

pjmathison

2018-19 PA State Government Technology Investment Forecast

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20th
Anniversary
Edition

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Introduction

Welcome to the 2018-19 Pennsylvania State Government Technology Investment Forecast by pjmathison. This 20th Anniversary Edition forecast celebrates a journey with humble beginnings when one of our consultants back in the “Dot com Era” espied tech-related spending in the PA governor’s proposed State operating budget, wrote down a couple dozen bullet point findings, then gave away this information. The following year a request came in to purchase this “report”. And the rest, as they say, is history. Today, we produce weightier “government tech forecasts” for customers of all types on an exclusive basis and cover local, state and federal governments throughout the U.S.

What The Forecasts Do:

pjmathison forecasts help solve the perennial chore of having to plow through and decipher ever-growing mountains of government budget proposals, bills, acts and websites in order to find information that can benefit, or harm, your interests. They provide advanced details on upcoming tech spending & policy initiatives. Forecast contents include tech-related budgets, systems, priorities, projects, metrics, economic incentives, organizational updates, legislation, competitive intelligence, tips, and more. Tech spending is “marbled” throughout virtually every unit of government. Extensive *mining* (of “paper,” data and websites), *cajoling* (of people) and *drawing* (on experience) is required in order to produce these information-rich documents. This forecast, for example, entailed condensing more than 10,000 pages of content into a few dozen or so pages (“*whew*”).

Types of Forecast Users:

The “Expert” user knows what she’s hunting for (is ready to get her geek on) and is able to go directly to a desired section by either referring to the Table of Contents or just searching. The “Newbie,” on the other hand, may be new to PA State government (in this case) and needs more context or substance, which we also provide. Many users fall in between.

Summary of This Forecast:

We estimate that 2018-19 Pennsylvania State Government tech-related spending by all three branches together will exceed **\$2.5 billion**. Highlights include a slightly larger overall state budget than last year that belies significant ongoing tech-related spending; an ongoing initiative by the Governor to consolidate or otherwise modernize state agencies; new funding for technology education; large continuing streams of state & federal funding for human services program management; development of more government online services; broader use of geographic information system (GIS) technologies by more agencies; upgrades to statewide 911 systems; and more tech regulation. Excluded mostly from this forecast: social media use by the State. As always, unforeseeable opportunities will arise to devise partnerships between industry, nonprofits, and government that leverage scarce resources for mutual gain. More broadly: extreme partisanship will be less tolerated, removing some of the friction that impedes forward progress.

How To Read This Forecast:

This forecast includes evolving information. All dollar amounts herein are rounded and unless otherwise noted refer to operating (vs. capital) budget amounts, state (vs. federal) funds, and the fiscal year 2018-19 (FY19) time period. PA’s FY19 begins July 1, 2018 and extends through June 30, 2019. Prior fiscal year actual amounts may be included if available and if they differ measurably (by our subjective definition) from FY19 amounts. Abbreviations are defined (for the most part) and are copiously used throughout this document. This forecast omits millions of dollars of technology spending embedded within agencies’ administrative and seemingly non-tech budgets. Web addresses (links) are spelled out in order to benefit the greatest number of users. Web addresses, however, can be transient. So, if faced with a non-working link, do what any middle-schooler would advise: “Just google it.” This forecast may be edited lightly in the future. The forecast version number is located at the bottom of each page.

About pjmathison:

pjmathison is a national consulting services firm with three areas of expertise: government, management and innovation. We serve private industry, non-profit, and government clients. We are a recognized powerhouse for ideas, strategy and action. Founded in 1990, pjmathison is headquartered in Pennsylvania. Visit us at <http://pjmathison.com>.

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Budget Overview

- The Governor's (Guv's) proposed total FY19 Commonwealth of PA (CoPA, www.pa.gov) operating budget from all sources is \$84.7 billion (B), including \$29.6B from federal sources and \$32.9B from the state General Fund (GF), the main state operating fund. GF receives all tax receipts and other types of revenues not specified to be placed in Special Funds.
 - In his budget address, the Guv celebrated the selection of Pittsburgh and Philadelphia as finalists for Amazon's second headquarters (he wisely avoided favoring either locale). He concluded his address by saying "now it's our turn ... to invest in new technologies, inspire new discoveries, and incubate new industries."
- Guv's Budget Instructions: Agencies under the Guv's jurisdiction were directed in their FY19 budget requests as follows: First, focus on specific proposals to improve the efficiency & effectiveness of program operations. Second, evaluate options to generate savings wherever possible. New programs that align with the Guv's priority areas may be proposed, but must be offset by savings in other areas. Agencies should identify legislative & regulatory changes that will phase out burdensome practices or outdated programs. Also, agencies should look for consolidation opportunities. Proposed new programs should be aligned to advance the Guv's three priority areas, generally: Jobs that Pay, High-Quality Education, and Govt that Works. Third, more rigorously identify key performance indicators (KPIs) aka Program Measures (PMs) - used to quantify program activities & results and the impact the budget is expected to have on those activities & results.
- Guv's Budget Themes: 1) Protecting Taxpayers; 2) Building a Workforce, Growing the Economy; 3) Supporting Opportunities for Women & Families; 4) Protecting the Most Vulnerable; 5) Keeping Pennsylvania Safe; and 6) Protecting the Environment. These themes are evident in tech-related spending and program initiatives detailed in this forecast.
- Agency Consolidations and Shared-Services (S-S): The Guv remains committed to completing ongoing agency consolidations, restructurings, and S-S initiatives and to seeking new opportunities for the same. Ongoing efforts include: 1) Restructuring Human Resource (HR) and IT services for all executive branch agencies within six service delivery centers - HR/IT S-S enables adoption of standardized approaches across support areas, eliminating duplicative cost structures, reducing risk, implementing new capabilities, innovating rapidly & cost-effectively, and focusing resources on agency programming; 2) Consolidating health and human service-related agencies and creating a S-S delivery center for their admin & budget functions; and 3) Combining two criminal justice agencies within a single operating entity.
- Office of Performance through Excellence (OPE) will bring the Guv's state government-wide GO-TIME and Lean Management initiatives and performance data functions into one office. The integration of GO-TIME, Lean, and performance data under a single umbrella is intended to encourage expanded & enhanced communication, standardized practices and tangible results in real-time. Descriptions, project updates, and plans for GO-TIME and Lean are provided in the Office of Administration section below and project examples are dispersed throughout this forecast.
- "Lean" also describes the FY19 CoPA budget. For agency and program budgets, cost-of-living increases are the norm. Still, the Guv has made a point to emphasize and increase support for Technology Education...
- PAsmart (www.pa.gov/smart) - Technical Education for Students, Educators, and Incumbent Workers: Out of \$225M in new education "investments," \$50M is slated for better equipping Pennsylvanians with technical skills needed to adapt to the ever-evolving 21st century economy. The \$50M PAsmart program includes \$40M to Dept of Education and \$10M to Dept of Labor & Industry. Across the entire education and workforce development system the goal is to develop a more transparent performance evaluation system, including through establishment of a public facing interactive data dashboard. PAsmart details (evolving, too) can be found in the respective agency sections below.
- In constructing CoPA's tax revenue estimates the Dept of Revenue and Office of the Budget continue to utilize economic forecast data supplied provided by IHS Markit (ihsmarkit.com) and Moody's Analytics (economy.com). PA's economic forecast in brief: U.S. economy is expected to see further growth in 2018. PA economy, due to its diversity, is expected to track the U.S. economy. During periods of national economic contraction, PA often will outperform the U.S. However, during periods of economic expansion, PA will often lag behind the rate of growth in the national economy.

Information Technology and PA State Government: Organization, Functions and Plans

- Office of Administration (OA, www.oa.pa.gov) provides business support to agencies in CoPA's executive branch by: 1) Directing CoPA's deployment of technology, including standards, prioritization, infrastructure, security, applications, project management, staffing and more; 2) Supporting CoPA employees including salaries, benefits, diversity, training, workplace safety, labor relations and more; 3) Overseeing planning and coordination among state agencies to ensure that critical govt services continue during emergencies; and 4) Administering CoPA's records management program by drafting policies, standards, and procedures to control the use, maintenance, retention and disposition of records. OA IT-related functions are delineated below into five user groups as follows: CoPA Employees, CoPA Agencies, the Public, and (per OIT section below) CoPA IT Staff and Businesses. OA provides tech-related services to three audiences as follows:

For CoPA Employees...

- HR & IT Shared Services Initiative (SSI, www.oa.pa.gov/sharedservices) - CoPA has been transforming admin functions of HR & IT into a shared services model. HR & IT work at the agency level has been grouped into six delivery centers (General Govt; Public Safety; Employment, Banking & Revenue; Health & Human Services; Conservation & Environment; and Infrastructure and Economic Development); and an Enterprise level. SSI details posted on OA's website include: Current/Future States narratives, Project Timeline, Functional Org Charts, SSI Project Flier and Diagram, and Employee-centric FAQs. Trivia: State agencies currently operate & maintain 2,100+ applications, 78% of which are custom built; nearly 30% of the applications need to be updated or replaced.
- Employee Online Services: Working Remotely (<https://itcentral.pa.gov>) - to connect to CoPA network remotely; Employee Self Service (www.myworkplace.state.pa.us); Email; Employee Bulletin Board - for collaboration; HR Service Center (www.myhronline.state.pa.us); Web Conferencing; Mobile Devices - instructions & assistance; Unified Communications - integration of various communications tools; and OA Idea Hub - for ideas from CoPA employees.

For CoPA Agencies...

- Integrated Enterprise System (IES, <https://ies.pa.gov>) is the Enterprise Resource Planning (ERP) system of CoPA, provided by SAP America. IES includes state budgeting, financials, procurement, supplier relationship management, payroll, HR, travel, and reporting. IES also supports management of maintenance on PA's highways & bridges.
- OA HR Management (www.hrm.oa.pa.gov) administers HR in agencies under the Gov's jurisdiction. HR Online Tools include: AskHR for HR - for HR staff to submit cases to enterprise HR for review/action; Central Services Transactions - to request completion of unique SAP/payroll actions; Electronic Official Personnel File - stores & retrieves personnel info in SAP; Mobility Database - to analyze data on potential & current CoPA employees; Enterprise Position/Personnel Action Request - to request services from HR, and to facilitate processing of SAP transactions; HR Error Reporting - to track SAP HR/payroll system transaction processing errors; SAP HR/Payroll Help Desk; Interim Reporting Info System (IRIS) - to run reports on personnel data until SAP Business Intelligence is complete; Legacy History Screens - to access employment, time and attendance data; NEOGOV - to manage job postings; OrgPublisher - to view dynamic agency org charts; and Retirement Projection Tool.
- OA Continuity Office (OA-CO) leads CoPA's continuity & preparedness efforts in 3 areas: Continuity of Operations (COOP) - an effort within agencies to ensure essential govt services continue during emergencies; Continuity of Govt (COG) - a coordinated effort within the executive branch to ensure essential functions continue to be performed during an emergency; and Enduring Constitutional Govt (ECG) - a cooperative effort to ensure that all three branches of PA state govt are able to execute during an emergency. OA-CO uses the Continuity of Operations Planning System (www.coop.pa.gov) to develop COOP Plans for each of its state agencies to ensure COG.
- Records Management: Conducted by PA Historical & Museum Commission (see PHMC section below).

For the Public...

- Work for PA website (www.portal.employment.pa.gov) - to search for / apply to CoPA job openings.
- PennWatch (PW, www.pennwatch.pa.gov), created per Act 18 of 2011, provides for establishment of a "searchable budget database-driven" website detailing certain info re taxpayer expenditures & investments. OA led the creation & development of PW and its launch in 2012.
- AlertPA Community Notification Enrollment System (<https://alert.pa.gov>) - to sign up for emergency and weather alerts, health notifications, building alerts and other updates from state and federal agencies.
- CoPA Mobile Apps (www.pa.gov/apps) - list of mobile applications (currently twelve in number) developed on behalf of state agencies for use by the general public--available on the App Store and Google Play. Go for it.

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- OA-Information Technology (OIT) oversees investments in and performance of all IT systems across CoPA. OIT is led by Deputy Secretary for IT and Chief Information Officer (CIO) - one person. OIT senior team includes Chief Innovation Architect, Director of Office of Strategy & Management, Chief Technology Officer, Chief Info Security Officer, Director of Applications Management Services, and CIOs of six Shared-Services described above. OIT governance is defined by Executive Order (E/O) 2016-06. OIT actions are guided by Enterprise IT Strategic Plan 2016-2019 (watch for a refresh in FY19). OIT Services to CoPA IT Staff include:
 - IT Service Management (ITSM, <https://paitsm.service-now.com>) - tool used by state agencies and external partners for asset, change, and incident management.
 - Telecommunications: Includes conferencing, data network, and voice services, and Telecom Contracts info and the Enterprise Services Management System (ESMS) - the tool used to procure most telecom products & services.
 - OA-IT Service Catalogue: Details ~64 tech services available to state agencies. Some services are also available to all CoPA orgs, first responders, regional terrorism task forces, regional planning orgs, and K-12 schools & districts.
 - Geospatial Technologies (GT): Include Map Gallery, TomTom Tools, Map Creation, Map Hosting, ArcGIS Desktop Tools, GIS Data Hosting, and GIS Meta Data. External Resource: Spatial Data Clearinghouse (www.pasda.psu.edu).
 - IT Help Desks: 3 Enterprise HD groupings (Infrastructure, SAP, Telecom) and Agency-level HDs (for all employees).
- OIT Services For Business: Effective July 1, 2017 all IT procurements are handled through DGS Bureau of Procurement (see DGS below). Still, OIT is a resource for businesses. OIT IT Policies (www.oa.pa.gov/Policies/Pages/itp.aspx), currently numbering 150, set expectations for behaviors and activities, as well as provide mechanisms to enforce these expectations. Additionally, within OA, the Geospatial Coordinating Board (GeoBoard) has been established to provide advice & recommendations to the Guv and the public on geospatial issues, uniform data standards, and coordination and efficiency in geospatial policy and technology across different sectors. Also, CoPA agencies are required to produce accessible websites per CoPA's accessibility policy (www.pa.gov/accessibility-policy).
 - Non-IT-Policies, with tech implications, set forth during FY18 include: E/O 2018-01 - Guv's Office for Performance Through Excellence; E/O 2017-06 - Public Private Partnerships; E/O 2017-03 - Review of State Professional and Occupational Licensure Board Requirements and Processes; Management Directive (M/D) 205.15 - Membership in Associations, Orgs or Societies; M/D 210.5 - CoPA State Records Management Program; M/D 220.1 - Commonwealth Media Services; M/D 325.13 - Service Organization Controls; and M/D 515.15 - Employment-Related Verification and Background Checks. All CoPA Policies can be found at (www.oa.pa.gov/Policies).
- Cybersecurity: Due to IT's ubiquity, OIT has a role in cybersecurity as it relates to CoPA and beyond. For Businesses and the Public, OIT recommends (lists) websites, articles, videos and software tools; For Local Govt, OIT itself provides the PA Info Sharing & Analysis Center (PA-ISAC) and recommends (lists) other entities that help local gov't orgs strengthen their cybersecurity; and For CoPA Agencies & Employees, OIT provides (for employees) antivirus software and security awareness training and (for agencies, through OA-IT Services Catalogue) architectural reviews, computer forensic investigations, gap analysis, penetration testing, security assessments, and vulnerability management.
- PA Justice Network (JNET, www.pajnet.pa.gov) is CoPA's primary public safety and criminal justice info broker. The JNET portal is a secure mobile-friendly website that provides authorized users access to criminal justice data through 40 inquiry-based applications. This info comes from various contributing local, state, and federal agencies. Additional services include real-time messaging and electronic reporting. JNET has specifically identified development of mobile-friendly applications as a key goal. JNET governance structure consists of an executive council, steering committee and JNET Office, whose executive director reports to CIO of CoPA.
 - JNET Strategic Plan (SP) 2017 corresponds with Enterprise ITSP 2016-2020. The new SP is updated annually and includes input derived from semi-annual reviews with JNET management team. SP Goals, summarized: 1) Optimize Services - improve availability, performance, accuracy and utility of JNET portal and messaging services; 2) Transform Govt - modernize systems and leverage Enterprise solutions to minimize risk; 3) Enable Innovation through Integration - expand JNET's role as data integrator and service provider; and 4) Empower Users - improve JNET user experience for both practitioners and agency administrators. FY17 JNET budget = \$5.7M.
- OpenDataPA (<http://data.pa.gov>) - CoPA joined the open data brigade in 2016. Increasing gov't transparency has been an early success. Spurring innovation and economic opportunity is a bigger lift. Watch for more of each in FY19.
 - Code4PA (www.code4pa.tech) was the first-ever CoPA "civic hackathon" held fall 2017. Winners created a website <http://knowPA.com> that uses crash data from the State Police and DOT and predictive analytics to help motorists avoid potential accidents in the future. 2018 Code4PA hackathon will concentrate on the opioid crisis and how data

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can help be used to help save lives from addiction. Code4PA is hosted in partnership with Harrisburg University of Science & Technology, Code for Philly, Technology Council of Central PA and industry sponsors.

- Governor's Office has been reorganized to include two new tech-related officials and offices, reportable to the Guv (not OA) through his Chief of Staff, as follows:
 - Director of Broadband (Bb) Initiatives (BI, www.governor.pa.gov/broadband) oversees CoPA's new Bb program, develops Bb policy for agencies under Guv's jurisdiction, and works with stakeholders to leverage CoPA's investment in technology to expand Bb access for all Pennsylvanians. Announced in 2018, BI facilitates the PA Broadband Investment Incentive program that is offering \$35M of financial incentives to Internet service providers who are bidding on PA service areas in the Federal Communications Commission's Connect America Fund II Auction (CAF-II). Goal of this state-federal effort is to get high-speed Internet access to ~800,000 more Pennsylvanians
 - Director, Office of Performance through Excellence (OPE) manages operations and directs efforts of Guv's initiative to change the way govt agencies and employees do business, how CoPA measures its success and assist the Guv with using these measures to chart future direction. Guv's Office of Transformation, Innovation, Management and Efficiency (www.governor.pa.gov/go-time) aka GO-TIME, LeanPA, and performance data functions are being integrated into OPE. GO-TIME staff works with state agencies to modernize operations through process improvement, technology use, and identifying opportunities to collaborate and share resources. GO-TIME has already identified ~300 projects generating \$373M+ in savings through 2017. Guv has asked his cabinet to deliver \$500M in savings by 2020. In addition, GO-TIME's continuous process improvement program, LeanPA, has trained 334+ individuals across 15 state agencies in LeanPA and completed 140+ Lean projects through 2017. GO-TIME is also creating an online tool to capture, track and review ideas CoPA employees suggest. GO-TIME produces an annual report and an annual project update list that details hundreds of projects, dozens of which are tech-related. Two GO-TIME-featured projects are as follows (other examples are cited in state agency sections below):
 - > Modernizing Hiring Process. OA implemented vacancy-based postings for non-civil service positions and a modernized website, increasing the number & quality of candidates applying for jobs. Similar steps for civil service positions will enable CoPA hiring to become more competitive.
 - > Increasing Oil & Gas Drilling Inspections. DEP is leveraging award-winning mobile technology cultivated at DOT to replace paper forms with a mobile app and modernize field inspections. Duplicate entry has been virtually eliminated, and trips between field sites and offices are significantly reduced.

Tech-Related Budgets (and More)

EXECUTIVE OFFICES - OFFICE OF ADMINISTRATION

- \$321.5 million (M) to Executive Offices (EO) for OA tech-related uses allocated as follows:
 - \$58.3M (FY18 = \$9.2M) for HR Shared Service Center, including \$50.4M for HR shared services consolidation.
 - \$262.1M (FY18 = \$104M) for Commonwealth Technology Services allocated as follows: \$55.8M from GF; \$225,000 ("225K") in federal NSTIC Grant funds; \$246K for federal Info Sharing Initiative; \$45K in federal JNET funds for Inter-County Case Transfer; \$107K in federal JNET funds for e-Reporting Improvements; \$38.4M (FY18 = \$39.2M) for IES; and \$167.2M (FY18 = \$9.5M) for Shared-Services (S-S) Delivery, including \$153.5M for IT S-S consolidation.
 - \$1.07M (FY18 = \$1.33M) from Motor License Fund (MLF).

EXECUTIVE OFFICES - OFFICE OF THE BUDGET

- \$70.4M to EO Office of the Budget (OB, www.budget.pa.gov) for General Operations (GO), portion for tech-related uses including improving CoPA's accounting and financial reporting system, an objective for FY19. Includes \$100K for RACP - eGrant System. The two main operational areas of OB are Guv's Budget Office (GBO), which oversees preparation & implementation of CoPA budget, and Office of Comptroller Operations (OCO), which oversees CoPA's uniform accounting, payroll and financial reporting systems. In addition, Office of Administrative Services provides the Executive Offices with budget management, purchasing, payment, messenger and facilities management services. CoPA Office of Travel Operations functions as a travel management service for all travelers conducting the business of CoPA.
 - OB Tech-Related Programs: 1) Process Improvement by OCO Bureau of Quality Assurance - teams provide consulting and project management services that focus on improving effectiveness & efficiency of financial &

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budgetary processes - both within OB and across CoPA agencies; 2) CoPA Purchasing Card Program - whereby designated employees can use a credit card (aka "P-Cards") issued in the name of CoPA to pay for goods & services; 3) Pay for Success Initiative - Gov previously has proposed legislation that would enable CoPA to enter into Pay for Success contracts, enabling CoPA to fund programs & services that it otherwise might not be able to afford; and 4) Keystone Offset Program - aimed at collecting delinquent non-tax debt owed to CoPA by offsetting delinquent debt against payments made via in SAP ERP system; and 5) E-Invoicing Program - allows vendors to submit invoices for purchase orders, grants, utilities, and other non-purchase-order direct charges via email.

EXECUTIVE OFFICES - COMMISSION ON CRIME AND DELINQUENCY

- \$6.4M (FY18 = \$11.8M) from GF to PA Commission on Crime & Delinquency (PCCD, www.pccd.pa.gov), portion for tech-related uses. Plus \$1.7M in federal funds for tech-related uses allocated as follows: \$200K for Statistical Analysis Center and \$1.5M for Criminal I.D. Technology. PCCD Strategic Plan 2016-2020 tech-related goals, summarized: Improve accuracy & reliability of criminal justice data through automated exchange of info; Improve PCCD's research, evaluation and data analysis; and Improve PCCD's visibility & recognition as a criminal & juvenile justice leader through communication & outreach. PCCD Online Services include: Constables Certification Education & Training System (www.pccdcis.pa.gov); Sheriff and Deputy Sheriff Education & Training Program (www.pccddsis.pa.gov); PCCD eGrants (www.pccdegrants.pa.gov) - for the application and awarding of state & federal funds in support of justice related projects; PA Juveniles Held Online Compliance Tool (JHELD, www.pccdjheld.pa.gov); Program & Practice Effectiveness Toolkit (<http://ppet.pccd.pa.gov>); Criminal Justice Data Dictionary (<https://cjdd.pccd.pa.gov>) - provides for the common language used by PA's criminal justice system; Dependable Access for Victims' Expenses (DAVE, www.dave.pa.gov) - for victims to file a claim and for victims and providers of services to victims to monitor such claims; and PA Crime Victims App (created in collaboration with GO-TIME) - allows victims of crime to search for local victim service providers and services. PCCD Office of Criminal Justice Systems Improvements (OCJSI) Tech-Related Programs include:
 - Booking With Technology (BWT): a cooperative effort between state, county, and local agencies, the Central Booking project integrates technologies for fingerprinting, image identification, video conferencing, and computerized, record management systems. OCJSI has helped create 200+ digital booking facilities around PA. BWT includes:
 - > Fingerprinting: The Livescan arrest reporting device replaces ink-and-roll process with electronic scanning of fingerprints. Digital copies are transmitted to AFIS system at PSP (see PSP section) for identification & storage.
 - > Photo Imaging: CoPA Photo Imaging Network (CPIN) stations capture & store digital photos of arrested offenders. With CPIN, booking officers can take up to eight digital photos of a suspect's face and distinguishing markings and upload the images to the CPIN photo repository for access by law enforcement.
 - > Facial Recognition Shared-Equipment: PCCD has funded procurement of facial recognition capabilities that allow trained users around PA to compare unknown photos of varying quality with the stored photos.
 - Law Enforcement Justice Info System (LEJIS) - a police data sharing system that works with JNET. LEJIS provides near-real-time incident data to police in the field through their own agency's records management system.
 - Mid-Atlantic Regional Justice Info Sharing (MARIS) Initiative includes DE, PA, MD and Washington D.C. and pursues three distinct phases or priorities to promote criminal justice info sharing in the Mid-Atlantic. The first two phases involve direct/bulk exchange of data with the third phase including specific query/response on a person of interest.

