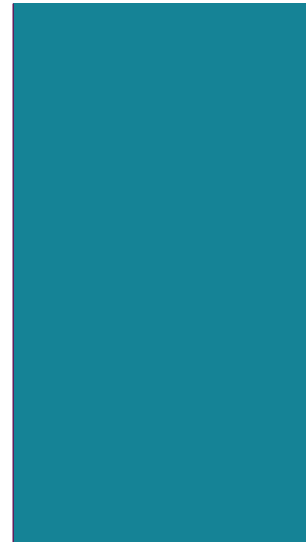
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## CPA BRAND IS STRONG

### Top perceived attributes



Source: Reputation Institute



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## DIGITAL RISK AND EMERGING ASSURANCE SERVICES

Cyber crime damages are predicted to cost the world **\$6 trillion** annually by 2021.

**System and Organization Controls (SOC) Services:**

- Cybersecurity
- Supply chain



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## CREATING AND DEMONSTRATING VALUE



**98%** of executives believe broader **non-financial factors** are important to **long-term value** creation

Source: Black Sun, IIRC, Association



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## The job landscape in 2022

Global  
change by  
2022



Source: Future of Jobs Report 2018, World Economic Forum

### Top 10 emerging roles

1. Data analysts and scientists
2. AI and machine learning specialists
3. General and operations managers
4. Software and applications developers and analysts
5. Sales and marketing professionals
6. Big data specialists
7. Digital transformation specialists
8. New technology specialists
9. Organizational development specialists
10. Information technology services



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## U.S. public accounting firm hiring

In 2016, there were

19% ↓

fewer accounting  
graduate firm hires since  
2014

Source: 2017 AICPA Trends Report

In 2018, there were

29% ↓

fewer accounting  
graduate firm hires since  
2014

Source: 2019 AICPA Trends Report

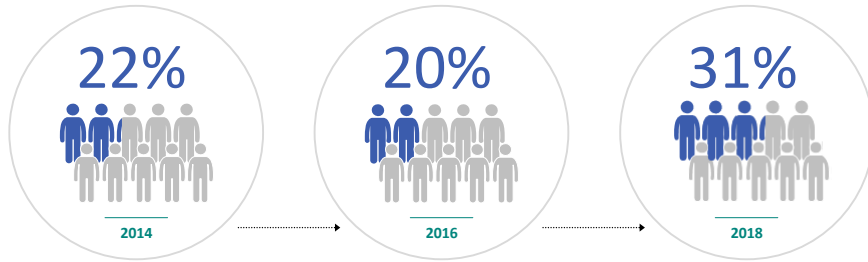


30

## Non-accounting graduate degree hires



Non-accounting hires as a percentage of all new graduate hires are up 11%.



● Non-accounting graduates



31

# CPA Pipeline



32



**LEAD BY  
HAVING THE RIGHT TALENT**



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## **YOUNG CPA CONCERNS:**

- Focused on Work Environment
- Diversity
- Community
- Leaders Who Coach & Mentor
- Technology
- Flexibility



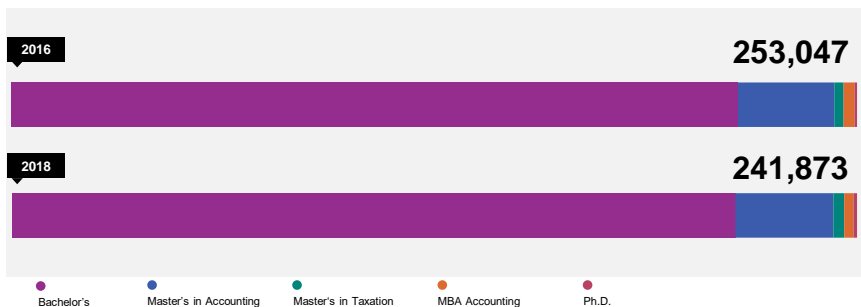
34

## Accounting enrollments

Supply Demand

Total projected accounting enrollments are down 4% from the record highs of 2016 but are still among the highest.

 **Total enrollments**

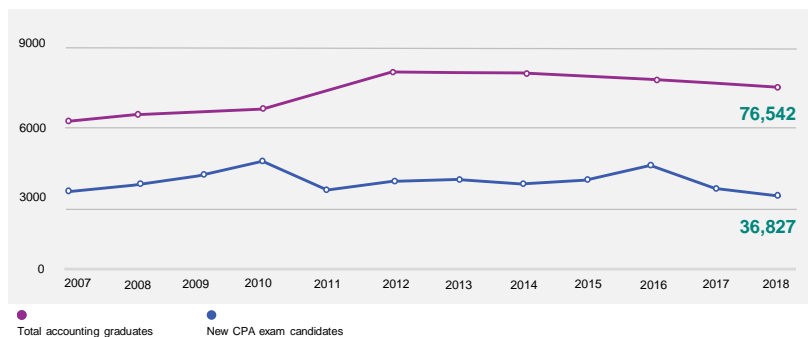


35

## Accounting graduates vs. new examinees

Supply Demand

After the 2016 increase in CPA Exam candidates, attributed to new version of the Uniform CPA Exam that launched in 2017, the number has dipped to its lowest level in 10 years.



2019 Trends / The supply of accounting graduates and the demand for public accounting recruits



36

5.1 Trends in number of new CPA candidates by year | 2006-18



Source: 2019 AICPA Trends Report, Section 06: Uniform CPA Examination®



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## Pipeline Behavior

### Public Accounting



85-90% sit for the CPA exam, and 85-90% of those eventually pass the exam.

### Business & Industry



15% sit for the CPA exam, and only 50% of those eventually pass the CPA exam.



38



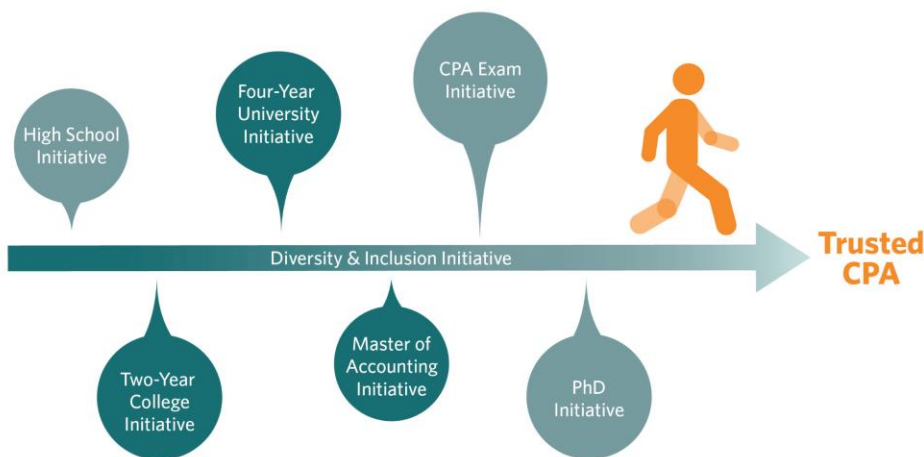
The CPA Profession is Facing a Talent Shortage,  
and these key factors are affecting our talent pool:

**Competition**      **Cost**      **Teacher Shortage**  
**Insufficient Supply**      **Diversity Deficiency**



39

## The Solution Starts Now



40

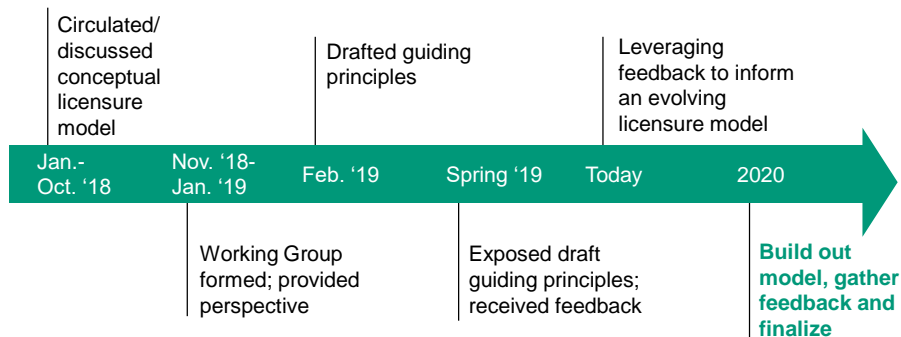
**CPA Evolution**

A combined NASBA-AICPA initiative aimed at evolving CPA licensure to reflect the skills and knowledge CPAs increasingly need in a technology-driven marketplace

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### CPA Evolution progress



42

## Guiding Principles

- We must adapt quickly
- Technological expertise is essential
- Licensure requires rethinking
- We must expand our view of the CPA candidate
  - All must demonstrate core competencies
- Change should be rapid yet deliberate



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## AICPA and NASBA stakeholder outreach

AICPA Council	State CPA societies	Boards of Accountancy	General membership
Firms of all sizes	Academia	Volunteer committees	Federal regulators
Students	Technology experts	CPAs in business and industry	Young professionals



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## Support for:



Need to change



Bigger technology emphasis

## A model that will:



Position CPA for the future



Bring needed skills to the profession



Protect the public interest

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## What AICPA and NASBA heard

### Focus on...

- A core that includes accounting, auditing, tax and technology
- Education that aligns with the core
- Experience requirements that support audit quality
- Supporting existing CPAs
  - Reskilling
  - Promoting emerging services

**...while developing appropriate messaging to modify licensure in current environment**



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Body of knowledge for newly licensed CPAs is growing...



*Compared to 1980, today there are:*

**3X** as many pages in the  
Internal Revenue Code

**4X** as many accounting standards

**5X** as many auditing standards



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Body of knowledge for newly licensed CPAs is growing...



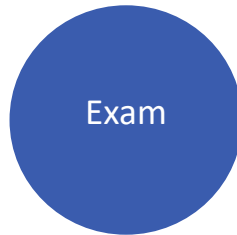
**Demands of practice require deeper skillsets**

- Critical thinking
- Professional judgment/skepticism
- Problem solving
- Understanding of business
  - Systems, controls, risk
- Data management and analysis
- SOC engagements



48

...but Exam stays the same size.

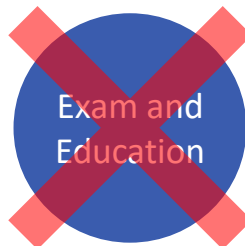



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Stretch to cover more material with less depth



**Impact**

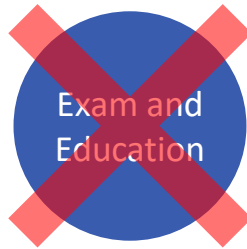
- Requirements for licensure are watered down
- Candidates know less about what matters most

---

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50

## Increase Exam and curriculum hours



### Impact

- Increases barriers to entry, impacting pipeline
- Unsustainable approach over long term

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## Other models considered

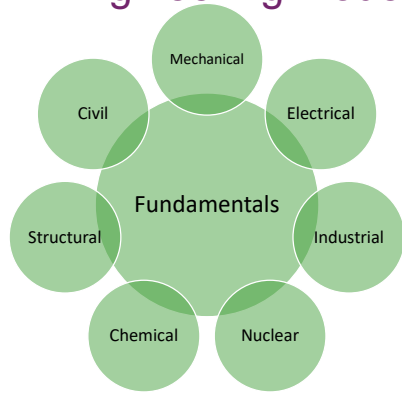
- CPA – Audit, CPA – Tax, etc.
- ~~×~~ Two tier
- ~~×~~ Medical
- ~~×~~ Legal
- ~~×~~ Engineering



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## Engineering Model

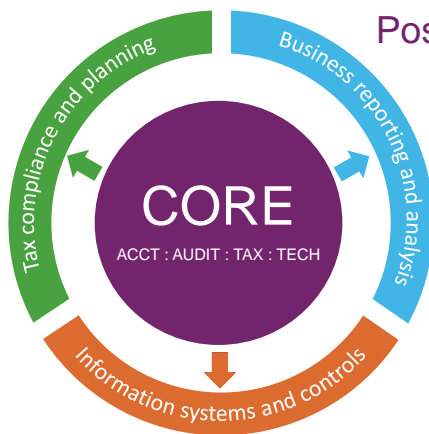


**Professional Engineer (PE)**



53

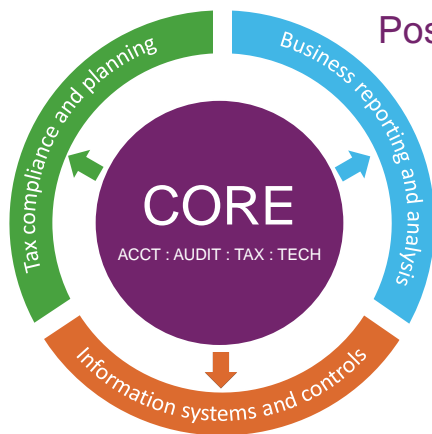
## Possible model for discussion



**CPA**



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## Possible model for discussion

- Strong core with accounting, auditing, tax and technology
- Deeper knowledge in three primary disciplines
- Reflects reality of practice
- Adaptive and flexible
- One CPA license
- Enhances public protection



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## Where do we go from here?

- Build out model and continue to seek feedback
- Continuing dialogue into 2020
  - Regional Council
  - State societies and state boards
  - Spring Council
  - NASBA Regional Meetings
  - AICPA and NASBA Boards of Directors
- **Goal: Finalize model in summer 2020**
- Plan and map out implementation
- **feedback@evolutionofcpa.org**



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# Who is NCACPA?

The North Carolina Association of CPAs is the only statewide association for CPAs in North Carolina.

## VISION

To be the essential resource for the North Carolina CPA.

## MISSION

NCACPA promotes the competence, integrity, civic responsibility, and success of North Carolina CPAs.



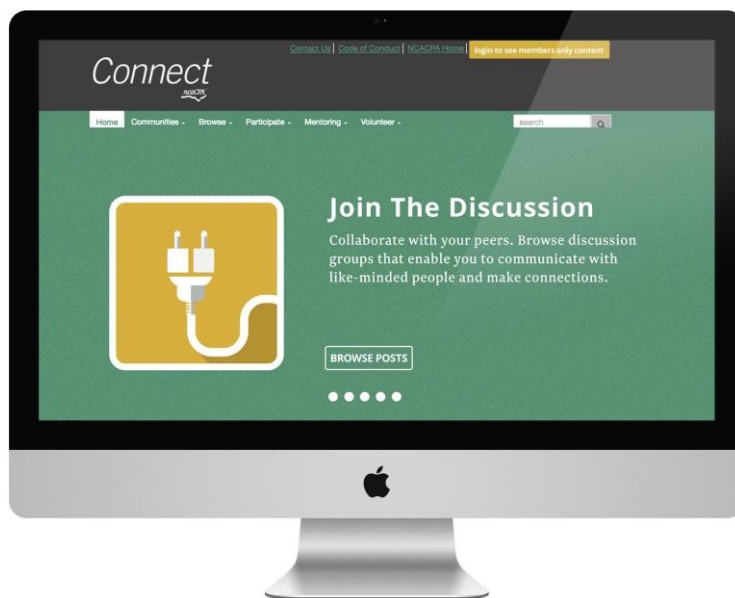
57

## Here's Where We Are...

- Things are changing rapidly for everyone in the accounting profession.
- There are many, many issues – but more importantly, numerous OPPORTUNITIES on the horizon!
- We have to communicate so we can address the challenges & solve the issues together!



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So you said you were a resource, right?

<p><u>Engage</u></p> <p><b>Connect Platform</b></p> <p>Personalized Communication</p> <p>Career Center</p> <p>Affinity Partners</p>	<p><u>Learn</u></p> <p>Learn <i>your way!</i></p> <p>Current and relevant topics</p> <p>CPE Select</p> <p>Certificate Programs</p>	<p><u>Get Involved</u></p> <p>Committees</p> <p>Young CPA Cabinet</p> <p>Social &amp; Networking Events</p>	<p><u>Explore</u></p> <p>Advocacy</p> <p>NC CPA Foundation</p> <p>Blogs/Podcasts</p> <p>Social Media</p>
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ncaCPA

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*Thank You!*

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*ncaCBA*



Clayton Darnell is the Business Lead for the NC Financial Backbone Replacement (FBR) project that will replace the North Carolina Accounting System (NCAS) and Cash Management Control System (CMCS) legacy statewide financial applications. Clayton has served the Office of the State Controller (OSC) since 2007, providing functional system support for NCAS and CMCS before joining the FBR project team in 2017. Prior to coming to OSC, Clayton worked nine years in accounting and financial system implementation and support roles for Sprint and H&R Block.

Clayton has a BS degree in Business Administration with an Accounting Emphasis from the University of Nebraska-Lincoln.



A graduate of Syracuse University, David began his career as an auditor and consultant with Arthur Andersen & Co. In 1995 David joined Computer Sciences Corporation to support a major re-engineering effort at Massachusetts Institute of Technology. David spent the next fifteen years at Computer Sciences Corporation and then at Accenture serving global clients developing international business systems strategies, including GMAC/Ally Bank, Volvo Financial Services, Daimler-Chrysler Financial Services, Farmers Insurance, Duke Energy, and General Electric. Since 2009 David has been an independent consultant providing transformation program leadership to clients such as GMAC/Ally Bank, Mead Johnson Nutrition, Standard Register, and General Dynamics. David has served North Carolina as OSC ERP Program Director since the fall of 2016.

# Financial Backbone Replacement (FBR) Project Update

2019 NC Office of the State Controller Financial Conference  
December 10, 2019

1



1

```

*****   *   *****   *****   *****
***  ***  ***   ***   ***** *****
***  ***  ***   ***   ****   **** **
***  **  ***   ***   ****   ****
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***  *****  ***   ***   ****  **** *****
***  ***** ***** ***** *****

NORTH CAROLINA ACCOUNTING SYSTEM - P REGION
MAIN MENU

    A - PAYROLL/PERSONNEL
    B - FINANCIAL SYSTEMS
    E - INFORMATION EXPERT

ENTER THE SYSTEM TYPE YOU DESIRE: _

ACTION_____DCI Release 01.01_____
HP_  a_                               18/057

```

```

RK93                               CASH MANAGEMENT CONTROL SYSTEM
CLICK HTTPS://WWW.OSC.NC.GOV/STATE-AGENCY-RESOURCES/STATEWIDE-CASH-MANAGEMENT
SELECT EMAIL NOTIFICATION BOX TO SUBSCRIBE TO CMCS EMAIL GROUP

PF1 -DISPLAY NEXT PAGE OF A DETAIL LIST  PF13-DISPLAY LIST OF TRANSFERS
PF2 -DISPLAY PREVIOUS PAGE OF DETAIL LIST PF14-SELECT PRINTED RPTS (OSC ONLY)
PF3 -DISPLAY PRIMARY MENU                PF15-PRINT TRANSFER WARRANT (OSC ONLY)
PF4 -DISPLAY CURRENT STATUS OF ACCOUNT    PF16-PRINTING DISPLAY MENU (OSC ONLY)
PF5 -DISPLAY APPROPRIATION DETAIL         PF17-INACTIVE
PF6 -DISPLAY ALLOTMENT DETAIL             PF18-INACTIVE
      -DISPLAY SPECIAL FUND DETAIL        PF19-INACTIVE
      -DISPLAY CAPITAL IMPROVEMENT DETAIL PF20-ENTER/DISPLAY A REQUISITION
PF7 -DISPLAY ALLOTMENT RECEIPT/EXPEND     PF21-DISPLAY MENU FOR DEPOSITS
      -DISPLAY SPECIAL FUND RECEIPTS      PF22-ENTER/DISPLAY A TRANSFER
      -DISPLAY CAP IMP RECEIPTS/EXPEND    PF23-DISPLAY LIST OF REQUISITIONS
PF8 -DISPLAY SPECIAL FUND EXPENDITURES    PF24-DISPLAY LIST OF DEPOSITS
PF9 -DISPLAY ACCOUNT CODES AND TITLES     PF25-DISPLAY/UPDATE SECURITY
PF10-DISPLAY UPDATE FORMAT (OSC ONLY)     PF26-ENTER/UPDATE DEPOSIT
PF11-DISPLAY OVERDRAWN ACCOUNTS (OSC ONLY) PF27-GO TO BUDGET SYSTEM (CSBM)
PF12-DISPLAY CONTROL ACCOUNTS (OSC ONLY)  NO. PENDING TRANSFERS 000
NEXT= _  PF=            DATE= MM DD YY SEQ  DISB/STIF =    BRNCH=

## CALL OSC (919) 707-0795 FOR ASSISTANCE ## -    ATA-MEGHNA SHAH
HP_  a_                                     22/007

```

2



2

## STATUS UPDATE

- Reflection on May 2019 Task In Progress
- Chart of Accounts
- Planning and Common Design

3

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## LEGISLATIVE DIRECTION AND FUNDING

- Session Law 2016-94 Sec. 7.10 Enterprise Resource Planning Design and Implementation directed DIT, OSC, and OSBM to plan and design an ERP for state agencies.
- Session Law 2017-57 Sec. 37.6.(b) provided funding \$13 million (\$3 million 2017-18 plus \$10 million 2018-19)
- Session Law 2018-5 Sec. 2.1 provided additional funding \$27 million

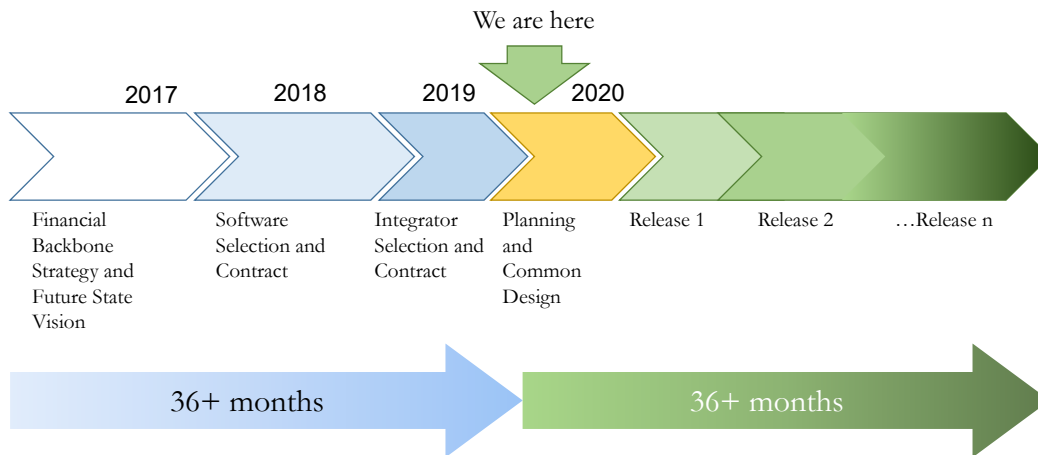
4

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## Quick Status - FBR Program Life Cycle



"The beginning seems to be more than half of the whole."  
— Aristotle

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## REFLECTION ON MAY 2019 STATUS – WHERE ARE WE NOW

- ✓ • Award deployment support contract
- ✓ • Ramp up/onboarding of SI consultants
- ✓ • Kick off Planning and Common Design
- ✓ • SME identification
- ✓ • Current Chart of Accounts analysis
- ✓ • Initial Interface analysis
- ✓ • Current process analysis
- Oracle learning (ongoing)
- Data clean-up (ongoing)
- OCM – stakeholder engagement (ongoing)

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## STAKEHOLDER ENGAGEMENT

### Agency Heads

2017-19: Executive Committee Meetings  
 2019: Agency Leadership Meetings with State Controller  
 2019: Kick-Off of Planning and Common Design with Deputy State Controller

### Chief Financial Officers

2019: CFO Monthly Meetings  
 2019: OSC Financial Accounting Standards Training  
 2019: Roadshow/Touchpoint Meetings by OCM Team

### Communications

### Agency Project Coordinators

2019: Kick-Off Meeting  
 2019: Monthly Touchpoints at CFO Meetings  
 2019: Review of Updated Process Flows

### Subject Matter Experts

2017: Future State Vision Workshops (pain points)  
 Nov 2019: P&CD Process Workshops

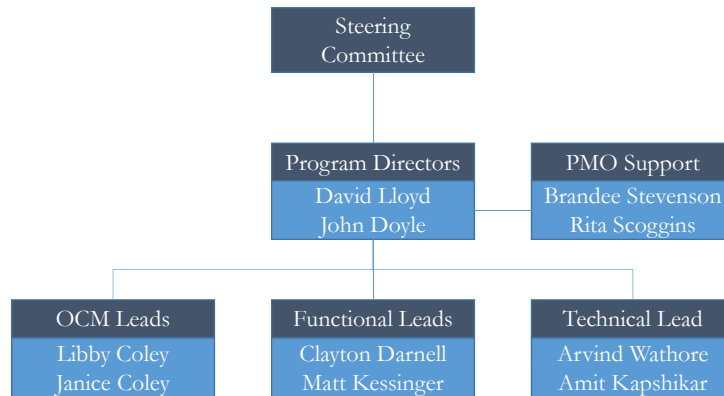
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## FBR Core Team

This diagram represents the structure of the leadership team.