EXECUTIVE OFFICES - JUVENILE COURT JUDGES' COMMISSION

- \$3M to Juvenile Court Judges' Commission (JCJC, www.jcjc.pa.gov), portion for ongoing implementation of PA's Juvenile Justice (J/J) System Enhancement Strategy, which is to enhance the capacity of PA's J/J system to achieve its balanced and restorative justice mission by employing evidence-based practices at every stage of the J/J process, collecting & analyzing data necessary to measure the results of these efforts, and continuously improve the quality of such efforts.
 - Juvenile Case Management System (PaJCMS) is a software application sponsored by JCJC, PA Council of Chief Juvenile Probation Officers, Center for J/J Training & Research, and PCCD. PaJCMS was developed using .NET & SQL technologies and it enables juvenile probation offices to maintain electronic records of juvenile offenders, process allegations of delinquency, and monitor compliance. It is the primary method for reporting juvenile court dispositions to JCJC for inclusion in JNET. Its data is utilized in research projects nationwide.

ATTORNEY GENERAL

- \$44M (FY18 = \$39.4M) to Attorney General (AG, www.attorneygeneral.gov) for GO, portion for tech-related uses. Plus \$5.18M for Child Predator Interception, which includes investigating cases in which a minor is the victim of a sexual solicitation from an adult via the Internet.

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- Bureau of Consumer Protection (BCP) operates an online method for Pennsylvanians to file a range of consumer complaints against an individual or entity. BCP receives 50K+ complaints/year on a range of topics. A Do Not Call online enrollment form is also provided. AG contracts with a nonprofit org that is responsible for maintaining the list of consumers who want to avoid telemarketing calls. PA's Telemarketer Registration Act mandates that defined parties must also register with the AG. BCP also operates a website <https://hicsearch.attorneygeneral.gov> where consumers can lookup home improvement contractors who must register per state law. AG has created a growing number of public education initiatives that address such tech-related topics as Internet Safety Tips for Kids and Cyber Bullying.
- \$0 (FY18 = \$8M) in federal funds plus \$723K (FY18 = \$1.06M) in other monies to AG for Middle Atlantic-Great Lakes Organized Crime Law Enforcement Network (MAGLOCLEN, www.riss.net/Centers/magloclen), a regional info sharing system which is congressionally funded and administered by the U.S. Dept of Justice.

AUDITOR GENERAL

- \$41M to Dept of Auditor General (DAG, www.paauditor.gov) for GO, portion for tech-related uses. DAG's Office of IT and Support Services manages DAG IT network infrastructure, including telecom; develops and supports systems applications and databases; processes all procurements; and manages the vehicle fleet, archives, internal storeroom, mailroom and physical facilities. DAG discloses its expenses - including for IT - at www.paauditor.gov/department-expenses.

TREASURY

- \$1M (FY18 = \$1.87M) to Treasury Dept (TD, www.patreasury.gov) for IT Modernization (ITM). Out-year projections for ITM: FY20-FY23 = \$1M/year. TD's CIO oversees Bureau of IT. TD operates on its website a data- and graphical-driven Transparency Portal and a Contracts e-Library (info about CoPA goods & services contracts) and operates websites for PA529 College Savings Program (www.pa529.com) and PA ABLE Savings Program (www.paable.gov).
- PennSEF (<http://freefutures.org/pennsef>) - TD has partnered w/ the Foundation for Renewable Energy & Environment (FREE), with financial support from West Penn Power Sustainable Energy Fund, to develop an investment vehicle that promotes economic development and environmental improvement. To achieve this goal, FREE has established The PA Sustainable Energy Finance Program aka PennSEF that provides technical & legal assistance, as well as low-cost capital, for energy improvement projects by govt entities and non-profit orgs.
- U.S. Bank ReliaCard in partnership with TD offers an electronic payment card to Unemployment Compensation and State Workers' Compensation Fund recipients. TD provides payment and admin support.

AGRICULTURE

- \$33.4M (FY18 = \$30.8M) to Dept of Agriculture (PDA, www.agriculture.pa.gov) for GO, portion for tech-related uses. Plus \$20.6M for tech-related uses allocated as follows: \$7M in federal funds for Biofuel Infrastructure Partnership; \$0 (FY18 = \$424K) for Hardwoods Research & Promotion; \$0 (FY18 = \$1.7M) for Agricultural (Ag) Research; \$13M from Racing Fund for Equine Toxicology & Research Lab; \$0 (FY18 = \$494K) for Food Marketing & Research; and \$605K for PA Preferred Program Trademark Licensing (www.papreferred.com), which offers marketing and promotional support for its members. The PA Animal Diagnostic Lab System (www.padls.org) links three Veterinary Labs around PA to facilitate an integrated approach to the diagnosis and investigation of disease in farm animals. CIO for Shared Services Conservation & Environment IT Delivery Center oversees PDA IT operations. In addition, a Chief Innovation Officer reports to the Secretary of PDA. As a GO-TIME initiative, PDA implemented enhancements in its use of mobile technology to verify the accuracy of scales & meters at locations around PA.
- PDA-Featured Online Services (some in partnership w/ others): AgMap (<http://agmap.psu.edu>) - searchable directory of farms & agribusinesses across the U.S. created by Penn State U (PSU); Amusement Rides Inspection System - for use by ride owners & inspectors; Certified Chronic Wasting Disease (CWD) Technician - PA deer farmers and cervidae operation owners can find a Certified CWD Technician through this database; Certified Poultry Technician Search; Dog Kennel Inspections - inspection reports are provided for all PA kennels; Farm Markets & Stands - searchable list plus map-locations; Humane Society Police Officers Registry; PA Plants (www.paplants.pa.gov) - assists pros in the horticulture, nutrient or pest management, and agronomic services industries on a range of topics; Food Safety Inspection Reports (<https://www.pafoodsafety.pa.gov/Web/Inspection/PublicInspectionSearch.aspx>); PA Rides & Amusements Search (www.ridesafe.pa.gov) - searchable registry of 800+ amusement ride owners and 10,000+ individual rides & attractions; Premises Registration - allows livestock operators to register their farms &

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facilities with PDA; Weights & Measures Inspection Search - review inspection reports for weighing & measuring devices across PA; and Taxidermist Search - in case you need one.

- Other PDA Online Services: Dog Law Complaint Form (www.pda.pa.gov/DogLawComplaint) - to submit complaints & tips about cruelty both against and by dogs, operated by Dog Law Enforcement Office; PA Horse Race Rulings <http://pahorseracerulings.pa.gov> - where adjudicatory rulings issued by the State Horse Racing Commission (SHRC) can be searched--operated; PA Office of National Ag Statistics Service (www.nass.usda.gov/pa) - a joint federal & state effort; PAgrows (www.pagrows.pa.gov) - technical assistance and guidance on local, state and federal programs available to agribusinesses; Food Safety Complaint Form (www.pda.pa.gov/FoodSafetyComplaint) - operated by Bureau of Food Safety & Lab Services; PA Veggies (www.paveggies.org) - a PA Preferred affiliate site operated by PA Vegetable Marketing & Research Board.

BANKING AND SECURITIES

- \$24.5M to Dept of Banking & Securities (DBS, www.dobs.state.pa.us) for GO, including \$1.23M increase to modernize Case Management System. DBS Regulates financial services (FS) industry through licensing functions and examination of records, filings, accounts, policies and practices of FS institutions & professionals; and Educates consumers and investigates complaints that consumers file with DBS. DBS Online Services include a Consumer Complaint Form (www.instsearch.pa.gov/Contact.aspx) and When I'm 65 (www.wi65.org) - a consumer education website supported in part by DBS. DBS has recently designated a point-person between tech innovators offering financial services (fintech) and DBS. Watch for DBS's role in cybersecurity to further grow - as an educator, facilitator of industry solutions, and enforcer.

CIVIL SERVICE COMMISSION

- \$13.4M total, derived mostly from billing customer agencies, to Civil Service Commission (CSC, www.scsc.pa.gov), which administers PA's "merit and fitness" system. Bureau of IT Systems includes three divisions: Enterprise Network and Technical Support, Enterprise Governance and Program Management, and Application Development. CSC Online Services portal allows users to: View open jobs and apply, Get exam scores, Schedule/reschedule exams, and Update personal info. Legal Services Office maintains a website which provides info about pending hearings and issued adjudications and is used by appellants, HR personal, attorneys, and the general public. CSC continues to modernize its business processes including in collaboration with OA and CoPA's other workforce and employment systems. But...
 - Winds of change are in the air as lawmakers and the Gov move to transfer certain CSC functions to OA. CSC, regardless of its statutory, political, or philosophical underpinnings, is due for change.

COMMUNITY AND ECONOMIC DEVELOPMENT

- Department of Community and Economic Development (DCED, <https://dced.pa.gov>) is the main CoPA agency that tech industry stakeholders use to explore and apply for grants, loans and other incentives, including ones outlined below. DCED's Programs and Goals include PA Innovation Economy (PIE): To provide technical support and access to capital to PA's business and entrepreneurial community through strategic networks, while leveraging other sources of capital, including private and federal funds, to increase the number of successful, innovative tech companies in PA. Deputy Secretary for Technology and Innovation oversees PIE efforts. FY19 PIE PMs: jobs created - 2,118; jobs retained - 8,864; new tech companies established - 85 (FY18 = 169); businesses assisted - 17,082; private funds leveraged - \$607M (FY18 = \$831M); and public funds leveraged - \$54.5M (FY18 = \$75.7M).
 - DCED's Single Application for Assistance (www.esa.dced.state.pa.us) allows an applicant to apply for funding programs using one form. A Program and Funding tool (<https://dced.pa.gov/program>) provides a list of programs based on eligibility and/or use of funds, and provides a program description, FAQs, and guidelines. An Investment Tracker (www.dced.state.pa.us/investmenttracker) provides info on executed contracts for funding filed thru DCED.
 - Launched in 2018, PA Business One-Stop Shop <http://business.pa.gov> provides resources for planning a business, registration & permitting, hiring employees, receiving \$ and technical assistance, and more. It is intended to reduce govt friction and improve govt facilitation of doing business in PA. It is a joint effort of DCED, DLI, DOR, DOS and OA.
- \$3.4M to DCED for Commonwealth Finance Authority (CFA): Together with funding from other CoPA sources, CFA provides grants, loans, and loan guarantees to various economic development projects. In FY19, CFA funding supports grants to businesses, non-profit economic development orgs and political subdivisions for clean & alternative energy projects including buildings, equipment and land development. In addition, loans & grants are provided for high-performance energy-efficient building projects, geothermal and wind energy projects, and solar technology projects

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- Venture Capital (VC): CFA has invested ~\$60M in 22 PA-based VC “funds” (a single VC firm may operate multiple “funds”) matched by \$667M. In addition, CFA has provided \$160M in guarantees to VC funds, matched by \$160M.
- \$2.93M to DCED for Office of Open Records (OOR, www.openrecords.pa.gov) - PA’s OR Law (Act 3 of 2008) provides for access to public info, for a designated OR officer in each CoPA agency, local agency, judicial agency and legislative agency, for procedure, for appeal of agency determination, for judicial review and for the OOR; imposes penalties; provides for reporting by State-related institutions; and requires posting of certain State contract info on the Internet.
- \$4.07M (FY18 = \$12.9M) to DCED for Marketing to Attract Tourists, which includes <http://visitPA.com> website, social media campaigns, and print & online publications. Tourism Office will continue to facilitate public-private partnerships within the industry and leverage technology to maximize PA’s presence on the national/global tourism stage.
- \$2M to DCED for Marketing to Attract Business, which funds efforts to increase domestic & foreign investment in PA thru tech-enabled marketing & advertising and an online search tool <http://PASiteSearch.com> that helps entities understand PA’s demographics, business climate and available state support, and find a suitable location or a site for redevelopment.
- \$21M from Ben Franklin Technology Development Authority (BFTDA) Fund to DCED for BFT Partners program (<https://benfranklin.org>) which supports a network of 4 regional BFT centers and a statewide office. Includes \$14.5M transfer from GF to BFTDA, whose mission is to ensure that PA tech-enabled companies, entrepreneurs and innovators have the necessary tools to build their businesses or commercialize their technologies. BFTDA supports the advance of technologies in both traditional and emerging industries, as well as small business, through a series of programs that are flexible & dynamic. These initiatives are tailored to provide both capital and technical services to companies throughout their lifecycle. BFTDA Programs are as follows: 1) BFT Partners, which are located throughout PA and are designed to advance the commercialization of new technologies and support company growth; and 2) Venture Investment, which provides risk capital to venture partnerships that invest in PA-based companies.
- \$3M from Tobacco Settlement Fund (TSF) to DCED for 3 regional PA Life Sciences Greenhouses (LSGs) which provide capital to university-based researchers, emerging companies and companies seeking to expand. Investments are designed to advance the life sciences and to stimulate economic growth across PA. The three LSGs are as follows: LSG of Central PA (www.lsgpa.com), BioAdvance-SEPA (www.bioadvance.com), and Pittsburgh LSG (www.plsg.com).
- \$20M (FY18 = \$15M) to DCED for PA First program, a “closing fund” that provides grants, loans, and loan guarantees to tech and non-tech businesses or intermediaries for job creation & retention, infrastructure projects and workforce development. Eligible uses for the funding include: customized or advanced training for employees, land or building acquisition and/or improvement costs, machinery & equipment purchase, and working capital. “Clawback” provisions apply if grantee does not honor its commitments. With the \$5M increase, the program is expected to create 3,800 jobs, retain 14,000 jobs, and leverage more than \$650M in private sector investment.
 - Includes \$8M for Workforce & Economic Development Network of PA (WEDnetPA, www.wednetpa.com), a statewide incumbent-worker training alliance of 26 PA education orgs. WEDnetPA provides funding to PA companies for “essential skills and advanced tech training”, and guarantees training to meet mutually agreed upon standards. FY19 PMs include 735+/- companies assisted and nearly 40K incumbent workers trained.
- \$4.1M to DCED for its Center for Local Government Services, portion for Municipal Statistics Office (MSO), which collects data from counties, cities, boroughs, townships, school districts, and municipal authorities through required e-Filing (<http://munstats.pa.gov>) and publishes the info in online databases & reports accessible through MSO’s DCED webpage.
- \$1.2M to DCED for Municipal Assistance Program (MAP): Includes \$450K in federal FEMA technical assistance funds and \$200K in federal FEMA mapping funds. MAP helps local govts plan & implement a variety of services, improvements, and soundly managed development. MAP provides funding for three activities: 1) Shared Services i.e. regionalization, consolidation or merging of services, and shared personnel; 2) High-Impact Projects servicing many municipalities or large areas; and 3) Boundary Change Efforts. Applicants may be govt or quasi-govt bodies (≥50% match is required).
- \$9.9M to DCED for Partnerships for Regional Economic Performance (PREP) program, designed to integrate the delivery system historically served by the following service providers: Industrial Development Orgs, Local Development Districts, and Small Business Development Centers (www.pasbdc.org). Funding is provided to regional networks. Partners also collaborate to provide necessary infrastructure (broadband, business sites, incubators, etc.) to attract, retain and expand

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PA businesses. *Engage!* is a statewide business retention & expansion program designed to proactively interact with targeted companies. It provides grants for purposes including direct technical assistance to companies.

- \$12M to DCED for Manufacturing PA (MPA) program: A new (in FY18) initiative designed to support PA's manufacturing community (m/c), with an emphasis on small to medium sized manufacturers. MPA supports PA's m/c through DCED partners including PA Industrial Resource Centers (IRCs), and PA colleges, universities, technical schools et al. An emphasis is placed on job training to career pathways. The \$12M will be allocated across three programs:
 - PA Manufacturing Training-to-Career Grant Program, which helps manufacturers identify & train a skilled workforce.
 - PA Manufacturing Innovation Program, which leverages the science & engineering talent and discovery capacity of PA's major research institutions to help ensure PA remains a world leader in manufacturing.
 - PA's existing IRCs to expand their outreach to include small and medium-sized businesses, and continue to provide technical, strategic, and market-based assistance to PA manufacturing sector.
- \$118.9M (FY18 = \$85.9M) from PA Gaming Economic Development and Tourism Fund (GEDTF) to DCED for economic development projects, which may include tech-related uses. Act 71 of 2004, as amended, established GEDTF to receive a daily assessment of 5% of each licensed gaming entity's gross terminal revenue. Act 42 of 2017 increased the daily assessment to 5.5% effective Jan. 1, 2018 with an additional .5% going to the Casino Marketing and Capital Development Account within the GEDTF fund. In addition, a 6% assessment from new satellite casino gross terminal revenue will be deposited in the GEDTF. Funds are distributed through enacted capital budgets.
 - Erie County Gaming Revenue Authority (ECGRA, www.ecgra.org) is one such recipient of GEDTF funds. Since 2008 ECGRA has invested almost \$50M in Erie Co. in the form of grants, loans and, recently, a VC fund. Eligible uses of funds include multi-municipal tech projects, STEM education programs, tech transfer projects, and tech startups.
- \$29.8M (FY18 = \$78.4M) to DCED for other tech-related programs allocated as follows: \$15M (FY13 = \$27M) from Small Business First Fund, incl. \$13M (FY18 = \$25M) for loans; \$11.8M (FY18 = \$45.8M) from Machinery & Equipment Loan Fund (MELF), incl. \$11M (FY18 = \$45M) for loans; \$2.4M for Early Intervention for Distressed Municipalities; \$559K for Base Realignment & Closure support activities for communities competing to justify maintaining U.S. military facilities in PA; \$0 (FY18 = \$1.75M) for PA Infrastructure Tech Assistance Program (<http://pitapa.org>); \$0 (FY18 = \$500K) for Super Computing Center (www.psc.edu); \$0 (FY18 = \$250K) for Public TV Tech; and \$0 (FY18 = \$100K) for Powdered Metals.
- Tax Credits (TCs) et al.: Various tax credits, deductions, exemptions, and exclusions are provided which result in reductions in revenue that would otherwise be received by CoPA. PA's tax structure contains many of these "tax expenditures" (TEs). TEs confer special treatment to specific taxpayers, specific activities, or specific goods or services. TEs listed in the FY19 budget are the accumulation of many prior legislative sessions and the original intent of certain TEs "may no longer be valid or consistent with current policies." Terms & conditions apply to each type of TE/TC. State officials conduct ongoing TE analysis. TEs have grown in number and kind over time. Tech-related TEs currently include...
 - \$18M for Neighborhood Assistance Program (NAP) available thru DCED & DOR which allows qualified tech and non-tech companies doing business in PA to make contributions to qualified nonprofit orgs and in turn receive a partial credit against certain state taxes due. ~165 companies and ~125 individuals doing business in PA benefit from NAP. pjmathison previously assisted a global consultancy with securing \$1M in NAP-related municipal tax credits.
 - \$10.1M available thru DCED & DOR for Tax Credit for New Jobs, which provides tech and non-tech business employers a TC in the amount of \$1K per job created for each year in the approved term. The TC may be applied against several PA business taxes. ~35 companies and ~45 individuals in PA benefit from this program.
 - \$55M (including \$11M set aside for small businesses) in Research & Development (R&D) Tax Credits available thru DCED & DOR for companies performing qualified research in PA. The credit may be applied against several PA business taxes. ~950 companies in PA benefit from this program.
 - \$95.1M in state tax exemptions & credits available thru DCED & DOR for tech and non-tech companies located in designated Keystone Opportunity Zones (KOZs), related Keystone Opportunity Expansion Zones (KOEZs), and Keystone Opportunity Improvement Zones (KOIZs). In addition, economic activity occurring in these zones is exempt from most local taxation for up to 15yrs. Several acts have added zones or otherwise amended the KOZ, etc. statute since its inception.

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- \$15M in State tax benefits available thru DCED & DOR for businesses located in Keystone Innovation Zones (KIZs), which foster growth in R&D-based and other high-tech businesses. KIZs are defined parcels and are operated by a partnership of business groups and higher ed institutions. Qualified businesses operating in a KIZ receive priority consideration for assistance under a number of CoPA programs, as well as a TC. A KIZ company may apply to DCED for a TC equal to 50% of the increase in its gross revenues from the previous year attributable to its activities in a KIZ, up to \$100K in TCs/year. ~260 businesses are expected to benefit from this program in FY19.
- \$185M in Educational Tax Credits available thru DCED, DOR and PDE to businesses that contribute to qualified nonprofit scholarship orgs or educational improvement orgs. Includes \$135M in Educational Improvement TCs and \$50M in Educational Opportunity Scholarship TCs. TCs may be applied against several PA business taxes. ~2,290 companies, ~3,530 individuals, and ~960 scholarship orgs, educational improvement orgs, pre-kindergarten scholarship orgs, and ~515 taxpayers are expected to benefit from Educational TCs in FY19.
- \$65M in Film Production Tax Credits (FPTC) available thru DCED's Film Marketing Office (<http://FilmInPA.com>) in the amount of 25% of qualified film production expenses incurred in PA. FPTC recipients may use the TC to offset their PA state tax liability or sell, assign, or transfer the TCs to another entity. ~30 film projects are expected to benefit from this program in FY19. Act 43 of 2017 created new FPTC districts (up to 2). Beginning FY20, FPTCs may be awarded exclusively for activity occurring in FPTC districts.
- \$1M in Video Game Production Tax Credits (VGPTC) available thru DCED & DOR to qualified video game production companies, excluding contractors or subcontractors of such companies, for qualified PA production expenses (per Act 84 of 2016). TCs may be applied against several PA business taxes, and may be claimed by qualified taxpayers beginning FY18. An "unknown number" of taxpayers are expected to benefit from this program in FY19.
- \$5M in Mobile Telecom Broadband (Bb) Investment Tax Credits available thru DOR. PA taxpayers that are providers of mobile communications services are allowed a TC against their corporate net income tax for investment in qualified Bb equipment placed into service in PA. "A minimal number of taxpayers will benefit from this tax expenditure."
- \$1M in Rural Jobs & Investment Tax Credits (RJITC) available thru DCED based on contributions made by a business firm to a rural growth fund. Act 84 of 2016 created the RJITC (and the Manufacturing & Investment Tax Credit). The budget allocation is \$1M/year beginning in FY18, and is not to exceed \$4M total through FY21. "Rural growth fund" may include venture capital and investments may target tech companies. Watch for details.
- \$5M for Computer Data (CD) Center Equipment Incentive Program (Act 84 of 2016): Provides sales/use tax refunds starting FY18 for CD center equipment used to outfit/operate/benefit a CD Ctr and component parts, installations, refreshments, replacement, and upgrades to the equipment. "~720 entities could benefit from this program."
- Net Operating Loss (NOL) Carry Forward: Corporations may deduct from current taxable income the net losses from previous years to arrive at their PA tax liability. Several acts have changed the NOL statute. In FY19 ~18,500 businesses will deduct a total of \$433M (FY18 = \$360M) in NOLs from their current PA taxable income. Tech-based companies in particular, because they typically lose money in their early years, make use of this deduction.
- Innovate in PA Tax Credit: \$100M (the maximum allowed per Act 52 of 2013) in TCs were purchased in 2015 at a discount by qualified insurance companies to claim against future tax obligations. Proceeds from this program, administered thru DCED, are used for early-stage venture capital investment through BFT Partners, the Venture Investment Program, and the Life Sciences Greenhouses. The credit itself is administered thru DOR.