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## FBR Core Team

- Edith Cannady – Cash Management & Order to Cash Lead, OSC
- Shannon Creech – Budget Lead & Procure to Pay, OSBM
- Kris Hudson – Grants Lead, OSC
- Rokos Isaak – Inventory & Assets Lead, OSC
- Sondra Phillips – Data Lead, OSC
- Thurman Ross – Security Lead, OSC
- Teresa Shingleton, Project Advisor, OSC
- Randy Smith – Record to Report Lead, OSC
- Jordan Burd – Projects and Grants, Deloitte
- Brendan Callahan – Projects and Grants, Deloitte
- Rahule Desai – Inventory, Deloitte
- Don Houle – Procure to Pay, Deloitte
- Nahib Khaji – Procure to Pay, Deloitte
- Anish Prabhu – Record to Report, Deloitte
- Jennifer Rocks – OCM Director, Deloitte
- Danielle Scott – Functional Support, Deloitte
- Kalyan Vadlaptla – Fixed Assets, Deloitte
- Tori Vogel – PMO Support, Deloitte
- Jessica Zou – Cash Management & Order to Cash, Deloitte

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## STATUS UPDATE

- Reflection on May 2019 Task In Progress
- Chart of Accounts
- Planning and Common Design

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### KEY TERMINOLOGY – ENTERPRISE STRUCTURE

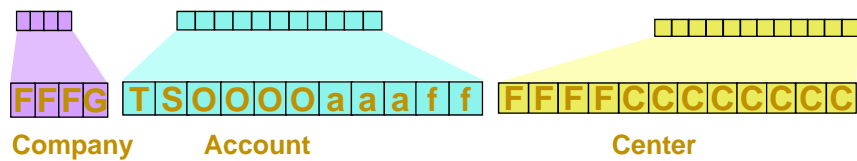
<b>Enterprise</b>	<ul style="list-style-type: none"> <li>• Collection of legal entities under common control and management</li> </ul>
<b>Ledger</b>	<ul style="list-style-type: none"> <li>• Determines the currency, chart string, accounting calendar, and accounting convention for associated legal entities and sub-ledgers</li> <li>• Captures detailed transactional information from the sub-ledgers; details or summary are periodically imported and posted</li> </ul>
<b>Legal Entity</b>	<ul style="list-style-type: none"> <li>• Legally recognized entity that owns/trades assets and employs people in a registered jurisdiction</li> </ul>
<b>Business Unit (BU)</b>	<ul style="list-style-type: none"> <li>• Unit of an enterprise that performs one or many business functions and is assigned to a specific ledger; may roll up with other Business Units within a management hierarchy</li> <li>• Unit of an enterprise that processes transactions on behalf of legal entities (AP, PO, Expense)</li> </ul>
<b>Asset Book</b>	<ul style="list-style-type: none"> <li>• Housing unit for an asset belonging to any number of tax books (Full Accrual Basis) but only one corporate book (Modified Accrual Basis)</li> <li>• Assets are added to a corporate book first and then copied to the associated tax books</li> </ul>
<b>Department</b>	<ul style="list-style-type: none"> <li>• An organizational structure with one or more operational objectives or responsibilities</li> <li>• Example: Procurement, Sourcing, Receiving etc.</li> </ul>

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### NCAS CHART OF ACCOUNTS (COA) SEGMENTS

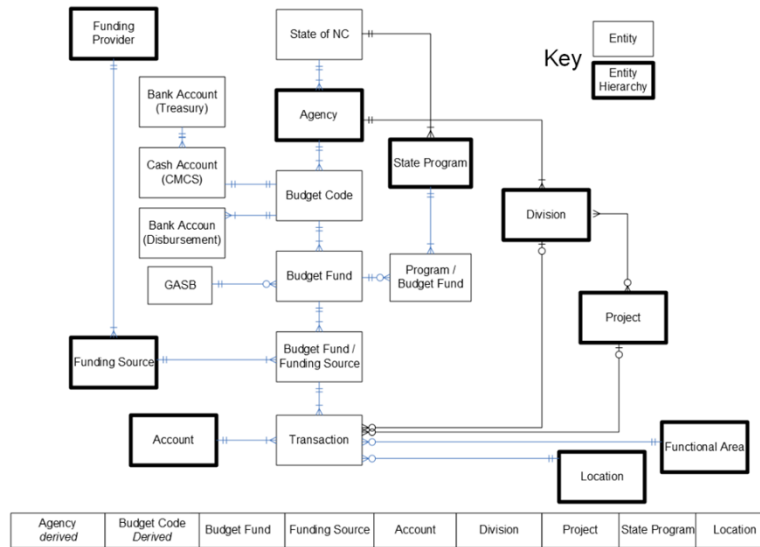


12



12

**FINANCIAL ENTITY MODEL**



Agency derived	Budget Code Derived	Budget Fund	Funding Source	Account	Division	Project	State Program	Location
----------------	---------------------	-------------	----------------	---------	----------	---------	---------------	----------

13



13

**FIRST DRAFT NC CHART OF ACCOUNT STRUCTURE – SINCE SUPERSEDED**

#	Segment Name	Description	Segment Qualifier	Length
1	Agency	A unit of the executive, legislative, or judicial branch of State government, such as a department, an institution, a division, a commission, a board, a council, or The University of North Carolina.	Primary Balancing Segment	4
2	Budget Fund	A fiscal and accounting entity with a self-balancing set of accounts for the purpose of carrying on stated programs, activities, and objectives of State government	Secondary Balancing Segment	9
3	State Program	A group of line items to support a specific statewide activity or theme and represents an alternative presentation of budget		4
4	Account	Object or line item in the budget or financial statements such as assets, liabilities, revenues, or expenditures.	Natural Account	8
5	Funding Source	Indication of resource underlying an expenditure such as appropriations, federal grant (FRC), local funds, etc.		4
6	Agency Management Unit	Agency defined org structure for internal management reporting and budgeting	Cost Center	7
7	Agency Program	Agency defined programs or functions for internal management reporting and budgeting		9
8	Agency Location	Agency defined location for internal management reporting and budgeting		6
9	State Project	Cross agency projects, such as hurricanes, to support statewide reporting of revenues and expenditures		5
10	County	NC county where material/asset was used/delivered or service performed		3
11	Inter-Agency	Due To/Due From; transfers between agencies	Intercompany	4
12	Future 1	Reserved for future use		6
13	Future 2	Reserved for future use		5



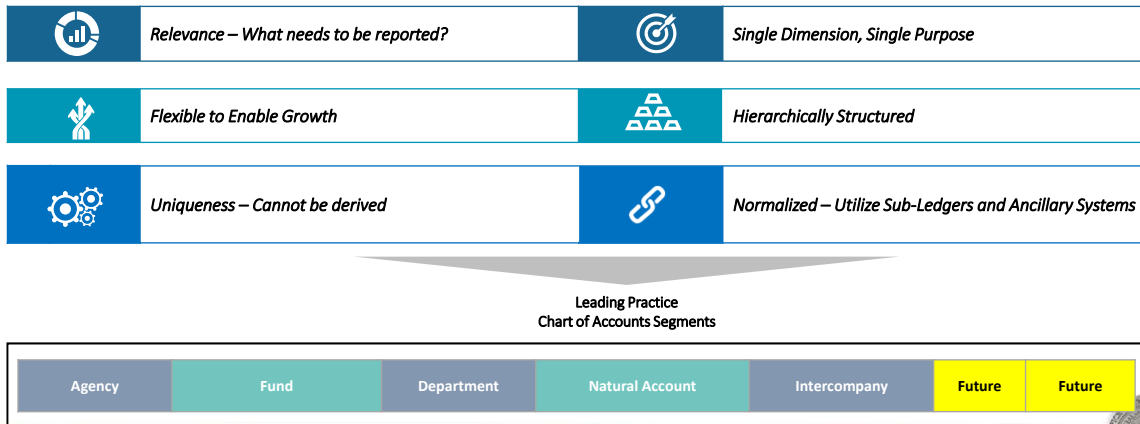
14



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## CHART OF ACCOUNTS LEADING PRACTICE

A well designed chart of accounts is developed to fulfill financial and statutory needs. While requirements to fulfill these needs can vary across organizations, leading practice COAs follow the same common principles.



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## STATUS UPDATE

- Reflection on May 2019 Task In Progress
- Chart of Accounts
- Planning and Common Design

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## Planning & Common Design Outcomes

- Future state business process, enterprise structure, and data designs, and a partially configured prototype OCF environment. Proofs of Concept for key process components and configuration decisions
  
- Project life cycle strategies and plans for integration, data conversion, user access security, organizational design and training, that describe the target end state and the path from here to there.
  
- Plans and estimates that use GAO guidelines for high-quality, reliable estimates
  - Well-documented
  - Comprehensive
  - Accurate
  - Credible



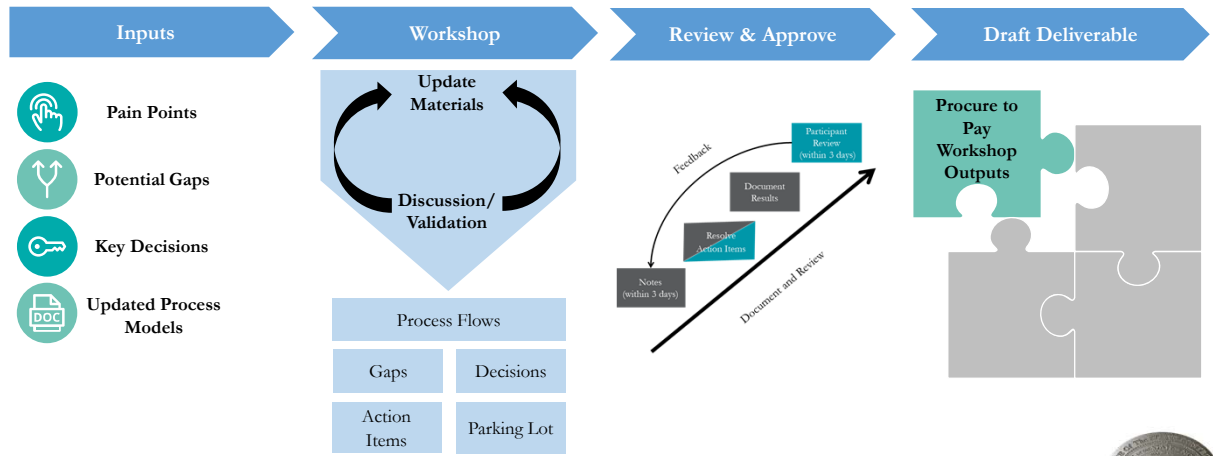
## High Level Timeline

The Planning and Common Design process includes multiple phases that culminate in a revised roadmap and confirmed estimates.



### Future State Process Workshop Overview

The outputs of the workshops at the sub-process level are compiled to provide the end to end process flows and draft Future State Process deliverable.

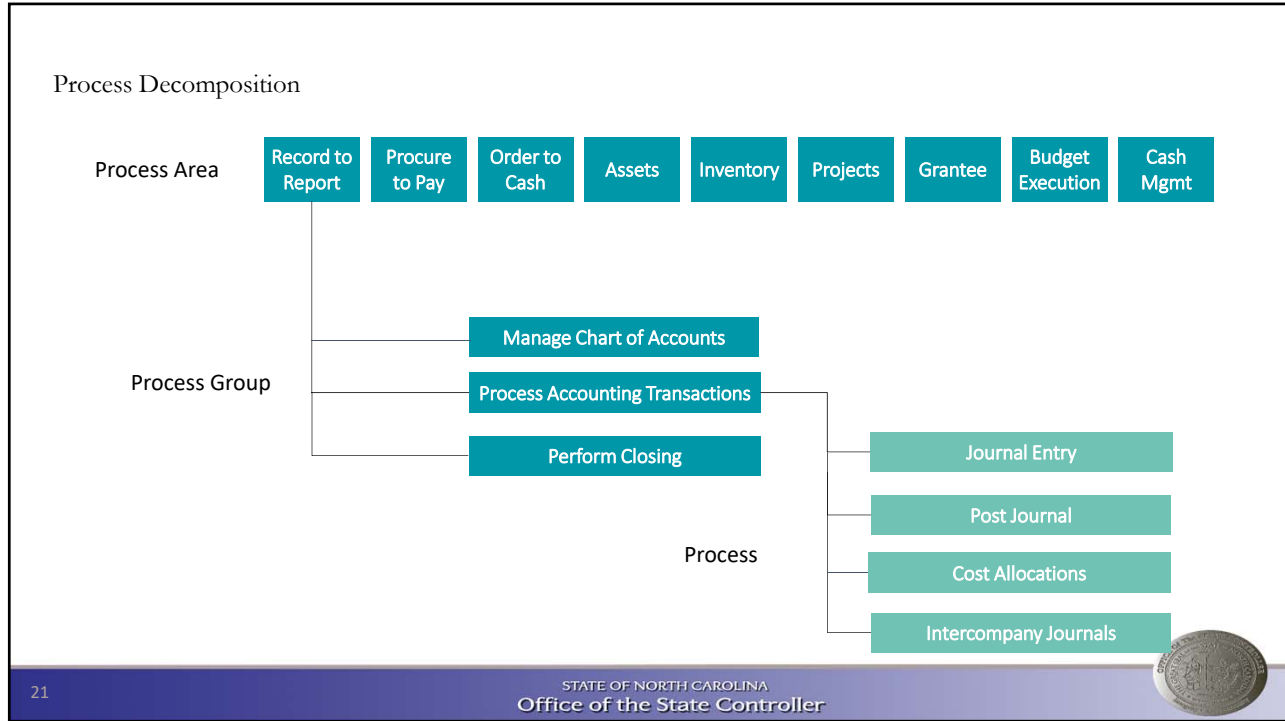


### Process Design Guiding Principles

These workshops are focused on gathering needs for the future system

- Create and deploy a new financial architecture that meets the current and foreseeable future financial information needs of the State
- Leverage standard processes and best practices within Oracle Cloud application services, minimizing software changes, and changing existing State processes to improve efficiency and effectiveness
- Recognize that the Project will create significant work and change for your State organizations and fellow employees; its success depends heavily on your knowledge, expertise, effort, and your ability and willingness to adopt the change
- Identify potential obstacles or challenges as early as possible
- Prioritize providing functionality in NCAS, but leverage standard solution efficiencies where possible



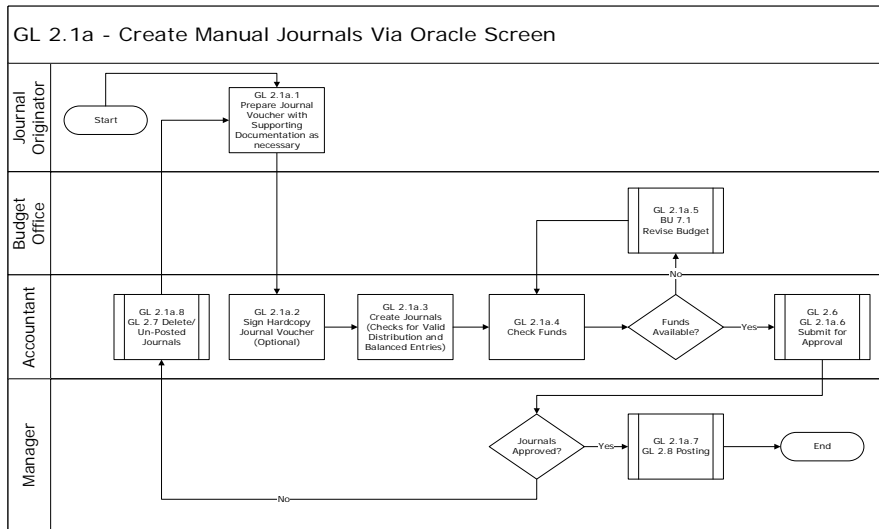


21



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### GL 2.1 - CREATE MANUAL JOURNALS VIA ORACLE SCREEN (A) BELOW PROCESS DEMONSTRATES HOW JOURNALS ARE MANUALLY KEYED INTO THE SYSTEM.

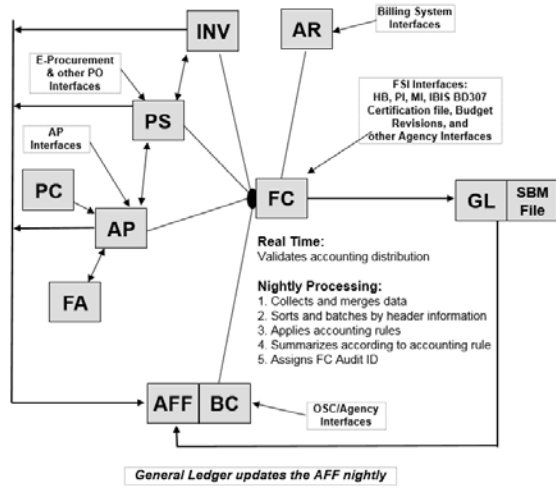


22



22

### NCAS Modules



### TODAY

```

INAS AP          DOCUMENT LIST          DCL
NEXT FUNCTION:  ACTION:  HISTORY:  05/02/2019 09:01:14
REQUEST:
*****
PRN ENTITY : 0001 CONTROL DATE :          CONTROL NBR:
SHORT NAME :          VENDOR/EMP NBR :
DOCUMENT QTY:          DOCUMENT STAT:
DOCUMENT NBR:          DOCUMENT AMT :          CURR:
LIST AND INQ:          DOCUMENT PART2:          SELECT *
VEN/EMP NBR DOCUMENT NUMBER DATE GROSS AMOUNT CURR STATUS DGI DCI
          DATE CODE DPA DLL
82 A 559573 07/10/18 24.93 PD-FULL
82 A 559592 07/11/18 59.92 PD-FULL
82 A 559780 07/10/18 952.84 PD-FULL
82 A 559781 07/10/18 50.39 PD-FULL
82 A 559986 07/11/18 297.60 PD-FULL
82 A 560412 07/17/18 437.20 PD-FULL
82 A 560584 07/16/18 246.15 PD-FULL
82 A 560593 07/17/18 437.20 PD-FULL
82 A 560925 07/17/18 228.28 PD-FULL
82 A 581337 07/18/18 3,133.00 PD-FULL
PAGE: 30 STATUS: MORE
06/016
    
```

### TOMORROW



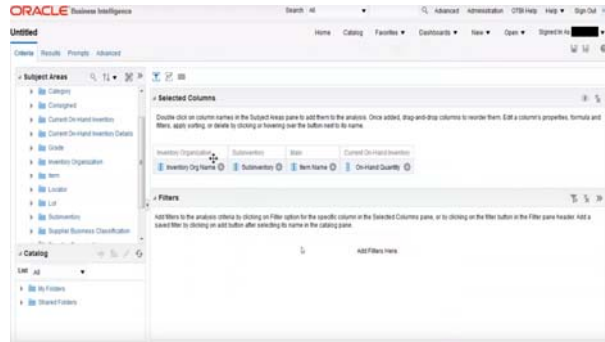
### TODAY

```

EDIT RUN STATEMENTS: C-U-HP-PIVOTS-TO-VEND-EXCEL-RUN          COLUMNS 001 072
COMMAND INPUT:++++> _                                       SCROLL +++> HELP
-----1-----2-----3-----4-----5-----6-----7-----8-----9-----10-----11-----12-----
000100 ***** TOP OF DATA *****
000200 * TO RUN THIS REPORT, YOU MUST HAVE A TSD ID.  A PERMANENT DATASET *
000300 * FOR YOUR AGENCY MUST EXIST THAT IS 250 BYTES LONG.  A JOB STATEMENT *
000400 * MUST EXIST IN YOUR RUN-SQL MEMBER THAT CORRESPONDS TO THE NAME OF *
000500 * THE PERMANENT DATASET.
000600 //C250BYTE DD DSN=BILL.DEPT.C250.BYTE.DISP=SHR          *
000700 *****
000800 OPTION          DATE=OPTION('MM/DD/YYYY')
000900 RUN              C-U-HP-PIVOTS-TO-VEND-EXCEL
001000 FROM            LIBRARY.RPUBLIC
001100 INTO            LIBRARY.KKKKKK
001200 VARIABLE        WK-PERIOD=END-DATE
001300                'MM/DD/YYYY'
001400 VARIABLE        WK-PERIOD=END-DATE
001500                'MM/DD/YYYY'
001600 VARIABLE        CENTER=MSK
001700                'FFFFNNNNSSSS'
ACTION:             1 Help  3 End  5 FInd  6 Change  7 Pg Bnd  8 Pg Fwd
                   02/020

```

### TOMORROW



## WE NEED ALL OF YOU!

- Engage
- Support
- Promote
- Communicate





# Some Early Learnings

## David Lloyd

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### KEY SUCCESS (SO FAR) FACTORS

- Start by creating a shared vision of the future
- Drive product and services selections from strategy
- Make consensus-based decisions from broad-based input

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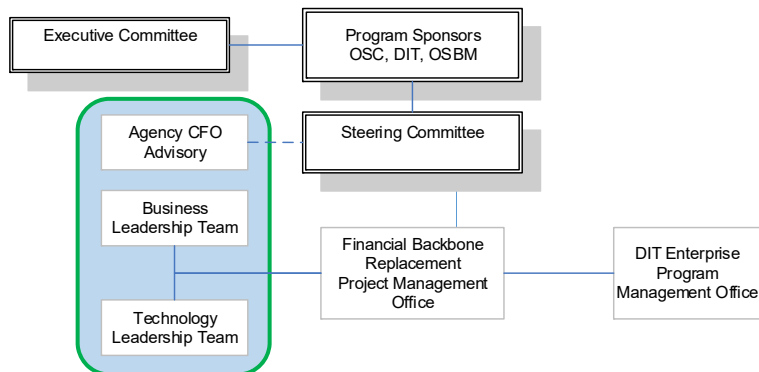
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Office of the State Controller



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## GOVERNANCE AND GUIDANCE FOR FBR

These expanded governance groups help project leaders to work with and listen to agencies and departments at multiple levels, reducing the risks of surprises and missed expectations.



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## GUIDING PRINCIPLES

1. Manage Work in Chunks
2. Follow The Rules
3. Pay Attention to People
4. Admit What We Don't Know
5. Make Decision-Making Transparent
6. Use Earned Value Management
7. Robust Quality Assurance

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# QUESTIONS?





Sandra Fields has worked with the Office of the State Controller for over 30 years. She is the Technical Applications Systems Manager over the North Carolina Accounting System (NCAS) and the Cash Management Control System (CMCS). Previously, Sandra was a consultant with Dun and Bradstreet and started working with North Carolina on the initial implementation of NCAS. She has been working with the NCAS system ever since, leading projects for various enhancements. Sandra and her staff currently are working with agencies to batch load journals, invoices and vendors using EXCEL. She will be assisting the Financial Backbone Replacement project (FBR) with converting the NCAS data to Oracle.

She has a BS degree in Applied Mathematics with a specialty in Computer Science from Florida State University.