CONSERVATION AND NATURAL RESOURCES

- \$4M in state & federal funds to Dept of Conservation & Natural Resources (DCNR, www.dcnr.pa.gov) for tech-related uses allocated as follows: \$400K (FY18 = \$500K) in federal funds for Topographic & Geological Survey Grants; \$200K for Internet Record Imaging System; and \$3.4M increase for continuing statewide radio upgrade. DCNR's 2 tech-related units are Bureau of IT (led by DCNR CIO) and Bureau of Topographic & Geologic Survey (BTGS). BTGS geologists & partners map the surface & subsurface geology of PA. Their findings are made available to the public as reports, including online. BTGS has three divisions: Geologic and Geographic Info Services (GIS), Geologic Mapping, and Economic Geology. BTGS maintains the PA Groundwater Info System (PaGWIS). Water drillers renew licenses and enter well construction info through the online tool called WebDriller. DCNR is working to reduce its footprint and save money by incorporating energy-saving features in existing and new buildings, water saving measures in PA's landscapes, and using recycled building materials. DCNR in 2017 completed its 15th LEED-certified building (2 more are planned in FY19) and in FY18

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added its 17th hybrid/electric vehicle (14 more are planned in FY19). DCNR in FY19 will work on a new PA Outdoor Recreation Plan (www.paoutdoorrecplan.com), required every five-years to remain eligible to receive federal funding.

- DCNR Online Services: Open Data Portal (<http://data-dcnr.opendata.arcgis.com>) - provides access to DCNR-published GIS data, and includes 130+ datasets; Research Data Base (<https://research.dcnr.pa.gov>) - used by DCNR staff and the public, with enhancements on the way; DCNR Grants (www.brcgrants.dcnr.pa.gov) - search and apply for DCNR grants; and Facility Design & Construction electronic bidding process. Online services for park users include: State Park Reservations, Explore PA Trails (www.explorepatrials.com), and Find a Local Park.
- DCNR Interactive (GIS) Maps portal (www.dcnr.pa.gov/Pages/Interactive-Maps.aspx) includes: Map Viewer - to discover state park, state forest, and geology info; Story Maps - serve as virtual visits; Hunting Map - find hotspots for game on PA State Forest lands; Deer Management Assistance Program - provides assistance to landowners whose lands are impacted by deer over-browsing; Grant Acquisition and Development Projects Map - land granted to and/or acquired by CoPA and related development projects; County Natural Heritage Inventory; PA Aquatic Community Classification Map - describes patterns in aquatic biodiversity; Gypsy Moth Daily Spraying Status; Statewide Forest Assessment Map; State Forest Shale Gas Infrastructure; Directory of Non-Fuel Mineral Resources; PAGEODE - PA Geological Survey Map; and PA Map Download Portal - electronic base map of PA consisting of sets of digital, geospatial data products, and associated services. Other DCNR interactive maps: PA Green Community Parks - provides best practices in green & sustainable design, operations, and maintenance; PA Interactive Sustainable Park Design Model - learn about green & sustainable practices, resources, and amenities within a community park setting; PA Community Tree Map; PA Land Trail Gaps; PA's Water Trail Network; and PA Map of Public Streambeds.
- DCNR Web-Based Resources (operated or supported by DCNR): PA Envirothon (www.envirothonpa.org) - academic challenge for high school students; PA Conservation Explorer (<https://conservationexplorer.dcnr.pa.gov>) - one-stop shop for conservation planning and environmental review; GetOutdoorsPA (<http://getoutdoorspa.org>); PA Natural Heritage Program (www.naturalheritage.state.pa.us); Tree Pennsylvania (<https://treepennsylvania.org>); Heritage PA (www.heritagepa.org); and iConservePA (www.iconservepa.org).

CRIMINAL JUSTICE

- \$46.8M to Dept of Criminal Justice aka Dept of Corrections (DOC, www.cor.pa.gov) for GO, portion for tech-related uses. Plus \$1.4M for statewide radio upgrade. Bureau of IT (BIT) provides project management, applications systems development & support services, desktop services and infrastructure services & support to DOC, OVA, BPP, Sexual Offender Assessment Board, and Firearm Education & Training Commission. Office of Planning, Research and Statistics provides planning, research, and data analysis activities within DOC. DOC tech-related written policies (on its website) encompass e.g. inmate cable TV service, automated inmate telephone system, social media, videoconferences, IT (81 pgs), computer forensic investigations, tech evaluation committee, and DNA data & testing. DOC continuously improves its security operations through security assessments, training, and tech e.g. biometrics and intrusion detection systems.
- DOC Online Services, IT Systems, and Other Tech: DOC/BPP Dashboard (<http://jointmetrics.cor.pa.gov>) - data-driven tool for improving management of prison population; Inmate Locator (<http://inmatelocator.cor.pa.gov>) - database of info about each inmate currently under DOC jurisdiction; Interactive Maps - include inmate Releases & Admissions by County/Years; Virtual Visitation - in cooperation with ScotlandYard Security Services; PA Statewide Automated Victim Info & Notification (PA SAVIN, via VINELink.com) - a free, confidential service to keep up-to-date on the status of a PA-housed offender or PA parolee (also available as a mobile app); and TEDx "compelling videos." DOC contracts with GTL (www.gtl.net) to provide: 1) Email and other services to inmates (a message fee & credit system is involved); 2) payment services to friends & family thru the payment portal www.connectnetwork.com; 3) tablet computers for purchase by friends & family for inmate use; and 4) state prison lobby kiosks from which visitors can add money to an inmate's account using cash or plastic. DOC uses JPAY (www.jpays.com) for processing of money orders sent to DOC inmates, as well as online and over-the-phone credit card transactions (a mobile app is also available). DOC contracts with Securus Technologies (www.securustech.net) to enable friends & family to receive calls from inmates. In FY19 DOC projects \$3.5M in revenue from telephone commissions.
- DOC Tech-Related Accomplishments (2017): Consolidated shared duties w/ BPP with assistance from BetaGov.org; donated 4K confiscated cell phones to domestic violence orgs; contracted with Aramark for food procurement and a management software system; neared completion of an enhanced inmate grievance tracking system; deployed first two CAPTOR (inmate management system) applications; transitioned mobile support from external provider to BIT; installed a full body scanner to detect contraband; continued to upgrade education related computer labs into virtual desktops; collaborated on creation of drug interdiction video; enhanced staff training by utilizing a web-based testing

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service that provides unique privacy/security features; began implementation of data-sharing agreement with DHHS; achieved direct access to Phila Prison System's electronic health record (EHR); interfaced Sapphire EHR w/ Temple U Hospital's EPIC system; and unveiled Inmate Assignment Decision Support System, a GO-TIME initiative, developed in partnership w/ Rossin School of Engineering and Applied Science at Lehigh U, that streamlines assignment & transfer of inmates at 25 institutions, and so far has saved \$2.9M in staff time and other costs.

- \$2.7M total to DOC for Office of Victim Advocate (OVA, www.ova.pa.gov), including \$107K in federal funds for Sex Offender Registration & Notification per PA's Megan's Law (enacted with assistance from pjmathison). OVA represents the rights & interests of PA crime victims. OVA's Address Confidentiality Program (www.paacp.pa.gov) provides victims of domestic violence, sexual assault or stalking with a substitute address. OVA and crime victims are also served by automated online services and IT systems of DOC, BPP, and PSP. OVA's website has an "Escape" button that when pressed immediately takes the user to non-OVA web pages.
- \$12.4M (FY18 = \$11.2M) to Board of Probation & Parole (BPP, www.pbpp.pa.gov) for GO, portion for tech-related uses. DOC & BPP are being combined within a single DCJ operating entity. BPP Statistical Reporting and Evidence-Based Program Evaluation Office has been combined with DOC Bureau of Planning, Research and Statistics (BPRS). DOC BIT & BPRS are working to automate BPP's reports and have been evaluating alternative ways to address this effort.
 - BPP Online Services and IT Systems & Initiatives include: PA Absconders (<https://apps.pa.gov/absconders>) - individuals shown on these pages are not reporting as required by conditions of their parole; OnBase - a document imaging system (and GO-TIME initiative); Enhancing Mobile Parole Office Workspace Efficiency and Responsibility (EMPOWER) - a mobility initiative that allows parole agents to use iPads in the field to monitor parolees; and GPS Technology - for supervision of parolees.

EDUCATION

- \$4M in federal Title IV funds to PA Dept of Education (PDE, www.education.pa.gov) GO for 21st Century Community Learning Centers - Admin (also see 21st CCLC "- Local" below). 21st CCLC grants support CLCs that provide academic, artistic and cultural enrichment opportunities - including tech education - for students and their families. Plus \$6K to GO for National Center for Education Statistics. ("Ed" may ungrammatically be substituted for "education" below.)
- \$6.7M to PDE for Info & Technology Improvement allocated as follows: \$3.74M from GF and \$2.93M (FY18 = \$2.26M) in federal funds for Statewide Longitudinal Data Systems. (Tip: PDE holds an Annual Data Summit attended by internal & external stakeholders.) PDE tech-related organizational units include...
 - Center for Data Quality and IT: Led by PDE's CIO and comprised of Web Office/Penn*Link and three divisions: Application Development, Data Quality, and IT Support.
 - Bureau of Management Services: Includes PDE's Chief Telecom Management Officer and responsibilities include records management and reprographics.
 - Educational Technology: Office of Elementary & Secondary Education's (OESE) Educational Technology (ET) team leads statewide initiatives to establish enterprise systems to provide stakeholders with tools & resources to improve student performance & achievement.
 - Technology Education: OESE's Bureau of Curriculum, Assessment and Instruction's Division of Instructional Quality (DIQ) supports Technology Education, which teaches students the Technology & Engineering components of STEM education. DIQ functions as a consultative & facilitative agency in selected curriculum, instruction strategies and compensatory education. Instructional Technology, on the other hand, deals specifically with use of computers and different software to solve problems and communicate effectively. (Semantics here are important.)
- PA State Board of Education (PSBE, www.stateboard.education.pa.gov) is the principal administrative regulatory body for elementary & secondary ed and higher ed in PA. During 2017, as a result of a study conducted per state legislation, PSBE recommended that PDE: streamline collection of data on school safety and discipline that spanned two different offices within PDE into one collection; explore tech requirements & costs for deploying certain enhancements to PIMS (see below); explore costs & considerations re having PDE support a standard Student Info System and standard financial reporting system for use by Local Ed Agencies (LEAs); and take specific other tech-related actions. A resolution adopted by PSBE endorsed the Computer Science (CS) Teachers Association (www.csteachers.org) K-12 CS Standards and encouraged LEAs to adopt these standards to guide their delivery of CS instruction.
- \$65.4M in state & federal funds to PDE for PA Assessment: PA assessment system is composed of assessments of students and follow-up reporting. The automated assessments include PA System of School Assessment (PSSA), PA

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Alternate System of Assessment (PASA), PA Accountability System (PAS), Keystone Exams (end-of-course), Classroom Diagnostic Tools (CDT), Value-Added Assessment System (PVAAS), and Nat'l Assessment of Ed Progress (NAEP).

- \$75.3M total to PDE for Library Services allocated as follows: \$10.6M for State Library (SL, www.statelibrary.pa.gov) - includes \$8.5M in federal Library Services & Technology Act funds; \$54.5M for Public Library Subsidy - distributed to 600+ local public libraries (LPLs); \$4.15M (FY18 = \$3.43M) from Keystone Recreation, Park and Conservation Fund for LPL rehab & development; \$3.07M for Library Access; and \$2.57M for Library Services for Visually Impaired & Disabled. SL contains an extensive general & legal reference collection, comprehensive collections of PA newspapers, PA state and US govt publications, and 90 databases. SL is home to the Rare Collections Library, which is “the premier library environment in the US incorporating systems & techniques to preserve historic, paper-based collections.” Bureau of Library Development collects LPL data via LibPAS (<https://pa.countingopinions.com>), used for determining eligibility for State aid, collecting data at the national level, and assisting LPLs by providing comparative data for local use. PA One Book (www.paonebook.org, administered by SL, is a resource for helping adults develop literacy in preschool children.
 - “Library Access” funds continue to support four programs: 1) Statewide Interlibrary Delivery Service; 2) PA Online World of Electronic Resources aka Power Library (www.powerlibrary.org) - the online portal to all that PA libraries offer, including digitized collections; 3) Statewide Electronic Library Catalog aka Access PA Database (via ExLibrisGroup.com) gives PA residents online access to library holdings of 1,400+/- PA school, public, college, university and special libraries and intermediate units; and 4) Access to professional reference librarians 24/7 via virtual reference service Ask Here PA (www.askherepa.org).
- \$161M (FY18 = \$111M) to PDE for Career & Technical Education (CTE) allocated as follows: \$112M (FY18 = \$62M) from GF and \$49M in federal Vocational Education Act - Local funds. \$40M of the \$50M increase in CTE funding goes to PAsmart. (The \$10M in other PAsmart funding goes to DLI below). PDE’s \$40M for PAsmart is allocated as follows:
 - \$25M to grow STEM computer science (CS) and related education in K-12 and postsecondary programs allocated as follows: \$15M for greater access to STEM and CS-related ed & training for all students; \$5M to expand STEM and CS educator & staff development; and \$5M for expanded postsecondary STEM CS and related training programs.
 - \$5M to promote employer engagement in postsecondary ed thru up to ten (10) business-ed consortiums: To support professional development for educators; meaningful engagement & career exploration activities; after-school & out-of-school programming; and other evidence-based initiatives that improve access to STEM and CS for all students.
 - \$10M to develop CTE and STEM career pathways, for new and innovative approaches to prepare students and adults for success in CTE & STEM fields. Priorities will focus on increasing associate degree attainment, making higher ed more affordable by earning postsecondary credit through articulation and more cost-effective tuition models, and decreasing time it takes for students & workers to enter or transition within the workforce.
- \$98.5M in state & federal funds to PDE for Support for Public Schools tech-related uses allocated as follows: \$90M in federal Title IV funds for 21st CCLC (www.21stcclc.org) - Local; \$0 (FY18 = \$4M) for Mobile Science Education Program; \$6M for Teacher Professional Development; and \$2.55M for CTE education equipment grants. Plus \$23.15M for Textbooks, Materials and Equipment for Nonpublic Schools.
- PDE Online Services and IT Systems include:
 - Penn*Link is the email service for PDE. Penn*Link manages delivery of e-mail among LEAs, including school districts, charter schools, intermediate units, and vo-tech schools/career and technology centers.
 - MyPDESuite (<https://www.mypdeapps.pa.gov>) - a web portal through which users access various PDE data collection applications including those listed below.
 - PA School Performance Profile (<http://paschoolperformance.org>) - resource for districts/schools to communicate performance results to constituencies and assist districts/schools in aligning/focusing resources for improvement.
 - PA Safe Schools Online Application (www.safeschools.pa.gov) - a data collection vehicle and content distribution and report repository for PDE school safety-related programs.
 - Child Nutrition Program E-Application & Reimbursement System (CNPEARS, <https://www.pears.ed.state.pa.us>).
 - Standards Alignment System (SAS, www.pdesas.org) - research-based resource to improve student achievement; identifies/tracks 6 elements that impact student achievement.
 - Professional Education Management System (PERMS, <https://www.perms.ed.state.pa.us>) - used by Professional Educators to comply with continuing education requirements.
 - PDE eGrants Mgmt system (www.egrants.pa.gov) - provides LEAs et al. with online access to grant applications.
 - PA Info Management System (PIMS): PDE’s statewide longitudinal data system.
 - Comprehensive Planning; web-based framework for data-driven and research-based district & school planning.

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- PA Network for Student Assistance Services (<http://pnsas.org>) - resource for the network of professionals responsible for developing a safe & drug-free environment and mental health wellness in PA schools & communities.
 - Education Names & Addresses (EdNA, www.edna.ed.state.pa.us) - contact info re education entities PDE serves.
 - Teacher Info Management System (TIMS, www.teachercertification.pa.gov) - for searching an educator's certification.
 - Office of Child Development and Early Learning (OCDEL) Research (www.ocdelresearch.org).
 - PA Value Added Assessment System (PVAAS, <https://pvaas.sas.com>) - a statistical analysis of state assessment data, and provides districts/schools with growth data to add to achievement data.
 - PDE Data Dictionary (<https://pa.d3m.com/Reports.aspx>) - listing of all data collections & elements in PDE's collection.
 - Consolidated Financial Reporting System - an online application developed by PDE and OB Office of Comptroller Operations for collecting PDE & GF budget data; it replaces Microsoft Access-based software.
 - PDE Special Education Reporting System (PennData, <https://penndata.hbg.psu.edu>) - developed by PSU's PA State Data Center and Applied Research Lab.
- PA Educational Technology Expo and Conference aka "PETE&C" (www.peteadnc.org) is a statewide 4-day event that provides programs focused on tech in the education field. Held in Feb. (2019+2021 in Hershey; 2020 in Pittsburgh), exhibitors showcase their latest tech products & services to the audience of teachers, administrators, tech directors, school board members, etc. Sign-up to exhibit, be a speaker, or just attend. Bring business cards.
 - Initiative for Network Based Education and Research (KINBER, <https://kinber.org>) is a public-private membership org comprised of myriad PA institutions, including PDE, established to build the PA Research & Education Network (PennREN), a now-completed 1,800-mile high-speed fiber optic network across PA traversing 51+ of 67 counties using a \$99.6M federal ARRA grant plus matching support. KINBER Strategic Plan 2017-19 Goals: Increase Value to Members; Ensure Sustainability and Diversify Revenue Sources; Expand into Underserved/Unserved Areas; Build Partnerships w/ Service Providers; and Enhance Communication & Recognition of KINBER Brand. In FY19, KINBER will continue to strive to develop a sustainable, market-based financial model initially capitalized with substantial public resources.
 - State System of Higher Education (SSHE, www.passhe.edu) - Funding for SSHE's 14 universities is distributed on a formula-basis through the office of the chancellor. FY19 total SSHE funding = \$468M. Per SSHE 2016-2020 Strategic Plan, goals by 2020 include: Increase number of degrees or certificates in STEM and health-related disciplines awarded to 7K/yr; Engage in ongoing assessment of student competencies thru expanded alumni & employer surveys; Increase technology transfer activity to an average of ≥2 patents awarded/yr; Increase number of courses & programs available to students through distance ed; increase the number of students in online & blended courses to 53K; Provide KPIs and other relevant data for SSHE and the universities in "dashboards" on SSHE's website; and Report annually on continuous review of shared services opportunities & initiatives. SSHE Online Services and IT Systems & Initiatives include:
 - SSHE operates its own Employee Self Service portal, Intranet, Employee Webmail, and Facilities Info System.
 - (Organizational) System Redesign (<http://systemredesign.passhe.edu>) - to review this ongoing SSHE initiative to review and redesign all of its operations, from top to bottom.
 - Strategic Sourcing (S/S, <https://passhe.procurement.com/home>) - SSHE's S/S Office manages all SSHE procurement and uses ProcureWare for managing supplier selection and pre-qualification thru online bidding, analysis and award.
 - \$36.3M to PDE for two post-secondary technology education institutions allocated as follows: \$14.3M to CoPA-owned Thaddeus Stevens College of Technology (<https://stevenscollege.edu>), which provides 2-year, technical ed programs for qualified students and \$22M to PA College of Technology (www.pct.edu), an affiliate of PSU, which offers associate & bachelor degree programs, including online.
 - PDE-Projected Full-Time Enrollments by Subject Area at State-Supported Institutions of Higher Ed: In FY19, 16,500 students will be enrolled in Computer & Info (C&I) Sciences. From FY17 through FY23, PDE estimates a 33.4% increase in C&I enrollment at these institutions, by far the largest % increase of 17 tracked subject areas. FY19 estimated full-time students enrolled in STEM majors at PA's public colleges and universities = 53,141 (up from 41,151 in FY13).
 - PA Higher Education Assistance Agency (PHEAA, www.pheaa.org), created by State law in 1963, has evolved into a national provider of student financial aid services, serving millions of students and thousands of schools through loan guarantee & servicing, financial aid processing, outreach, and other student aid programs. PHEAA earnings are used to pay its operating costs. PHEAA SVP and Chief Digital Officer, one of ten SVPs, manages the development, maintenance, and support of the agency's data processing systems and tech infrastructure. PHEAA does business with vendors independently from CoPA. (See "Doing Business With PHEAA" tab on PHEAA website.) \$571M in total FY17 operating expenses included: \$59.6M (FY16 = \$50.8M) for IT expenses; \$27.9M (FY16 = \$32.6M) for mail services - decrease due to decrease of USPS vs. e-correspondence; \$20.1M (FY16 = \$16M) for independent contractor fees, primarily for IT and

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internal audit activities; \$5.7M (FY16 = \$4.3M) for capitalized software development costs; \$23.8M (FY16 = \$20.2M) for consulting services - with increase due to IT consultants; \$13.4M (FY16 = \$6.1M) for data entry services; and \$7.3M (FY16 = \$8M) for telephone. FY18 operating expenses to date (vs. FY17) include an increase for independent contractor fees - mainly due to IT and internal audit activities.

- PHEAA conducts student loan servicing activities nationally as American Education Services (AES, www.aesSuccess.org) for loans owned by commercial lenders and <https://MyFedLoan.org> for loans owned by the federal govt. PHEAA's two other websites are www.YouCanDealWithIt.com (student aid and debt management info) and www.EducationPlanner.org (career and college planning). PHEAA uses its own proprietary mainframe-based COMPASS system for servicing student loans that it owns and loans owned by third parties. An automated servicing solution contract PHEAA currently has with the federal Dep't of Education expires June 2019.

PHEAA-Featured Online "Tools & Resources": 1) Account Access from AES; 2) Calculators - four online calculators (Budget, Savings, Annuity, and Loan Repayment) to see how your financial choices can affect your bottom line; 3) Online Ordering - to order materials to provide info needed to plan for a student's future; and 4) www.MySmartBorrowing.org - to get an idea of how college and career choice affect your chances of over borrowing.

- \$6M to PHEAA for Targeted Industry Cluster Scholarship Program (PA-TIP), which provides grants to students enrolled in certificate programs, including energy, advanced materials and diversified manufacturing. A predecessor program, SciTech Scholarships, was created with assistance from pjmathison. SciTech received ~\$40M during its lifetime.
- Beginning FY14 academic year, PHEAA offered a State Grant Distance Education Pilot Program to provide grants to online students at participating institutions. 6,700+ awards were disbursed to online students for FY17. The pilot program is currently scheduled to end FY18. The FY19 Gov's budget however assumes the program will be enacted permanently.