FSJ1

# OFFICE OF THE STATE CONTROLLER

## CONTENT CLOUD

Sandra Fields – Technical Application Manager  
[SANDRA.FIELDS@OSC.NC.GOV](mailto:SANDRA.FIELDS@OSC.NC.GOV)

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## CONTENT CLOUD

- Find and extract information from wherever it is stored and transform and deliver information in the context needed
- DIT Sponsored Project
- Replacement for XTND/XNET

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**Slide 1**

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**FSJ1**

Fields, Sandra J, 4/17/2019

## CONTENT CLOUD

- Why Replace XNET/XTND?
  - Does not meet Federally Mandated Security Standards
  - Not supported by SYSTEMWARE
    - End of life
  - Users should begin using Content Cloud as soon as available



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## CONTENT CLOUD

- Target Dates
  - Testing
    - November – December 31
  - Production
    - January 5, 2020
      - Production XPTR will be upgraded to 5.2
    - January 11, 2019
      - Migrate data to servers
    - Jan 12 – 30, 2019
      - Soft Production Launch
    - January 31, 2020
      - Go Live
      - Content Cloud available for production use



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## CONTENT CLOUD

- Target Dates
  - Training
    - November – January 31, 2020
      - Train the Trainer
        - Webinar
      - OSC Training
    - January 21, 2020
      - Advanced Train the Trainer



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## CONTENT CLOUD

- Quickly and Accurately find and retrieve content
  - Search features
  - Configurable
  - Create Scripts
  - Create individual or shared favorites
  - Access at page/report level
- Transform, Package and Deliver
  - Repurpose structured and non-structured content
  - Use queries
  - Extraction templates
  - Add Notes
  - Package multiple reports into single PDF/Zip



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## CONTENT CLOUD

- Storage and Retention
  - Records management
  - Share common resources
  - Compress content
  - Restore content and store in cloud
- Security and Compliance
  - Configure user groups, roles, filters
  - Encrypted data
  - Meet regulatory compliance with data masking



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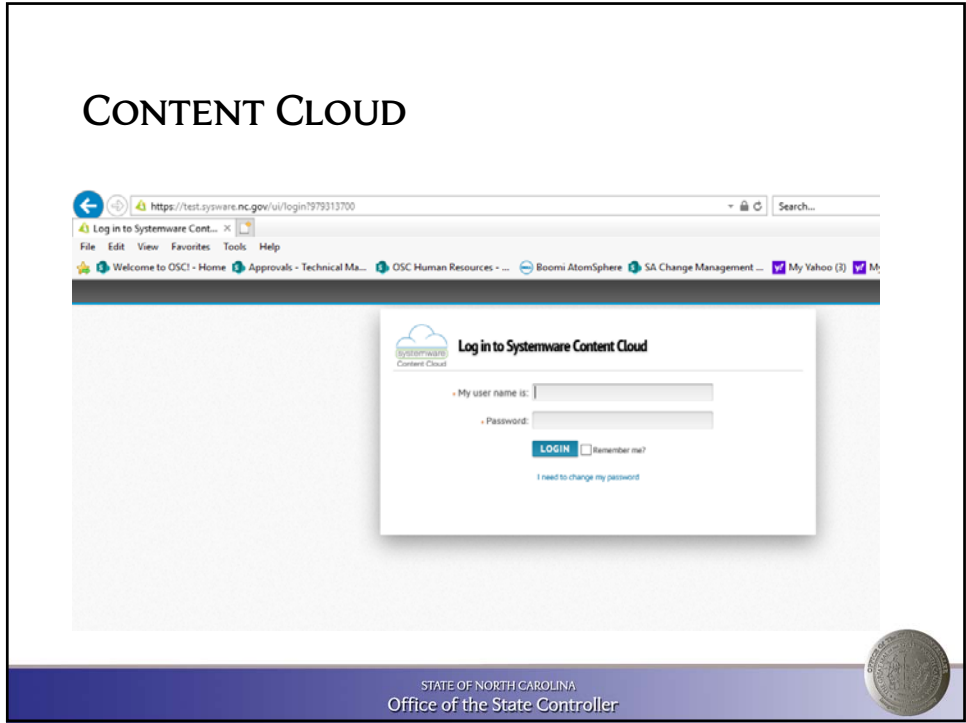
## CONTENT CLOUD

- Test Environment  
[HTTPS://TEST.SYSWARE.NC.GOV](https://test.sysware.nc.gov)
- Production Environment  
[HTTPS://SYSWARE.NC.GOV](https://sysware.nc.gov)
- VPN:  
<https://edc4.sslvpn.nc.gov/+CSCOE+/logon.html#form title text>



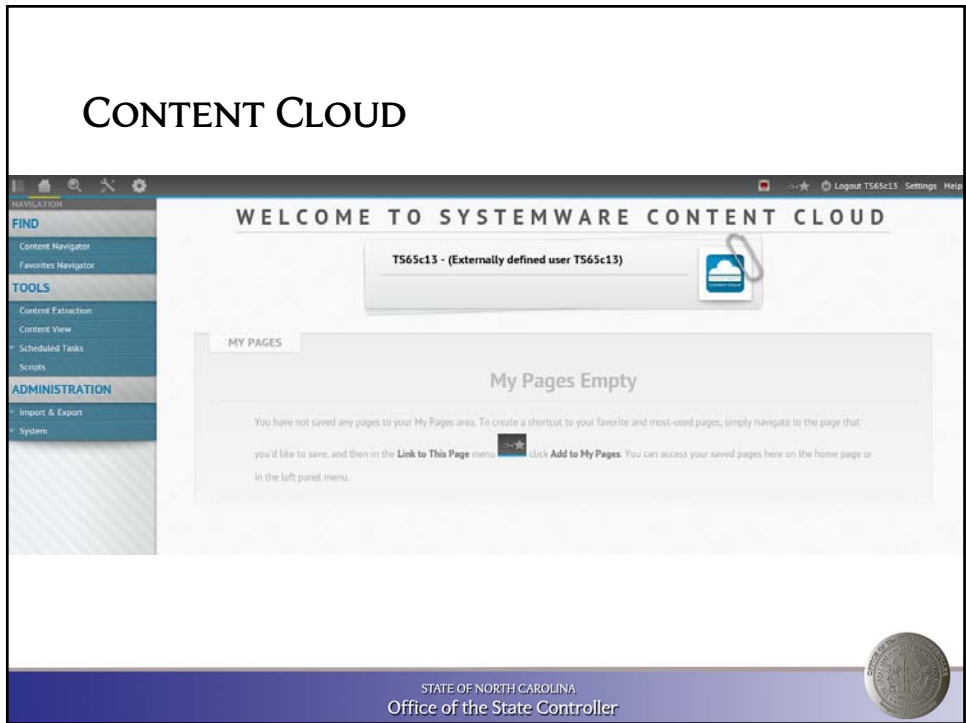
8

# CONTENT CLOUD



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# CONTENT CLOUD



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# CONTENT CLOUD

WELCOME TO SYSTEMWARE CONTENT CLOUD

TS65c13, you were last here 12/03/2019 10:45:54.

TS65c13 - (Externally defined user TS65c13)

MY PAGES

GENERAL

Content Navigator

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# CONTENT CLOUD

```

X 1 V22: Favorites                                Row 1 to 8 of 8
Command ==>                                       Scroll ==> CSR

Commands: PRO - Update Favorites (via Profile)
Options:  B - Display on terminal   X - List report indices
          S - List report versions  V - List report views
          PRT - Print               Q - Add to Work Queue
          SQ - Structured Query     N - Version Notes

Use END command to exit. Use LEFT command to list more report information.

Opt Type Title                                     Last CMD
DIR /COR                                           S
DIR /DCC                                           S
DIR /DHR                                           S
DIR /DHR/DZA                                       S
DIR COMPUTING SERVICES                             S
DIR DATA CENTER REPORTS                           S
DIR INFORMATION TECHNOLOGY SERVICES                S
S_ DIR OFFICE OF THE STATE CONTROLLER              S
***** Bottom of data *****
    
```

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## CONTENT CLOUD

X 1 V22: Favorites Row 1 to 11 of 11  
 Command ==> Scroll ==> CSR

Commands: PRO - Update Favorites (via Profile)

Options: B - Display on terminal X - List report indices  
 S - List report versions V - List report views  
 PRT - Print Q - Add to Work Queue  
 SQ - Structured Query N - Version Notes

Use END command to exit. Use LEFT command to list more report information.

Opt	Type	Title	Last CMD
	DIR	/OSC/MFS	
	DIR	CASH MANAGEMENT (OSC) /OSC/AKA	
	DIR	CENTRAL PAYROLL (IMS)/OSC/PXA	
	DIR	FLEX BENEFIT (CCC)	
	DIR	NC23 (CICSNC23 REGION)	
	DIR	OSC BEACON INTEGRATION	
S	DIR	P (CICSSCCP REGION)	
	DIR	PRACTICE/TRAINING REGION	
	DIR	TEST (CICSSCCM REGION)	
	DIR	UNIVERSITY REPORTS	
	DIR	WORKMAN COMPENSATION (CCD)	

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## CONTENT CLOUD

X 1 V22: Favorites Row 1 to 11 of 607  
 Command ==> \_ Scroll ==> CSR

Commands: PRO - Update Favorites (via Profile)

Options: B - Display on terminal X - List report indices  
 S - List report versions V - List report views  
 PRT - Print Q - Add to Work Queue  
 SQ - Structured Query N - Version Notes

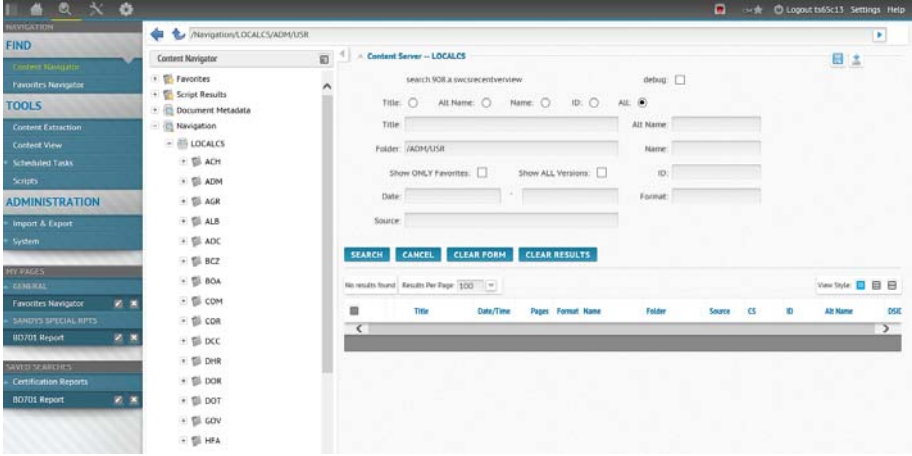
Use END command to exit. Use LEFT command to list more report information.

Opt	Type	Title	Last CMD
	RPT	OSCOPC ACH BANK ERROR REPORT	
	RPT	OSCOPC ACH BUDGET CODE PARM LIST	
	RPT	OSCOPC ACH CANCELLED CHECKS	
	RPT	OSCOPC ACH PAYMENT REPORT	
	RPT	OSCOPC AGENCY FUNDS EOY REPORT	
	RPT	OSCOPC AP DENR CGL CHECKS	
	RPT	OSCOPC AP EOY INV ACR INJECTION	
	RPT	OSCOPC AP EOY PRE INC ACR UNF ER	
	RPT	OSCOPC AP EOY PRE INV ACR EXCEL	
	RPT	OSCOPC AP EOY PRE INV ACR INJCTN	
	RPT	OSCOPC AP FEDERAL CLEARANCE	

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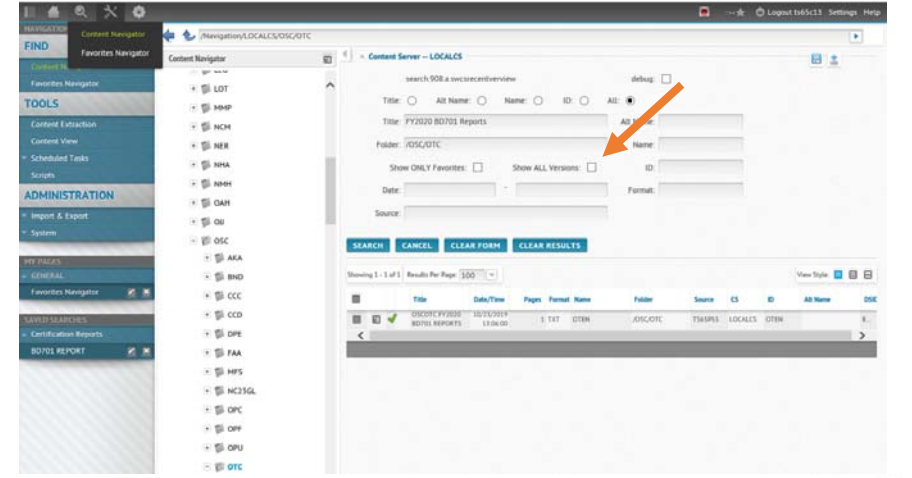
# CONTENT CLOUD



The screenshot shows the Content Cloud interface with a search filter set to 'LOCALCS'. The search results table is empty, displaying the following headers: Title, Date/Time, Pages, Format, Name, Folder, Source, CS, ID, Alt Name, and DDC. The left sidebar contains navigation menus for 'FIND', 'TOOLS', 'ADMINISTRATION', and 'MY PAGES'. A silver seal is visible in the bottom right corner of the slide.

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# CONTENT CLOUD



The screenshot shows the Content Cloud interface with a search filter set to 'OTC'. The search results table contains one entry: 'FY2020 BO701 Reports' with a date of 12/25/2019 and 18 documents. An orange arrow points to the 'Alt Name' field in the search form, which contains the text 'OTC'. The left sidebar is similar to the previous slide, but with 'OTC' highlighted in the 'Content Navigator' menu. A silver seal is visible in the bottom right corner of the slide.

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# CONTENT CLOUD

The screenshot shows the Content Cloud interface. On the left is a navigation sidebar with sections like 'FIND', 'TOOLS', 'ADMINISTRATION', and 'MY TASKS'. The main area displays search results for 'FY2020 BO701 Reports' in the folder '/OSC/OTC'. A context menu is open over the first result, with an orange arrow pointing to the 'Add Report to Favorites' option.

Title	Date/Time	Pages	Format	Name	Folder	Source	CS	ID	All Name	DSG
FY2020 BO701 Reports	10/23/2019 13:04:00	1	TEXT	OTEM	/OSC/OTC	TS46P55	LOCALCLS	OTEM		

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# CONTENT CLOUD

The screenshot shows the Content Cloud interface with a detailed list of search results. The search criteria are 'OSC/OTC FY2020 BO701 REPORTS' in the folder '/OSC/OTC' with the name 'OTEM'. The table below lists the results with columns for Version, Date/Time, Capture Date/Time, RN, Format, Pages, Size (KB), Source, Filename, Upload Flag, Hold, and DSG.

Version	Date/Time	Capture Date/Time	RN	Format	Pages	Size (KB)	Source	Filename	Upload Flag	Hold	DSG
10/23/2019	10/23/2019	13:04:00	1	TEXT	1	1	TS46P55				
10/23/2019	10/23/2019	13:04:00	1	TEXT	1	1	TS46P55				
10/23/2019	10/23/2019	13:04:00	10	TEXT	1	1	TS46P55				
10/23/2019	10/23/2019	13:04:00	9	TEXT	1	1	TS46P55				
10/23/2019	10/23/2019	13:04:00	8	TEXT	1	1	TS46P55				
10/23/2019	10/23/2019	13:04:00	7	TEXT	1	1	TS46P55				
10/23/2019	10/23/2019	13:04:00	6	TEXT	1	1	TS46P55				
10/23/2019	10/23/2019	13:04:00	5	TEXT	1	1	TS46P55				
10/23/2019	10/23/2019	13:04:00	6	TEXT	2792	4679	TS46P55				
10/23/2019	10/23/2019	13:04:00	8	TEXT	2854	4674	TS46P55				
10/23/2019	10/23/2019	13:04:00	2	TEXT	2771	4621	TS46P55				
10/23/2019	10/23/2019	13:04:00	1	TEXT	2699	4525	TS46P55				

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# CONTENT CLOUD

The screenshot shows the Content Cloud search interface. The search criteria are: Title: OSCOTC FY2020 RD701 REPORTS, Folder: /OSG/OTC, and Name: OTEN. A 'Save Search' dialog box is open, showing the search name 'RD701 Report' and category 'Certification Report'. Below the search bar is a table of search results with columns: Version, Capture Date/Time, File Format, Pages, Size (KB), Source, Filename, Upload Plug, and UUID. The table contains 12 rows of data.

Version	Capture Date/Time	File Format	Pages	Size (KB)	Source	Filename	Upload Plug	UUID
15/05/2019	15/05/2019	12 TXT	3	1	TS65P15	E:\E:\P\F\017\F\4400117\FM\04\F9\200067		
15/05/2019	15/05/2019	11 TXT	1	1	TS65P15	E:\E:\P\F\017\F\4400117\FM\04\F9\200067		
15/05/2019	15/05/2019	10 TXT	1	1	TS65P15	E:\E:\P\F\017\F\4400117\FM\04\F9\200067		
15/05/2019	15/05/2019	9 TXT	1	1	TS65P15	E:\E:\P\F\017\F\4400117\FM\04\F9\200067		
15/05/2019	15/05/2019	8 TXT	1	1	TS65P15	E:\E:\P\F\017\F\4400117\FM\04\F9\200067		
15/05/2019	15/05/2019	7 TXT	1	1	TS65P15	E:\E:\P\F\017\F\4400117\FM\04\F9\200067		
15/05/2019	15/05/2019	6 TXT	3	1	TS65P15	E:\E:\P\F\017\F\4400117\FM\04\F9\200067		
15/05/2019	15/05/2019	5 TXT	1	1	TS65P15	E:\E:\P\F\017\F\4400117\FM\04\F9\200067		
15/05/2019	15/05/2019	4 TXT	2762	4629	TS65P15	E:\E:\P\F\017\F\4400117\FM\04\F9\200067		
15/05/2019	15/05/2019	3 TXT	284	4874	TS65P15	E:\E:\P\F\017\F\4400117\FM\04\F9\200067		
15/05/2019	15/05/2019	2 TXT	2771	4621	TS65P15	E:\E:\P\F\017\F\4400117\FM\04\F9\200067		
15/05/2019	15/05/2019	1 TXT	2699	4321	TS65P15	E:\E:\P\F\017\F\4400117\FM\04\F9\200067		

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# CONTENT CLOUD

The screenshot shows the Content Cloud home page. The header says 'WELCOME TO SYSTEMWARE CONTENT CLOUD' and 'ts65c13, you were last here 12/04/2019 9:53:04.' Below this is a user profile for 'ts65c13 - (Externally defined user ts65c13)'. The 'MY PAGES' section shows a 'GENERAL' page with a 'Favourites Navigator' widget. An orange arrow points to the 'RD701 Report' link in the 'MY PAGES' sidebar.

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# CONTENT CLOUD

The screenshot shows the Content Cloud interface with search results for 'BD701 Report'. An orange arrow points to the 'Add To My Pages' button in the top right corner. A dialog box is open, allowing the user to add the selected item to their 'My Pages' section. The dialog box contains the following information:

- Name: BD701 Report
- Category: Sandys Special Rpts
- Buttons: SAVE, CANCEL

The search results table below shows the following data:

Version	Creation Date/Time	BN	Format	Pages	Size
18/05/2019	18/05/2019	12	TEXT	1	1
18/05/2019	18/05/2019	13	TEXT	1	1
18/05/2019	18/05/2019	18	TEXT	1	1
18/05/2019	18/05/2019	9	TEXT	1	1
18/05/2019	18/05/2019	8	TEXT	1	1
18/05/2019	18/05/2019	7	TEXT	1	1
18/05/2019	18/05/2019	4	TEXT	1	1
18/05/2019	18/05/2019	5	TEXT	1	1
18/05/2019	18/05/2019	4	TEXT	2792	4678
18/05/2019	18/05/2019	3	TEXT	2864	4874
18/05/2019	18/05/2019	2	TEXT	2771	4821
18/05/2019	18/05/2019	1	TEXT	2899	4323

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# CONTENT CLOUD

The screenshot shows the Content Cloud interface with the 'MY PAGES' section. The user is logged in as 'ts65c13'. The 'MY PAGES' section contains the following items:

- GENERAL
  - Favorites Navigator
- SANDYS SPECIAL RPTS
  - BD701 Report

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# CONTENT CLOUD

Content Server Version -- LOCALES

search:002 a swcsession

Title: OSCOTC FY2020 BD701 REPORTS All Name:

Folder: /OSCOTC Name: OTEN

Date:  Format:

Source:

SEARCH CLEAR FORM CLEAR RESULTS

Showing 1 - 12 of 12 Results Per Page 100 View Style

Version	Caption	RN	Format	Pages	Size (KB)	Source	Filename	Upload Flag	Has	DSD
10/25/2019 13:05:00	13:05:00	11	TEXT	1	1	TK4SP16				
10/25/2019 13:05:00	13:05:00	11	TEXT	1	1	TK4SP16				
10/25/2019 13:05:00	13:05:00	10	TEXT	1	1	TK4SP16				
10/25/2019 13:05:00	13:05:00	9	TEXT	1	1	TK4SP16				
10/25/2019 13:05:00	13:05:00	8	TEXT	1	1	TK4SP16				
10/25/2019 13:05:00	13:05:00	7	TEXT	1	1	TK4SP16				
10/25/2019 13:05:00	13:05:00	6	TEXT	1	1	TK4SP16				
10/25/2019 13:05:00	13:05:00	5	TEXT	1	1	TK4SP16				
10/25/2019 13:05:00	13:05:00	4	TEXT	2792	4678	TK4SP16				
10/25/2019 13:05:00	13:05:00	3	TEXT	204	4874	TK4SP16				
10/25/2019 13:04:00	13:04:00	2	TEXT	2771	4621	TK4SP16				
10/25/2019 13:04:00	13:04:00	1	TEXT	2099	4323	TK4SP16				

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# CONTENT CLOUD

BD701 Report

Title: OSCOTC FY2020 BD701 REPORTS Date: 10/25/2019 13:05:00

Zoom 100%

STATE OF NORTH CAROLINA GENERAL LEDGER SYSTEM  
AGENCY MANAGEMENT BUDGET REPORT  
FOR THE PERIOD ENDING OCTOBER 31, 2019

PAGE: C-GL-BD  
RUN DATE  
ATBD701

BUDGET CODE RECAP

ACCOUNT	DESCRIPTION	***** B U D G E T E D *****		***** A C T U A L *****		***** U N E X P E N D E D / U N R E A L I Z E D *****	
		CERTIFIED	AUTHORIZED	CURRENT-MONTH	YEAR-TO-DATE	CERTIFIED	AUTHORIZED
EXPENDITURES		.00	.00	1,715.66	9,679.26	9,679.26-	9,679.26-
REVENUES		.00	.00	.00	3,725.00	3,725.00-	3,725.00-
INCREASE/(DECREASE)							
IN FUND BALANCE		.00	.00	1,715.66-	5,954.26-	5,954.26	5,954.26
CASH ANALYSIS							
	BEGINNING BALANCE				65,567.78		
	+ CASH RECEIPTS				3,725.00		
	- CASH DISBURSEMENTS				9,679.26		
	+ ASSETS				.00		
	+ LIABILITY				.00		
	+ EQUITY				.00		
	= ENDING BALANCE				59,613.52		
ADDITIONAL ASSETS							

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# CONTENT CLOUD

STATE OF NORTH CAROLINA GENERAL LEDGER SYSTEM  
 AGENCY MANAGEMENT BUDGET REPORT  
 FOR THE PERIOD ENDING OCTOBER 31, 2019

ACCOUNT	DESCRIPTION	***** B U D G E T E D *****		***** A C T U A L *****		***** U N E X P E N D E D / U N R E A L I Z E D *****	
		CERTIFIED	AUTHORIZED	CURRENT-MONTH	YEAR-TO-DATE	CERTIFIED	AUTHORIZED
	EXPENDITURES	.00	.00	1,715.66	9,679.26	9,679.26-	9,679.26-
	REVENUES	.00	.00	.00	3,725.00	3,725.00-	3,725.00-
	INCREASE / (DECREASE) IN FUND BALANCE	.00	.00	1,715.66-	5,954.26-	5,954.26	5,954.26
CASH ANALYSIS							
	BEGINNING BALANCE				65,567.78		
	+ CASH RECEIPTS				3,725.00		
	+ CASH DISBURSEMENTS				9,679.26		
	+ ASSETS				.00		
	+ LIABILITY				.00		
	+ EQUITY				.00		

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# CONTENT CLOUD

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# CONTENT CLOUD

The screenshot shows the Content Cloud interface with a sidebar on the left containing 'NAVIGATION', 'FIND', 'TOOLS', and 'ADMINISTRATION' sections. The 'TOOLS' section is expanded, and an orange arrow points to the 'Content Extraction' option. The main area displays a 'Content Query' editor with the following configuration: 'RETURN: Automatic', 'Return additional sites' checked, and a filter for 'COMPANY (COMP)' with a value of '14'. Below the editor, the report results are displayed in a table:

RMD51DA9	NOT CERTIFIED	STATE OF NORTH CAROLINA GENERAL LEDGER SYSTEM	PAGE 1
BD701-01		AGENCY MANAGEMENT BUDGET REPORT	C-01
A90	BOARD OF ELECTROLYSIS EXAMINERS	FOR THE PERIOD ENDING OCTOBER 31, 2019	RUN C
28107	NC ST. BD. OF ELECTROLYS. EXAM.		ATBD7

The footer of the page contains the text 'STATE OF NORTH CAROLINA Office of the State Controller' and a circular seal on the right.