EMERGENCY MANAGEMENT

- \$368M in state & federal funds to PA Emergency Management Agency (PEMA, www.pema.pa.gov) for tech-related uses allocated as follows: \$315M (FY18 = \$362M) from 9-1-1 (911) Fund for Emergency Services Grants, including \$6.3M for GO; \$2M increase to GO for statewide radio upgrade; \$50M for Volunteer Company Grants (\$30M) and Loans (\$20M) - communications equipment is an eligible use; \$750K for first responders equipment & training; and \$125K (FY18 = \$0) for Online Training Educator & Reimbursement. PEMA programs include:
 - ReadyPA (www.ready.pa.gov) public service campaign - complementing the federal Ready.gov - is designed to educate PA citizens and help them to prepare for, respond to and mitigate emergencies.
 - Emergency Preparedness Summit: a multi-agency event (usually in the fall) with vendor participation. Recent presentation topics: drones and public safety, cyber hygiene & trends, and social media in emergency management.
- PEMA Organization: Deputy Director (DD) for Response oversees Internal, External Operations Offices (IOO, EOO). IOO includes CoPA Watch & Warning Center, the 24/7 state warning and public alerting point, as well as CoPA Response Coordination Center, the main location to coordinate assistance to localities during a disaster/emergency (D/E) by implementing CoPA Emergency Operations Plan. EOO oversees activities during D/Es, including identifying equipment, resources, and specialized assets e.g. telecom resources needed for D/Es. DD for Preparedness oversees and manages Bureau of Planning, Training, and Exercise and Bureau of Technological Hazards.
 - PEMA 911 Office (www.pema.pa.gov/911) - DD for 911 Office oversees statewide 911 systems, leading the transition from legacy 911 to Next Generation (NG) 911 systems and development & deployment of an Emergency Services IP Network connecting all Public Safety Answering Points (PSAPs). The Office is responsible for carrying out the PA 911 Act, the decision-making aspects of NG 911 development, ensuring compliance with legislative policy and supporting plans & procedures, collaboration among stakeholders and informing the public about relevant aspects of 911. Act 12 of 2015 defines PA's program for funding PSAPs across PA. It includes a uniform 911 surcharge-fee, a uniform 911 Fund for collecting surcharges, and procedures related to remitting & distributing surcharge revenues. Available documents include: NG 911 GIS Strategic Plan, 911 System Standards & Requirements Document, and Statewide 911 Plan, as well as annual reports.
- PEMA Warning & Communications Systems: Emergency Alert System (EAS) is a satellite based "EMnet EAS System" deployed to county, TV and radio stations with an FCC 'city-of-license' located in PA. PEMA's Emergency Management Network (EMnet) is the primary delivery path for EAS distribution in PA. The secondary EAS source path utilizes the fiber optic backbone of PA Public TV Network (deep breath) direct to regional LP-1/LP-2 affiliate facilities that then relay the

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backup EAS network to applicable areas. SEVAN, the Satellite Emergency Voice Alerting Network, and PaSTAR, its satellite-based data network, are part of the overall complement of tools PEMA uses for warning & communications functions. IFLAWS, Integrated Flood Observing and Warning System, relies on radio reporting gauges which provide rainfall & stream level data via radio and satellite to PEMA and partner orgs.

- \$2.5M from GF to PEMA Office of State Fire Commissioner (SFC), portion for PA Fire Info Reporting System (PennFIRS). Fire Depts (FDs) electronically report & manage the flow of incidents to the Nat'l Fire Incident Reporting System (NFIRS). FDs can use any NFIRS 5.0 (as updated) compliant software to submit their reports. SFC makes available Emergency Reporting tools (ER, <https://www.emergencyreporting.com>) to submit such reports. FDs may still utilize PennFIRS, created by / licensed from FIREHOUSE Software, to submit info to NFIRS, however, starting FY17, FDs "are responsible for costs associated w/ continued use of Firehouse products." SFC calls the new ER method "PennFIRS On-Line."

ENVIRONMENTAL PROTECTION

- \$59.6M to Dept of Environmental Protection (DEP, www.dep.pa.gov) for tech-related uses allocated as follows: \$10.1M (FY18 = \$12.7M) for GO reimbursement - EDP services; \$550K in federal funds for Environmental Program Management (EPM) Diagnostic X-Ray Equipment Testing; \$15M in federal funds for EPM State Energy Program, toward expanding use of renewable energy and reducing PA's energy usage; \$1M for EPM Used Tire Pile Remediation; \$6.6M (FY18 = \$8.2M) for Alternative Fuels; \$365K (FY18 = \$453K) from Electronics Material Recycling Account for carrying out duties of Act 108 of 2010 (see below); \$23M from Recycling Fund for Municipal Recycling Grants; \$2.5M increase from GF "to provide "high-quality, responsive oversight and improve customer service" (includes \$125K for GO, \$1.28M for EPM, and \$1.1M for Environmental Protection Operations aka EPO); and \$485K for EPO statewide radio upgrade.
 - Act 108 of 2010, the PA Covered Device Recycling Act, requires manufacturers to provide recycling programs for computers (desktops, laptops, monitors, peripherals) and TVs sold to consumers in PA. The Act provides for certain collection and uses of funding.
- DEP IT Organization and Modernization/GO-TIME Efforts: DEP CIO leads Bureau of IT w/ three divisions: Development Operations, Data Management (includes Geospatial), and Enterprise Infrastructure. Bureau of Office Services includes Division of Document Management. In 2018 the Gov and DEP Sec. announced a plan to reduce permit backlogs, modernize permitting processes, and better utilize tech to improve oversight & efficiency. New initiatives include: Expanding industry e-permitting system to include more permit types; Creating new analytics program that helps managers track progress on open permit applications; Creating greater efficiencies through implementation of electronic content management system for storage & retrieval of DEP data; and Supporting legislation that will bring the permit process in line with the industry it is engaged with. Key focuses of tech modernization have included the creation of mobile technologies for field inspections built off existing tech at DOT and including photo & voice recognition capability.
- DEP Grant & Loan Programs (Tech-Related): Alternative Fuels Incentive Grant Program - DEP solicits for applications for innovative, advanced fuel & vehicle technology projects resulting in cleaner advanced alternative transportation within PA; Alternative Fuel Vehicle Rebate Program - provides rebates to consumers for the purchase of new, non-leased, plug-in hybrid, plug-in electric, natural gas, propane and hydrogen fuel cell vehicles; Mine Map Grant - provides \$ to qualified orgs to process mine maps and mine data into electronic formats that can be used in GIS and other computer applications; and <http://IllegalDumpFreePA.org>, with support from DEP and Keep America Beautiful, provides grants & loans to eligible orgs for a surveillance kit to be placed at undisclosed locations. The kit includes concealable, lockable cameras and accessories that capture usable, conviction-worthy footage of license plates and illegal dumpers – even at night. One camera uses wireless tech that can send pictures via text to a registered cell-phone when triggered, providing almost instant results. DEP grant & loan programs are myriad both in number and in one-stop ways to access them...
 - 1 eGrants System <https://www.ahs.dep.pa.gov/e-grants> - for both DEP and DCNR
 - 2 Grant and Loan Programs www.ahs.dep.pa.gov/GrantsCenter
 - 3 Grant and Loan Programs Center: www.depreportingservices.state.pa.us/ReportServer/Pages/ReportViewer.aspx?/Grants/GrantLoans
- DEP Online Services, IT Systems and Other Uses of Tech:
 - Keystone Environmental e-Permitting System (KEES, <https://www.kees.pa.gov>).
 - Ambient Air Monitoring Data Reports (www.ahs.dep.pa.gov/aaq_apps/aadata/).
 - BidExpress (www.bidexpress.com) - Internet bidding & proposal service that DEP began using 2017 to manage construction bid opportunities & solicitations. (Tech-related opportunities/solicitations are still handed through DGS.)

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- eComment (www.ahs.dep.pa.gov/eComment) - to view regs, policies, tech. guidance, permits, and other proposals for which DEP is currently soliciting comments, access these docs, submit comments, and see other's comments.
- GIS Resources (www.dep.pa.gov/DataandTools/Pages/GIS.aspx) include DEP Open Data Portal; Macroinvertebrate Taxa Viewer - data on organisms that reveal water quality; Susquehanna River Story - learn about adverse human impacts on the East Coast's longest river and its tributaries; Oil & Gas Annual Report - an interactive, electronic report to improve public access to well info; Municipal Separate Storm Sewer Systems (MS4s) Requirements Mapping; eMapPA - focuses on display of environmentally relevant data to CoPA agencies, contractors, and public; PA Oil & Gas Mapping - shows location of oil & gas wells; PA Water Quality Network (WQN) Mapping Application - supports DEP's statewide, fixed station water quality sampling system; PA Activity & Use Limitation (PA AUL) Registry - displays environmental covenants; and WAVE - water-related info within PA.
- Report Server Viewer (www.depreportingservices.state.pa.us/ReportServer) - for reviewing dozens of DEP reports.
- "Tools" include: Permit Application Consultation Tool (PACT, www.ahs.dep.pa.gov/PACT); PA Environment Facility Application Compliance Tracking System (eFACTS) - allows public to search for authorizations, clients, sites, facilities, inspection visits & results data, and enforcement info; eNOTICE (www.ahs.dep.pa.gov/eNOTICEWeb) - DEP's e-notification system; e-Discharge Monitoring Report (eDMR) System - used by wastewater facilities to submit monitoring results to DEP; and eLibrary (www.elibrary.dep.state.pa.us) - official repository of DEP's key documents available for viewing & downloading;
- DEPGreenPort (www.depgreenport.state.pa.us) - portal to services & IT applications for multiple DEP programs.
- PA Falcon Cam (www.dep.pa.gov/falcons): Four cameras, including infrared for nighttime viewing, stream 24/7 falcons which make their home on the 15th floor of DEP's HQ building in Harrisburg, PA.
- (Not DEP) PA Mapping and Geographic Info Consortium (PAMAGIC, www.pamagic.org) is a non-profit org that provides leadership and guidance in the establishment of GIS throughout PA. Check out their annual conference.

ETHICS COMMISSION

- \$2.7M total to State Ethics Commission (PSEC, www.ethics.pa.gov) - PSEC has certain powers & duties under four PA laws (acts) as follows: Employee Ethics, Lobbying Disclosure, Gaming, and (most recently) Medical Marijuana. Statements of Financial Interest, by certain public officials, may be submitted via an online form. eLibrary (www.ethicsrulings.state.pa.us) provides an online public gateway to PSEC rulings, statements of financial interest. PSEC business processes are ripe for more automation or upgrade...budget permitting.

FISH AND BOAT COMMISSION

- \$47.8M to Fish & Boat Commission (FBC, www.fishandboat.com) for GO, portion for Bureau of IT comprised of 2 offices: Infrastructure, Security and Operations; and Geospatial Technologies and Business Solutions. FY19 PMs include: 879K fish licenses sold, 2.3M website visits, and 105K FishBoatPA mobile app users. In 2018 FBC announced a new licensing services ten-year contract signed with Nashville-based Sovereign Sports Network, which will deliver the ability for anglers to purchase fishing licenses from their smartphones and retain the license images on their devices to use as a proof of purchase. In 2018 watch for a new multiyear FBC strategic plan with tech-related details. FBC Online Services include:
 - The Outdoor Shop (www.theoutdoorshop.state.pa.us) - FBC and PGC (below) online store for a range of transactions, including permits and licenses.
 - Interactive Maps (www.fishandboat.com/Locate/Pages/MapResources.aspx) - ArcGIS web applications for anglers & boaters that we had way too much fun with.
 - <http://GoneFishingPA.com>: FBC's punny portal to "Just-the-basics anglers crave."
 - BoatPA Course (www.boat-ed.com/Pennsylvania) - FBC-approved course to complete online boating safety ed.
 - PA Trout In The Classroom (www.patrountintheclassroom.org) - an education program for students in grades 3-12.
 - Outdoor Aim (www.outdooraim.com) - to purchase collectible products in support of FBC & DCNR programs.
 - PA Saltwater Angler Registry Program (www.pa-sarp.pa.gov) - for anglers who target or catch specific types of fish.

GAME COMMISSION

- \$88M (FY18 = \$75.6M) to Game Commission (PGC, www.pgc.pa.gov) for GO, portion for two tech-related units: Bureau of Automated Technology Services (BATS) and Bureau of Information & Education. Online services to the public are made available through The Outdoor Shop (see FBC above) and include: apply for/purchase fishing & hunting licenses; renew/purchase boat registrations; and purchase gift vouchers, merchandise, and subscriptions. A PGC goal by 2020 is to build annual revenues to \$140M (FY17 = \$107M). Per PGC's Strategic Plan 2015-2020...
 - PGC Challenges: Marketing to better sell our agency & mission e.g. using a customer ID, providing gov't-to-business

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integration w/ other sites, and introducing automated surveys to obtain feedback from the public; Communicate using all available media; PGC is the official source-of-record for statistics re PA wildlife - this requires that we make adequate investments in monitoring & research, use the most advanced tech to support law enforcement, and deploy new & evolving communication opportunities in our info & ed activities; PGC needs to collect & utilize KPIs for its mission and in support of the Strategic Plan; PGC org needs to embrace the future work model i.e. continuously adapt, including using tech as a driver to support our goals; Ongoing maintenance of radio tower sites, channels, and variety of radio frequencies as part of our statewide mobile radio system; and Cost effectively using evolving communication technology to increase efficiency of operations for all staff (PGC uses both cellular and CAD-based systems, both are dependent on cellular reception, which can be very poor in remote areas).

- PGC IT Systems and Other Uses of Tech:
 - PA Automated License System (PALS) - the PGC software that drives its license & permitting system.
 - Data Collection (<https://pgcdatacollection.pa.gov>) - data on a range of observations about wildlife and other subjects is reported by PGC staff and cooperators (citizen volunteers) both online and through a mobile app. Volunteers include non-hunter outdoor enthusiasts who help out in specific ways e.g. the Appalachian Bat Count.
 - Maps: Map *Gallery* - finished maps "to Help Hunters and other Outdoor enthusiasts enjoy the State Game lands;" Map *Center* - where hunters can search, create and print customized maps with aerial photos, topographic base maps, Wildlife Management Units, Hunter Access properties and more; and PALS Sales Outlets, to locate a license issuing agent to purchase a license in person. PGC responds to customer requests for new map-related features.
 - Online Goose Blind Drawing Applications: A more efficient and customer-friendly application process for goose-blind drawings opened in 2017. A "blind" is shelter for concealing hunters; "drawings" are way to fairly allocate a limited number of publicly available blinds to hunters.
 - Eagle Nest Video Live-Streaming (www.pgc.pa.gov/Wildlife/Pages/WatchableWildlife.aspx) - provided by HDOnTap, Comcast Business, et al. Check it out.
 - Youtube Channel (www.youtube.com/user/PAGameCommission) - for live-streamed PGC meetings, etc.
 - Bear Tracking: PGS monitors black bear reproduction via radio-collar technology, including hardware and software.

GAMING CONTROL BOARD

- \$50.6M (FY18 = \$43.7M) total to Gaming Control Board (GCB, <http://gamingcontrolboard.pa.gov>) allocated as follows: \$46.2M (FY18 = \$41.7M) for Operations & Admin; \$2M for Casino Marketing and Capital Development; \$2M (FY18 = \$0) from new Video Gaming (VG) Fund for VG admin; and \$400K (FY18 = \$0) from new Fantasy Contest (FC) Fund for FC admin. Multiple state agencies support GCB e.g. DOR manages Central Control Computer System, which calculates CoPA's share of terminal revenue and monitors operation of gaming machines. PA's dynamic gaming industry & policy environment will continue to create new & evolving tech-related demands within GCB e.g. GCB is tasked w/ regulatory authority of satellite casinos (up to 10), FCs, VG terminals at truck stops, and interactive gaming (iGaming), per Act 42 of 2017. PGC currently and in FY19 is accepting applications for licenses from new (per the Act) gaming manufacturers, suppliers, and service providers (see PGC website for related announcements, procedures and due dates). *Prior* FY tech-related expenditures (by category) and accomplishments can be found in GCB annual reports posted on its website.
 - GCB Tech-Related Organizational Units (4): Bureau of Admin's Office of IT develops & supports applications to assist GCB staff, oversees & maintains all computers, servers, networks, software, and telecom equipment, and seeks to leverage tech solutions to enhance operational efficiencies throughout all of GCB. Office of Communications oversees all comm. products - printed materials, photos/videos, website, and social media postings. Bureau of Gaming Laboratory Operations' primary function is to evaluate electronic gaming products and associated equipment used in casino gambling for compliance with law, regs, and technical standards. Bureau of Casino Compliance is responsible for the technical compliance of the slot machine floor, table game floor and the IT room of every casino.

GENERAL SERVICES

- \$14.8M to Dept of General Services (DGS, www.dgs.pa.gov) GO for tech-related uses allocated as follows: \$10.4M for Centralized Procurement; \$300K for Capital Media Center (CMC) reimbursements; \$750K increase for statewide radio upgrade; \$1.25M to Capitol Police Operations for statewide radio upgrade; \$2.1M (FY18 = \$1.9M) for COSTARS; and \$15K (FY18 = \$5K) for E-Verify - the federal system to ensure that all employees performing work on public works projects are authorized to work in the U.S. In FY18, DGS announced a new supplier of Digital Fingerprint & Electronic Federal Criminal Background Check Services - Idemia will take over the fingerprinting services contract formerly held by Gemalto. FY19 DGS objectives include: \$33M (FY18 = \$43M) in procurement-related savings (GO-TIME and other). Tip:

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Download “ye olde” Commonwealth Telephone Directory (www.dgs.pa.gov/About/Pages/Directory.aspx) - a one-stop source for CoPA contact and organizational info. DGS Tech-Related Offices & Functions include:

- Bureau of Procurement (BOP) oversees the purchase of \$3.5B in services, IT, equipment and supplies each year and establishes procurement policy for all state agencies. Per Procurement Handbook Manual provision “M215.3 Amended,” effective 7/1/17, all IT procurements are now handled by BOP. BOP’s Supplier Service Center (<https://tinyurl.com/ybjogtu2>) assists vendors with first-time registration, and bidding & account management for non-construction services (and provides links to 1-4 below + other resources). Procurement Tools & Systems include:
 1. Registration: If your company has never done business w/ CoPA, you are encouraged to register your business at the PA Supplier Portal (www.pasupplierportal.state.pa.us).
 2. Bidding: PA eMarketplace (www.emarketplace.state.pa.us) provides info about tech- and non-tech bidding opportunities, awards and contracts. Tip: Sign up for eAlerts to be notified when new bidding opp’s are available.
 3. COSTARS (www.costars.state.pa.us), PA’s cooperative purchasing program, provides 8,600+/- local public procurement units et al. and suppliers a tool to find and do business with each other through use of contracts established by DGS. In FY17 COSTARS members purchased \$1B+ in goods & services from 2,400+ suppliers.
 4. Invitation to Qualify program (ITQ, www.dgs.internet.state.pa.us/ITQ) establishes statewide contracts for selected services (tech and non-tech) utilized by state agencies to procure services more quickly. By pre-qualifying for an ITQ contract vendors receive specific requests for quotes or RFPs as agencies utilize the ITQ contracts. The Master *IT* Services ITQ Contract allows IT vendors to pre-qualify for contracts. In addition, COSTARS members may use this contract.
- Bureau of Supplies and Surplus Operations enables reutilization of federal & state property among state & local agencies for a nominal charge. Thereafter, goods are sold to public through Internet sales (effective 2018 physical onsite auctions are no longer available). In FY17, \$6.1M+ in revenue was generated from state surplus property. Online auctions are managed by www.GovPlanet.com/PA and www.GovDeals.com.
- Bureau of Publications (BP) provides print, design and mail services to agency customers across state govt. Leveraging technology, BP offers variable data print-to-mail and mail pre-sort services. BP hosts the online storefront, PAPublisher (www.papublisher.state.pa.us/dsf), by EFI Digital Store Front (www.efi.com) through which agency customers can order stationery, brochures, letterhead, and a variety of other personalized products on demand.
- Commonwealth Media Services (CoMS) provides studio and remote broadcast TV services, fixed & remote satellite uplinking, web animation & graphics, marketing campaign strategy & development services, and creative services to assist agencies in communicating program info to their customers, and more broadly, to PA taxpayers. CoMS also provides support for media archiving and CoPA’s cable system infrastructure. PACast (www.pacast.com) aka Commonwealth Media Hub serves as a repository of viewable CoMS-produced videos, radio broadcasts, and photos.
- Business Transformation (BT) Office aka Lean, in conjunction with GO-TIME, collaborates with DGS deputates, bureaus, and offices to drive adoption and proficient use of lean thinking, principles, behaviors, and tools. BT seeks to help DGS add more customer value to product & service offerings by removing waste and identifying and resolving root causes of ongoing problems.

HEALTH AND HUMAN SERVICES

Context: Guv and his administration are in the midst of merging DOH and DHS into one Dept of Health and Human Services (DHHS). Effective 2018, a shared services delivery center for admin & budget functions was created for DOA, DDAP, DOH and DHS. FY19 Guv’s Budget combines these four agency budgets into a single DHHS budget. At press time, all four of these agencies retained separate web sites. As a result, if content below seems incongruent, it’s because it is. (Change is messy.)

Budget Supplement Tome: FY19 DHHS IT budget & initiative details, including vendor info, can be found in the annual elephantine DHS budget supplement (FY19’s is 649 pgs): Try <http://dhs.pa.gov/publications/budgetinformation> or on the DHS web site go to Publications > Budget Info. Specific pages in the supplement are referenced below as “(HHS Bgt pg #s)”.

- \$23.8M in state & federal funds to DHHS (www.dhs.pa.gov) GO for tech-related uses including: \$0 (FY18 = \$13M) in federal funds for Environmental Public Health Tracking; \$60K (FY18 = \$48K) in federal funds for Learning Management System (LMS) - to support operation & maintenance of online LMS, which provides training for PEMA and other state & local training opportunities; \$79K for Data Center Services; \$23.2M in federal Child Care Development Fund Block Grant - Admin funds, portion to support PELICAN system (see below); and \$500K in federal Dept of Homeland Security (“federal-

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DHS”) Biowatch Program funds for Special Preparedness Initiatives - for technical & management support for labs engaged in monitoring for biological agents, as part of the Lab Response Network.