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# CONTENT CLOUD

This screenshot shows the Content Cloud interface with the 'Content Query' editor. A dropdown menu is open under the 'Add' button, showing two options: '14160' and '24160'. The rest of the interface, including the sidebar and report results, is identical to the previous screenshot.

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# CONTENT CLOUD

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# CONTENT CLOUD

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# CONTENT CLOUD

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# CONTENT CLOUD

ACCOUNT	DESCRIPTION	CERTIFIED	AUTHORIZED	CURRENT-MONTH	YEAR-TO-DATE	UNEXPENDED / UNREALIZED	AUTHORIZED
EXPENDITURES		.00	.00	133,456.24	5,375,170.21	5,375,170.21-	5,375,170.21-
REVENUES		.00	.00	25,314.35	141,072.84	141,072.84-	141,072.84-
APPROPRIATION		.00	.00	108,141.89	5,234,097.37	5,234,097.37-	5,234,097.37-

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# CONTENT CLOUD

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ACCOUNT	DESCRIPTION	BUDGETED CERTIFIED	BUDGETED AUTHORIZED	ACTUAL CURRENT-MONTH	ACTUAL YEAR-TO-DATE	UNEXPENDED / CERTIFIED	UNREALIZED AUTHORIZED
EXPENDITURES		.00	.00	133,456.24	5,375,170.21	5,375,170.21-	5,375,170.21-
REVENUES		.00	.00	25,314.35	141,072.84	141,072.84-	141,072.84-
APPROPRIATION		.00	.00	108,141.89	5,234,097.37	5,234,097.37-	5,234,097.37-

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# CONTENT CLOUD

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# CONTENT CLOUD

### Create Content View

Content View Type: XTND View

Content View ID:

XTND View File:

Category:

For Resource: Document (/OSC/OTC/OTEN)

Start Page: 1  
This is the first page to be included in the sample file.

Max Pages: 5  
This is the maximum number of pages to be included in the sample file. If it is 0, the server's max pages is used.

--Choose--  
Text View  
XTND View

Windows/ProgramData/Systemware/  
Xtnd32/Data



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# CONTENT CLOUD

### Create Content View

Content View Type: XTND View

Content View ID: SANDYS TEST

XTND View File: 0000000D.VEW

Category: Certification

For Resource: Document (/OSC/OTC/OTEN)

Start Page: 1  
This is the first page to be included in the sample file.

Max Pages: 5  
This is the maximum number of pages to be included in the sample file. If it is 0, the server's max pages is used.



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# CONTENT CLOUD

The screenshot shows the Content Cloud interface with a menu open. The menu items are: Query, Transform, Download, Deliver, Analyze, Text to PDF, Content View, Reset, Apply Content View, Create Content View, and Update Content View. An orange arrow points to the 'Apply Content View' option.

Below the menu, the report title is "OSOTC FY2020 BD701 REPORTS Date:10/23/2019 13:05:00". The report content includes:

STATE OF NORTH CAROLINA GENERAL LEDGER SYSTEM  
 AGENCY MANAGEMENT BUDGET REPORT  
 FOR THE PERIOD ENDING OCTOBER 31, 2019

BUDGET CODE RECAP

ACCOUNT	DESCRIPTION	BUDGETED CERTIFIED	AUTHORIZED	ACTUAL CURRENT-MONTH	YEAR-TO-DATE	UNEXPENDED / CERTIFIED	UNREALIZED AUTHORIZED
EXPENDITURES		.00	.00	133,456.24	5,375,170.21	5,375,170.21-	5,375,170.21-
REVENUES		.00	.00	25,314.35	141,072.84	141,072.84-	141,072.84-
APPROPRIATION		.00	.00	108,141.89	5,234,097.37	5,234,097.37-	5,234,097.37-

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# CONTENT CLOUD

The screenshot shows the Content Cloud interface with a menu open. The menu items are: Query, Transform, Download, Deliver, Analyze, XLS, TXT -- Viewer, and PDF -- Generic. An orange arrow points to the 'XLS' option.

Below the menu, the report title is "OSOTC FY2020 BD701 REPORTS Date:10/23/2019 13:05:00". The report content includes:

STATE OF NORTH CAROLINA GENERAL LEDGER SYSTEM  
 AGENCY MANAGEMENT BUDGET REPORT  
 FOR THE PERIOD ENDING OCTOBER 31, 2019

BUDGET CODE RECAP

ACCOUNT	DESCRIPTION	BUDGETED CERTIFIED	AUTHORIZED	ACTUAL CURRENT-MONTH	YEAR-TO-DATE	UNEXPENDED / CERTIFIED	UNREALIZED AUTHORIZED
EXPENDITURES		.00	.00	133,456.24	5,375,170.21	5,375,170.21-	5,375,170.21-
REVENUES		.00	.00	25,314.35	141,072.84	141,072.84-	141,072.84-
APPROPRIATION		.00	.00	108,141.89	5,234,097.37	5,234,097.37-	5,234,097.37-

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# CONTENT CLOUD

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Office of the State Controller

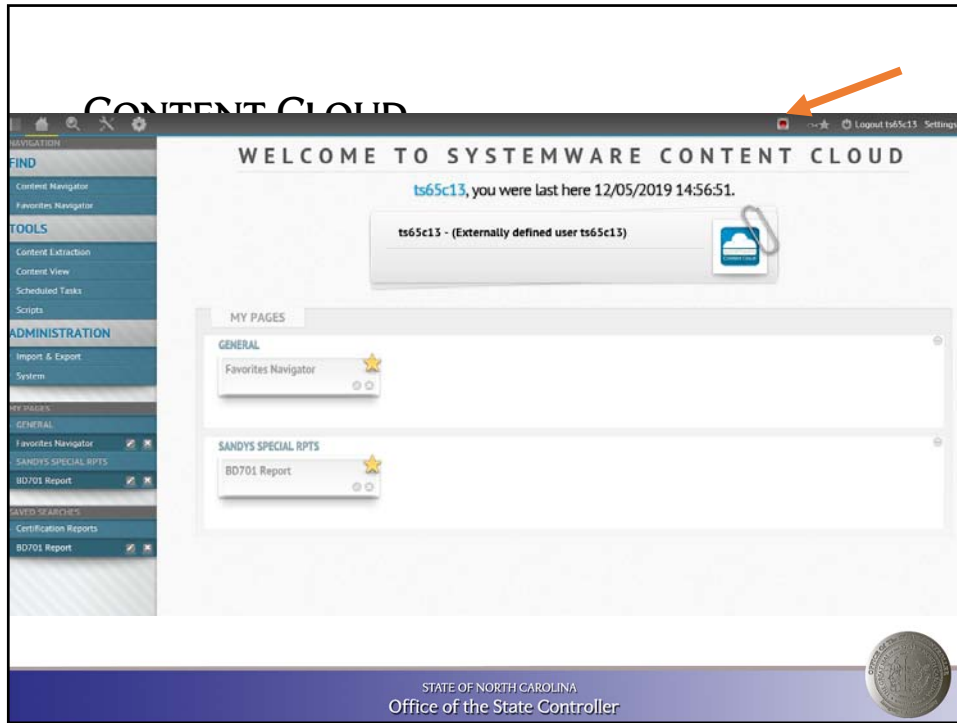
ACCOUNT	DESCRIPTION	***** B U D G E T E D *****		***** A C T U A L *****		***** U N E X P E N D E D / U N R E A L I Z E D *****	
		CERTIFIED	AUTHORIZED	CURRENT-MONTH	YEAR-TO-DATE	CERTIFIED	AUTHORIZED
EXPENDITURES		.00	.00	133,456.24	5,375,170.21	5,375,170.21-	5,375,170.21-
REVENUES		.00	.00	25,314.35	141,072.84	141,072.84-	141,072.84-
APPROPRIATION		.00	.00	108,141.89	5,234,097.37	5,234,097.37-	5,234,097.37-

39

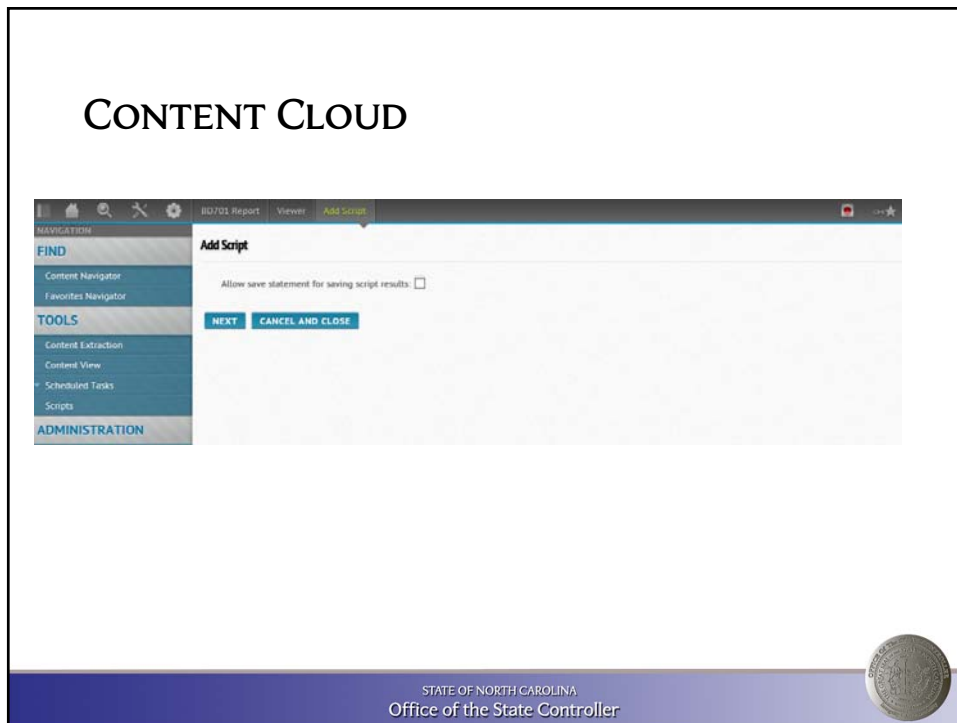
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45

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• Questions???

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46



**Michael Euliss** is the Director of Communications, Government Relations, and Training for the North Carolina Office of the State Controller. Mr. Euliss is also a motivational teacher and holds numerous nationally recognized certifications in training, teaching, and organizational health. He has provided educational events to hundreds of governmental, church, corporate, and civic groups across North America to help them develop a culture of servant leadership and displace ineffective and autocratic leadership practices.

He is internationally recognized for practical but powerful motivational and inspirational learning experiences. His expertise is in leadership development, public and interpersonal communication skills, strategic direction, and group dynamics. He uses a variety of methods to equip today's leaders with the tools they need to excel and make others around them better.

He has been featured as a guest speaker at hundreds of venues in almost every state in the US. His other appearances include many television and radio shows, the Texas Ministry Conference, the Christian Management Association Annual Convention, WFX, the Social Security Administration, the Oklahoma State Bureau of Investigation, the Wisconsin Law Enforcement Trainer's Association, and the Institute for Church Leadership.

Mr. Euliss has experiences in the corporate world as well as the public sector. He is retired from local government after 20 years and served in executive management in the private sector for 10 years before founding a non-profit organization focused on leadership development where he served for seven years. He is the author of *Advanced Church Leadership*, *On Eagle's Wings - Developing the Leader in You*, as well as *Developing the Leader in You for Law Enforcement Professionals* and created the *BulletProof™* Initiative for the encouragement of public servants across America.

He has been married to his high-school sweetheart since 1984 and is the father of three children and a grandfather of three. He resides with his family in North Carolina.

# *The Gift*



*Who are Your Heroes?*

Who was the greatest?



# Was it?

- Billy Sims?
- Emmitt Smith?
- Tony Dorsett?
- Herschel Walker?
- Earl Campbell?
- Brian Piccolo?
- Walter Payton?
- Gale Sayers?
- John David Crow?

# John David Crow

- Only Heisman Trophy winner under Bear Bryant
- Played for the Cardinals and the 49ers
- Played in four Pro-Bowls
- Averaged 5 yards per carry
- Quote: "If {Crow's Teammate} had played for Bud Wilkinson at Oklahoma, the world would have never heard much about John David Crow."

# Ken Hall (The Sugar Land Express)

- 11,232 Career Rushing Yards (1950-53) (59 Years)
- 4,045 Single-Season Rushing Yards (1953)\*
- 47.3 yards per carry\*
- 899 Points Career Scoring
- 395 Points Single Season
- 57 Touchdowns in One Season\*
- 38 100+ Yard Games (Emmitt Smith)
- 21 Consecutive 100+ yard games
- 32.9 Points Average Per Game
- Ran for 520 yards in one game\* (11 carries)
- Scored 38 points in a Texas State Championship Track Meet

“

*...of all of the mistakes I made while coaching, you were the biggest.*

”

Coach Paul “Bear” Bryant

Letter to Ken Hall from his coach many years later.

# *The Gift*



“Circumstances do not define a  
person’s character,  
they reveal it...

They also provide the opportunity to  
develop and refine it”

Dr. Harry Reeder

“The first responsibility of a leader is  
to define reality.

The last is to say “Thank You”

In between the leader is a servant.”

Max De Pree

# Servant Leaders are a blend...

- Steel
- Hard as a Rock
- “Ferocious Resolve”
- Velvet
- Soft as a drifting, morning fog
- Great Humility



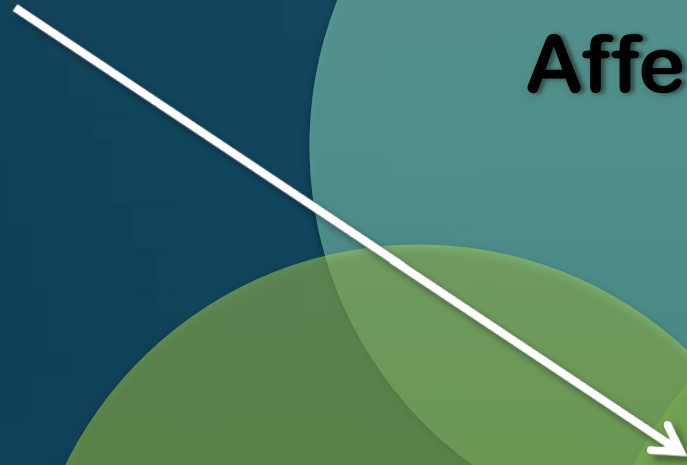
# Servant Leader

(True Leader)

- Realizes that his or her role is not about them but about serving others.
- Moves themselves and others from “**preference to purpose**”
- Focuses **EVERYTHING** on serving others
- Demonstrates **AUTHENTIC** care for individuals
- Blinders are suddenly removed allowing them to see value in others
- Moves from ego to **humility**
- Understand and embrace people’s basic needs. Not just what they can get from them.

# The Basic Needs of All People

"You matter and,  
I care"



**Affection**

**Recognition**

**Belonging**

# *The Gift*



*Who helped you get where  
you are today?*



**Stacey Mazer** is a Senior Staff Associate with the National Association of State Budget Officers (NASBO) in Washington, D.C. In this capacity, Mazer is responsible for monitoring and analyzing the impact of federal health and Medicaid decisions on states as well as tracking human and social service developments within states. Mazer also produces a weekly Health Care Issues Update that is distributed to NASBO members and she serves as the staff lead for the association budget and grants. Prior to joining NASBO, she worked for the Congressional Budget Office and the Finance Department for the City of Baltimore. Mazer is a graduate of Syracuse University where she also earned a Master's degree in Public Administration from the Maxwell School of Public Affairs and Citizenship.

December 10, 2019

# FISCAL CONDITION OF THE STATES

North Carolina OSC Financial Conference



1

## Current Fiscal Situation for States



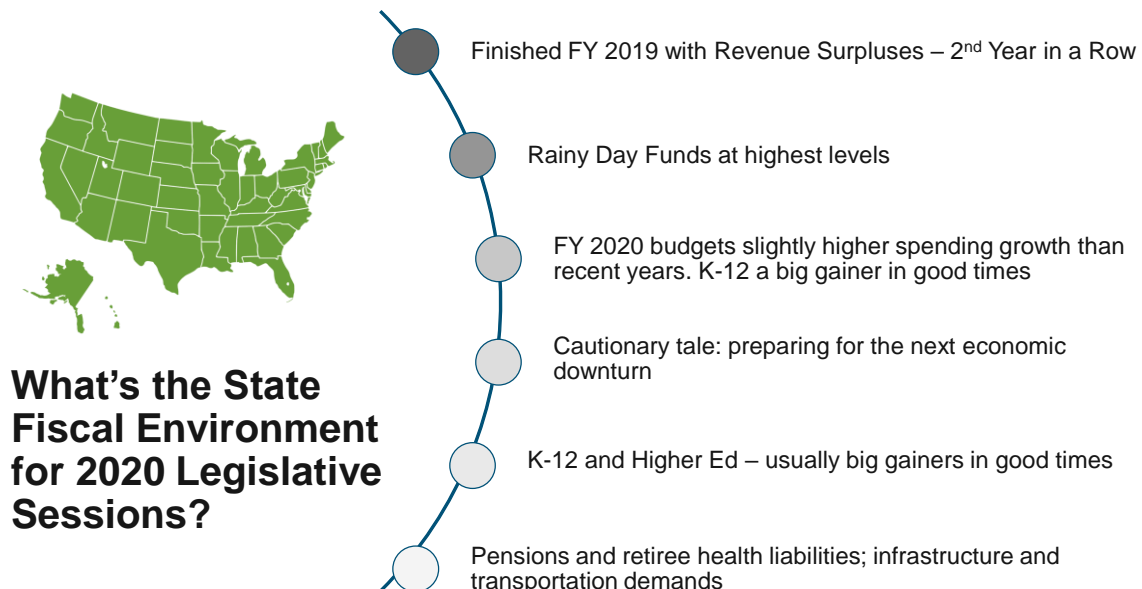
2

## NASBO Publication: State Expenditure Report

- Published yearly
- Breaks down spending by fund source
- Contains data on program area spending, as well as general fund revenue and transportation revenue



3

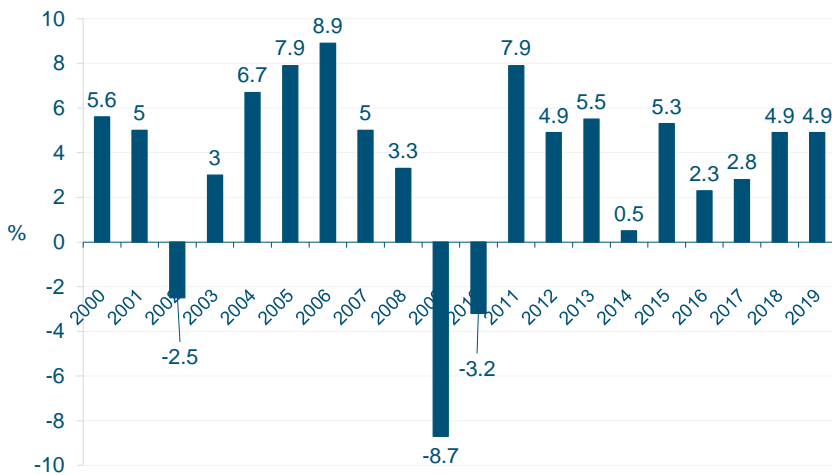


4



# General Fund Revenues

5



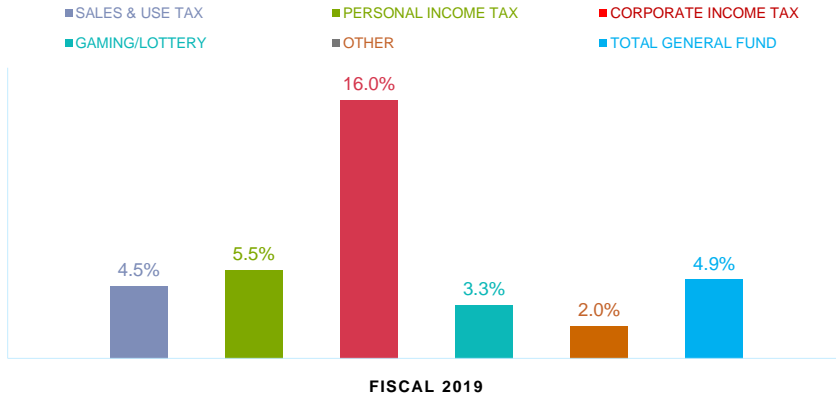
Source: NASBO State Expenditure Reports

## General Fund Revenues – All Sources

Annual Median General Fund Revenue Change (%)

6

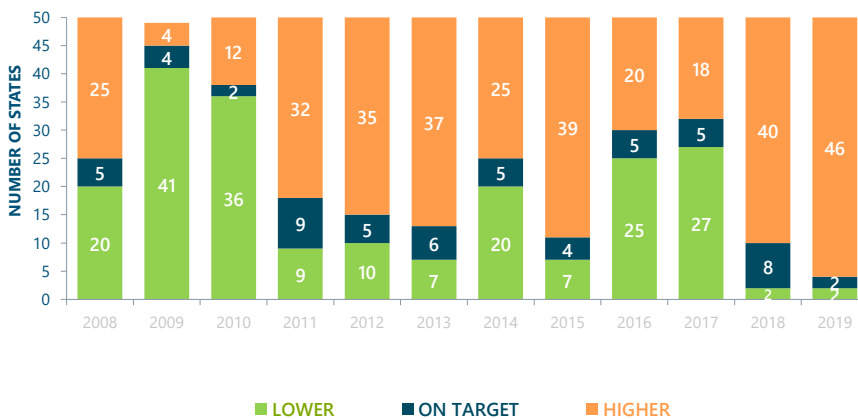
### FY 2019 MEDIAN GENERAL FUND REVENUE PERCENTAGE CHANGE



Source: NASBO State Expenditure Report 2019

## Robust Growth in Fiscal 2019, Led by Personal Income Tax Collections

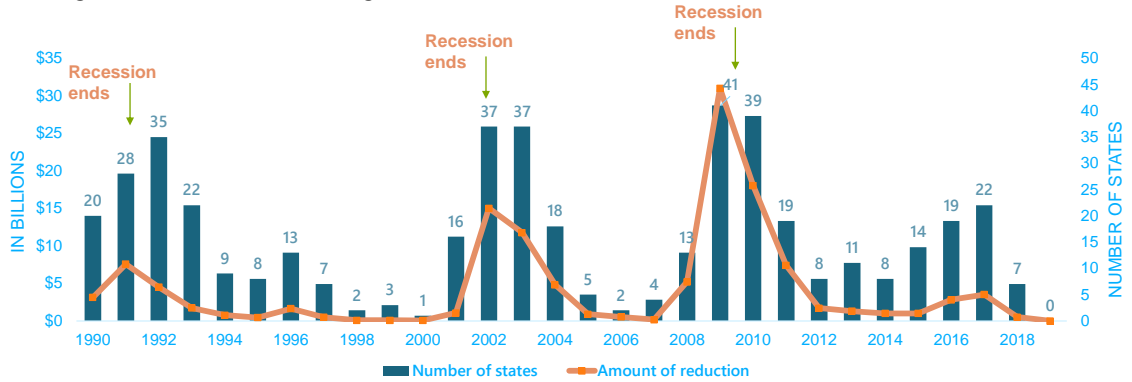
### General Fund Revenue Collections Compared to Budget Projections by Fiscal Year



## Most States Met or Exceeded Revenue Projections for Fiscal 2019

# No States Made Mid-Year Budget Reductions in Fiscal 2019 Due to a Shortfall

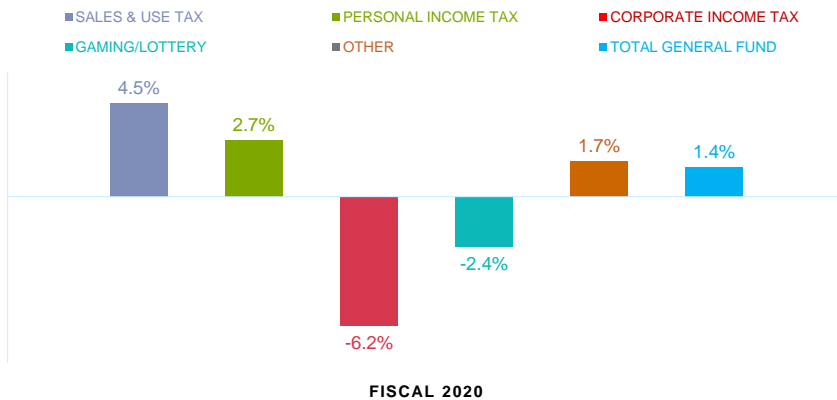
## Budget Cuts Made After The Budget Passed



Note: Beginning in Fiscal 2018, NASBO asked states reporting net mid-year budget reductions as to whether the reductions were made due, at least in part, to a revenue shortfall. Effective in FY2018 going forward, only states reporting mid-year budget cuts due to a shortfall are included in the totals reported in this figure. Prior to FY2018, particularly in non-recessionary periods, states that reported mid-year cuts that were due to other reasons, such as a reduction in caseload, would have been included in the counts above.



### FY 2020 ESTIMATED MEDIAN GENERAL FUND REVENUE PERCENTAGE CHANGE



Source: NASBO State Expenditure Report 2019

### Fiscal 2020 Growth over Revised FY 2019.

Growth rates were higher when FY 2020 budgets were set. Subsequently, FY 2019 revenues came in above budget.

Early revised estimates for FY 2020 have higher growth rates.





# Fiscal 2019 General Fund Revenue Growth

## Forecasts and Actuals

### Fiscal 2019 revised forecasts

- **US:** PIT +4.0%
- Sales +4.5%
- CIT +12.6%
- TOTAL +4.3%
  
- **NC:** PIT +4.0%
- Sales +4.6%
- CIT +12.7%
- TOTAL + 4.3%

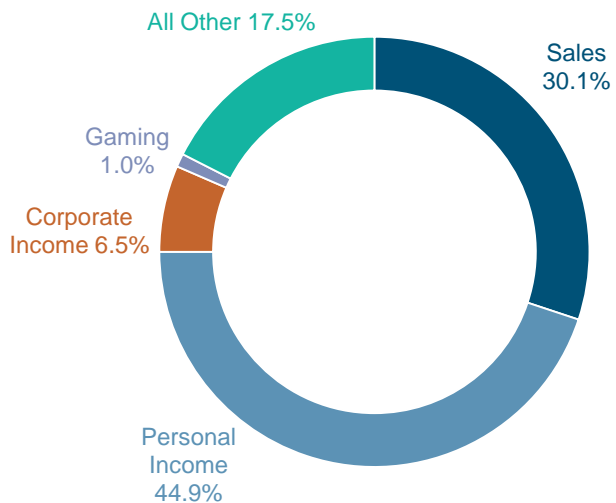
### Fiscal 2019 Actuals

- **US:** PIT +5.5%
- Sales +4.5%
- CIT +16.0%
- TOTAL +4.9%
  
- **NC:** PIT +5.2%
- Sales +5.6%
- CIT 12.4%
- TOTAL +5.4%

## All States - Revenue Sources in the General Fund

Percentage

Fiscal 2019

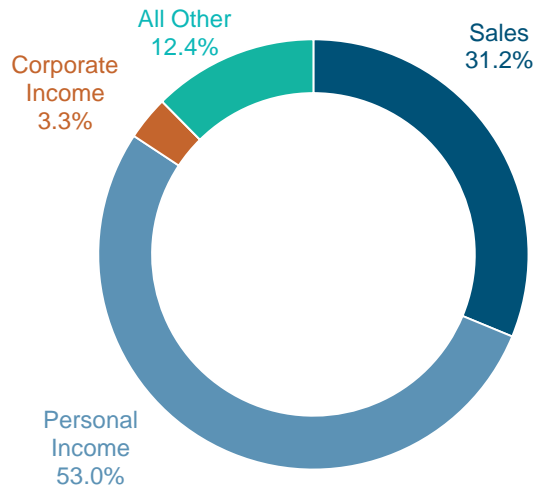


Source: NASBO State Expenditure Report 2019

## North Carolina - Revenue Sources in the General Fund

Percentage

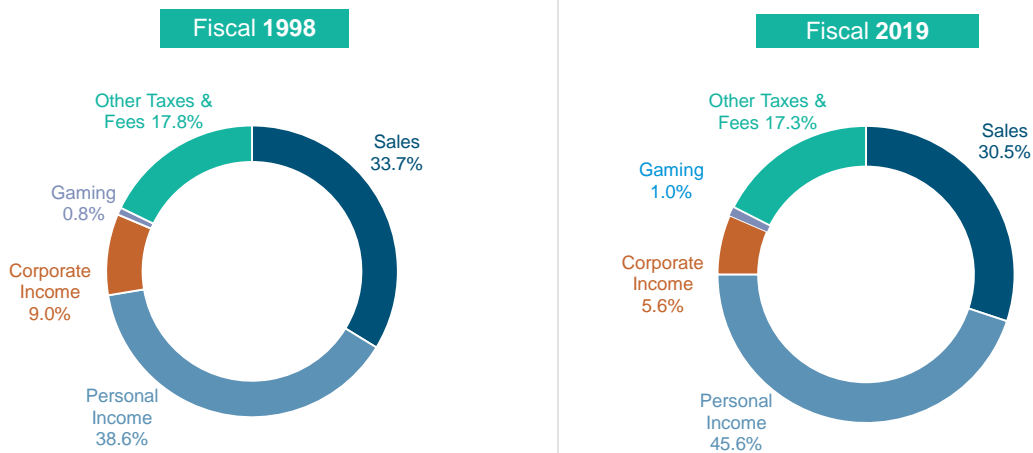
Fiscal 2019



Source: NASBO State Expenditure Report 2019

## Revenue Sources in General Fund – All States

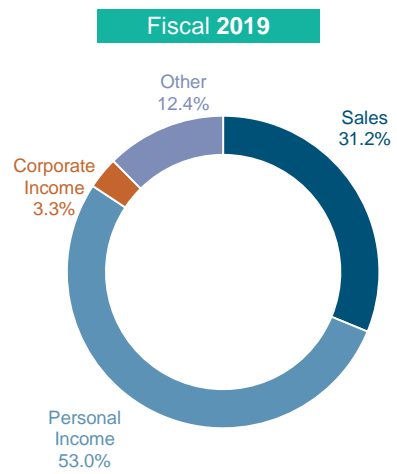
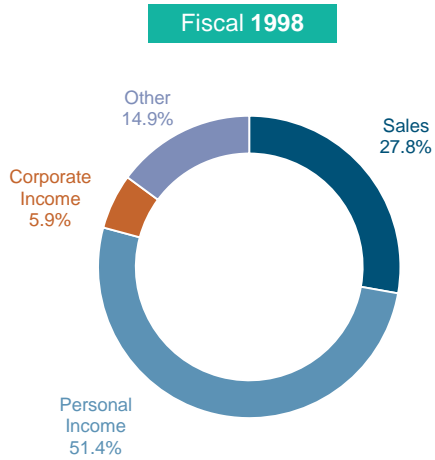
FY 1998 compared to FY 2019



Source: NASBO State Expenditure Report

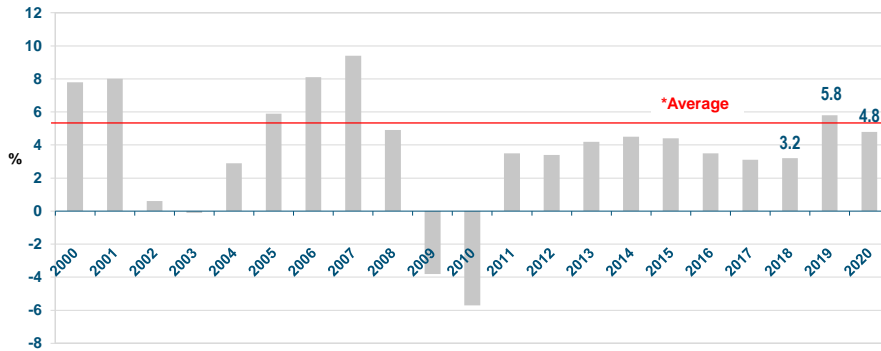
# Revenue Sources in General Fund – North Carolina

FY 1998 compared to FY 2019



## General Fund Spending

Annual General Fund Expenditure Growth, Nominal (%)



\* 41-year historical average annual nominal growth rate in state general fund spending is 5.4 percent.

State General Fund Spending Expected to See Moderate Increase In Fiscal 2020, After Above-Average Growth in Fiscal 2019

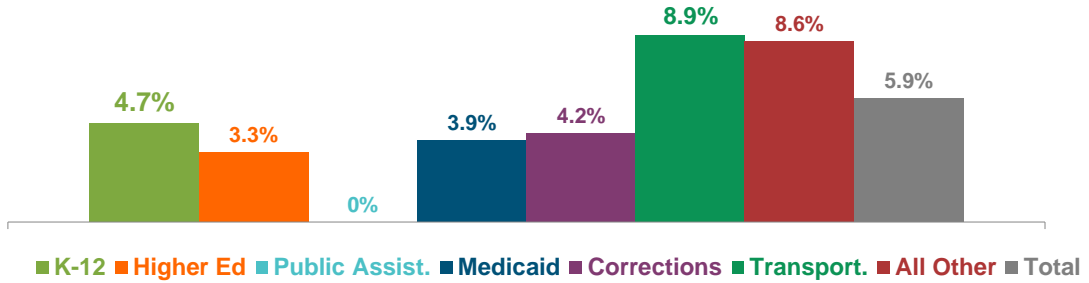


## FY 2020 Budgets: Key Themes & Common Budget Items

- Teacher Pay Increases
- Early Education/Pre-K expansions
- One-time Spending from one-time funds – including Deferred Maintenance
- Medicaid Expansion and some supplemental funds for FY 2019
- Full funding of Pension contributions plus some extra for unfunded liabilities
- Children’s Service/Child Welfare
- Preparing for Next Recession
- More states starting and expanding last dollar “free” two-year college degrees
- State employee pay increases – many budgets have 2 to 3%. Most # states in many years
- Corrections employees – even more pay and minimum salary increases
- Workforce Development
- Housing in several states

## STATE FUNDS PERCENTAGE SPENDING GROWTH BY PROGRAM AREA

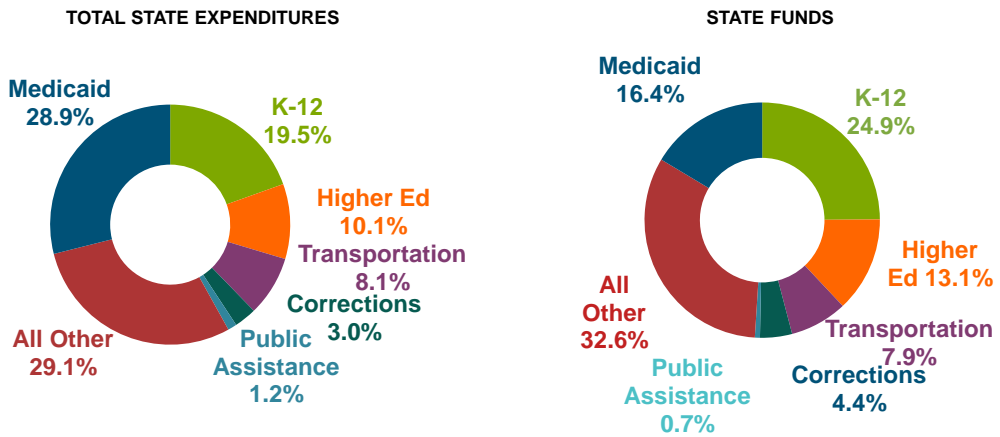
ESTIMATED FISCAL 2019



*\*State Funds are general funds and other state funds combined, excluding bonds*

19

## EXPENDITURES BY FUNCTION ESTIMATED FISCAL 2019



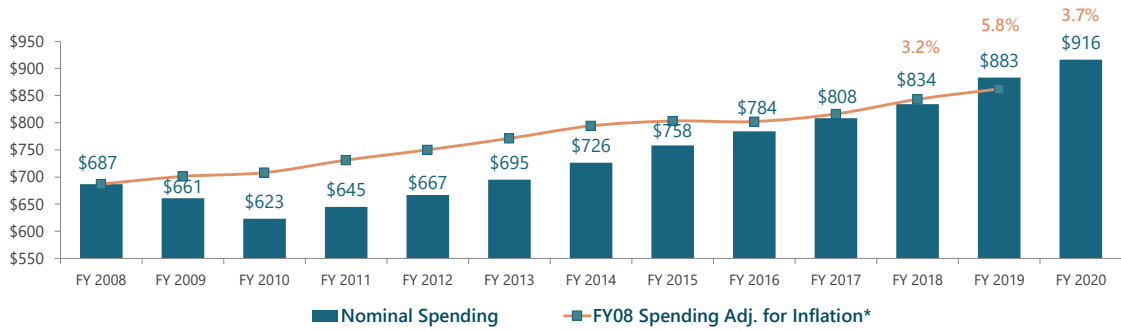
*Total state expenditures are all federal and state funds. State funds are general funds and other state funds combined, excluding bonds.*

20



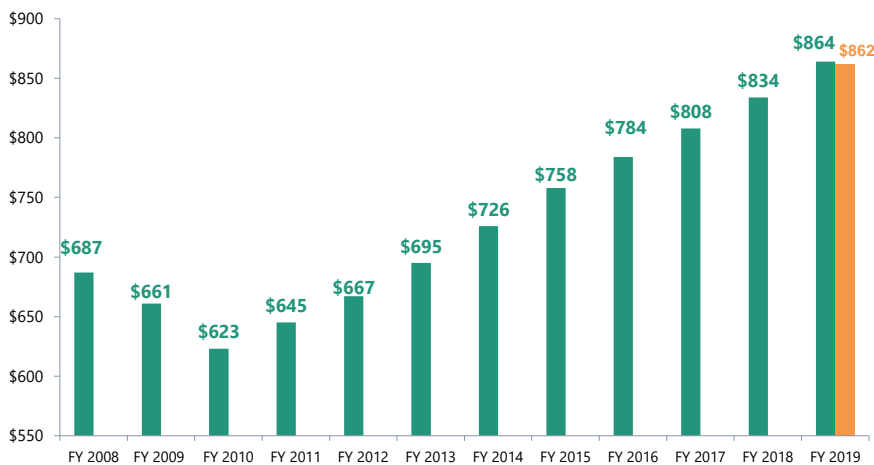
# Fiscal 2019 General Fund Spending Exceeds Fiscal 2008 Level, Adjusted for Inflation

General Fund Spending, Fiscal 2008 To Fiscal 2020 (In Billions)



Fiscal 2020 figure is based on governors' recommended budgets.  
 Percentages shown represent total annual general fund spending growth. The median projected growth rate for fiscal 2020 is **3.4 percent**.  
 \*Aggregate spending level needed to total at least \$862.6 billion in fiscal 2019 to be equivalent with or exceed real 2008 spending level.

General Fund Spending, Fiscal 2008 To Fiscal 2020 (In Billions)



## Fiscal 2019 General Fund Spending

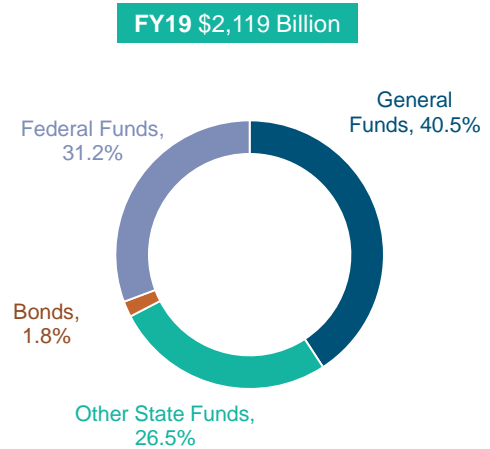
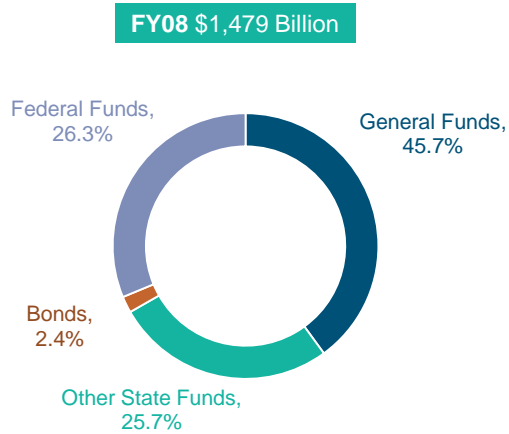
Exceeds Inflation-Adjusted Pre-Recession Peak

Yet 25 states are still below Inflation Adjusted Pre-Recession Level

Source: NASBO Fiscal Survey of States; Fiscal 2020 figure is based on governors' recommended budgets.  
 Aggregate spending level needed to total at least \$862 billion in fiscal 2019 to be equivalent with or exceed real 2008 spending level.

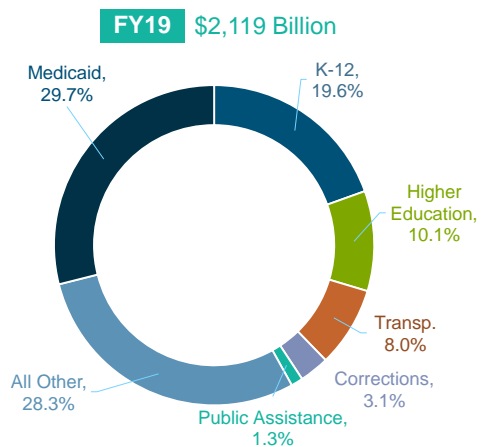
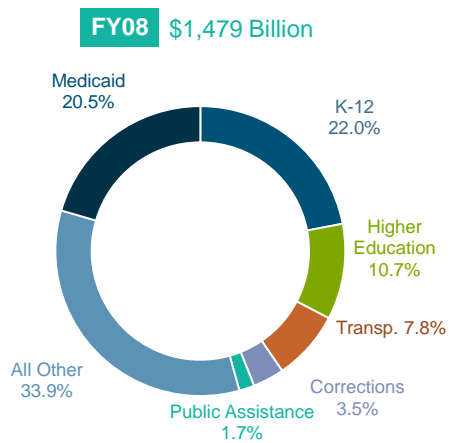
# Total State Expenditures

By Fund Source



# Total State Expenditures

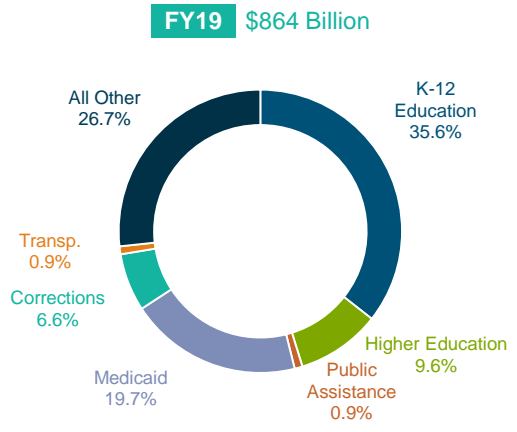
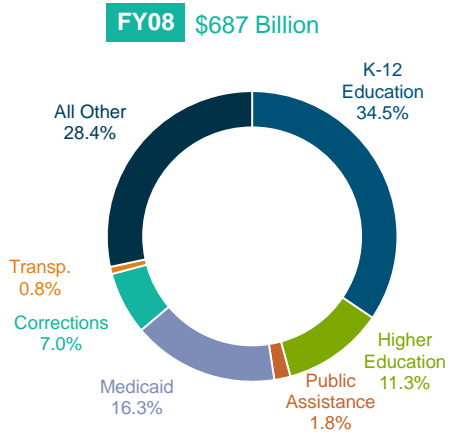
By Function



Source: NASBO State Expenditure Report. Total state expenditures include all federal and state funds. Percentages based on 50-state totals.

# General Fund Expenditures

By Function

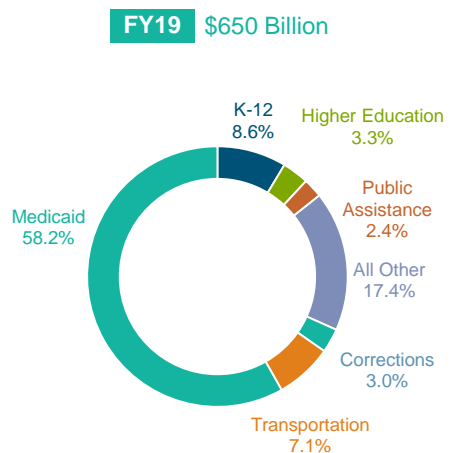
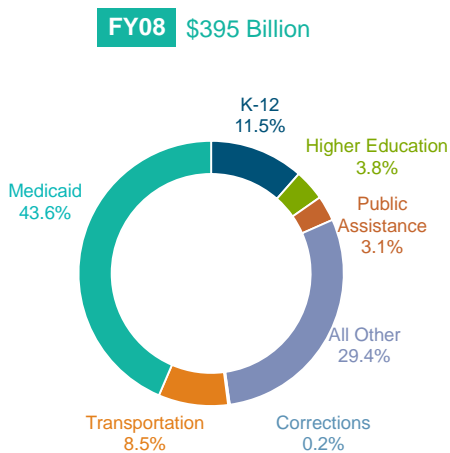


Source: NASBO State Expenditure Report. Percentages based on 50-state totals.



# Federal Funds Expenditures

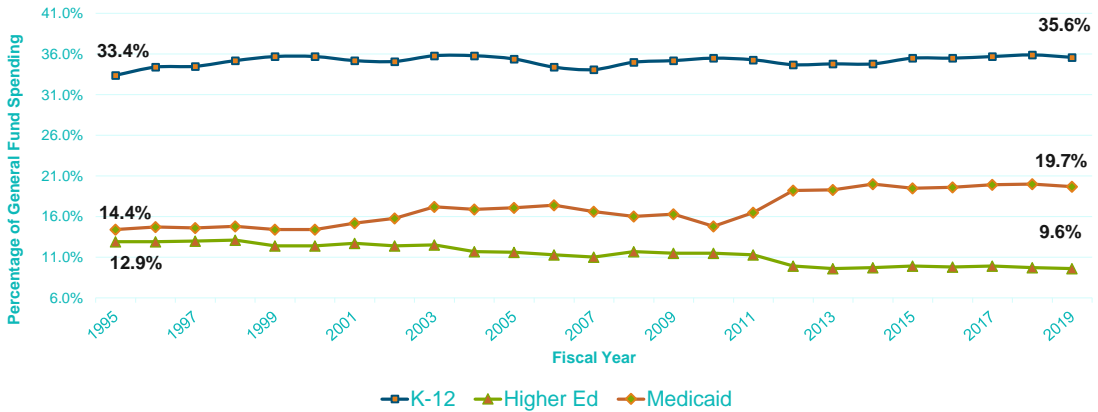
By Function



Source: NASBO State Expenditure Report. Percentages based on 50-state totals.



# Medicaid Has Increased as a Percentage of General Fund Spending Over Time

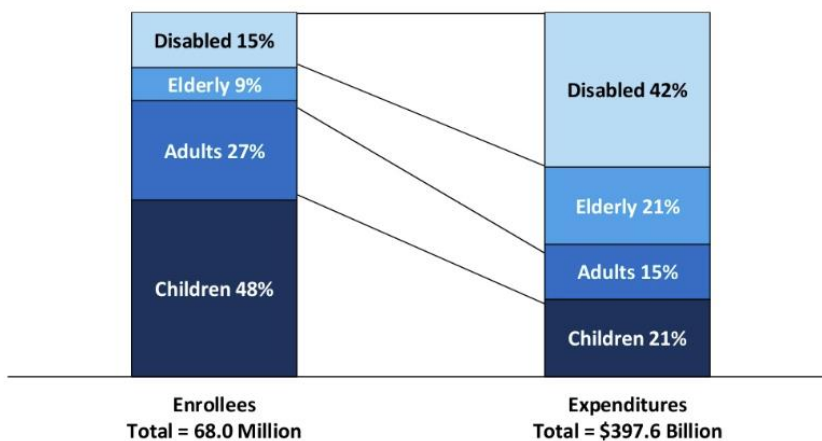


Source: NASBO State Expenditure Report

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Figure 7

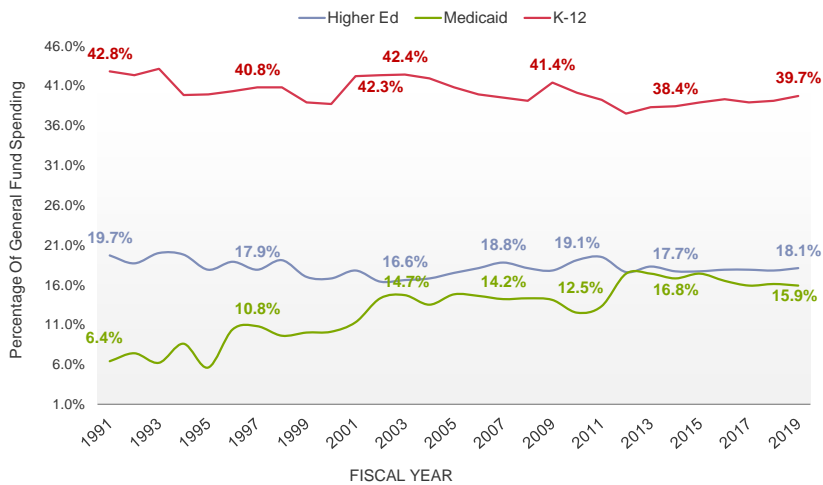
**Medicaid spending is mostly for the elderly and people with disabilities.**



SOURCE: KCMU/Urban Institute estimates based on data from FY 2011 MSIS and CMS-64. MSIS FY 2010 data were used for FL, KS, ME, MD, MT, NM, NJ, OK, TX, and UT, but adjusted to 2011 CMS-64.