- \$295.6M (FY18 = \$352.8M) in state & federal funds to DHHS for Info Systems allocated as follows: \$76.7M (FY18 = \$80.7M) from GF; \$136.2M (FY18 = \$199.7M) in federal Medical Assistance (MA) funds; \$23.7M in federal Supplemental Nutrition Assistance Program (SNAP) funds; \$11.3M (FY18 = \$12.2M) in federal Temporary Assistance to Needy Families Block Grant (TANFBG) funds; \$16.7M (FY18 = \$11.5M) in federal Child Welfare Title IV-E funds; \$12.1M (FY18 = \$10.3M) in federal Child Support Enforcement funds; \$18.2M (FY18 = \$14.5M) in federal Children’s Health Insurance Program (CHIP) funds; \$613K for COMPASS Support - CHIP; and \$37K for Medical Data Exchange. This funding generally provides for on-going IT support of DHHS benefit delivery systems, network infrastructure, and enterprise data warehouse. The \$295.6M amount above can be reallocated as follows: \$256M (FY18 = \$282M) for Operating - for on-going operational maintenance & enhancements of specific IT projects just below; \$33.1M in federal funds for Budgetary Reserve; \$2.1M for Nonexpense; \$4.4M for Fixed Assets; and \$0 (FY18 = \$30.3M) for Personnel. Most of these info systems are partially funded by the federal govt and must comply with federal guidelines & regs. These systems are critical in providing benefits to 3.0M eligible recipients in PA.
- FY19 DHHS Info Systems Initiatives (HHS Bgt 28-34):
 - Client Info System (CIS) provides automated data processing for multiple human service (h/s) eligibility programs including but not limited to: cash assistance, MA, Low Income Heating Energy Assistance (LIHEAP) and SNAP recipients. It supports 6,600+ County Assistance Office (CAO) staff statewide. System enhancements are being implemented to transition eligibility and case maintenance business processes into CIS for the CHIP program, which now resides within mainframe technology to open systems technology. DHHS has incrementally updated portions of CIS to newer, web-enabled, tech-based solutions. In FY19 DHHS will focus on continuation of system modernization (with a focus on moving batch processes from legacy mainframe to open systems) as well as initiatives that increase CAO staff efficiencies and promote enhanced customer service capabilities. DHHS will continue to conduct maintenance activities to support public assistance programs as required by regs or policy.
 - Home & Community-Based Services Info System (HCSIS) is a centralized, web-enabled consumer case management system (CMS) system that provides data collection and state-level program management. It also functions as the daily operating system for County Intellectual Disability and Early Intervention Admin Entities. FY19 HCSIS project activities include continued support of Community HealthChoices rollout, updates to Enterprise Incident Management (EIM) system, enhancements to the Early Intervention system, coordination of behavioral health activities, and support for amendments and renewals in home and community based waivers.
 - Child Welfare Info Solution (CWIS) supports the ChildLine application and maintains a self-service portal for obtaining child abuse clearances and reporting child abuse. CWIS also supports electronic data & report exchanges with 67 counties. In FY19 DHHS will continue development of CWIS to allow collection of child-specific data required for federal reporting. Outcome processing efficiencies will also be addressed, including management of investigation outcomes, ability to merge/unmerge certain data, validation & expunction of data, and dashboard/alert management.
 - PA Enterprise to Link Info for Children Across Networks (PELICAN) is an integrated management system that supports Child Care Works (subsidized child-care program), Early Intervention, Early Learning (E/L) Services (i.e. Head Start, PA Pre-K Counts, and Keystone STARS programs), Provider Certification, and the E/L Network. The system provides online info for citizens about quality E/L opportunities & providers. PELICAN also provides a means to assess & monitor program accountability & integrity across entire E/L continuum. FY19 PELICAN activities include continued Care Check updates for Child Care Works to ensure statutory compliance. E/L Resource Centers (ELRCs) are being created as a single point of contact to find info and access services to support children & families. ELRCs will integrate current work of local Child Care Info Services agencies and Regional Keys (www.pakeys.org).
- DHHS Bureau of Information Systems (BIS) is comprised of over 320 State staff and is organized into four divisions, and provides direction & coordination of IT strategic plans, research, engineering, standards, policy, applications development, infrastructure management, customer support, portfolio, program and project management, technical training, and IT-procurements. BIS personnel plan, analyze, design, implement, maintain, and operate large, complex, integrated info and office systems in support of all DHHS program offices plus DOA & PID. BIS supports all DHHS facilities, including all central HQ sites, CAOs, mental hospitals, mental retardation centers, remote admin centers, and a statewide network connecting DHHS and business partners. For details about this Leviathan IT organization, try this Leviathan link: <http://dhs.pa.gov/learnaboutdhs/dhsorganization/officeofadministration/bureauofinformationsystems>.
- DHHS’s technology challenge is to provide timely & accurate info that enables the integration of numerous client services and tracks individual progress toward self-sufficiency. The continued creation and expansion of web-based applications allows for more online services and efficient maintenance of common client & provider databases, as

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well as CMSs, for use across programs. DHHS continues to strive toward system enhancements that will minimize admin costs in relation to service costs and meet federally mandated Affordable Care Act info systems requirements.

- \$161.7M total in state & federal funds for County Admin - Statewide (CA-S), portion for tech-related uses: Sources of funds include \$11.6M from ARRA Health IT (HIT) funds and \$350K from eHealth fees. Uses of funds include \$31.3M (FY18 = \$27.5M) for operating expenses, portion for consulting fees, including increase of \$603K ARRA for IT contracted requirements; and \$36M for grant expenses, portion for HIT projects. CA-S funds support certain HQ staff and field staff in multiple program offices, including Office of MA and Health Care Delivery (OMA). OMA Bureau of Data & Claims Management (BDCM) is the “gatekeeper” for all OMA IT initiatives. BDCM controls & oversees the State Medicaid Management Info System (MMIS) aka PROMISE, which performs medical, dental, and pharmacy claims adjudication and payment, managed care capitation and encounter processing, as well as all data interfaces to and from contracted Managed Care Organizations. BDCM also controls & oversees the MA Provider Incentive Repository System used for federally funded EHR incentive program. OMA funding also supports the PA eHealth Partnership. (HHS Bgt 35-43)
 - PA eHealth Partnership Authority was established by Act 121 of 2012 and originally supported through federal ARRA funds. The Authority developed, established and maintained a health info exchange (HIE) per federal & state law. Act 76 of 2016 transferred Authority functions to DHHS. The Authority expired on July 5, 2017. Today, PA eHealth Partnership (www.paehealth.org) aka PeP (no “Authority”) is responsible for creation & maintenance of PA’s secure HIE aka the PA Patient & Provider Network, or P3N. This includes certification of Health Info Orgs (HIO) connecting to the P3N “hub,” maintenance of patient opt-out and opt-back-in registry, and admin of grant programs to facilitate connections of health care providers to HIOs. PeP also works within DHHS and across selected state agencies to facilitate health care provider reporting to several state registries.
- \$18.3M (FY18 = \$26.7M) in state & federal funds to DHHS for Health Innovation: The 2016 Health Innovation PA Plan is a four-year federal- and state-funded plan that has three primary strategies: 1) accelerate transition from volume- to value-based models, 2) achieve price & quality transparency, and 3) redesign rural health care delivery. Per the Plan, CoPA is pursuing a set of tech initiatives that support & enable the three strategies. This approach includes developing a centralized HIE, supporting ongoing efforts to evaluate the utility and potential implementation of an all-payer claims database (APCD), developing a population health dashboard, and expanding the use of telehealth. This funding includes:
 - \$16.7M (FY18 = \$25M) for Rural Health (RH) - to support start-up and ongoing maintenance costs of the RH Redesign Center (RHRC) of the rural hospital Global Budget Model. RHRC provides data analysis, budget creation & admin, and practice transformation support to rural hospitals participating in the model.
 - \$739K in federal ARRA funds for HIE capacity - to implement a mechanism to receive messages via the CoPA Health Gateway (CHG). Working with PeP, DHHS will streamline health info infrastructure to this single systematic point of entry. CHG will provide coordination for reporting & exchanging public health data and meaningful use attestations for HIOs that are connected to PeP’s P3N. This will allow providers and disease reporters an efficient method to submit info to the state agency registries and reporting entities--Electronic Lab Reporting/Disease Surveillance, Immunization, Cancer and Syndromic Surveillance. (HHS Bgt 102-103)
- \$431.6M in additional state & federal funds to DHHS for tech-related uses within specific programs allocated as follows:
 - \$49.3M (FY18 = \$51.1M) in state/federal/other funds to Child Support Enforcement program for operating expenses, which provides for on-going IT support of PA Child Support Enforcement System (PACES) and network infrastructure. PACES is used by responsible PA county agencies and it interfaces with federal & state data systems and these agencies and non-govt-orgs to enhance collection of child support. Includes decrease of \$3.8M due to imaging project moving from development to production. (HHS Bgt 110-14)
 - \$145K in federal funds to DHHS Mental Health Services program for M/H Data Infrastructure. (HHS Bgt 131)
 - \$25K Mental Health Data Infrastructure federal grant to Office of Mental Health and Substance Abuse Services for establishing necessary data recordings methodology. (HHS Bgt 134-5)
 - \$6.7M to DHHS Cash Grants program for Electronic Benefits Transfer (EBT) contract. The federal-mandated EBT system provides eligible PA families & individuals with an EBT card, which is processed like a debit card. The card is used at approved grocery stores and other retail outlets for food purchases or cash withdrawals. Services include: centralized card issuance functionality; call-in Personal ID # selection capability; browser-based system access application for EBT staff, clients and retailers; and data warehouse functionality. Retailers contact the USDA

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(www.fns.usda.gov/snap/retailer-apply) to apply for a license to accept SNAP EBT benefits. Once a retailer has been approved to accept SNAP EBT benefits, they are also able to accept Cash EBT benefits. (HHS Bgt 150-2)

- \$53.8M (FY18 = \$45.5M) in state & federal funds for MA - Capitation (PA's managed care MA program) allocated as follows: \$26M (FY18 = \$33.9M) for claims processing and PROMISE contract; \$2.8M for Third Party Liability (TPL) Estate/Casualty Recoveries; and \$25M (FY18 = \$11.6M) for MMIS re-procurement. (HHS Bgt 167-171)
- \$77.2M in state & federal funds for MA - Fee-for-Service program allocated as follows: \$45M (FY18 = \$60M) in federal ARRA MA-HIT funds for HIT - provider & hospital incentives; \$1.8M (FY18 = \$927K) for provider Healthcare Common Procedure Coding System (HCPCS aka "hick picks") coding changes - HCPCS is a set of health care procedure codes based on AMA's Current Procedural Terminology; \$1.9M for SBAP (see below) operational costs; \$7.3M (FY18 = \$9M) for claims processing and PROMISE contract; \$9.4M (FY18 = \$5.3M) for MMIS procurement; \$1.2M (FY18 = \$1.05M) for HIT (state funds only); \$552K for InterQual Criteria - evidence-based clinical criteria from McKesson; \$150K for PA Automated Cost Reporting System (PACRS); \$1.5M for Program, Policy and Resource Review & Maximization (P2R2M); \$425K (FY18 = \$300K) for Medicare Eligibility ID; \$2.3M for Preferred Drug List (<https://papdl.com>) - DHHS contracts w/ Change Health Care (www.changehealthcare.com) to provide consultation & support for the list; \$1.3M for TPL data exchange; \$2M for health policy research grants; \$950K (FY18 = \$700K) for enrollment revalidation support; and \$1.4M for MA Random Moment Time Samples (RMTS or moments) - a tool used by MA programs to measure a person's activity during the work day. In FY19 DHHS will pay \$500M+ for inpatient hospital services provided by acute care general hospitals using a prospective payment system utilizing All Patients Refined Diagnosis Related Group (APR-DRG) software from 3M. (HHS Bgt 178-183)
- \$152M (FY18 = \$145.9M) in state & federal funds for MA Transportation Program (MATP), which coordinates & provides "efficient and cost-effective" non-emergency medical transportation (T) to ensure access to health care services for MA recipients who have no other means of T available. MATP provides funding to 54 counties, direct vendors for 13 other counties, and a T-broker (Logisticare Solutions) for Philadelphia. MATP entails assessing MATP eligibility, verifying if other no/low cost options other than MA-funded T are available, determining level of T services needed, providing \$ for recipients to use public transit, reimbursing recipients for private vehicle mileage use, developing & managing & scheduling a network of on-demand T providers, and capturing & providing data. FY19 MATP PMs: one-way trips = 8.8M and cost per trip = \$16.73. (HHS Bgt 230)
- \$15.9M for MA - Long-Term Care Managed Care program allocated as follows: \$2M (FY18 = \$1.5M) for claims processing and PROMISE contract; \$13.5K for data analytic benchmarking (FY18 = \$0); \$85K for EIM system; \$5.9M for IT; \$400K for Internet training tools; \$206K for interRAi software and training support - www.interRAi.org is a consortium that promotes evidence-informed clinical practice and policy decision making through collection & interpretation of health and social service data; \$2.5M for NIS/Case-Mix Reimbursement System Services - provides for reporting of resident data that must occur in order to receive payment for services; \$4.8M for professional consulting; and \$33K for TruCare Case Management platform (www.casenetllc.com/trucare.html). (HHS Bgt 254-6)
- \$10.4M in state & federal County Admin funds for Office of Developmental Programs (ODP) Intellectual Disabilities - Community Base Program - County Admin allocated as follows: \$1.6M to Mercer Health & Benefit - including for review & analysis of autism program data and development of rates and for work on more comprehensive & transparent financial reports; \$3.8M to Deloitte Consulting - implementation & management support (HCSIS & PELICAN); \$1.1M to Public Consulting Group - implementation & management support (HCSIS); \$2.5M to Temple U - portion to maintain online training course, collect info from individuals receiving supports, and analyze & report findings; \$116K to AAIDS.org - for use of copyrighted Supports Intensity Scale software for standardized assessments of individuals receiving supports; \$636K to U of Mass. - for a web-based LMS that will support all ODP training; \$443K in state funds for a contract w/ Columbus Medical Services, Inc., portion for support for My ODP website (www.myodp.org); and \$194K for a contract with IBM Watson Health (Truven Health Analytics) to support specified policy & administrative development. (HHS Bgt 322-7)
- \$35.8M in state & federal funds for County Child Welfare program allocated as follows: \$617K (FY18 = \$446K) for data analysis Child and Family Services Review (CSFR, www.pacwrc.pitt.edu/CFSR.htm); \$30.7M for IT grants to counties; and \$4.5M in federal Title IV-E funds for IT grants. (HHS Bgt 362-5)
- \$5.4M (including \$1.7M from PDE) for Child Care Assistance program IT support - PELICAN. (HHS Bgt 388)

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- \$2.1M in federal funds for Maternal & Child Health Services program for Family Health Special Projects, portion derived from State Systems Development Initiative grant - for integrating existing health info systems and applying health info garnered to development of a Birth Defects Surveillance System. (HHS Bgt 454)
- \$2.6M (FY18 = \$0) to Services for the Visually Impaired program, including grant to PA Association for the Blind, whose services include access to technology instruction. (HHS Bgt 569)
- \$9.6M from Emergency Medical Services (EMS) Operating Fund (EMSOF) for EMS program. Funding is available to provide equipment, admin support of regional EMS councils, instructional costs, public info & education, quality assurance, data collection, coordination of EMS activities at PA trauma centers, and improvement of telecom systems. DHHS is initiating & maintaining key programs for EMS personnel aimed at improving safety and eliminating ambulance crashes, implementing electronic applications and access to records, improvements in emergency preparedness, and increasing content of EMS continuing ed on the statewide LMS. (HHS Bgt 601)
- \$10.6M (FY18 = \$7M) from Medical Marijuana Program (MMP) Fund for MMP GO, including these increases: \$1.4M for patient & caregiver ID cards and \$129K for expected increased need for consolidated IT services. (HHS Bgt 629)
- \$12.8M (FY18 = \$13.5M) to DHHS-Dept of Aging (DOA, www.aging.pa.gov) for GO, portion for tech-related uses, plus \$1.8M from the Pharmaceutical Assistance (for the Elderly) Fund for PACE contracted services. PACE program, funded by proceeds from the Pa. Lottery, provides limited pharmaceutical assistance to eligible older Pennsylvanians. The PACE web portal (<https://papaceportal.magellanhealth.com>) is managed by Magellan Health, Inc. DOA IT systems include Social Assistance Management System (SAMS), which provides client tracking for DOA.
 - The State Plan on Aging (SPA): Produced by DOA every four years, 2016-2020 DOA SPA (effective through 9/30/20) includes tech-related strategies as follows: develop a social media presence; re-brand services to be more comprehensible to consumers; increase number of communications vehicles with multiple language options; ensure APPRISE (insurance counseling) is aligned to the baby boomer lifestyle & technology; work w/ federal partners to implement enhancements to SAMS and protective services tools; work w/ federal govt and propose a strategy to use their data to focus outreach on certain un-enrolled individuals; finalize design, development and maintenance strategy for PA Link website ("The Link" is a nationwide effort to take a seamless approach in the way caregivers assist clients); provide enhanced training & tools to local program entities to ease documentation and data collection and improve consistency of data captured at facility visits; collaborate w/ state & local govt entities to determine number of rides utilized across various govt services; establish public-private partnerships to deliver services; develop customer satisfaction survey for key programs & services; develop statewide legal service delivery, data collection, and reporting system; improve the funding & reporting module or create a new one to support data-driven decision-making; and improve data collection and integrity to better measure activity, performance, and quality.
- \$15.7M in state & federal funds to DHHS-Dept of Drug & Alcohol Programs (DDAP, www.ddap.pa.gov) for GO, portion for tech-related uses. DDAP is in the process of implementing PA Web Infrastructure for Treatment Services (PA WITS, www.ddap.pa.gov/Pages/DataSystem_About.aspx), a data solution to gather & report Treatment Episode Data System info to federal Substance Abuse and Mental Health Services Admin (SAMHSA) that will meet requirements for ongoing funding. Working with DOH & OA-OIT, a contract was awarded to FEi Systems (www.feisystems.com) for its existing WITS solution. Implementation of PA WITS is expected in 2018. DDAP online services and IT systems also include: PA Get Help Now (<https://apps.ddap.pa.gov/gethelpnow>) - includes Insurance Benefits Navigator, Care Provider Search, and Drug Take-back Locations; DDAP DATA Dashboard, in partnership with Pa. State Data Center at PSU Harrisburg; and PA Public Health & Addictions Info Clearinghouse (<https://apps.ddap.pa.gov/Clearinghouse>), in partnership with DOH.
- DHHS Online Services, IT Systems and Other Uses of Tech include:
 - CoPA Access to Social Services (COMPASS, www.compass.state.pa.us) allows individuals and community orgs in PA to screen, apply for and renew a range of social services. DHHS recently launched myCOMPASS PA mobile app, wherein SNAP recipients may also complete their required semi-annual review. FY19 PMs include: 830K COMPASS applications submitted online (39.4% of total) and 36% of the user community using the mobile app.
 - Provider Reimbursement and Operations Mgmt Info System (PROMISe, <http://promise.dpw.state.pa.us>) - web-based, HIPAA-compliant claims processing and management info system for registered providers. PROMISe™ is a single system that processes human services claims and manages info for numerous CoPA human services programs.
 - Home & Community Services Info System (HCSIS, www.hcsis.state.pa.us) - web-based application that serves as the operational system for DHHS offices that support the Home & Community Based Services Program and other programs. HCSIS interfaces w/ several DHHS enterprise applications including MCI, MPI, PROMISe and COMPASS.

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- PA ChildStat (www.humanservices.state.pa.us/CommunityLevelOutcomeIndicators/PACChildStatFlex.html) - allows stakeholders to access data on child outcome indicators to plan and program services for kids in PA.
- PA Special Education School-Based ACCESS Program (SBAP, <http://paaccess.pcgus.com>), utilized by LEAs who are enrolled in PA's MA Program as school-based service providers through DHHS. DHHS contracts with Public Consulting Group (www.publicconsultinggroup.com) to help administer SBAP statewide / assist participating LEAs.
- \$18.6M (FY18 = \$14.9M) in state & federal funds to DHHS-Dept of Health (DOH, www.health.pa.gov) for Vital Statistics (VS) including: \$2.2M in federal funds for Cooperative Health Statistics - a continuing goal is to eliminate duplication in data collection, and to implement standard procedures at the state level of data collection in support of a coalition of stakeholders; \$101K (FY18 = \$90K) in federal funds for Health Statistics - part of a national effort to develop & maintain an ongoing occupational fatality database; \$552K (FY18 = \$450K) in federal funds for Behavioral Risk Factor Surveillance System - to support a statewide probability survey using land-line and cell phones which measures state progress toward meeting certain health objectives; \$26K (FY18 = \$17K) for Microfilming reimbursement; \$2M (FY18 = \$1.4M) for VitalChek surcharge; and \$3.2M for VS Improvement Admin - for costs of various VS systems improvement projects. Includes \$2.1M increase for increased staffing levels and \$223K for increased operating costs to process additional birth certificates due to federal-DHS requirements (including per REAL ID Act) and in coordination w/ DOT. In FY18, a mid-year supplemental (additional) appropriation of \$1M was provided to VS. FY19 PMs include processing of 850K (FY18 = 560K) requests for certified copies of birth & death records. (HHS Bgt 68-82)
 - Health Statistics & Registries Bureau (HSRB) and Bureau of Epidemiology are focal points in PA for coordinating collection, analysis and dissemination of health data & statistics and other health info. Both bureaus respond to requests for services and prepare annual reports that are available on the DHHS website and Enterprise Data Dissemination Informatics Exchange (EDDIE), an interactive health statistics tool. HSRB also maintains a central repository for 33.5M+ records of births & deaths that occur in PA. This system assists in detection of fraudulent record usage, child support and the reporting of missing children. Birth & death records are stored on microfilm for preservation & retrieval. Today, DHHS is receiving increased requests for birth certificates due to federal-DHS requirements for enhanced verification for boarding a domestic commercial flight or entering a federal building. DHHS is finalizing testing of web-based Electronic Death Registration System, with a phased implementation schedule.
- \$15.7M (FY18 = \$12.5M) in state & federal funds to DHHS-DOH for Achieving Better Care - MAP Program (ABC-MAP). Act 191 of 2014 created ABC-MAP, creating within DOH an enhanced Prescription Drug Monitoring Program (PDMP, <https://pennsylvania.pmpaware.net>), utilized by drug dispensers, pharmacies, and providers. DOH is integrating PDMP into EHR & pharmacy systems across PA. DOH is covering subscription fees for using the integration service for PA health care entities (with exceptions) that elect to connect its HIT system to PDMP until 8/31/19. DOH administers this program as directed by a board. Portion of funding is used for PDMP as follows: to establish & build or enhance a data collection & analysis system; facilitate exchange of info and collected prescription data et al. among states; develop new or enhance existing ed or training programs; produce & disseminate ed materials; develop infrastructure to support program activities; and assess program efficiency & effectiveness. This funding allows linking PDMP data to EHRs in hospitals, clinics, and pharmacy management software systems across PA, and it enables PA to remove the burden of practices and health systems from individually pursuing EHR integration. (HHS Bgt 55-59)
- \$48.4M to DHHS for DHHS-DOH Quality Assurance programs for a range of entities, portion for tech-related uses, including PA Patient Safety Reporting System (PA-PSRS) used by Division of Acute and Ambulatory Care, whose staff review reports in PA-PSRS and determine if on-site investigation is necessary to protect patient health & safety. The info is transmitted from PA-PSRS to DHHS's database, which supports the facilities master file, scheduling & tracking of survey & inspection activities, licensure & certification status, and management of tracking, investigation and follow-up of complaints & reporting. In addition, federal Aspen Central Office databases and PA Automated Complaint Tracking System (PACTS) are used to support federal tracking & reporting re Medicare. (HHS Bgt 60-65)
- \$8.8M (FY18 = \$13M) in federal funds to DHHS-DOH State Public Health Laboratory for Epidemiology & Lab Surveillance & Response - entails a cooperative agreement w/ federal CDC to build on CoPA's capacity to recognize & respond to emerging infectious disease threats by enhancing epidemiologic, lab, and health info system capacity. (HHS Bgt 83-88)
- \$7M in federal PHHSBG - Block Program Services funds to DHHS-DOH Bureau of Community Health Systems' State Health Care Centers (SHCCs), portion for Health Promotion and Disease Prevention Program i.e. LiveHealthyPA (www.livehealthypa.com), an online communication vehicle to promote best-practice contributions of internal & external partners. Plus \$4.3 (FY18 = \$3M) in federal CDC grant funds to SHCCs for Preventive Health Special Projects, portion for National Violent Death Reporting System (NVDRS), which collects & disseminates surveillance data on violent deaths in selected target area using CDC's guidelines and web-based data entry system. (HHS Bgt 94/96)

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- \$48.8M to DHHS-DOH for Health-related Research allocated as follows \$0 (FY18 = \$5.4M) for bio-tech research; \$45.2M (FY13 = \$39.8M) from TSF for health research - Health Priorities; and \$3.6M from TSF for health research - National Cancer Institute. PA Commonwealth Universal Research Enhancement (CURE) program provides health research grants to PA-based research institutions for biomedical, clinical and health services research designed to improve PA citizens' health. Source of these funds is Tobacco Master Settlement Agreement revenue. Funds must be used for research and research infrastructure. CURE funding is distributed on a non-formula (competitive) basis and the remaining funds distributed on a formula basis (in proportion to an institution's receipt of federal NIH & NCI dollars).
- DHHS-DOH Online Services, IT Systems and Other Uses of Tech include:
 - My Records (www.health.pa.gov/MyRecords) web portal to four categories of records as follows: 1) Certificates - birth & death; 2) Registries - adoptions and statistical registries including PA Cancer Registry and Statewide Immunization Information System aka PA-SIIS; 3) Health Research - includes Pregnancy Risk Assessment Monitoring System aka PRAMS; and 4) Health Statistics (www.statistics.health.pa.gov) - DOH statistical products, including Enterprise Data Dissemination Informatics Exchange (EDDIE), the primary tool for data dissemination.
 - PA Electronic Disease Reporting system (PA-NEDSS, www.nedss.state.pa.us) - the mandatory electronic disease reporting application the healthcare system uses to report diseases and investigative findings to DOH, and for DOH to report diseases & findings to CDC (through national NEDSS).
 - PA-Electronic Laboratory Reporting (PA-ELR) system - for submitting electronic public health lab reports to DOH.
 - PA Public Health Learning Management System (TRAIN PA, <https://pa.train.org>) - DOH/PEMA-supported gateway into TRAIN National, a free service of the Public Health Foundation, which operates through partnerships nationwide.
 - PA State Emergency Registry of Volunteers - medical and non-medical - in PA (SERVEPA, www.serv.pa.gov).
 - PA Health Alert Network (PA-HAN, <https://han.pa.gov/>) - a secure communication system that exchanges info within & between agencies & occupations throughout PA. PA-HAN utilizes multiple formats to deliver notifications.
 - Online Complaint Intake Form (<http://apps.health.pa.gov/dohforms/FacilityComplaint.aspx>) - to assist the public with concerns or issues they may have with facilities that are licensed and regulated by DOH.
 - Emergency Preparedness Social Media Message Library: includes pre-developed messages for at least 20 different hazards, across three phases of the disaster lifecycle, for Twitter, Facebook and Instagram.
 - (New in FY18) Medical Marijuana Patient and Caregiver Registry (<https://padohmmp.custhelp.com/app/login>).