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Source: NASBO State Expenditure Report.

## K-12, Higher Ed and Medicaid Spending as a % of General Fund

### North Carolina



## Pension Spending

- **Pensions** – 46 states and DC were able to report pension spending separately from OPEB spending
- **General Fund Pension Spending** – 34 states and DC were able to break out the General Fund portion
- **K-12 Education** – 29 states and DC explicitly budget amounts for K-12 pensions. 16 states do for K-12 OPEBs
- **Higher Education** – 26 states explicitly budget amounts for Higher Education pensions. 13 states do for Higher Education OPEBs

Source: NASBO



## Pension Spending

<b>Pension and OPEB Spending Median Annual Growth Rates FY 2014-2017</b>		
<b>Fiscal Year</b>	<b>General Fund</b>	<b>All Funds</b>
2014	6.8%	8.5%
2015	5.3%	6.0%
2016	3.9%	3.1%
2017	4.3%	3.0%

Source: NASBO

## Online Sales Tax





## Online Sales Tax

### Current Status of State Actions

- 42 of 45 Sales Tax States have statutes or regulations in place to require remote sellers to collect and remit – with small-seller thresholds
  - Not Yet: FL, KS, MO
  - Many states updated FY 20 revenue estimates with the impact of online sales tax revenues.
  - Averaged around 2% of sales tax totals.
- By July 2018: HI, OK, RI, PA, VT
  - Sept 2018: MS
  - Oct 2018: AL, IL, IN, KY, ME, MD, MA, MI, MN, NV, NJ, ND, WA, WI
  - Nov 2018: NC, SC, SD
  - Dec 2018: CO, CT
  - Jan 2019: GA, IA, NE, UT, WV
  - Feb 2019: WY
  - Later 2019: AR, AZ, CA, ID, LA, NM, NY, TN, TX, VA



## Online Sales Tax

### Marketplace Facilitator Laws – 33 States

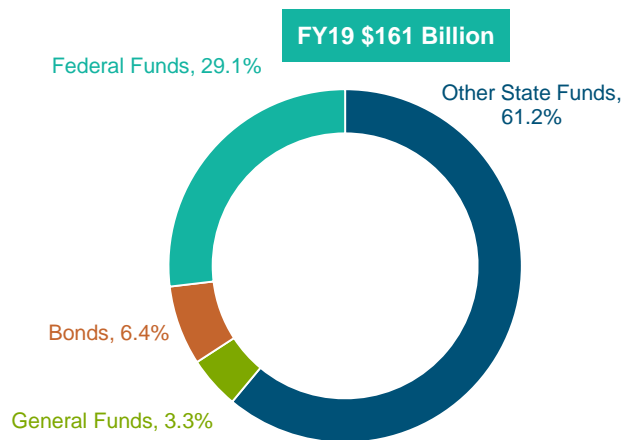
- Amazon, eBay, Etsy – examples of Marketplace Facilitators
  - Marketplace Facilitators “facilitates” the sale of a seller’s product through a marketplace for payment
  - States are moving quickly to require Marketplace Facilitators to collect and remit sales taxes from online sales
  - Relieves small businesses from the administrative burden of collecting and remitting sales taxes from their online sales.
- 2017 # of States passed these laws - 4
  - 2018 before Supreme Ct Decision – 4
  - 2018 after Supreme Ct Decision – 2
  - 2019 Legislative Session – 23  
(As of Oct 2019: FL,GA,KS,LA,MI,MS,MO,NC,TN not yet)

# Transportation

35

## Transportation Expenditures By Funding Source

Estimated  
Fiscal 2019



Source: NASBO State Expenditure Report

36



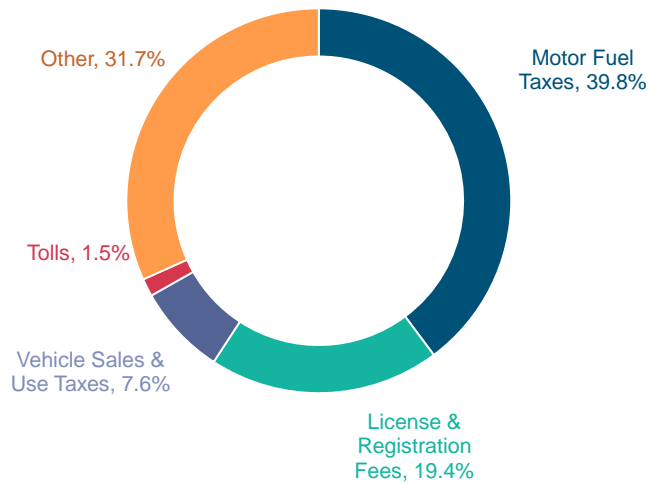
## Transportation Fund Revenue Sources Fiscal 2019

46 States have a Dedicated Fund for Transportation

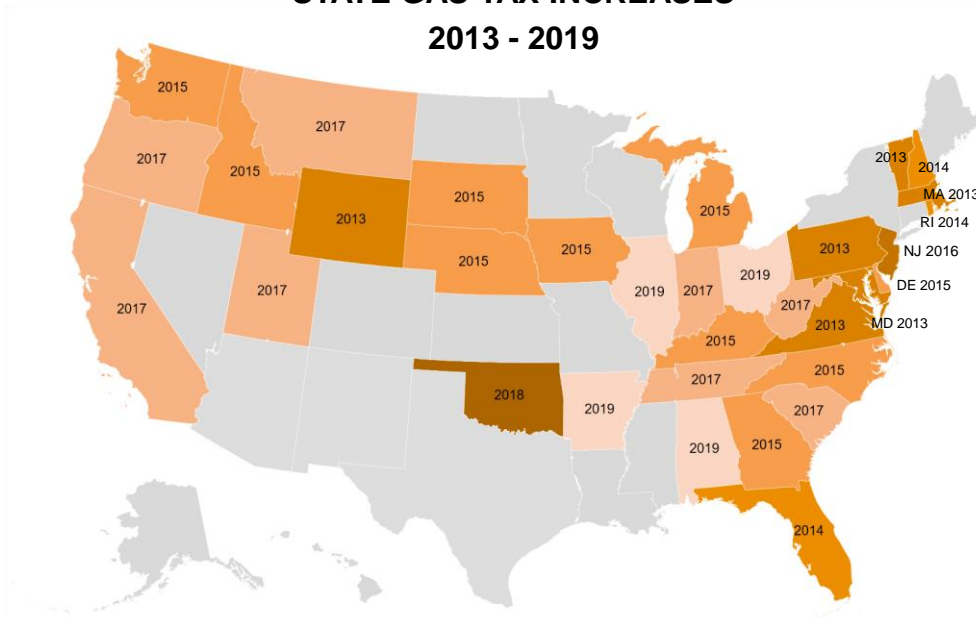
Since 2013, 33 states and DC have increased their state gas taxes.

22 states & DC have indexed or variable-rate

27 States have fees on electric vehicles

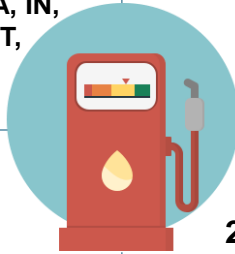


## STATE GAS TAX INCREASES 2013 - 2019



## Gas taxes raised in 33 states since 2013

-3 states in 2019 (AL, AR, OH)  
-1 state in 2018 (OK)  
-8 states in 2017 (Rate increases: CA, IN, MT, OR, SC, TN. Formula change: UT, WV)



## Road Usage Charges

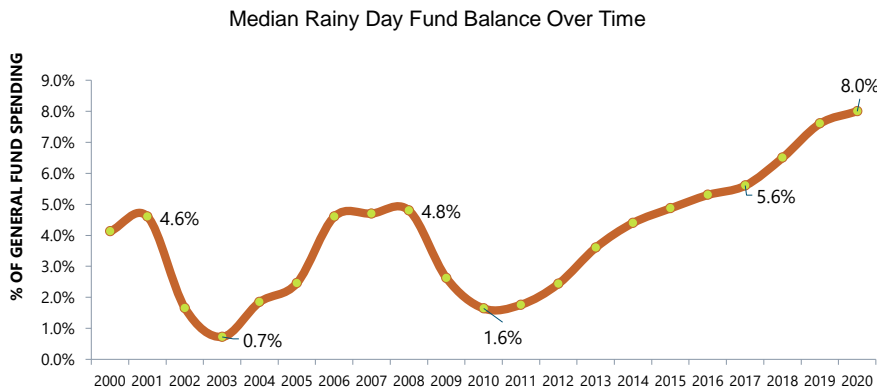
The next frontier of transportation resources

**32 states** have Constitutional restrictions on how revenues in transportation fund can be spent

## 27 States now have electric vehicle fees

2016 – 9% of fleet were electric  
2021 – 12% of fleet (est'd)

## State Rainy Day Funds



Most States Continue to Strengthen Rainy Day Funds

37 States Report Increases in Fiscal 2019; 32 States Forecast Increases in Fiscal 2020

## Federal Outlook and Impact on States



## Federal Uncertainty

### The Affordable Care Act, especially Medicaid

Per capita caps, Expansion, Flexibility, ACA struck down

### Tax Policy Considerations

Municipal debt, border-adjusted corporate tax, state/local tax deductibility

### Infrastructure

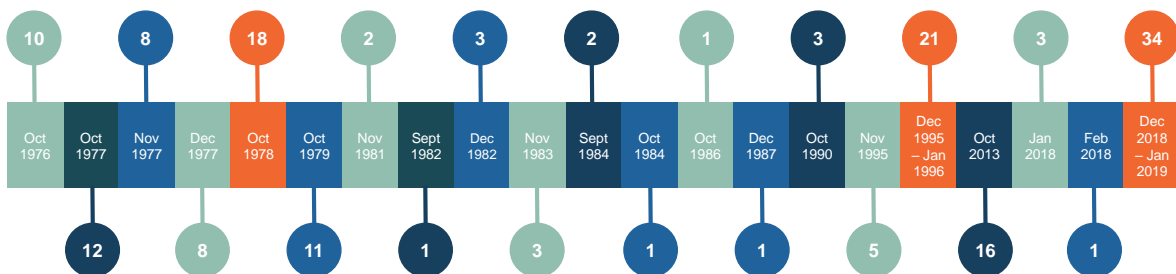
Infrastructure Week?

### The Fiscal 2020 Budget

What happens after December 20?



## FEDERAL GOVERNMENT SHUTDOWNS AND THEIR DURATION IN DAYS 1976 - 2019

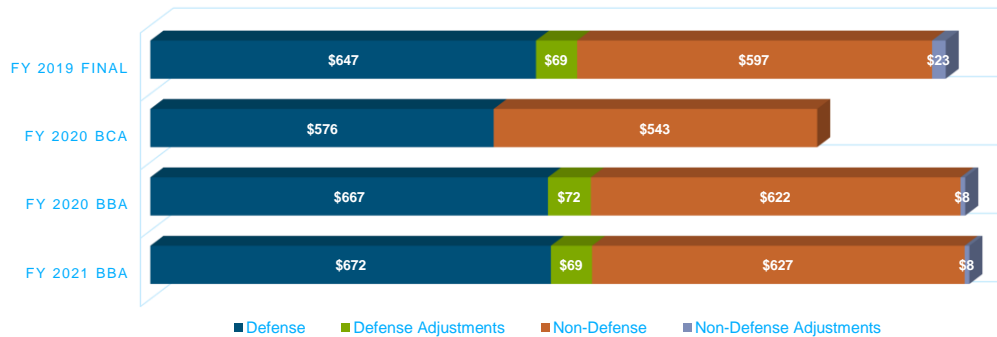


Source: From Congressional Research Service reports



## FY 2020: How Did We Get Here?

### DISCRETIONARY SPENDING (BILLIONS)



Source: Federal Funds Information for States, House Budget Committee



## FY 2020: What Happens Next?

- Twelve appropriations bills: House and Senate different totals, need to reconcile.
- Continuing resolution (CR) funding the government through December 20.
- CR includes several program extensions: National Flood Insurance Program, HHS programs, TANF, and delays cuts to Disproportionate Share Hospitals.

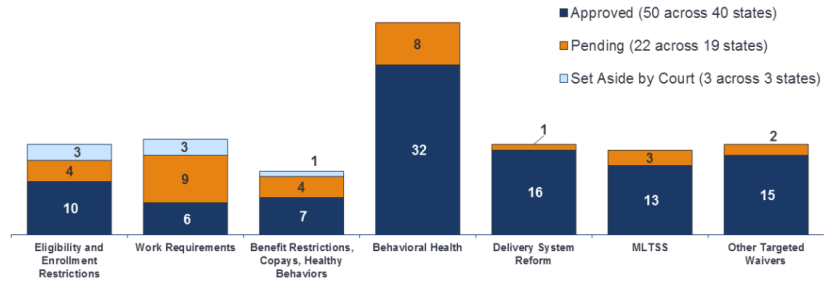


## Beyond the Budget: Regulatory Changes

### Medicaid Waivers

- Section 1115 of the Social Security Act provides authority for the Department of Health and Human Services to grant Medicaid waivers.
- Trump administration issued new waiver guidance in November 2017 and January 2018, addressing work requirements and no longer requiring increased coverage.

### Landscape of Approved vs. Pending Section 1115 Medicaid Demonstration Waivers, October 9, 2019



NOTES: Some states have multiple approved and/or multiple pending waivers, and many waivers are comprehensive and may fall into a few different areas. Therefore, the total number of pending or approved waivers across states cannot be calculated by summing counts of waivers in each category. Pending waiver applications are not included here until they are officially accepted by CMS and posted on Medicaid.gov. For more detailed information on each Section 1115 waiver, download the detailed approved and pending waiver tables posted on the tracker page. \*MLTSS\* = Managed long-term services and supports.



Landscape of Approved vs. Pending Section 1115 Medicaid Demonstration Waivers, October 9, 2019



## Beyond the Budget: Upcoming Census

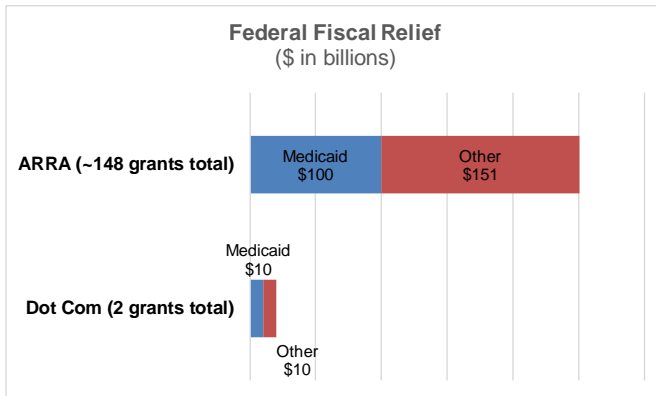
- Next decennial Census will take place in 2020.
  - The accuracy of each state government's 2020 Census count will affect its allocation of federal funding.
  - 36 states and D.C. have Complete Count Commissions or Committees.
  - 23 states have allocated over \$300 million for Census efforts.
- (Source: National Conference of State Legislatures)
- Census-guided programs:
    - Federal Medical Assistance Percentage (FMAP)
    - Highway Planning and Construction
    - Special Education
    - Women, Infants and Children
    - TANF
    - CHIP
    - Foster Care
    - LIHEAP

For more information on how the Census affects federal funds to states, visit [Counting for Dollars 2020](#) at the George Washington Institute of Public Policy.





## Past is Prologue? Lessons Learned from the Great Recession



Source: Federal Funds Information for States

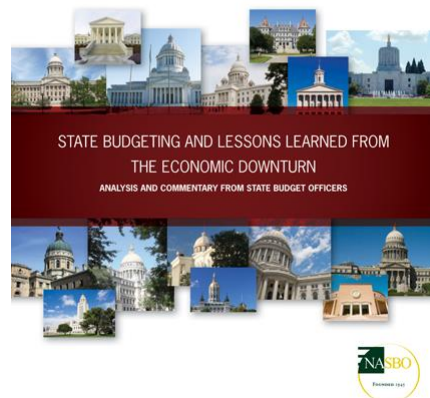
### Key Findings and Recommendations

- In times of fiscal crisis, federal aid to states should continue to be directed through pre-existing payment systems.
- The timing of federal aid can be improved.
- The Recovery Act greatly helped to alleviate state fiscal troubles in the recession.
- But it also complicated future budgets.

## NASBO Publication: Lessons Learned From the Economic Downturn

- Released in Summer 2013, this report highlights and discusses lessons learned by budget officers during the Great Recession.
- This report integrates budget officer commentary, state examples and fiscal trend analysis to provide a better understanding of state budget actions taken during the recession and what lessons were learned.

NATIONAL ASSOCIATION OF STATE BUDGET OFFICERS | SUMMER 2013





[www.nasbo.org](http://www.nasbo.org)

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National Association of State Budget Officers | NASBO







## MICHAEL L. WALDEN

Dr. Michael L. Walden is a William Neal Reynolds Distinguished Professor in the Department of Agricultural and Resource Economics at North Carolina State University and a member of the Graduate Economics faculty with The Poole College of Management. His Ph.D. degree is from Cornell University, and he has been at N.C. State since 1978. He also has been a Visiting Professor at Duke University.

Walden has published 12 books and over 300 articles and reports, including his newest book, *North Carolina beyond the Connected Age: The Tar Heel State in 2050*.

Frequently, Walden can be seen, heard, and read in the media. He has daily radio programs aired on stations around North Carolina. His biweekly column, *You Decide*, is carried by over 40 newspapers in the state. He has made close to 3,000 personal presentations.

Walden has won numerous academic and public awards, including two Champion-Tuck Awards for Excellence in Broadcasting, the UNC Board of Governor's Award for Excellence in Public Service, the Order of the Long Leaf Pine, and the Holladay Medal for Excellence from North Carolina State University. Also, he has served on several state and local commissions, and currently is a member of the NC Future Investment Resources for Sustainable Transportation Commission.

His newest book, *Real Solutions: Commonsense Ideas for Solving Our Most Pressing Problems*, will be published in 2020.

## ECONOMIC OUTLOOK: HOW FAR WILL THE RECORD EXTEND?



Dr. Mike Walden

Reynolds  
Distinguished  
Professor

North Carolina  
State  
University

1

1

## ECONOMIC HEADLINES

GROWTH GOES IN TO 11<sup>TH</sup> YEAR

DEATH OF THE PHILLIPS CURVE

TRADE TENSIONS

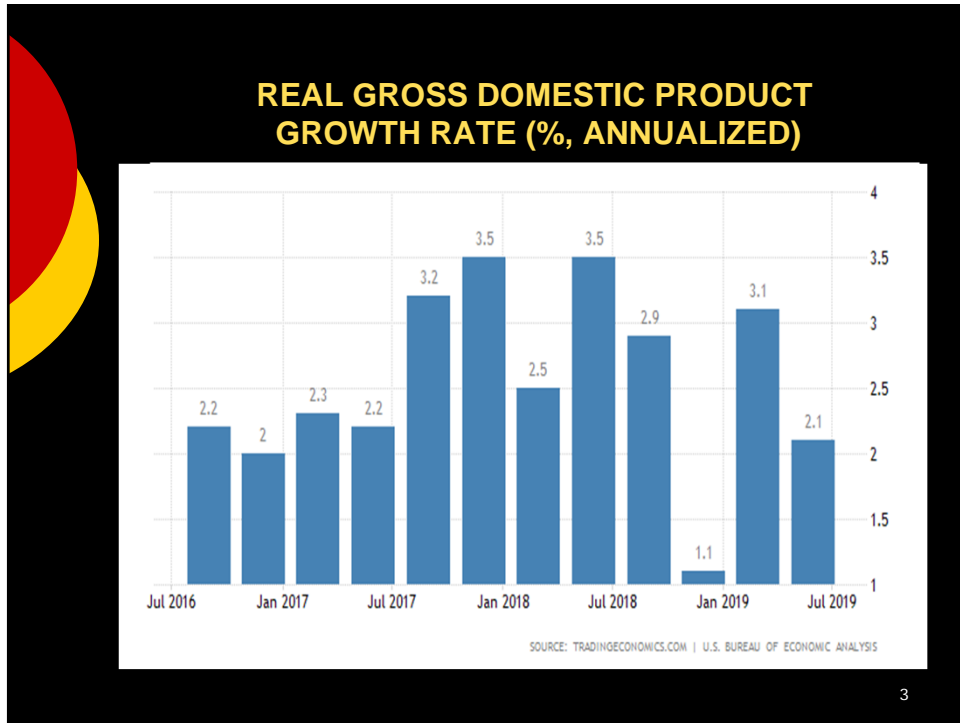
FED CUTS RATES DURING AN  
EXPANSION

CHANCE OF A RECESSION

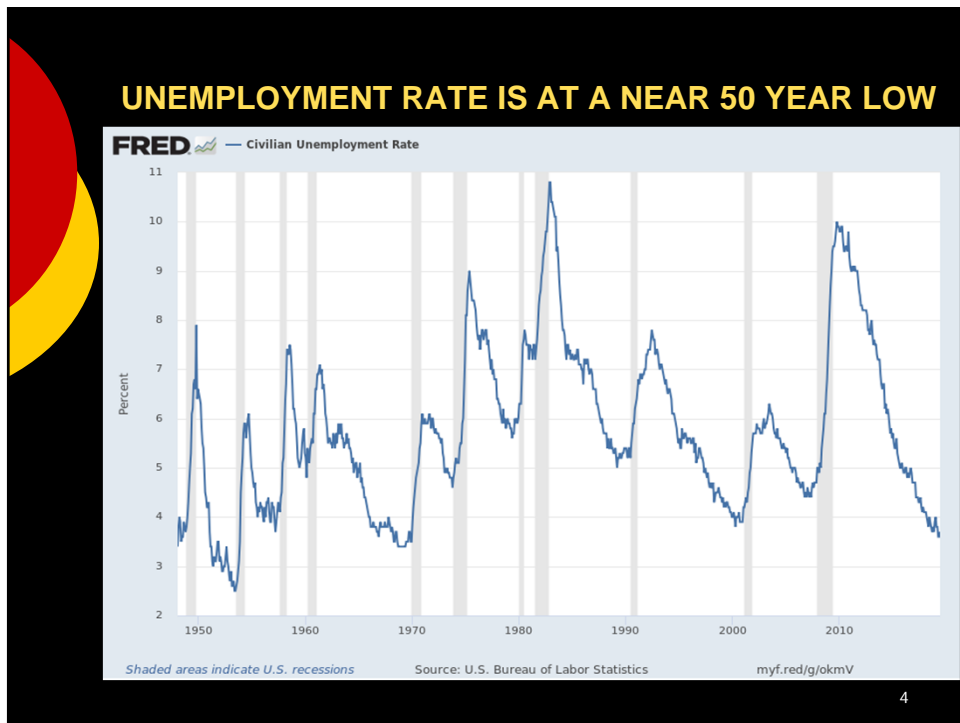


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3



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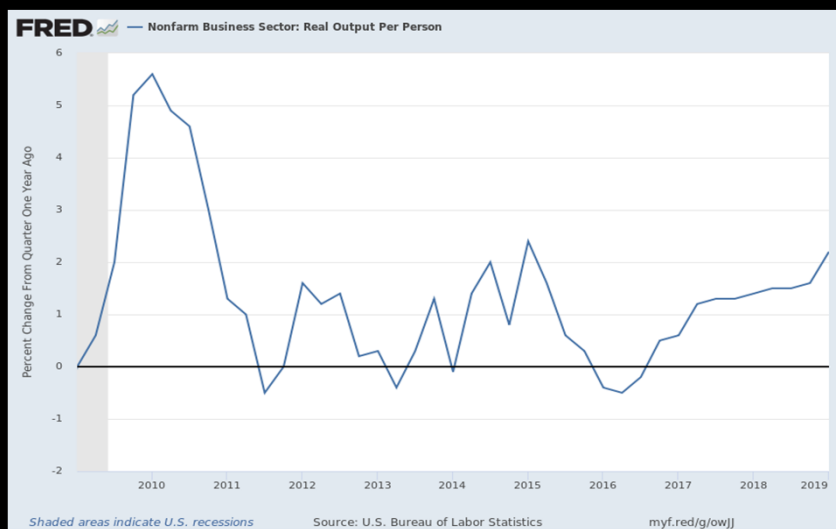
## BUT LABOR FORCE PARTICIPATION STILL HAS ROOM TO IMPROVE