HEALTH CARE COST CONTAINMENT COUNCIL

- \$3.55M (FY18 = \$2.15M) from GF to PA Health Care Cost Containment Council (PHC4, www.phc4.org), an independent state agency (formed per Act 89 of 1986, as amended by Act 3 of 2009), whose mission is to collect, analyze and report info that can be used to improve quality and restrain the cost of health care in PA. PHC4 collects 4.5M+ inpatient hospital discharge and ambulatory/outpatient procedure records/year from hospitals et al. in PA. PHC4's GF funding (~80%) is supplemented via revenue (~20%) through the sale of its data to health care stakeholders.

HISTORICAL AND MUSEUM COMMISSION

- \$19.3M to PA Historical & Museum Commission (PHMC, www.phmc.pa.gov) for GO, portion for tech-related uses, plus \$713K to PHMC for State Records Center (RC). PHMC functions include operation of State Archives (SA) and State Records Center (RC). SA identifies, acquires, preserves and provides public access to permanently valuable & historical records created by govt. This responsibility extends to the use of tech to facilitate public access. SA maintains & preserves program files, maps, correspondence, reports, photos, minutes, case files, land records and more. RC is official repository for inactive records that must be maintained by CoPA agencies for admin, fiscal or legal purposes. PHMC also administers state & local govt records management programs. Services include preparation of records retention schedules, processing of records disposal requests, promulgation of standards for retention of records in different storage media, and training and technical assistance to records custodians. FY19 PHMC PMs include: 6.7M in-person & online visitors services and 220K boxes of records maintained by RC. In 2017 PHMC hired a new executive director; watch for a new multi-year strategic plan. Per PHMC...
 - "An increasing # of govt records - paid for by public funds and belonging to the citizens of the communities that create them - are being sold by private individuals including through online auctions. While the buying & selling of records of private individuals and institutions is acceptable on the open market -- the buying and selling of govts' records is not."
- PHMC Online Services, IT Systems and Other Uses of Tech include:

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- Archives Records Info Access System (www.digitalarchives.state.pa.us) - provides public access to archival records created by CoPA. Paper records have been microfilmed then digitized for presentation online. SA plans to add more.
- Shop PA Heritage (<http://shoppaheritage.com>) - ecommerce site for purchasing PHMC books & merchandise.
- PA's Cultural Resources GIS (CRGIS, <http://crgis.state.pa.us>) - map-based inventory of historic & archaeological sites and surveys stored in files of PA State Historic Preservation Office, operated in partnership with DOT.
- Research Online (www.phmc.pa.gov/Archives/Research-Online) - start your research first online here. Links lead to online images of documents you can use now, provide descriptions of records not yet online but which you can use when you visit SA in person, and refer to other resources that will help you with research you do "from your couch."
- PHMC Publications (<https://archive.org/details/pahistoricalmuseumcommission>) - digitized versions of PA historical publications developed by the non-profit org Internet Archive.
- PHMC Blogs: Historic Preservation (<https://pahistoricalpreservation.com>); Archeology (<http://twipa.blogspot.com>); and Trailheads (<http://patrailheads.blogspot.com>).
- PHMC Websites: State Museum of PA (www.statemuseumpa.org) - the official museum of the Commonwealth; Trails of History (www.patrailsofhistory.com) - several special-interest trails leading to some of PA's most historic sites; and (<http://ExplorePAhistory.com>) - a teaching tool w/ support from multiple stakeholders and today has a mobile app.

INFRASTRUCTURE INVESTMENT AUTHORITY

- ~\$15M to PA Infrastructure Investment Authority (PENNVEST, www.pennvest.pa.gov) for admin, portion for tech-related uses: PENNVEST provides grants & loans to sewer, and storm & drinking water projects in PA. Deputy Executive Director of IT oversees IT operations & staff, planning, project management and tech implementation. PENNVEST has implemented an office virtualization project whereby many staff telecommute from home. Online services and IT systems include: Online Funding Request portal; Training webcasts & videos; Subsidy Calculator that compares subsidy value of a loan from PENNVEST vs. loan from other sources; and Financial Assistance (F/A) Simulator allows you to produce an unofficial, hypothetical estimate of what PENNVEST F/A offer might be.

INSURANCE

- \$61.5M to PA Insurance Dept (PID, www.insurance.pa.gov) for GO and Admin, portion for tech-related uses. PID online services include: Health Insurance tools - such as videos to help consumers shop for and manage their health coverage including through private insurance and the federal marketplace (healthcare.gov); Find Insurance Professional - database that is searchable to verify that you're working with a licensed individual or company; and Underground Storage Tank Indemnification Fund program (<http://ustif.pa.gov>) - provides a way to reimburse eligible participants for certain expenses incurred from releases into the environment. Third-party online tools include: Insurance Product Filings - PID is a participant in the Insurance Compact (www.insurancecompact.org), a multi-state public entity that serves as a central point of e-filing for certain insurance products; and Insurance Licensee Filings - applicants for all types of insurance licenses are directed to apply online through State Insurance Regulatory Connection (www.sircon.com) or National Insurance Producer Registry (npr.com). PID is destined for further automation...budget permitting.

LABOR AND INDUSTRY

- Dept of Labor & Industry (DLI, www.dli.pa.gov) - DLI's mission is to improve quality of life and economic security of PA workers & businesses, encourage labor-management cooperation (L-MC) and prepare PA workers for jobs of the future. The mission is accomplished through programs that protect the health, welfare and safety of workers, provide meaningful job training & placement services, stabilize incomes of injured, disabled or unemployed workers, and facilitate L-MC.
 - DLI's Office of IT is led by an Executive Director who oversees four bureaus as follows: Business Application Development, Enterprise Services, Enterprise Architecture, and Infrastructure & Operations. Each bureau is comprised of numerous divisions or other units. See Commonwealth Tel. Directory for more detail.
- \$179.7M in state & federal funds to DLI for PA Unemployment Compensation (UC) Admin, portion for tech-related uses. DLI's highly automated UC program (www.uc.pa.gov) oversees all activities for taking, processing, and payment of UC claims filed by Internet or telephone; develops policies, standards and monitoring systems to ensure UC program is operated per federal & state laws and to ensure the most efficient application of modern tech in the provision of UC services; and integrates UC services with PA CareerLink system (see below). Includes \$34.7M (FY18 = \$52M) from Service & Infrastructure Improvement Fund (SIIF). Act 60 of 2017 increased funding for UC admin from SIIF. Revenues in the account are derived from a portion of employee UC taxes. The funding is intended to support operations of UC system and maintain adequate service levels during implementation and initial deployment of tech upgrades.

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- UC system faces ongoing scrutiny by state officials, its customer-users, the news media et al. as DLI addresses difficulties in fulfilling its responsibilities. Finger pointing and lawsuits have taken their toll. DAG audit released in 2017 shows estimated UC benefits computer system modernization cost for FY2017-FY2020 of \$63.8M allocated among four parties (responsible for five functions) as follows: \$52.5M to DDI (systems design, development and implementation) with the remainder allocated among CSG Gov't Solutions (project management, and, independent verification & validation); Carnegie Mellon Software Engineering Institute (advisory services); and DLI (personnel).
- \$71.2M (FY18 = \$77.9M) from Workmen's Compensation (WC) Admin Fund to DLI for admin of workers' compensation (WC). Includes \$3.8M decrease re completed upgrades/enhancements for WC Automation & Integration System (WCAIS, www.wcais.pa.gov). WC insurance provides wage loss benefits and payments for medical services to employees for injuries/diseases sustained on the job. WC admin is funded from assessments on the insurance industry and self-insurers.
- \$11M in federal Workforce Innovation and Opportunity Act of 2014 (WIOA) - Admin funds to DLI for GO, portion for employment self-service tools including: electronic databases of job openings and other Internet-based tools, computers, and resume-writing software. A significant portion of PA's workforce development system activities is driven by this act. WIOA's four Program funds total \$229M for FY19.
 - Admin funds include support for DLI Center for Workforce Info & Analysis (CWIA), which is staffed by statisticians, analysts, and economists and is the designated primary source of labor market (LM) info for PA. CWIA provides LM info to students, job seekers, employers, economic developers and the public. CWIA disseminates LM info through diverse products covering employment data, hiring trends and other economic indicators. CWIA also develops, in consultation with partners, the High Priority Occupation (HPO) list, which, along w/ corresponding training programs, drives PA's investments in workforce ed & training. PAWorkStats (www.workstats.dli.pa.gov) is the website for CWIA.
- \$5.1M to DLI Bureau of Occupational & Industrial Safety (BOIS) for GO: BOIS enforces & administers a variety of statutes & regs that relate to public safety issues e.g. the Hazardous Material Emergency Planning & Response Act. Under this law, BOIS collects chemical inventory report data, material safety data sheets and site plans from PA employers and manages it through an online reporting program, PA Tier II System (PATTS, www.lipatts.pa.gov), the state repository for Tier II reports required by federal EPA. In the event of an emergency incident at a reporting facility, emergency response personnel can access the online system and retrieve needed info.
- \$800K to DLI Office of Vocational Rehabilitation (OVR) for assistive technology (AT) allocated as follows: \$400K for devices and \$400K for demonstration & training. AT is any device - from low-end to high-end tech - that helps a person w/ a disability achieve a more independent & productive life. High-end tech includes communication devices, specialized computer access, customized mobility aids, work station designs, etc. OVR administers these funds through two third-party programs: PA AT Foundation provides financing for persons w/ disabilities who wish to purchase technology and PA AT Lending Library offers individuals with disabilities the opportunity to try new tech before they make such a purchase.
- \$11.8M (FY18 = \$1.8M) to DLI for "upskilling PA's workforce" allocated as follows: \$4.8M ((FY18 = \$1.8M) for Industry Partnerships and \$7M (FY18 = \$0M) for Apprenticeship Training. (Neither of these initiatives is explicitly tech-related.) The increase of \$10M is for the PAsmart initiative (see PDE for the other \$40M for PAsmart).
 - Industry Partnerships: Employers partner with public workforce providers to be customer-centered and demand-driven. The funding increase will be used to double the number of regional partnerships.
 - Apprenticeship (and Work-based Learning) Initiatives: The funding increase will be used to double the number of registered apprentices in PA by 2025. Funds will support youth pre-apprenticeship and registered apprenticeship experiences as well as adult apprenticeship programs at the postsecondary level. Working with the business community, community colleges, and other higher ed providers, the Apprenticeship and Training Office (ATO) will expand access for registered apprenticeship and work-based learning experiences.
- PA CareerLink (<https://www.pacareerlink.pa.gov>) is DLI's delivery system for employment, training, and education services in PA. Programs are coordinated & delivered locally at PA CareerLink centers statewide. The main delivery mechanism for services is an Internet-based system to promote a self-service environment. It is a coordinated partnership involving local Workforce Development Boards and their contracted providers, PA employers, other stakeholders and DLI, DHHS, and DA and grant recipients of PDE, DOA and DCED. Services for individuals include job search and placement assistance, LM info, and assessment of skills & needs. Services available to businesses include assistance in matching qualified job seekers with job openings, identifying tax incentives that businesses may be eligible for, assessment for occupational & training needs, and provision of LM info. In addition, PA CareerLink also offers JobGateway (www.jobgateway.pa.gov), a job-matching system that also allows individuals to assess their skills, prepare for an

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interview and explore career resources, and allows employers to explore recruiting tools; and PA Career Coach (<https://pacwia.emsicc.com>), a career assessment tool and source of career info and training programs.

- DLI Other Online Services and IT Systems:
 - Labor Law Compliance: includes complaint and incident reporting and prevailing wage rate determination and search.
 - Workers Compensation: Hazardous Substance Survey Form (<https://www.hands.state.pa.us/HSSF/Home.aspx>) - used by public sector employers to report info re hazardous chemicals used, produced or stored at their work sites.
 - Workforce Development: Commonwealth Workforce Development System (www.cwds.pa.gov) - provides access to PA workforce development and independent living services provided by DLI & DHHS.
 - Sign Language Interpreter Search (www.dlisureweb.pa.gov/ODHH/).

LIQUOR CONTROL BOARD

- \$582M (FY18 = \$557M) to Liquor Control Board (LCB, www.lcb.pa.gov) for GO, portion for tech-related uses. LCB's CIO oversees Office of IT Services (OITS), which has two bureaus: Enterprise Application Solutions and Enterprise Infrastructure & Operations. OITS supports & enhances multiple complex computer systems LCB relies on, including a Oracle Enterprise Resource Planning (ERP) system with a point-of-service system in 600+ stores. OITS also warehouses & analyzes data related to financials, inventory, forecasting, replenishment, pricing, and product management. Additionally, OITS supports & enhances IT systems including the e-commerce site, mobile apps, HR platforms, warehouse management systems, and other general use applications. LCB's other tech-related offices include: Marketing & Merchandising (e.g. branding & design and market & store analytics) and Supply Chain.
 - Per LCB FY17 Financials (un-audited): Value of internally generated software = \$20.6M (FY16 = \$29.5M) and 12-mos. expense for IT services = \$33.1M. LCB expenses reflected in CoPA-provided services include an additional \$1.6M for IES-Contracted Services and \$949K for OA Telecom Charges. Check out LCB annual reports published roughly each Feb. for details on past, current, even future tech efforts.
- State "Liquor Laws:" In FY19 recent enacted state laws (Acts 39, 85 and 166 of 2016) will continue to have a significant impact on LCB's business processes. Liquor law changes include: expanding wine sales to private retailers, Lottery sales, pricing flexibility, customer relationship management, numerous licensing changes, auction of expired licenses, direct wine shipments, casino licenses, and other changes.
 - Major Tech Efforts (some completed, others ongoing or to-be-pursued) are helping LCB adapt to seismic shifts brought about by the 2016 acts e.g. LCB has implemented a new online Regulatory System (PLCB+, <https://plcbplus.pa.gov/pub/Login.aspx>), which allows licensees to conduct licensing & permitting online; the Licensee Online Order Portal (LOOP, <https://plcbloop.pa.gov/CustomerOrderPortal/faces/index>) has become an important part of new Wholesale Operations; OITS et al. are continuing to implement software changes required of PLCB+, LOOP, and Oracle ERP; and LCB is planning a complete redesign of its www.FineWineAndGoodSpirits.com e-commerce site to bolster sales and in light of competition.
- Beer and Tech: LCB Feb. 2018 announced \$705K in grants for 13 projects per Act 39 which created the PA Malt & Brewed Beverages Industry Promotion Board and authorized LCB to approve up to \$1M annually for development & marketing of the PA beer industry. Sample approved projects: \$71K to PSU for design & development of improved drying technologies for PA hop growers; \$65K to GK Visual for "Poured in PA" documentary film; \$60K to Brewers of PA to support beer tourism through development of a new app: "The Digital Ale Trail;" \$50K to CCI Communications for a TV series "What's Brewing;" \$40K to PABrewReview.com for improvement and expansion of this brewery review website; and \$30K to Pittsburgh Brewers Guild for an innovative and interactive online and print guide. There is a god.

MILITARY AND VETERANS AFFAIRS

- \$28.1M (FY18 = \$23.2M) to Dept of Military & Veterans Affairs (DMVA, www.dmva.pa.gov) for GO, portion for tech-related uses, including \$3.6M for statewide radio upgrade. DMVA has a dual mission: to provide quality service to PA veterans and their families, and to oversee & support members of PA National Guard (www.png.pa.gov). DMVA Bureau of IT has three divisions: Technical Services, Telecom, and Application Development. Online services include: PA Veterans Registry (<https://register.dmva.pa.gov>) - to request info about PA veteran benefits & services and to opt-in to ongoing DMVA communication; and Online Donations (<https://donate.dmva.pa.gov>) - to make a donation to support PA veterans.

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MILK MARKETING BOARD

- \$2.8M total - derived solely from milk industry license fees, permit fees, and fines - to Milk Marketing Board (MMB, www.mmb.pa.gov), portion for operating a software system (aka or fka MARS) that places a value on milk. MMB's major function is to ensure an adequate milk supply by setting minimum prices paid to farmers, minimum prices dealers can charge wholesale and retail customers, and minimum prices stores can charge consumers. PA's Secretary of Agriculture has recently petitioned the MMB to undertake or recommend reforms to modernize PA's dairy industry.

PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

- \$51.6M (FY18 = \$52.5M) to Public School Employees' Retirement System (PSERS, www.psers.pa.gov) for Admin, portion for tech-related uses. Plus \$5M (FY18 = \$6.8M) for new Defined Contribution Program (per Act 5 of 2017), including \$4.2M (FY18 = \$6.2M) for software (SW) license recurring. PSERS IT Office (ITO) is led by Chief Info Officer and includes new (in FY18) Chief Info Security Officer. ITO manages large IT contracts and projects and is responsible for understanding, analyzing, documenting, and improving PSERS' processes, info systems, and the relationships among these components. ITO has two bureaus: Business Architecture Center (BAC) and Bureau of IT (BIT). BAC serves as the repository for PSERS' business knowledge and makes that knowledge available and understandable to agency processing and tech staff. BIT plans, coordinates, administers, and implements IT resources. PSERS in 2017 updated its website to a CoPA-hosted content management solution and currently is managing V3 Benefit Admin System upgrade (www.ViTechInc.com) and phone & communication studies by Segal (www.SegalCo.com). Act 5 brings big operational changes to PSERS (and SERS below) to accommodate new retirement plan options. PSERS has developed an implementation plan to meet the July 1, 2019 deadline.
 - PSERS-Admin includes \$12.9M (FY18 = \$13.7M) for Tech-Related operating expenses and fixed assets including: telecom recurring (rec) = \$421K (FY18 = \$389K); outsourced IT consulting for apps & development = \$109K (FY18 = \$51K); consulting - maintenance (maint) & support--post implementation = \$125K (FY18 = \$0); consulting - general IT support = \$791K (FY18 = \$1.1M); SW licensing non-rec (>\$5K) = \$50K (FY18 = \$0); SW licensing rec (>\$5K) = \$7.6M (FY18 = \$8.7M); consulting outsourced infrastructure services (PA Data Power House aka DPH) = \$921K (FY18 = \$1.2M); SW licensing - maint = \$1.75M; hardware (HW) server = \$0 (FY18 = \$85K); HW network = \$140K (FY18 = \$0); HW network (>\$25K) = \$75K (FY18 = \$0); HW network - maint = \$75K; HW peripherals - maint = \$13K; HW desktop (<\$5K) = \$407K (FY18 = \$23K); telecom data services = \$89K; and office equip. rental = \$236K. Above "consulting" ≥\$100K include: ViTech Systems--admin IT systems services, \$5.5M; and OST Inc--webmaster consulting, \$520K. Some preceding FY19 expenses have decreased as Act 5 implementation is completed. *pjmathison* previously assisted a client with winning a telecom contract at PSERS.
- PSERS Venture Capital (VC) and PA Investments: VC is considered the financing of young, relatively small, rapidly growing companies. In traditional VC investments, companies have a 5-10 year investment horizon and develop technology for a particular market, such as pharmaceuticals, software, medical products, etc. PSERS' VC program has committed \$3.1B to 59 VC partnerships. In addition to the current geographically diverse scope of VC investments, a historical objective of this program has been to target partnerships that demonstrate an ability to invest in PA-based companies. Selected partnerships offer diversification according to geographic region and financing stage within PA. From the program inception to June 30, 2017, PSERS has committed capital to 30 partnerships headquartered in PA.
 - PSERS' investment in PA tech companies occurs indirectly either through investment funds that PSERS itself invests in or through outside investment managers (third-parties) who manage a portion of PSERS funding.
 - Roughly 12.6% of PSERS' \$52B retirement fund is invested in Private Market Investments, a portion of which is VC.
 - As of June 30, 2017, PSERS had investments in 16 VC funds (LPs) managed by 8 different PA-based VC firms.
 - As guided by state law, where investment characteristics are equivalent to other favorable investments, subject to diversification considerations, PSERS policy favors investments in PA-based companies.
 - As of June 30, 2017, the market value of PSERS' VC investments in PA-based companies was \$123M (total market value, including co-investors, was \$804M), representing 1,895 employees total.

PUBLIC UTILITY COMMISSION

- \$74.2M to Public Utility Commission (PUC, www.puc.pa.gov) for GO, portion for tech-related uses. PUC regulates nearly 9,000 entities in PA providing a variety of essential services including electricity, natural gas, telephone/telecom, water, wastewater collection, steam heat, and transportation. Tech is used by PUC internally to fulfill its regulatory responsibilities; by utilities to comply w/ regs and/or to adapt to the marketplace shaped by PUC e.g. electronic data exchange standards as it pertains to smart meter technology; and by utilities themselves that are inherently tech-based

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e.g. telephone/telecom (PUC's role here has grown over the years relative to the Federal Communication Commission's - both are now heavily involved). PUC tech-related regulatory activities on the FY19 horizon include:

- Alternative Energy Portfolio Standards (AEPS) Act 213 of 2014, as amended, requires that electric distribution companies and electric generation suppliers include a specific % of electricity from alternative resources in the generation that they sell to PA customers. The level of AE required gradually increases per a 15yr schedule.
 - Broadband (Bb) Deployment: PUC monitors Bb deployment initiatives per state law which requires certain providers to deploy enhanced Bb in rural areas and ensure adequate telecom services to eligible low-income consumers & households. Recently the FCC denied a request by the PUC & DCED that would retain up to \$140M in federal rural Bb funding. But, per the PUC: all hope may not be lost.
 - Cybersecurity: A "Black Sky" exercise hosted by PUC tested PA's response to a large-scale outage event, with 130+ stakeholders drilling to strengthen key systems, safeguard sensitive business and consumer info, enhance physical security of critical facilities and improve resiliency to more quickly restore services. See PUC's guide: A Black Sky event Cybersecurity Best Practices for Small & Medium PA Utilities.
 - PA One Call (POC) System (www.pa1call.org) is a non-profit org created to protect pipelines and other underground utility systems. POC notifies member underground facility owners of the intent to excavate. The member underground facility owner then marks where their lines are located. Act 50 of 2017 made changes to POC system including transferring enforcement from DLI to PUC.
 - Transportation Services (TS): Recent legislative changes expanded PUC's oversight in TS. Oversight now includes TS ranging from traditional taxis & limos to ridehailing "transportation network companies" (TNCs). Initial PUC experimental licenses for TNCs have now been replaced by permanent authority (Act 164 of 2016), which established laws covering these services. In early 2018 PUC issued a Proposed Rulemaking Order that would change liability limits for motor carriers transporting <16 passengers, increasing from \$35K to \$125K the minimum coverage.
- PUC Online Services and Other Uses of Tech include:
 - Online Services: eFiling (www.puc.state.pa.us/efiling/default.aspx) - an evolving online means for consumers, utilities and attorneys to file certain documents electronically w/ the PUC; Informal Complaint Form and Consumer Complaint Search; Utility/Authority Search; New Case and Daily Actions; Public Documents Search; www.PAPowerSwitch.com - shop for electricity; www.PAGasSwitch.com - shop for natural gas service; and PA Relay Services (www.hamiltonrelay.com) - provides for a live assistant and/or specialized equipment to facilitate a telephone conversation by and with a deaf person et al.
 - PA Universal Service Fund was established to reduce access charges and intraLATA (within the same region) toll rates for PA telephone customers. The Fund is meant to encourage greater toll competition while enabling carriers to preserve affordability of local service rates in PA. ~300 telecom service providers contribute to the Fund and payments are disbursed monthly to 32 qualified recipients. Wireless carriers currently are not required to contribute to the Fund. GVNW Consulting (www.gvnwusf.com/pa) administers the Fund.
 - Multimedia: PUC continues to produce public meeting videos, video press releases, and educational videos.
 - (Non-PUC) PA Water/Wastewater Agency Response Network (PaWARN, www.pawarn.org) - a mutual aid agreement between W/W utilities who agree to support and promote statewide emergency preparedness, disaster response and mutual aid assistance during emergencies.