5

5

## LABOR PRODUCTIVITY HAS PICKED UP



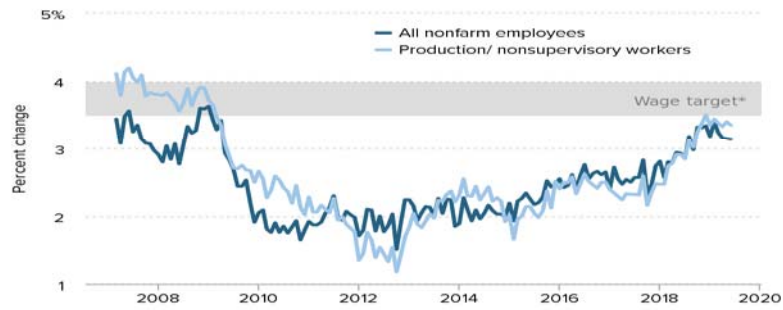
6

6

## AND WAGE GROWTH HAS BEEN IMPROVING

### Nominal wage growth has been far below target in the recovery

Year-over-year change in private-sector nominal average hourly earnings, 2007–2019



\* Nominal wage growth consistent with the Federal Reserve Board's 2 percent inflation target, 1.5 percent productivity growth, and a stable labor share of income

Source: EPI analysis of Bureau of Labor Statistics Current Employment Statistics public data series

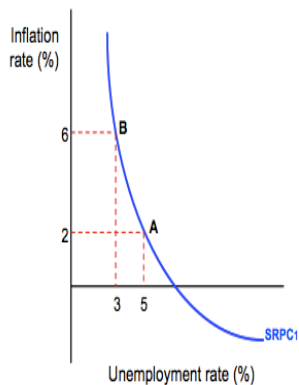
Economic Policy Institute

7

7

## WHY DOES THE PHILLIPS CURVE APPEAR TO BE DEAD?

Short-run Phillips curve:



GLOBALIZATION

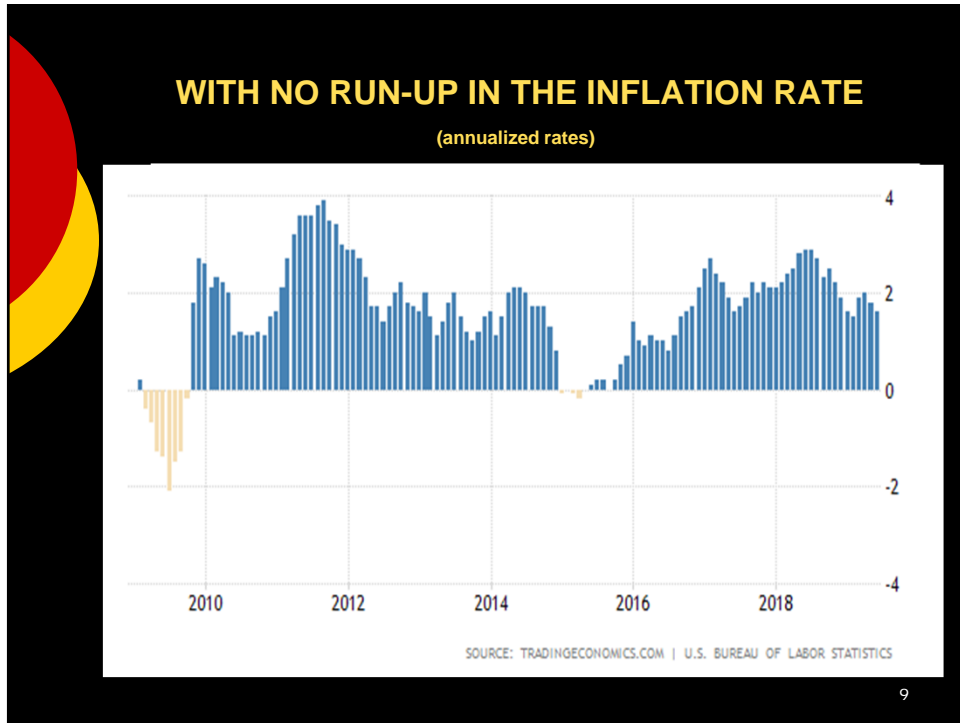
LOGISTICS

WEAK UNIONS

AUTOMATION

8

8

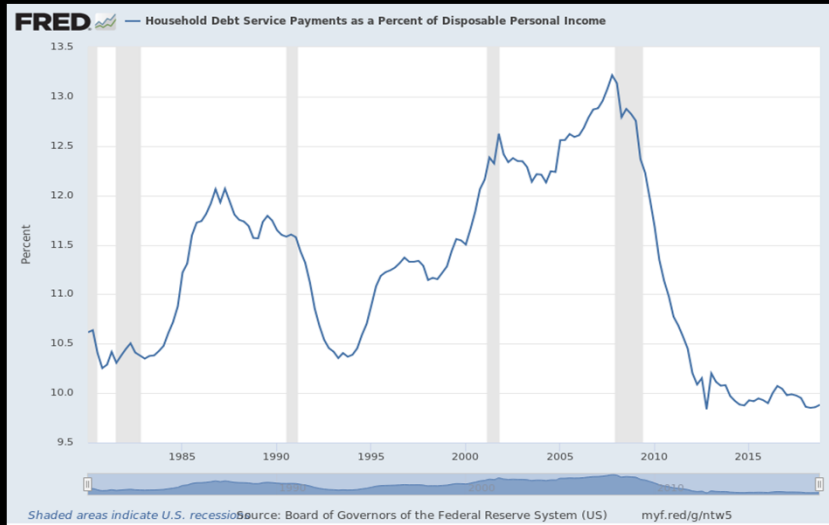


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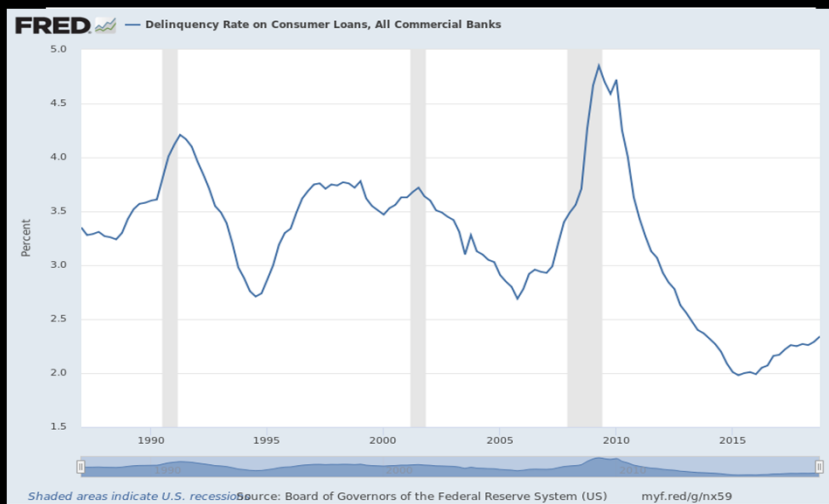
## HOUSEHOLDS ARE ABLE TO CARRY THEIR DEBT



11

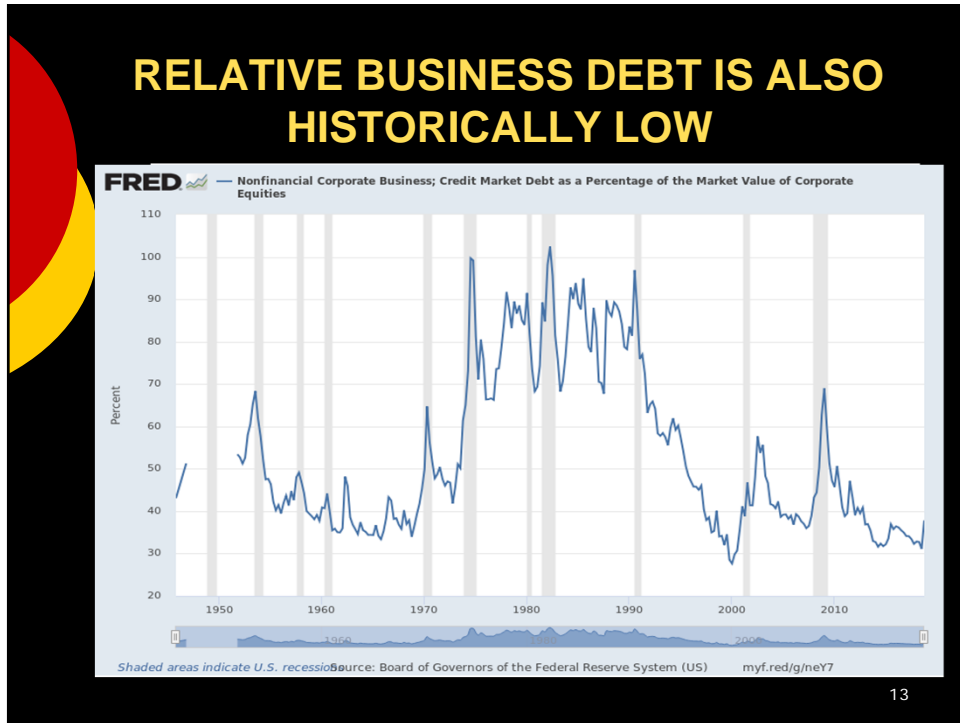
11

## HOUSEHOLD DEBT DELINQUENCY RATES ARE IN GOOD SHAPE

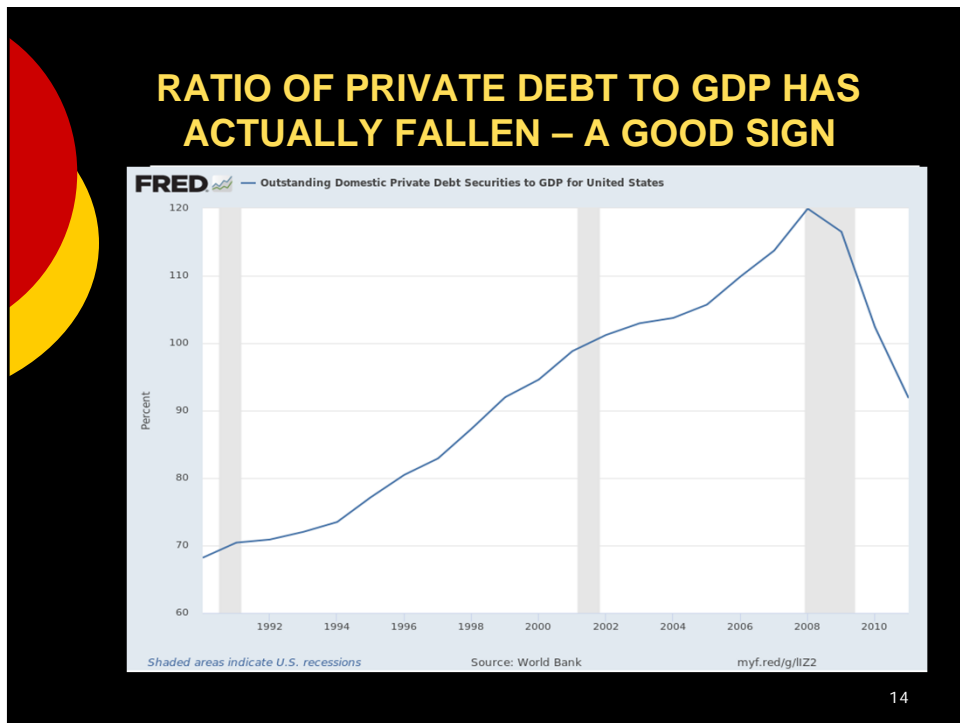


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12



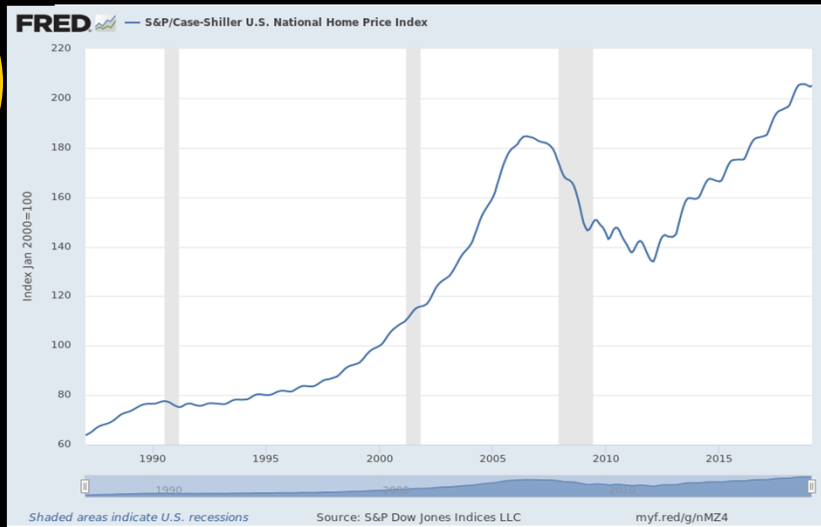
13



14



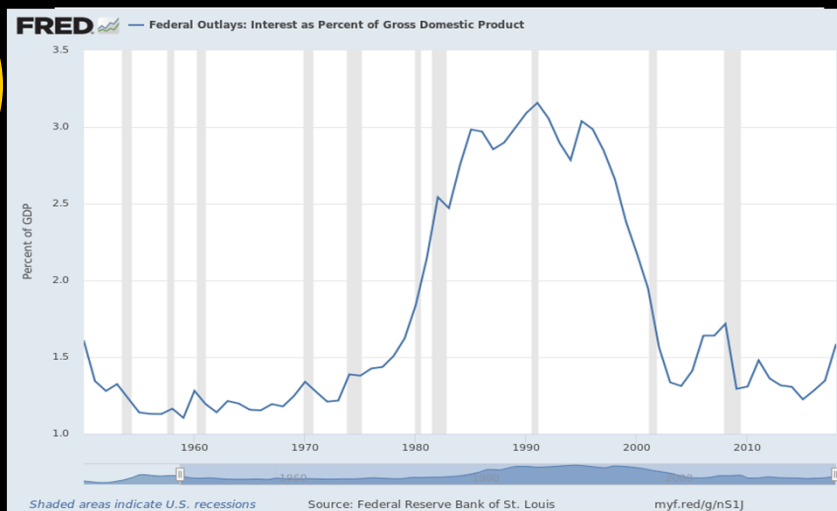
## ALTHOUGH HOME PRICES HAVE RISEN, THE GAINS ARE BASED ON LACK OF SUPPLY



15

15

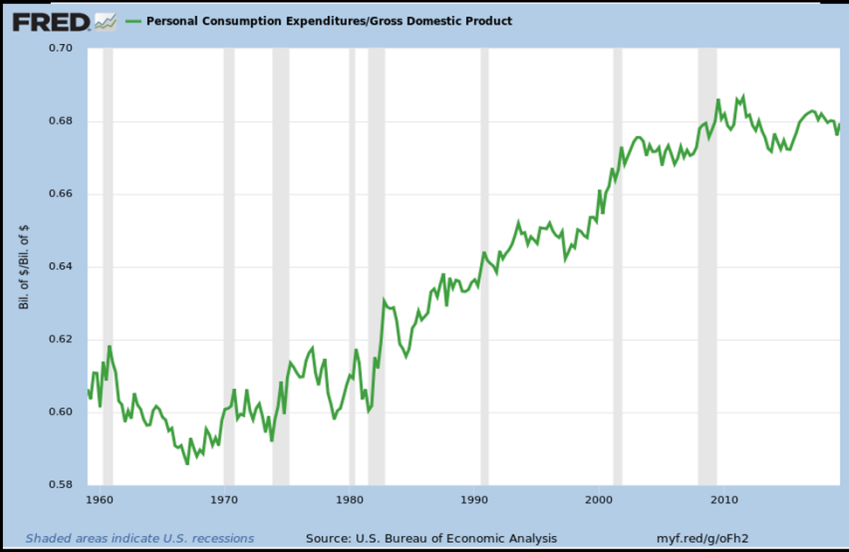
## BUT SERVICING THE NATIONAL DEBT IS TAKING A BIGGER SHARE OF THE ECONOMY



16

16

## ALSO, RELATIVE SIZE OF CONSUMER SPENDING HAS MODERATED

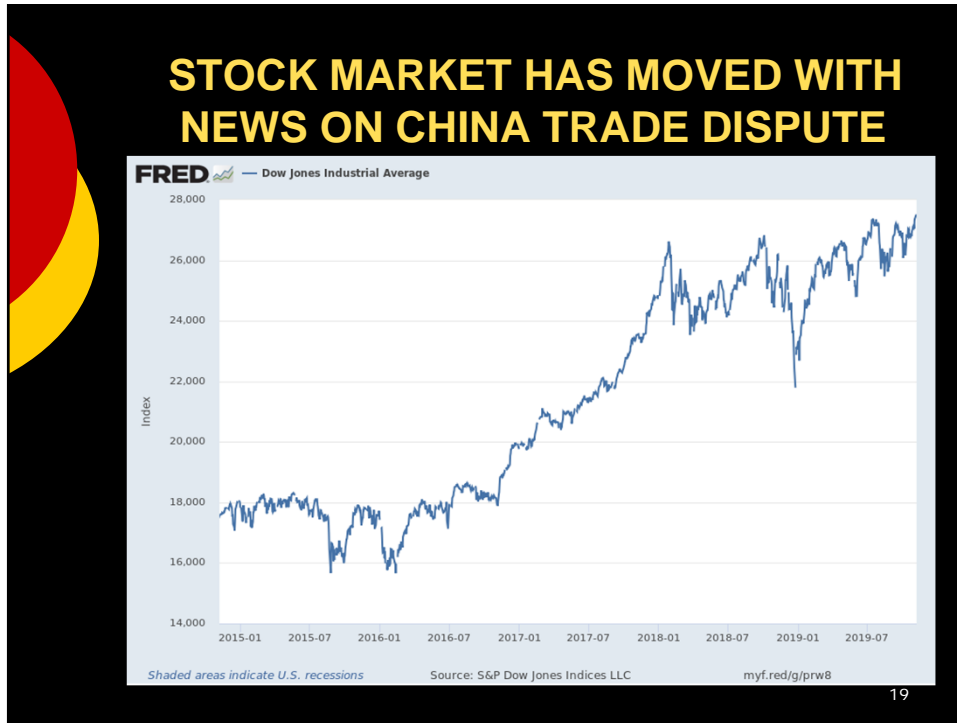


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## BUSINESS INVESTMENT HAS RECENTLY FALLEN



18



19

### IF A RECESSION DOES OCCUR

ORIGIN WILL BE ON BUSINESS SIDE

LOWER EARNINGS AND MARGINS – LEADING TO CUTBACKS AND DECLINING VALUES

20

20

## TRADE WARS



\* NEW NAFTA: USMCA,  
BUT PENDING

- \* EU TALKS
- \* S. KOREA TREATY
- \* JAPAN TALKS

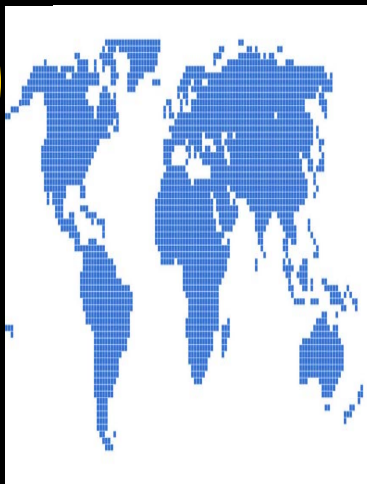
REMAINING BIG  
CHALLENGE – CHINA

MAY HAVE ALREADY  
REDUCED GDP GROWTH  
BY 0.6% POINTS

21

21

## POSSIBILITY OF FOREIGN RECESSIONS



ECONOMIC GROWTH IS  
SLOWING IN EUROPE TO 0% -  
BREXIT

JAPAN'S GROWTH RATE IS  
UNDER 1%


CHINA'S GROWTH RATE IS 6%,  
BUT LOWEST IN 25 YEARS

HOWEVER, TRADE IS A MINOR  
PART OF THE US ECONOMY

22

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## THE FEDERAL RESERVE BLINKED AND REVERSED THE “PUNCH BOWL POLICY”

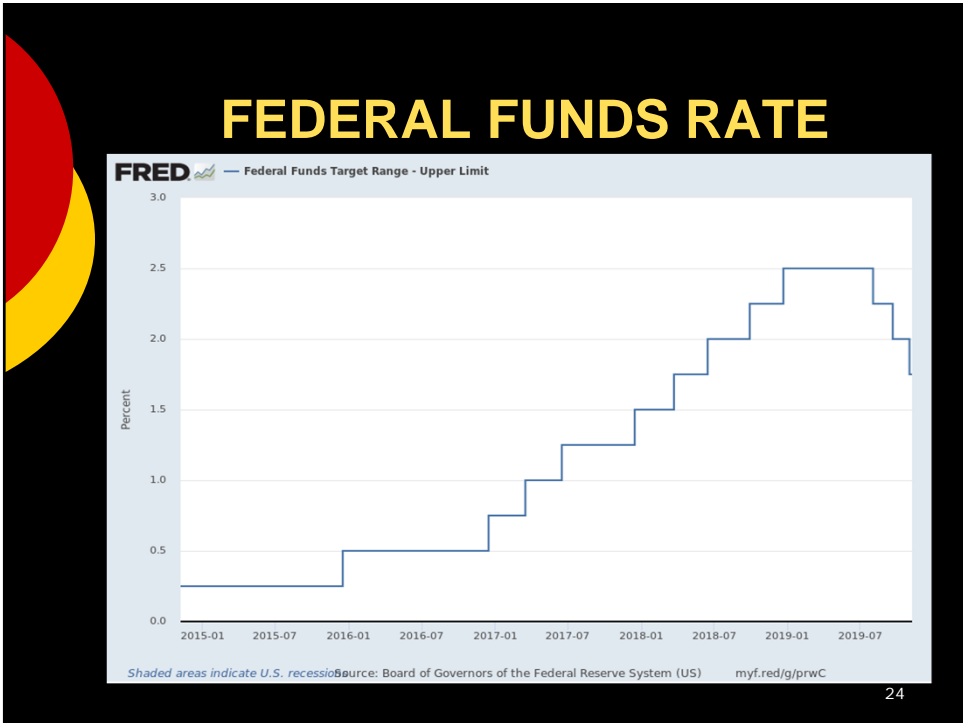


STANDARD POLICY: GO COUNTER TO TRENDS IN THE ECONOMY IN ORDER TO PROMOTE STEADY GROWTH

RECOVERY- RAISE RATES  
(REMOVE PUNCH BOWL)  
RECESSION – CUT RATES  
(RETURN PUNCH BOWL)

23

23



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# WHAT IS THE FED'S POLICY, & WHY?



OVER-TIGHTENED, SO CORRECTING NOW?

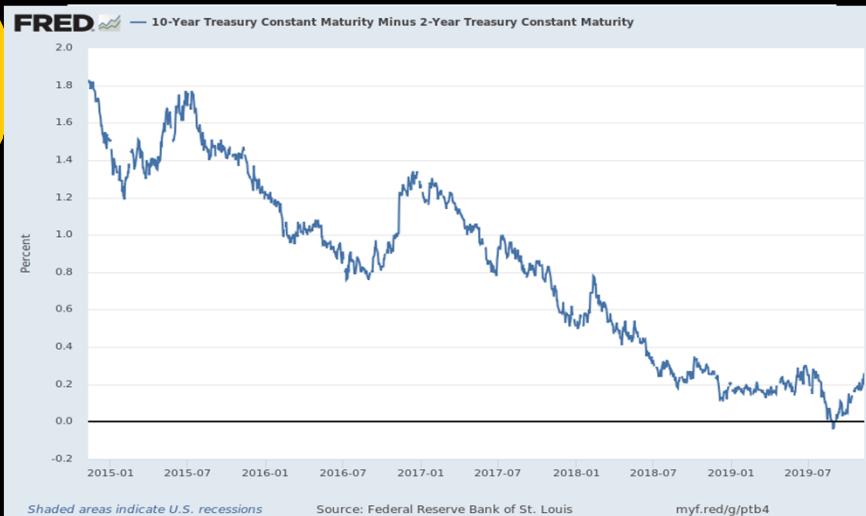
NO WORRIES ABOUT INFLATION

BUT TOOLS FOR NEXT RECESSION?