REVENUE

- \$10.8M to Dept of Revenue (DOR, www.revenue.pa.gov) GO for tech-related uses allocated as follows: \$6.1M (FY18 = \$7.6M) for EDP and staff support and \$4.7M (FY18 = \$5M) for Technology & Process Modernization. FY19 PMs include (metrics omitted): reduce wait time of taxpayer phone calls, reduce avg. cost to process a tax return, increase % of corporate tax returns filed electronically, increase number of Lottery active points of sale, and increase delinquent tax collections. In FY18 DOR Secretary announced that ~\$80.5M will be saved over a period of four years (FY17-FY20) in part by having renegotiated a software contract that helps identify and prevent fraudulent and erroneous tax returns. The renegotiated contract provides for stronger automated fraud filters and this effort is part of GO-TIME.
- DOR Tech-Related Organizational Units: Bureau of Admin Services - digital document management and micro-graphics services and records management; Bureau of Imaging and Document Management - business & individual tax processing, data operations, and imaging support and banking operations; Bureau of Info Systems - business process, infrastructure & operations, ITS tech support (for Integrated Tax System), legacy tech support, Lottery & casino tech support, and planning & security; Bureau of Research - forecasting & modeling; Process Reinvention Innovation and Strategic Management (PRISM) - project management, strategic planning and performance, and business analysis and process improvement; and PA Lottery - computer services, and security.

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- DOR Strategic Plan (SP) 2016-2020: All eight Goals imply or mention the use of tech. Five of the Goals (with Initiatives in parentheses) are as follows: 1-Continually improve customer service (Develop a comprehensive strategy for taxpayer service including online self-service options; expand DOR communication channels to include social media networks; and review & update DOR forms & correspondence); 3-Continually improve processes & tech (Define re-org strategy around DOR functions to reduce duplication of effort and increase efficiency in affected processes; document & redesign DOR business processes and implement internal controls; grow DOR external agency services bureau; implement tech upgrades re tax processing system platforms, security, imaging functions, hardware infrastructure, and end user software programs; enhance DOR tech to improve functionality; and implement modernized tax processing system for specified tax types); 4-Provide accurate & timely revenue analysis (Develop a coordinated and secure approach for data analytics and performance measurement); 6-Continually improve public confidence (Implement info security best practices); and 7-Increase organizational capacity (Create an online community to provide employees an avenue to ask Qs and share info). Act 47 of 2001 calls on DOR to develop & publish an SP on March 1 of odd-numbered years.
 - “Cyber Scams”: As a *de facto* update to its Strategic Plan, DOR has been urging taxpayers and tax professionals to take extra precautions to protect their computer systems and data following recent reports of several types of tax-related scams. In FY19 expect DOR et al. to spend more time and more resources to address such matters.
- Revenue Collection & Administration: DOR continues to expand use of automated procedures permitting quick deposit of funds and review of a tax return’s accuracy. Automated processes exist that assist taxpayers in filing accurately and more efficiently, including Electronic Tax Information Data Exchange System, an internet system for filing various business taxes. There are also electronic systems for filing and payment of personal income tax. In addition, there is an extensive delinquent tax collection effort that involves automation as well as traditional tax collection methods.
- \$76.8M from Lottery Fund (LF) for vendor commissions allocated as follows: \$41.1M for On-Line vendor commissions; \$29.2M for Instant vendor commissions; and \$6.5M (FY18 = \$1.3) for iLottery vendor commissions. Plus \$4.5M (FY18 = \$0) from *new* Funds for tech-related-gaming operations allocated as follows: \$1.5M from Fantasy Contest Fund for FC operations and \$3M from Video Gaming Fund for VG operations.
 - Act 42 of 2017 authorizes the State Lottery to conduct online games (iLottery and Internet instant games) and allows the sale of Keno. iLottery and Internet instant games are lottery games of chance in which, by the use of a computer, tablet computer, other mobile device or other web or mobile apps a player buys a lottery play that reveals numbers, letters or symbols indicating whether a lottery prize has been won. LF & GF Revenue - derived from ticket sales, taxes et al. - is anticipated to grow as a result of implementation of Act 42. The new games are intended to appeal to new and younger players, providing long-term stability for Lottery funded programs, while reducing admin costs for services that support seniors. The new products are expected to eventually generate as much as an additional \$150M/year (FY19 estimate = \$71M) to fund programs for older Pennsylvanians.
- DOR Online Services and IT Systems include:
 - eServices Center (www.doreservices.state.pa.us) - Web portal for all DOR eServices.
 - PADirectFile (<https://padirectfile.state.pa.us>) - to prepare/submit your PA Personal Income Tax (PIT) return for free.
 - Credit Karma Tax (www.creditkarma.com/tax) - free e-file tax software vendor approved by DOR.
 - Where’s My Rebate/Refund? - to determine the status of your property tax/rent rebate (or PIT refund).
 - Penalty & Interest Calculator tool - self-explanatory.
 - e-Tides (www.etides.state.pa.us) - business tax electronic filing.
 - Tax Professional e-Services - for the people you hire to handle all of this because it's too complicated.
 - Online Customer Service Center (<https://revenue-pa.custhelp.com>).
 - Online Tax Appeals - to appeal, virtually, a DOR decision about your taxes via DOR Board of Appeals.
 - Software & Forms Developers - a means for vendors to develop & test tax forms in collaboration with DOR.
 - Financial Institution (FI) Decedent e-Services - allows FIs to access a list of decedents by county (made available by DHHS Bureau of Vital Statistics) ...for identifying amounts due to these parties.
 - County Govt e-Services Center - electronic options for county govts to conduct business with DOR.
 - Report Suspected Tax Fraud Activity.
 - Customer Feedback Survey (via surveymonkey.com).
- Tax Incentives & Credit Programs (www.revenue.pa.gov/GeneralTaxInformation/IncentivesCreditsPrograms) - DOR, often in conjunction with DCED, offers a variety of tax incentives, credits and related economic assistance programs to PA tech and non-tech businesses, as well as individuals. See DCED section above for the tech-related programs.

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- eCommerce Tax aka Use Tax: Per DOR “Out-of-state businesses and Internet vendors often falsely advertise that they sell taxable items ‘tax free’. However, PA law requires the payment of Use tax by any person who purchases taxable goods or services delivered into or used in PA if sales tax is not collected by the vendor. Use tax is the counterpart of the state & local sales taxes. When PA sales tax is not charged by the seller on a taxable item or service delivered into or used in PA, the consumer is required by law to report and remit use tax to the DOR.” Problem is, arguably - and boy is it argued - this state-level reality conflicts with federal law. Meanwhile...
 - In 2018 Amazon informed its sellers it will begin calculating, collecting and remitting sales tax on all shipments to PA via its new Marketplace Tax Collection service. This development comes in response to Act 43 of 2017 requiring eCommerce businesses to either collect sales tax or follow notice-and-report requirements on their sales to PA. Provisions are similar to those enacted in 2017 in Washington State--Amazon’s sole headquarters at press time.
- Computer Services (C/S) Tax aka “Tech Tax”: Expenditures for services are not taxable under PA’s sales & use tax except when specifically taxed by law. A 1991 act imposed the tax on charges for a few selected business services, including C/S. Act 7 of 1997, enacted with assistance from pjmathison, removed C/S from the list of taxable services. Estimated benefit of this exemption to C/S providers is \$363M in FY19. pjmathison has also assisted with resisting subsequent efforts to re-impose this tax selectively on this set of business services, including most recently in 2017.

STATE

- \$79.2M in state & federal funds and fee revenue to Dept of State (DOS, www.dos.pa.gov) for GO, portion for tech-related us. Plus \$4.1M for Statewide Uniform Registry of Electors (SURE, www.pavoterservices.pa.gov) - PA’s voter registration (V-R) system. DOS mission includes: “Through implementation of the latest technology, DOS will provide exceptional public service and will remain a leader in all regulatory & enforcement policies & practices aimed at protecting every resident of PA.” DOS tabulates, publishes and disseminates statistics for both V-R and all elections; it also serves as the repository of maps & descriptions of PA’s ~9,160 election precincts. DOS developed & maintains an integrated V-R database containing all electors in PA and developed the enhanced electronic V-R application (SURE). DOS is also responsible for registration & monitoring of PA’s lobbyists and for licensing & regulation of various professions. FY19 PMS include an objective (metrics omitted) to increase the number of campaign finance reports filed online.
 - Act 2 of 2018 requires lobbyists et al. to file disclosure reports electronically, and provides for increased dollar penalties and for an explicit deadline for DOS to post lobbying reports online.
 - To increase the security & audit-ability of voting systems in PA, the Guv, through DOS, in early 2018, issued a directive that PA voting systems must employ a voter-verifiable paper ballot or paper record of votes cast. DOS has issued an Invitation to Bid for counties to utilize to purchase voting systems that meet DOS’s requirements for certification. Watch for more measures by DOS to thwart malicious actions against PA’s voting systems.
- DOS Online Services and IT Systems include:
 - PA Licensing System (PALS, www.pals.pa.gov) - PA’s professional & occupational licensing system.
 - PENN File (www.corporations.pa.gov) - PA’s online business document filing & search system.
 - Opt Out - allows licensees to opt out of listings of licensees (w/ their info) sold by DOS to individuals or entities.
 - Charities Online Database (www.charities.pa.gov) - for searching registered charities and professional fundraisers.
 - Campaign Finance Reporting & Search (www.campaignfinanceonline.pa.gov).
 - Votes PA (www.votespa.com) - PA voting info website (w/ links to SURE).
 - Voting Systems - listings of the systems and their testing status, directives, and reports concerning local electronic voting systems overseen by DOS and utilized by local election bodies.
 - PA Lobbying Services (www.palobbyingservices.pa.gov) - website for lobbyist registration and expense reporting, and for the public to search & review such info.

STATE EMPLOYEES’ RETIREMENT SYSTEM

- \$6.6M to PA State Employees’ Retirement System (SERS, www.sers.pa.gov) for tech-related uses allocated as follows: \$4.4M (FY18 = \$6.2M) for IT consulting; \$1.6M (FY18 = \$2.1M) for hardware/software and maintenance; \$472K for communication services; and \$100K (FY18 = \$400K) for IT consulting for implementing new 401a defined contribution portion of Act 5 of 2017. SERS’ CIO-led Office of IT (SERS-OIT) oversees three divisions: Applications, Database Admin, and Tech Support. SERS-OIT ensures performance & security of complex databases, which contain sensitive personal &

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financial info and are relied upon to track investments, process payments, and account for funds. OIT also links regional field offices, develops applications to provide members with online access to SERS info, and provides user support.

- SERS Strategic Business Plan 2018-20 (Tech Highlights): SERS has recently awarded the contract to a new vendor to maintain SERS historical Investment Data (I-D) in a new I-D Warehouse. During 2018 SERS is working with the vendor and custodian to implement this initiative. SERS is also modernizing State Employees Retirement Info System (SERIS 2.0). The current SERIS was built using Oracle technology, implemented in 1995, and has been periodically upgraded. This is a major initiative and includes requirements re establishment of new types of retirement plans per Act 5. SERIS 2.0 is slated for implementation by Dec. 2018.
- SERS Venture Capital (VC) and PA Investments (as of 12/31/17): SERS has ~\$2.7B committed in 50 active VC funds (see PSERS section above for a definition of VC), which invest in tech companies. SERS Board has a formal Statement of Investment Policy as follows: Where investment characteristics are equivalent, the board's policy favors investments that have a positive impact on the economy of PA. Fair value of SERS' PA investments (VC and other) is ~\$803M, or 2.8% of the SERS Fund. SERS' active Private Equity (PE) managers hold investments in 68 PA-based companies (VC is a subset of PE). SERS' pro-rata investment value in these companies is ~\$89M, or 2.2% of the PE program fair value and does not include investments HQ'd outside PA that may have impactful operations within the state. Since inception, SERS' PE program has made commitments of \$1.2B+ to 65 limited partnerships based in PA. In addition, non-PA based managers invest in companies that impact the state.

STATE POLICE

- \$160.1M in state & federal funds to PA State Police (PSP, www.psp.pa.gov) for tech-related uses allocated as follows:
 - \$50.6M in state & federal funds to GO allocated as follows: \$7.1M (FY18 = \$5.5M) in federal funds for Area Computer Crime; \$41M (FY18 = \$20M) for Criminal History Record Checks; \$2.35M for Fingerprint Records Checks; \$130K for Registry of Protection; and \$45K for Electronic Surveillance.
 - Increase of \$6M to GO for purchase of Body-Worn Cameras. PSP is working to implement requirements of Act 22 of 2017 for PA law enforcement agencies, which builds upon a federally funded pilot program begun FY18.
 - \$57.3M (FY18 = \$56M) in state & federal funds for communication & infrastructure purchases to modernize Statewide Public Safety Radio System (SPSRS) and comply with federal requirements allocated as follows: \$13.3M from GF; \$4.05M in federal Broadband Network Planning funds; and \$40M from MLF.
 - \$27.6M (\$6.9M GF and \$20.7M MLF) for Law Enforcement IT (LEIT).
 - \$885K from GF for Automated Fingerprint Identification System (AFIS).
 - \$8.2M (FY18 = \$8.8M) for Gun Checks via PA Instant Check System (PICS) derived as follows: \$932K from GF (FY18 = \$0) and \$7.2M (FY18 = \$8.8M) in revenue from Firearm Records Check. PICS provides instant access to background records on an individual to determine if s/he is eligible to acquire a firearm or a license to carry a firearm.
 - \$3.3M from GF allocated as follows: \$500K for Firearms License Validation System; \$2M (FY18 = \$4.2M) for Radio Systems Development Project; \$800K (FY = \$1.7M) for Tower Management; and \$5K for Broadband Middle Mile.
 - \$6.2M (FY18 = \$5.2M) from DNA Detection Fund for DNA detection of offenders.
- PSP Tech-Related Organizational Units, Activities, and Plans:
 - Deputy Commissioner of Staff oversees bureaus of Info Services, Records & Identification, R&D, and Communications. PSP Strategic Plan 2016-2018 excerpt: Goal--Continue to provide extraordinary police service with professionalism into the future through community & professional partnerships, superior training, procurement of cutting-edge equipment and technologies, and implementation of innovative business practices. Watch in FY19 for the PSP Strategic Plan to be updated (by Bureau of R&D).
 - > PA Statewide Radio Network Division (PA-STARNet) develops & manages the two-way public safety radio system used by PSP and other CoPA agencies. PA-STARNet is connected by an extensive microwave network, carrying voice & data communications for public safety and emergency response across PA. FY19 CoPA budget continues multi-year transition of PA-STARNet to an Association of Public Safety Communications Officials Project 25 (P25) compliant system. The budget for this project is contained within PSP (above) and distributed across other agencies.
 - Other Tech-Related Functional Units: PSP Watch Center provides situational awareness of emergencies to all levels of PSP by establishing a standard alert condition procedure. PSP manages PA Amber Alert (A/A) System, a child abduction alert notification system. A/A utilizes the Emergency Alert System and CoPA's "ReadyPA" website (see

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PEMA) to inform the public of an abduction of a child under 18-years-old. An upgraded Missing Endangered Person Advisory System notifies the public of missing endangered persons of any age. PSP also provides investigative assistance to all law enforcement agencies in cases where a computer has been utilized for a criminal purpose. This effort includes a central forensic server that allows investigators to complete forensic exams from remote locations across PA. PSP administers & coordinates numerous homeland & domestic security responsibilities, including National Incident Management System implementation. PSP's broader tech-related responsibilities include PA Criminal Intelligence Center (PaCIC), whose analysts provide PSP members and ~1,130 federal, state, and municipal law enforcement agencies with access to intelligence info, investigative data, and public source info.

- PSP Online Services and IT Systems include:
 - PA Access To Criminal History (PATCH, <https://epatch.state.pa.us>) - for criminal background checks on an individual.
 - Crash Reports Requests (<https://crashreports.psp.pa.gov>) - for authorized persons to request a vehicle crash report.
 - Megan's Law Website (www.pameganslaw.state.pa.us) - PA's registry of sex offenders.
 - Commonwealth Law Enforcement Assistance Network (CLEAN) - used by PA criminal justice agencies to access a host of info and is PA's conduit to federal & international criminal info sharing systems. CLEAN interfaces with JNET.
 - Training & Certification System (TACS, <https://www.tacs.pa.gov/tacs/home>) - for T&C of municipal police officers.
 - PSP Reporting (www.paucrs.pa.gov) - for crime statistics in PA--includes uniform crime reporting, police pursuit reporting, and county reporting.
 - Records Management Systems by www.Versaterm.com (deployment in process) - includes computer aided dispatch, mobile data terminal, and mobile report editor.
 - Traffic and Criminal Software (TraCS, www.teginc.com/software.html) - includes data collection, forms management, and reporting software for use by public safety professionals.

TRANSPORTATION

- \$112.2M to Dept of Transportation (DOT aka PennDOT, www.penndot.gov) for tech-related uses allocated as follows:
 - \$16M (FY18 = \$0) from MLF for Highway Systems Technology & Innovation. FY19 budget reflects greater visibility of the management of traffic operations on PA's highway network. Providing more efficient and safer use of existing infrastructure thru tech is an increasingly important aspect of DOT's mission. This includes costs associated with DOT's traffic management centers, operation & maintenance of intelligent transportation equipment, traveler info provided to the public, and other efforts. These funds also cover costs for 511 services including the 511 PA Website, the Alert Service, and a mobile app to communicate with PA travelers (see below).
 - \$58.7M (FY18 = \$30.7M) from MLF for Homeland Security-related tech allocated as follows: \$28M (FY18 = \$0) for Real ID (estimated FY20 = \$37.5M and FY21-FY23 = \$29M/yr); and \$30.7M for Photo ID program. DOT has committed to the federal-DHS that REAL ID-compliant products will be available to customers by Spring 2019.
 - \$30M in Federal Transit Admin funds for Hybrid Mass Transit Vehicles.
 - \$7M from MLF for Red Light Photo Enforcement.
 - \$525K from GF to GO for Voter Registration.
- DOT Tech Organization: Deputy Secretary (D/S) for Admin oversees five tech-related bureaus (with multiple divisions each) as follows: Innovations--includes Info Systems and Tech Office, headed by DOT CIO; IT Project Development & Delivery; Infrastructure & Operations; Business Solutions & Services; and Office Services. D/S for Planning oversees Bureau of Planning & Research (contains DOT Geographic Info division) and Office of Public Private Partnerships (P3s). D/S for Driver & Vehicle Services oversees Info (as in "IT") & Fiscal Services Office. D/S for Highway Admin oversees construction-related tech e.g. materials, surveys & mapping, geotechnical, equipment, and new products. Read this Q&A (<https://tinyurl.com/y9yqrke2>) between reporter J. DiStefano and DOT's CIO, who recently announced his retirement.
- \$83M from Lottery Fund to DOT for Older Pennsylvanian (O/P) Shared Rides: PA older citizens have benefited from greater mobility through DOT's implementation of Shared Ride and (similar, but separately funded) Free Ride programs. Both programs are for Pennsylvanians 65yo or older and are funded from a portion of revenues received from PA Lottery sales. FY19 DOT PMs for O/P Transit: number of free transit trips, 33.4M; trips on state-assisted shared-ride vehicles, 3.8M; cost to CoPA per trip - free transit, \$2.87, and state-assisted shared ride vehicles, \$20.37.
- \$172M (FY18 = \$167.1M) to DOT for Driver & Vehicle Services aka DMV (www.dmv.pa.gov) - Customers can process a range of transactions on DOT's Internet renewal system. During FY17, ~5.8M customers renewed their non-commercial driver's license, photo ID card or vehicle registration via the Internet. Efforts to improve service include more efficient linkage w/ auto dealers, leasing and rental agencies, and fleet owners for the immediate processing of registration & titling

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transactions. FY19 budget proposes new funding to comply with federal-DHS requirements. This will allow PA residents an optional driver's license or state ID card that will be accepted for boarding a domestic commercial flight or entering a federal building. FY19 DMV PMs include: number of online (eGov) services = 10M (FY18 = 9M).

- DMV Online Services include: Thirteen featured online services for drivers as well as facilitation of online services provided by contracted business partners including through the use of third-party software; Court Reporting Network - for communication between drivers, DMV, and the judicial system (think DUI offenses); and Business Account Driver Records - for employers to obtain driver histories for the purpose of employment or insurance.
- DOT Transportation Planning: Transportation planning inherently requires extensive input from broad-based constituencies and entails long timeframes. Tip: Check out DOT planning public meetings and delve into related minutes, web pages, reports (retrospective), and plans (prospective) ... which we have summarized at a high level below:
 - State Transportation Commission (STC, www.talkpatransportation.com) is a 15-member body that serves as DOT's board of directors. Transportation Advisory Committee, an advisory committee of STC, conducts independent studies on such topics as automated red-light cameras, cameras in work zones, streamlining project management, and autonomous vehicles. A recent STC meeting featured an update on the Secretary's Innovation Challenge, which gives high school students the opportunity to give their take on transportation-related issues. 2018's Challenge is Driving & Texting. It encourages high school students to propose ideas to eradicate driving & texting (and phoning).
 - Transportation Performance Report (TPR) is a biennial report issued by DOT that explains what the entire PA transportation industry has accomplished with current resources as well as highlight plans moving forward. Highlights from the 2017 TPR include: DOT expects 75% of all vehicles to be automated in some form by 2050; PA's anti-texting law (Act 98) prohibits any driver from using an Interactive Wireless Communication Device to send, read, or write a text-based communication while his or her vehicle is in motion; Daniel's Law (Act 165) increased the penalties for texting while driving; GO-TIME initiatives have included automating snowplow tracking; DOT has implemented 176 adaptive traffic signal projects that improve traffic flow--another 246 adaptive signal projects are underway; and updates on P3 projects (see below). Watch for 2019 TPR to be released early 2019.
 - Twelve-Year Plan (TYP) is a long-term tome of a plan updated every two-years by DOT. 2017 TYP highlights include an update on the Autonomous Vehicles (AVs) Task Force. DOT has convened a task force of stakeholders to draft AV policy. This task force is charged with developing recommendations that will ensure public safety and encourage innovation. They must also provide guidance re environmental benefits and mobility as well as understand challenges re public acceptance of AVs. Tip: Check out the PA AV Summit (www.paavsummit.org), cosponsored by DOT & DCED, started in 2017. Watch for 2019 TYP to be released approx. Aug. 2018.
 - State Transportation Innovation Council (STIC, www.penndot.gov/about-us/StateTransportationInnovationCouncil) is a multi-stakeholder leadership team - modeled after a Federal Highway Admin initiative - that "works to forge an environment of innovation, imagination and ingenuity to pursue specific initiatives and their rapid implementation to deliver a modern, high-quality transport system" to PA citizens. STIC evaluates researched & proven technologies that are ready to be implemented. Technologies, tactics, and techniques that are selected are employed & promoted to become standard practice within PA transportation community. Ad hoc Technical Advisory Groups help STIC review, evaluate and advise on potential benefits/uses of initiatives or techniques. On STIC's webpage, see Explore STIC Innovations (www.dot7.state.pa.us/stic/index.html) and sign up for STIC's e-newsletter: *Innovation in Motion*.
- Public-Private Partnerships (P3, www.p3forpa.pa.gov) - Since the P-P Transportation Partnerships Act of 2012 authorized DOT to enter into P3 agreements, DOT has launched several projects, including 1) w/ Trillium CNG (compressed natural gas) to design, build, finance, operate, and maintain 29 CNG fueling stations through a 20-yr P3 agreement and; 2) Rapid Bridge Replacement Project which includes an interactive map that provides details on bridges that make up this project. P3 Office accepts unsolicited proposals on behalf of the P3 Transportation Board during April and October each year.
- DOT Online Services Portal (www.penndot.gov/Doing-Business/OnlineServices) lists *some* of DOT's online services as follows (links omitted): Automated Permit Routing/Analysis System (APRAS); AutoTAB - used in computer-aided design & drafting (CADD); Bridge Automated Design & Drafting Software (BRADD); Categorical Exclusion Expert System (CEES) - uses "smart-form" tech for processing environmental documents for projects; Crash Reporting System - for reporting vehicle crashes; Developer Resources - DOT makes data & video available to various groups for use in their applications & research efforts; electronic Construction & Materials Management System (eCAMMS); Engineering & Construction Management System (ECMS) - provides online way for DOT, biz partners and public to conduct business--includes info on contracts and consultant agreements; ePermitting System (EPS) - for processing applications for Highway Occupancy

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Permits and Bridge Occupancy Licenses; Load & Resistance Factor Design (LRFD) and Engineering Software Programs; Grade Crossing - Electronic Document Management System; Highway Beautification Management System (HBMS) - for control of outdoor advertising devices; Joint Permit Application (JPA) System; Photogrammetry Asset Management System (PAMS); Reimbursement Agreement System (affiliated with ECMS); and Utility Relocation Electronic Document Management System (UREDMS).