25

25

# YIELD CURVE HAS BECOME MORE NORMALIZED (10 YEAR T-YIELD MINUS 2 YEAR T-YIELD)



26

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## OTHER CHANGES

1. EMERGENCE OF U.S. AS AN OIL PRODUCER
2. IMPLICATIONS OF AGING POPULATION, FALLING BIRTH RATE, AND IMMIGRATION ON LABOR SUPPLY
3. TECHNOLOGY, JOBS, AND RE-TRAINING
4. THE FUTURE OF TRANSPORTATION – MODES AND FINANCING

27

27

## NORTH CAROLINA



28

28



## **GROWTH ALSO CONTINUES**

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- MOST RECENT DATA – ADDING JOBS AT FASTER RATE THAN NATION
- SLOWDOWN IN **MANUFACTURING** AND TRADE ISSUES FOR **FARMERS** HAVE HURT

29

29



## **SOME OTHER GOOD NEWS**

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NON-METRO COUNTIES ARE SHARING IN  
JOB GROWTH

TECH SECTOR BOOMING

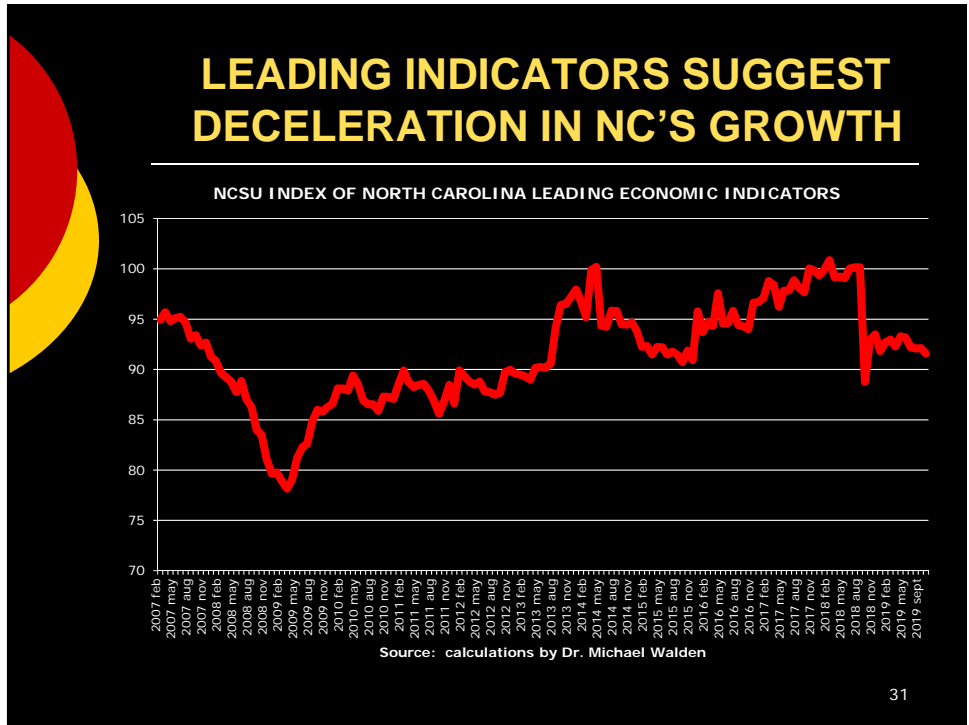
MIDDLE-PAYING JOBS GROWING

FEWER COUNTIES DEPOPULATING

30

30





31



32

## WHAT I SEE COMING

1. NO RECESSION (CONSENSUS IS NOW ONE-THIRD CHANCE)
2. "SMALL" CHINA TRADE DEAL MADE
3. FED HAS "PAUSED" IN RATE CUTS
4. CONTINUED SUPER-LOW INFLATION
5. DUE TO SLOW LABOR FORCE GROWTH, 2% ANNUAL GROWTH IS NEAR NORMAL

33

33



34

34



## FINANCING ISSUES

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- MOVEMENT AWAY FROM GAS AND GAS TAX
- PREDICTIONS OF LOWER VEHICLE OWNERSHIP
- OPTIONS: MILEAGE TAX, TOLLS, TAXING PROPERTY BENEFITING FROM TRANSIT IMPROVEMENTS

35

35



## MOBILITY MODE ISSUES

---

ECLIPSE OF THE PRIVATE AUTO?

WHAT KIND OF MASS TRANSIT?

- BUS, RAIL, RIDE-SHARE

IMPACT OF WORKING AT HOME

OTHER: PORTS – AIR AND WATER

36

36

## THANKS – QUESTIONS?

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**2019 Financial Conference  
December 10, 2019**

**Attendees by Last Name (358)**

Kathryn Alexander - Forsyth Technical CC  
Robbie Alford - OSC  
Daisy Allen - UNC Chapel Hill  
Carolyn Alley - Blue Ridge CC  
Shelly Alman - Gaston College  
Greg Alvord - DHHS  
Lewis Andrews - State Treasurer  
Carolyn Arrington - NC Central University  
Lamees Asad - UNC Chapel Hill  
Unika Ashe-Valentine - DOI  
Deborah Atkinson - DHHS  
Cynthia Autenrieth - UNC Charlotte  
Kristina Autio - Retired  
Debra D Bailey - ECU  
Jarrett Bailey - UNC School of the Arts  
Donnamarie Baldwin - DHHS  
Lorrie Barbee - DOT  
Latrice Barner - DEQ  
Ritchie Barnette - OSC  
Kim Battle - OSC  
DeAhn Baucom - UNC Chapel Hill  
Suzanne Beasley - DHHS  
Sharon Bell - ASU  
Thomas Berryman - Retired  
Manali Bettendorf - UNC Chapel Hill  
Jeannie Betts - DHHS  
Jeff Birdsong - UNC Chapel Hill  
Judy Blount - DPI  
Michael Bonner - UNC Health Care  
Sandra Boozer - NC A&T University  
Floyd Bowen Jr - DHHS  
Jennifer Brady - NCSU  
Bryan Brannon - DOA  
Robert Brinson - DPS

Kevin Brodie - NC Housing Finance  
Madelene Brooks - NCSU  
Sharon Brooks - NCSU  
Barry Brown - OSC  
Tonia Brown - Commerce  
Leon Browning - UNC GA  
Taylor Brumbeloe - OSC  
Ryan Brummeyer - DHHS  
Helen Buck - NC A&T University  
Victor Bullock - DHHS  
Anita Bunch - DOR  
Wesley Bunch - Catawba Valley CC  
Katherine Burckley - NC A&T University  
Heather Burgos - DHHS  
James Burke - State Treasurer  
Ginger Burks Draughon - NCSU  
George Burnette - UNC School of the Arts  
Dottie Burns - DHHS  
Mary Ellen Burns - Commerce  
Timothy Byrd - UNC Hospitals  
Cassandra Campbell - NCSU  
Edith Cannady - OSC  
Wynona Cash - OSC  
Mark Causey - UNC Hospitals  
Liliana Cely - NC Housing Finance  
Lena Cestaro - UNC Chapel Hill  
Angelika Chafalovitch - DOA  
Robin Champ - DPS  
Susan Charlton - DPS  
Steve Chase - Wildlife  
Thomas Cheek - OSBM  
Dan Chen - UNC Chapel Hill  
Tommy Clark - Secretary of the State  
Darrus Cofield - State Treasurer  
Elizabeth Colcord - OSC  
Stephanie Coleman - ECU  
Libby Coley - OSC

Lorie Coley - DOT  
Cynthia Collie - DIT  
Jennifer Coltrane - NCSU  
Linda Combs - OSC  
Katie Condit-Jang - UNC Greensboro  
Tracey Conrad - UNC Chapel Hill  
Adrienne Covington - Nash CC  
Sharon Cullipher - ECU  
Temekia Cyrus - DHHS  
Joy Darden - OSC  
Clayton Darnell - OSC  
Taylor Davies - NC Housing Finance  
Angela Davis - UNC Chapel Hill  
Cheryl Davis - Commerce  
Diane Davis - NC A&T University  
Steven Davis - DPS  
Jason Dearman - DOI  
Yolanda Deaver - NC Central University  
John Del Greco - DPS  
Karen Deleon - OSC  
George Dennis - AOC  
Garett Dimond - General Assembly  
Jim Dolan - OSC  
Gandy Dorsainvil - EDP NC  
Carol Dorshimer - UNC Hospitals  
Sarah Dozier - DHHS  
Debbie Dryer - UNC GA  
Agatha Bessie DSouza - OSBM  
Dana Dupree - UNC School of the Arts  
Ryan Dupree - DPI  
Mike Edwards - NCSU  
Bivian Ejimakor - NC A&T University  
Nuray Eksen - UNC GA  
Leah Englebright - NCSSM  
Michael Euliss - OSC  
Laresia Everett - DOI  
Bonaventure Ezewuzie - DPI

Vincent Falvo - ECU  
Dora Fazzini - State Treasurer  
Joanne Ferguson - UNC Wilmington  
Elisa Fernbach - Forsyth Technical CC  
Michele Fiore - NC Central University  
Stephanie Fisher - DOA  
Cliff Flood - UNC System Office  
Joyce Flowers - OSA  
Susan Flowers - DNCR  
AJ Fluker - DHHS  
Joan Fontes - State Treasurer  
Rebecca Fouts - EDP NC  
Carrie Freeman - NC Housing Finance  
Elaine Freeman - Commerce  
Patricia Fritz - ECU  
Samuel Fuller - State Treasurer  
Joe Futima - State Treasurer  
Linda Garr - UNC Health Care  
Lauren Gates - Central Piedmont CC  
Derek Gee - DNCR  
Nancy Gemma - Agriculture  
Anthony Gentile - UNC Hospitals  
Doug Genzlinger - OSC  
Will Gibbons - UNC Health Care  
Anne Godwin - OSC  
Sarah Gould - OSA  
Laura Greenwood - DOI  
Larna Griffin - SEAA  
Michael Griffin - UNC Health Care  
Paul Grosswald - UNC Hospitals  
Charles Gullette - ECU  
Sean Gutowski - OSC  
Providence Hakizimana - OSBM  
Keith Hammonds - State Treasurer  
Brenda Hampshire - UNC Greensboro  
Adriane Hankerson - Wake Technical CC  
Dana Harris - UNC Wilmington

Elizabeth Haynes - USS NC Battleship Commission	Wayne Jones - UNC Greensboro	Jeannette McGlinsky - OSC	Carolyn Perkins - UNC Hospitals
Jeffrey Henderson - Retired	Sema Kara - UNC Hospitals	Luke McHale - NCSU	Malinda Peters - General Assembly
Sybil Henderson - NC Central University	Jean Kaseke - UNC Health Care	Brandy McKoy - DPS	Johnny Peterson - Craven CC
Freda Hilburn - Commerce	Sue Kearney - DPI	Jackie McKoy - DOR	Phyllis Petree - Retired
Shannon Hobby - Commerce	Patcha Kidking - OSC	Ben McLawhorn - OSC	Stephanie Pflum - UNC Greensboro
Simuel Hodges - Retired	Katherine Kikendall - DOJ	John Meese - UNC System Office	Michael Phillips - DOI
Mark Hoffman - UNC Hospitals	David King - DHHS	Joel Mercer - DHHS	Sondra Phillips - OSC
Milburn Holbrook - NCSU	Andrew Kleitsch - Durham Technical CC	Courtney Michelle - OSC	Lynn Powell - DOT
Tereasa Hopkins - ECU	Laura Klem - OSC	Jasheen Midgette - UNC School of the Arts	Lisa Pratt - DHHS
Jim Horne - General Assembly	Geary Knapp - DHHS	Joseph Miller - DEQ	Jan Prevo - OSC
Heather Horton - Commerce	Jim Knight - Wildlife	Laketha Miller - DHHS	Ashley Price - OSA
Teresa Hosford - DHHS	Dolly Kotek - NC Housing Finance	Marvin Miller - Retired	David Price - UNC Pembroke
William Hosterman - UNC Hospitals	Ariana Kudlats - NC Housing Finance	Matt Miller - NCSU	Phillip Price - Central Carolina CC
John House - Centennial Authority	Darlene Langston - DPS	Heather Mitchell - NCSU	Dawn Quist - ECU
Gloria Howell - DHHS	Rachel Leaptrot - DHHS	Seong Woon Mo - UNC Hospitals	Chandrika Rao - UNC Chapel Hill
Tammy Hubbell - DOR	Samantha Lederer - DEQ	Cynthia Modlin - ECU	Monica Reid - State Treasurer
Kris Hudson - OSC	Linda Lejnar - Wake Technical CC	Alisha Moore - DEQ	Paula Ricard - Real Estate Commission
Larry Huffman - DHHS	Tracey Lemming - UNC Chapel Hill	LaTasha Moore - James Sprunt CC	Priscilla Roberts - Secretary of the State
John Hulmes - DHHS	Donna Lensen - Commerce	Pattie Moore-Boyette - UNC Hospitals	Ellen Rockefeller - OSC
Scott Hummel - NC A&T University	John Leskovec - OSBM	April Morris - State Treasurer	Evan Rodewald - DOT
Heather Hummer - UNC System Office	Peizhu Liu - UNC Hospitals	Tim Morris - ECU	Wayne Rogers - DOT
Prentice Hunt - DOA	Cathy Lively - DIT	Dannie Moss - ECU	Tim Romocki - State Treasurer
Jessica Hwang-Strickland - UNC Chapel Hill	Quita Loflin - UNC Greensboro	Beatrice Muganda - UNC Chapel Hill	Lauren Rooney - Central Piedmont CC
Elwanda Hyman-Farrow - Commerce	Christopher Long - DOR	Beverly Murphy - Piedmont CC	Barbara Roper - DPI
Heather Iannucci - UNC Wilmington	Matthew Longobardi - DOJ	Debra Neal - DHHS	Jeani Rousseau - DPI
Rokos Isaak - OSC	Frank Lord - WSSU	Lisa Neal - Bladen CC	Camilla Sandlin - NC Education Lottery
Brenda Jackson - Sandhills CC	Cristina MacDowall - Agriculture	Hans Norland - DPS	Joanie Saucier - OSC
Lacie Jacobs - Bladen CC	Ebony Martin - UNC Chapel Hill	Jones Norris - State Treasurer	Troy Scoggins - OSC
Carmen Jarmon - AOC	Jeannette Martin - DEQ	Gwen Norwood - UNC Chapel Hill	Bill Scott - DHHS
Bryan Jenkins - NC Community CC	Lisa Martin - DOJ	Tony Norwood - DOA	Peta-Gaye Shaw - Commerce
Patricia Jeter - Commerce	Marvin Massey - DOR	Tanya Oginski - DEQ	Teresa Shingleton - OSC
Jenny Johanns - OSC	Tabitha Mbaka - DOT	Michelle Overby - DOT	Rashmi Shivaraj - UNC Chapel Hill
Elizabeth John - OSHR	Marcus McAllister - OSC	Jennifer Pacheco - OSC	Britt Sholar - ECU
Brad Johnson - OSC	Beth McAndrew - UNC Chapel Hill	Kim Padfield - DOT	Jon Sholar - ECU
Corby Johnson - Retired	Antonio McDaniel - NC Central University	Bridget Paschal - Commerce	DP Singla - UNC GA
Mary Johnson - DHHS	Rachel McDonald - OSA	Trushaben Patel - UNC Chapel Hill	Virginia Sisson - OSC
Angela Johnston - AOC	Biff McGilvray - State Treasurer	Carly Perin - UNC Chapel Hill	Dana Smith - DOT

Jonathan Smith - Winston-Salem State University  
Laurie Smith - DOT  
Patricia Smith - DOR  
Randy Smith - OSC  
Rod Smith - UNC Chapel Hill  
Sarah Smith - UNC GA  
Shawn Smith - NCSU  
Heather Snelling - UNC Greensboro  
Christopher Sparks - NC Community CC  
Kenneth Spayd - FSU  
Jennifer Stackpole - DOL  
Jay Stanley - Bladen CC  
Faye Steele - ECU  
Jeffrey Stevens - UNC Hospitals  
Danny Stewart - DHHS  
Justin Stiles - UNC Chapel Hill  
John Storment - UNC Health Care  
Lisa Stubbs - OSC  
Mike Suggs - NC Education Lottery  
Hannah Sullivan - DHHS  
Allis Talley-Burton - DHHS  
Dawei Tang - UNC Chapel Hill  
Marla Tart - Wake Technical CC  
Wesley Taylor - General Assembly  
Elizabeth Thomas - Sandhills CC  
Kim Thomas - NC Education Lottery  
Roy Thompson - Bladen CC  
Katie Thornsvarð - UNC Chapel Hill  
Kathleen Tolbert - OSC  
Kathryn Torres - Fayetteville Technical CC  
Christopher Trevathan – NCSU  
Shirley Trollinger – DEQ  
Jim Tulenko – OSC  
Roshmi Valiyapurayil - UNC Hospitals  
Kimberly Van Metre – DEQ  
Prabhavathi Vijayaraghavan – OAH  
Karen Visnosky - NCSU  
Helen Vozzo - NCSU  
Pam Wade - OSA  
Hunter Wagstaff - UNC Hospitals  
Candace Walker - NCSU  
Michael Walker - NCSU  
Peggy Walker - DEQ  
Megan Wallace - UNC GA  
Teresa Walters - UNC Chapel Hill  
Yiwen Wang - UNC Chapel Hill  
Gary Ward - NC Central University  
Brett Warner - NC Housing Finance  
Krissie Warren Taylor - DHHS  
Rex Whaley - DEQ  
Ashlee Williams - OSC  
Jeri Williams - UNC Health Care  
Joe Wilson - DOT  
Misty Wilson - NCSU  
Richard Wilson - UNC Hospitals  
Jennifer Wimmer - State Treasurer  
Elisa Wolper - NC Courts  
Steven Woodruff - Rockingham CC  
Kent Woodson - DOL  
Melanie Wright - UNC Chapel Hill  
David Yokley - DOR  
Renee Young-Williams - DOI  
Michael Zanchelli - DHHS  
Fenge Zhang - Commerce  
Ling Zhu - DOA

**2019 Financial Conference  
December 10, 2019**

**Attendees by Agency (358)**

Nancy Gemma - Agriculture  
Cristina MacDowall - Agriculture  
George Dennis - AOC  
Carmen Jarmon - AOC  
Angela Johnston - AOC  
Sharon Bell - ASU  
Lacie Jacobs - Bladen CC  
Lisa Neal - Bladen CC  
Jay Stanley - Bladen CC  
Roy Thompson - Bladen CC  
Carolyn Alley - Blue Ridge CC  
Wesley Bunch - Catawba Valley CC  
John House - Centennial Authority  
Phillip Price - Central Carolina CC  
Lauren Gates - Central Piedmont CC  
Lauren Rooney - Central Piedmont CC  
Tonia Brown - Commerce  
Mary Ellen Burns - Commerce  
Cheryl Davis - Commerce  
Elaine Freeman - Commerce  
Freda Hilburn - Commerce  
Shannon Hobby - Commerce  
Heather Horton - Commerce  
Elwanda Hyman-Farrow - Commerce  
Patricia Jeter - Commerce  
Donna Lensen - Commerce  
Bridget Paschal - Commerce  
Peta-Gaye Shaw - Commerce  
Fenge Zhang - Commerce  
Johnny Peterson - Craven CC  
Latrice Barner - DEQ  
Samantha Lederer - DEQ  
Jeannette Martin - DEQ  
Joseph Miller - DEQ

Alisha Moore - DEQ  
Tanya Oginski - DEQ  
Shirley Trollinger - DEQ  
Kimberly Van Metre - DEQ  
Peggy Walker - DEQ  
Rex Whaley - DEQ  
Greg Alvord - DHHS  
Deborah Atkinson - DHHS  
Donnamarie Baldwin - DHHS  
Suzanne Beasley - DHHS  
Jeannie Betts - DHHS  
Floyd Bowen Jr - DHHS  
Ryan Brummeyer - DHHS  
Victor Bullock - DHHS  
Heather Burgos - DHHS  
Dottie Burns - DHHS  
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Sarah Dozier - DHHS  
AJ Fluker - DHHS  
Teresa Hosford - DHHS  
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John Hulmes - DHHS  
Mary Johnson - DHHS  
David King - DHHS  
Geary Knapp - DHHS  
Rachel Leaptrot - DHHS  
Joel Mercer - DHHS  
Laketha Miller - DHHS  
Debra Neal - DHHS  
Lisa Pratt - DHHS  
Bill Scott - DHHS  
Danny Stewart - DHHS  
Hannah Sullivan - DHHS  
Allis Talley-Burton - DHHS  
Krissie Warren Taylor - DHHS  
Michael Zanchelli - DHHS

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Cathy Lively - DIT  
Susan Flowers - DNCR  
Derek Gee - DNCR  
Bryan Brannon - DOA  
Angelika Chafalovitch - DOA  
Stephanie Fisher - DOA  
Prentice Hunt - DOA  
Tony Norwood - DOA  
Ling Zhu - DOA  
Unika Ashe-Valentine - DOI  
Jason Dearman - DOI  
Laresia Everett - DOI  
Laura Greenwood - DOI  
Michael Phillips - DOI  
Renee Young-Williams - DOI  
Katherine Kikendall - DOJ  
Matthew Longobardi - DOJ  
Lisa Martin - DOJ  
Jennifer Stackpole - DOL  
Kent Woodson - DOL  
Anita Bunch - DOR  
Tammy Hubbell - DOR  
Christopher Long - DOR  
Marvin Massey - DOR  
Jackie McKoy - DOR  
Patricia Smith - DOR  
David Yokley - DOR  
Lorrie Barbee - DOT  
Lorie Coley - DOT  
Tabitha Mbaka - DOT  
Michelle Overby - DOT  
Kim Padfield - DOT  
Lynn Powell - DOT  
Evan Rodewald - DOT  
Wayne Rogers - DOT  
Dana Smith - DOT

Laurie Smith - DOT  
Joe Wilson - DOT  
Judy Blount - DPI  
Ryan Dupree - DPI  
Bonaventure Ezewuzie - DPI  
Sue Kearney - DPI  
Barbara Roper - DPI  
Jeani Rousseau - DPI  
Robert Brinson - DPS  
Robin Champ - DPS  
Susan Charlton - DPS  
Steven Davis - DPS  
John Del Greco - DPS  
Darlene Langston - DPS  
Brandy McKoy - DPS  
Hans Norland - DPS  
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Stephanie Coleman - ECU  
Sharon Cullipher - ECU  
Vincent Falvo - ECU  
Patricia Fritz - ECU  
Charles Gullette - ECU  
Tereasa Hopkins - ECU  
Cynthia Modlin - ECU  
Tim Morris - ECU  
Dannie Moss - ECU  
Dawn Quist - ECU  
Britt Sholar - ECU  
Jon Sholar - ECU  
Faye Steele - ECU  
Gandy Dorsainvil - EDP NC  
Rebecca Fouts - EDP NC  
Kathryn Torres - Fayetteville Technical CC  
Kathryn Alexander - Forsyth Technical CC  
Elisa Fernbach - Forsyth Technical CC  
Kenneth Spayd - FSU



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Jim Horne - General Assembly	Mike Edwards - NCSU	Doug Genzlinger - OSC	Brenda Jackson - Sandhills CC
Malinda Peters - General Assembly	Milburn Holbrook - NCSU	Anne Godwin - OSC	Elizabeth Thomas - Sandhills CC
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Jennifer Brady - NCSU	Linda Combs - OSC	Jeffrey Henderson - Retired	Beth McAndrew - UNC Chapel Hill
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Sharon Brooks - NCSU	Clayton Darnell - OSC	Corby Johnson - Retired	Gwen Norwood - UNC Chapel Hill
Ginger Burks Draughon - NCSU	Karen Deleon - OSC	Marvin Miller - Retired	Trushaben Patel - UNC Chapel Hill

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Sema Kara - UNC Hospitals  
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