- Other DOT Online Services and IT Systems: dotGrants (www.dotgrants.state.pa.us/egrants) - DOT's grants management system; Open Data Portal (<https://data-pennshare.opendata.arcgis.com>); 511PA (www.511pa.com) - motorists can check real-time road conditions on state-owned roads, signup for an emergency communication tool (511PAConnect - a joint initiative of PEMA, DOT, and PA Turnpike), and learn about 511PA Mobile App (DOT warns to *not* use certain app features while driving); Flood Risk Assessment Map - to identify flood-prone roadway segments; PA Bicycle Routes Maps; Traffic Signal Asset Management System (TSAMS, www.dot17.pa.gov/tsams); Online Emergency Contact System - in the event that you undergo an emergency and cannot speak for yourself; New Product Evaluation & Tracking System (NPETS, within eCAMMS); Vehicle Emissions Inspection & Maintenance (www.drivecleanpa.state.pa.us); Public Transportation Services & Programs Map; PA Crash Info Tool (PCIT, www.dotcrashinfo.pa.gov) - for the public to request and view customized crash data reports; Live Free Ride Alive (www.livefreeridealive.com) - training & safety resource for PA motorcyclists; PA Welcome Center Map; PA Yellow Dot (www.yellowdot.pa.gov) - Yellow Dot decal in your vehicle's rear window alerts first responders to check your glove compartment for vital info; and DOT Training Calendar.
- DOT-Hosted GIS Applications Portal (www.dot7.state.pa.us), provides links to the following: Airport Compliance - airport surfaces & zoning compliance; Internet Traffic Monitoring System (ITMS) - for monitoring vehicular traffic; LPNMaps - links transportation project planning & delivery w/ environmental processes & procedures; Local Technical Assistance Program (LTAP) - to share transportation knowledge, improve road maintenance and safety skills, and put research and new tech into practice locally; PennDOT One Map (fka MPMS-IQ) - mapping application that allows you to search for a project by specific criteria; Pavement History - details on most any stretch of asphalt on a DOT-maintained state road; Posted Bonded Viewer - displays info about less-robust secondary roads and the posting & bonding policies that require haulers to be financially responsible for excess maintenance when using these roads; PA Transportation Projects - identifies & maps DOT's investments around PA; Video Log - traffic info displayed on a map and searchable by various criteria; and (on behalf of PHMC) Cultural Resources GIS. (CADD Resource Files are provided by DOT's CADD Support Unit, which utilizes a product from PA-based www.Bentley.com.)
- PA Turnpike (Turnpike, www.paturnpike.com) is operated by the PA Turnpike Commission (PTC), which is comprised of 5 commissioners--4 gubernatorial appointees and the Secretary of DOT. The Turnpike is both a creature of - and separate from - the Gov and legislature. Its operating budget is separate from CoPA's (the focus of this forecast). Yes, thoughts periodically emerge to fold the Turnpike into DOT. Here is a high-level view of the Turnpike from one of those State Police helicopters (figuratively speaking):
 - The Turnpike's website - from desktop to mobile vantage points - deserves two thumbs up. Kudos to Turnpike staff, to the firm Information Logistics (www.ilogcopr.com), and to unsung other heroes.
 - Watch for the Turnpike 5-year Strategic Plan (currently 2014-2019) to be at least re-scrutinized during 2018.
 - Watch for a periodic audit report - w/ tech-related critiques - to be issued by the Auditor General in FY19.
 - Turnpike conducts business with vendors both independently (www.paturnpike.com/business/gen_info.aspx) and through DGS, depending on the procurement. Pay attention to both these gatekeepers.
 - PTC has entered into a Broadband P3 agreement with a business to install a fiber optic network along the Turnpike.

LEGISLATURE

- \$17.9M to General Assembly (G/A, www.legis.state.pa.us) for Legislative Printing & Expenses allocated as follows: \$7.2M to Senate (www.pasen.gov) and \$10.7M to House of Representatives (www.house.state.pa.us). Permissible uses of funds include tech improvements. G/A's mobile-friendly website is www.palegis.us. Tip: For copies of laws (acts) referred to in this forecast, go to the G/A website.
- \$40.8M to tech-related Government Support Agencies (supporting mostly the G/A) allocated as follows:
 - \$25.8M for Legislative Data Processing Center (www.paldpc.us), which establishes & operates IT systems for storing & retrieving financial, factual, procedural & legal info necessary to serve committees, officers & agencies of the G/A.
 - \$9M for salaries & expenses of Legislative Reference Bureau (LRB, www.palrb.net), which prepares requested bills & resolutions for introduction in the G/A and advises legislators on such matters. LRB has undertaken a long-term preservation and public access project (www.palrb.us) to digitize CoPA laws enacted since 1682.

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- \$3.4M for Commonwealth Mail Processing Center, which receives and performs a security scan of incoming mail and packages/parcels and delivers them to offices of the G/A, depts under the Guv's jurisdiction, and the Judiciary.
 - \$1.3M for Legislative Budget & Finance Committee (LBFC, <http://lbfc.legis.state.pa.us>), which conducts studies and makes recommendations aimed at eliminating unnecessary expenditures in the govt of PA and assuring that state funds are being expended in accordance w/ legislative intent and law. Example Study: *Costs to Implement the Right-to-Know Law* (Feb 2018) wherein LBFC shows a need to balance the public's right to transparency in govt with the reality of scarce time & resources and recommends that Office of Open Records pursue certain tech-related initiatives, and, wherein OOR agrees and reports that it is pursuing an annual data collection effort starting Jan. 2019.
 - \$1M for Legislative Reapportionment Commission (www.redistricting.state.pa.us), which redistricts the PA Senate & House once a decade (congressional redistricting is done by the G/A, via the legislative process). GIS/mapping software is used for both these efforts. pjmathison has assisted with ongoing redistricting reform efforts.
 - \$271K for Legislative Audit Advisory Commission, which plans & performs (and hires a CPA firm to conduct) the audit of the G/A's financial transactions. FY17 audit recommendations include: 1) conduct a thorough assessment of the G/A's financial IT systems environment and 2) update G/A's current accounting software to provide for accrual basis accounting. Watch for the FY18 G/A audit report to be released by mid-FY19.
- Other G/A Functions and Functional Units: PA State Capitol (www.pacapitol.com); Capitol Preservation Committee (www.cpc.state.pa.us) and its gifts & collectibles store (<http://store.cpc.state.pa.us>); Center for Rural PA (www.rural.palegislature.us); Independent Regulatory Review Commission (www.irrc.state.pa.us); Joint Conservation Committee (<http://jcc.legis.state.pa.us>); Joint State Govt Commission (<http://jsg.legis.state.pa.us>) - conducts research on behalf of G/A on such topics as consolidation of DOT & PTC; PA Commission on Sentencing (<http://pcs.la.psu.edu>); Local Govt Commission (www.lgc.state.pa.us); Independent Fiscal Office (www.ifo.state.pa.us); PA Code Online (www.pacode.com) - CoPA's official publication of rules and regs; and PA Bulletin (www.pabulletin.com) - a weekly publication listing changes to agency rules & regs---it serves as a temporary supplement to the PA Code.

JUDICIARY

CAUTION: Head-Spinning Syntax Ahead. In particular, take care to distinguish between the Unified Judicial System aka UJS (the organization) and Judicial Computer System aka JCS (the computer system).

- \$66.1M to PA Court System (www.pacourts.us) for tech-related uses allocated as follows: \$61.8M for Statewide Judicial Computer System aka JCS (includes \$57M from JCS revenues); \$2.4M from GF for Integrated Criminal Justice System (JNET); and \$2M from GF for Unified Judicial Security System. FY19 proposed JCS *expenditures* of \$47.4M (including \$622K increase for contract personnel and \$2.3M increase for EDP equipment) are allocated as follows:
 - \$23.1M for Enterprise Application Maintenance i.e. costs related to multiple courts' Case Management Systems (CMSs) and UJS web portal and data hub.
 - \$1.3M for development of web-based Guardianship Tracking System.
 - \$1.7M for Admin Support Application Program (ASAP) - for ongoing maintenance & operation of automated system serving appellate courts' admin functions.
 - \$8.5M for Enterprise IT Operations (EITO) - including staff and equipment to meet hardware & support needs of the CMSs, UJS web portal and data hub, and day-to-day automation needs of other courts.
 - \$8.7M for Network/Network Operations (NOC) - including circuit costs, staff, and equipment.
 - \$4M for Facility/Admin - for shared support staff and all operating costs for primary & secondary data centers.
 - \$108K for operation of "Jen & Dave's Law" (see below).
- PA Courts Revenue: PA Courts collect more in fines, fees, costs, bail and restitution annually than is appropriated from GF to the Judiciary. In 2017, \$465M was collected, including a record \$114M paid online through PAePay. UJS is collaborating with DOR to implement a PA Lottery intercept process that will collect outstanding court-ordered obligations. This complements the already-developed income tax intercept process.
- Administrative Office of PA Courts (AOPC) is the admin arm of the Supreme Court (SC) in the court's oversight responsibility of the Unified Judicial System (UJS) - the multi-level system of PA courts from the first-level local courts to the state SC. On an ongoing basis, SC takes on business-process improvement initiatives. These initiatives range from formation of special courts, such as drug courts, that seek to more efficiently/effectively address specific court system challenges, to consolidation of existing statewide court operations, such as a reduction in the count of local-level magisterial districts (MDs). Judiciary recently released "bench cards" and instructional videos intended to enhance judicial education efforts. AOPC's two tech-related functional units are 1) AOPC IT Dept and 2) Office of Judicial Security...

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- AOPC IT Dept (AOPC/IT, fka Judicial Automation), funded by court fees, creates & supports systems used daily by the public, media, judges and judicial staff throughout PA and the country, and integrates its systems w/ the work of other agencies. A long-standing automation program has been underway since the mid-1980s with the goal of computerization of the entire Judiciary, most notably through the development & operation of an integrated case & financial management system. The JCS has been an “unqualified success” in each of its stages, beginning with the MD Judge System, PA Appellate Courts CMS, and Common Pleas Criminal CMS. These systems also enable the Judiciary to integrate with CoPA’s multi-agency JNET with case data.
 - > 2018 Priorities: Pilot & rollout expanded Guardianship Tracking System; and Continue to move toward paperless environment w/ implementation of PACFile and e-records management system (ERMS) in additional counties.
 - > FY19 Priorities: Continue development & maintenance of messages published by AOPC/IT and automated use of messages published by other agencies—messaging is a method JNET and AOPC/IT use to move info between agency computer systems in order to share case data and to reduce redundant data entry; and Continue to work w/ JNET to make specific, additional info available to various agencies via JNET user interface.
- Office of Judicial Security (OJS) develops & supports initiatives to help make court facilities in PA safe for everyone. Initiatives include an electronic incident reporting system and funds to reimburse counties for the purchase of courthouse security equipment such as duress alarms, access control systems, magnetometers, package screening devices, and security cameras. In addition, OJS provides video conferencing systems to certain courts enabling them to more safely & cost-effectively conduct preliminary arraignments and other proceedings via this technology.
 - > FY19 budget supports purchase of foundational security equipment (panic buttons, weapons lockers, ballistic-resistant window material, mass notification systems, and access control for weapons/other contraband exhibits).
- PA Courts Online Services:
 - Public Records (www.pacourts.us/public-records) - UJS provides comprehensive public access to court records online and upon request in five categories as follows: 1) Statistics from all courts - includes interactive data dashboards; 2) Court Case Info via PA Judiciary Web Portal (<https://ujportal.pacourts.us>) - provides public access to docket sheets and calendars and to PAePay and provides specialized eServices to users, e.g. attorneys, with a secure login; 3) Financial Records of the UJS; 4) Public Records Policies - key in the Judiciary; and 5) Public Record Forms - for filing requests for such info.
 - Jen & Dave Program (www.jendaveprogram.us) is the nation's first statewide, automated system for providing criminal charge info to individuals involved in child custody cases. Est. 1997, its goal is to protect children by granting parents access to valuable info about offenses perpetrated by other parents. An original toll free phone number used for the program is no longer in service. Criminal charge info today is available through the Judiciary Web Portal.
- PA Courts' Syntax Be Damned: pjmathison gives two thumbs-up to the UJS website and AOPC/IT's ongoing efforts.

MISCELLANEOUS

- CoPA Public Notification & Info: \$20M distributed in amounts ranging from \$9,000 (Milk Marketing Board) to \$2.4M (DEP) to 29 Executive Branch agencies for activities to provide public notification & info to PA's public, news media, businesses, and legislators re bidding of contracts, issuance of rules & regs, announcement of public hearings and availability of services and financial aid. These amounts exclude items that are strictly educational and materials that are offered for public sale. Additionally, PA expects to spend \$51M (FY = \$48.2M) for Lottery sales promotion, which is used for advertising campaigns and to disseminate info on various Lottery-funded programs. PA Press Room (www.media.pa.gov) is the “official news source for PA state agencies.”
- Supplemental Appropriations (S/As) are mid-FY changes in the CoPA budget enacted for a particular FY e.g. FY18 S/As include a \$552K decrease to EO for Commonwealth Technology Services and a \$1M increase to DHHS for Vital Statistics. The FY19 CoPA budget that the Guv ultimately signs into law, therefore, could be amended.
- CoPA Tech-Related *Capital* Projects: Guv proposes a FY19 capital budget that includes expenditures from state funds of \$450M for Public Improvement Projects, \$250M for Redevelopment Assistance Capital Program (RACP), and \$175M for Transportation Assistance (T/A) Projects. Capital projects are associated w/ physical assets and must have an estimated useful life >5 years and an estimated minimum cost (the dollar minimum depends on the source of funds). Tech-related projects may be eligible for capital budget funding, and, capital projects can spawn additional tech-related operating

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expenditures. In PA, operating budgets (the focus of this forecast) and capital budgets are approved in separate legislation. Further, there are several types of capital budgets. For example, RACP funding and RACP project itemizations entail separate legislation. RACP is a grant program for the acquisition & construction of economic, cultural, civic and historical improvement projects, including projects owned by private entities. See the Guv's Budget Office website for RACP details, including application process, past awardees, and matching requirements.

- FY19 proposed tech-related (non-RACP) capital projects include: \$1.3M to PDE for design & construction funding to Renovate and Expand Amos Hall for Information Technology and Museum, at Lincoln U.; \$2.7M to PHMC for Phase 1 upgrades, including geothermal system and energy saving equipment, at Military Museum, Centre County; \$14.9M to PSP for design & construction of new DNA lab; \$10M in federal grant funds to S.E. PA Transportation Authority for various projects, including for new payment technologies; and \$4.5M to Commonwealth Technology Center (PEMA) for technology and other associated infrastructure upgrades.
- RACP sample tech-related awards (2017): \$500K for a crime victims' services center to acquire a new facility, state-of-the-art technology, security system, and voice infrastructure equipment; \$1M for a municipal police HQ facility including for computer & technology equipment; \$4M for an educational institution's health sciences building including for a technologically advanced learning environment for students; \$250K for a wireless-tech company to retrofit a new HQ for the company; \$500K for a high school STEM education center including a robotics classroom and seven tech-enabled math classrooms; \$1.2M for an aircraft manufacturer to renovate its existing factory; and \$1M for a downtown improvement district's infrastructure improvement project including modern parking kiosk technology. *pjmathison's founder in a previous life assisted with the first-ever RACP award (\$1M) for a tech-related initiative.*
- **Chart 1** (page 43) summarizes the financial status of 13 Tech-Related CoPA Special Funds (SFs). The vast majority of CoPA day-to-day activities are financed from the GF; however, 150+ other funds exist (to date) to more closely relate specific revenue sources with their intended uses. SFs are created, amended, or terminated by statute (acts). More to the point, this chart does not show additional FY19 tech-related expenditures--it merely shows certain "buckets" from whence they come. FY19 dollar amounts are "best estimates," as the methods and time frames for receipt & disbursement of funds vary from SF to SF. Two new SFs (created in 2017) are the Fantasy Contest Fund and Video Gaming Fund. The chart also lists two recently terminated or expired SFs.
- PA Technology Advocacy: Check out these PA tech networking education, investment, and advocacy organizations: Philadelphia Alliance for Capital and Technologies (PACT, <https://philadelphiapact.com>); Technology Council of Central PA (www.tccp.org), which cosponsors the PA Govt Tech Conference www.PATechCon.com; Pittsburgh Technology Council (www.pghtech.org); and Life Sciences PA (<http://lifesciencespa.org>). Participate in one or more today.

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Chart 1
2018-19 Tech-Related CoPA Special Funds
 (Dollar Amounts in Thousands)

Special Fund	Cash Bal. Begin.	Re-ceipts	Funds Avail.	Dis-burse-ments	Cash Bal. End
Ben Franklin Technology Development Authority Fund: Act 38 of 2001 created BFTDA Fund which merged activities of two predecessor bodies. Fund revenues include annual transfers from the GF, loan repayments, and interest. Funds available will be curtailed significantly during FY19 after exhausting supplemental funds provided through Act 52 of 2013 aka the Innovate in PA program.	\$25,756	17,794	43,550	21,000	22,550
(TERMINATED) Broadband Outreach & Aggregation Fund: Act 183 of 2004 established BOAF to fund grants and outreach programs with the purpose of increasing broadband access in un/underserved areas. Sources of funds included assessments levied and collected by PUC on certain local exchange telecomm co's. Total amount of BOAF = ≤ \$5M/yr. BOAF terminated on July 1, 2016 per the Act.	\$0	0	0	0	0
DNA Detection Fund: Created by Act 14 of Special Session 1 of 1995, as amended, to account for collection & processing of DNA samples by PSP. Revenues are derived from mandatory fees that are assessed on sexual offenders. Expenditures are made to establish & maintain the State DNA Data Base and State DNA Data Bank.	\$4,516	2,095	6,611	6,222	389
Energy Development Fund: Created by Act 280 of 1982 and serves as the vehicle to accomplish purposes of the PA Energy Development Authority. Periodic Fund activities include providing grants, loans, and loan guarantees for such energy efficient improvements as solar energy, wind, low-impact hydropower, geothermal, biomass, landfill gas, fuel cells, integrated gasification combined cycle, waste coal, coal-mine methane, and demand management measures.	\$3,348	78	3,426	172	3,254
Fantasy Contest Fund: As a result of Act 42 of 2017, the Fund was administratively established to receive all assessments from licensees for the administration and enforcement of fantasy contests provided by the Gaming Control Board and DOR.	\$0	1,900	1,900	1,859	41
Machinery & Equipment Loan Fund: Created by Act 120 of 1988 to provide low-interest machinery & equipment (today including tech-related) financing for PA businesses in order to facilitate their growth, competitiveness and value-added capacity. MELF is funded from loan repayments, transfers from GF and interest earnings. Act 161 of 2014 transitioned the administration of MELF to the PA Industrial Development Authority (PIDA).	\$21,612	14,019	35,631	11,778	23,853
Patient Safety Trust Fund: Act 13 of 2002, aka the Medical Care Availability and Reduction of Error Act, established the Fund for the purpose of independent review of medical facilities, which will result in reducing medical errors. Fund revenues include surcharges on medical facility licensing fees collected by DHHS. Patient Safety Authority (PSA) established by Act 13 contracts with entities who collect, analyze and evaluate data re reports of serious events and incidents at medical facilities and identify patterns in frequency or severity at individual medical facilities or in certain regions.	\$9,562	8,295	17,857	9,400	8,457
(EXPIRED) PA eHealth Partnership Fund: Created by Act 121 of 2012. The Fund was administered by PA eHealth Partnership Authority (PePA) for the purpose of creating a health info exchange that complied with federal & state law. PePA expired 7/5/17.	\$0	0	0	0	0
PA Gaming Economic Development and Tourism Fund: Act 71 of 2004, as amended, established this fund to receive a daily assessment of (today) 5.5% of each licensed gaming entity's gross terminal revenue. The Fund, administered by DCEd, is distributed thru specific enacted capital budgets. Tech-related projects may be eligible.	\$7,867	176,625	184,492	179,901	4,591
Small Business First Fund: Created by Act 67 of 1996, SBF program provides low-interest loans for businesses of ≤ 100 employees. Eligible projects include land & building acquisition/construction; machinery & equipment purchases; working capital; and compliance w/ environmental regulations. Tech-related companies are eligible. Act 161 of 2014 transitioned admin of SBF to PIDA.	\$9,375	10,574	19,949	15,000	4,949
Treasury Initiative Support Fund: Created in 2009 to account for funding received in support of TD initiatives e.g. Keystone HELP, an affordable energy efficiency loan program for homeowners, including a geothermal energy component. TD has also received foundation grants to develop a nationwide market to support the sale of energy efficiency loans (aka Campus Energy Efficiency Fund) and to make investments that promote energy efficiency improvements on college & university campuses in PA.	\$8,076	1,510	9,586	1,597	7,989
Video Gaming Fund: Act 42 of 2017 established VG Fund to receive license fees and gross terminal revenue generated by gaming facilities. Funds are distributed annually to various programs, including for local share distributions where the gaming terminals are located. Tech-related projects may be eligible.	\$0	8,218	8,218	8,149	69
911 Fund: Title 35 Chapter 53 amended by Act 12 of 2015, the Public Safety Emergency Telephone Act established the Fund to support a statewide integrated 911 plan. The Fund is used to collect & deposit a surcharge collected by Wireless, Prepaid Wireless, VoIP and Wireline service providers monthly. Up to 2% of annual surcharge proceeds can be used by PEMA for admin costs with the remaining available balance used for approved county grants.	\$13,407	315,300	328,707	315,000	13,707