



**OFFICE OF THE CHIEF INFORMATION OFFICER
USDA IT WORKFORCE PLAN
FY2020 - FY2022**

Ver 1.2 June 2020



U.S. DEPARTMENT OF AGRICULTURE

A MESSAGE FROM THE CHIEF INFORMATION OFFICER (CIO)

I am pleased to share this United States Department of Agriculture (USDA) Information Technology (IT) Workforce Plan for fiscal years (FYs) 2020–2022. This IT Workforce Plan represents the first strategic human capital planning guidance published by USDA focused specifically on the IT workforce. This Plan reflects the Department’s commitment to ensuring our IT workforce has the knowledge, skills and abilities required to achieve USDA’s mission.



The current Administration has designated USDA as the “lighthouse agency” for the Federal government’s IT modernization efforts. In this capacity, USDA is partnered with the General Services Administration (GSA) IT Modernization Centers of Excellence (COEs) to identify universal strategies and best practices that other Federal agencies can leverage in their modernization efforts.

IT Modernization addresses many of USDA’s and the Federal government’s broad operational challenges like security, efficiency and agility; and is also critical to the Department of Agriculture’s mission. USDA leverages technology to enable critical support for citizens in all areas of American society, from providing loans to farmers, ranchers and rural communities, to protecting the public from food-borne illness. Further, the Department is strategically focused on being a fact-based, data-driven and customer-focused organization. Successfully achieving this strategic focus and delivering mission-critical services requires effective management and modernization of USDA’s IT assets.

One of USDA’s most critical information technology assets is our IT workforce. The Department can invest in the best tools, technologies and processes, but without an IT workforce that has the skills and competencies to efficiently and effectively utilize the investments, USDA will not realize the intended benefits. Recognizing the importance of strengthening and strategically managing USDA’s IT workforce, the Office of the Chief Information Officer (OCIO) established an IT Workforce Program. Key objectives for the IT Workforce Program were to define and implement a Department-wide IT workforce planning cycle and create this IT Workforce Plan.

Ongoing coordination and collaboration among the OCIO and its IT Workforce Program, the Office of Human Resource Management (OHRM), USDA Mission Areas and key Staff Offices is essential to achieving these important IT workforce objectives. An IT Workforce Standing Committee (ITWSC) made up of representatives from each of these groups has been established to facilitate sustainable strategic alignment and integrated IT workforce planning across the Department. A strong cross-functional partnership across the Department on IT workforce related matters enhances USDA’s ability to effectively manage the IT workforce and comply with Federal IT workforce regulations.

This IT Workforce Plan was developed as a collaborative effort between the IT Workforce Program and the IT Workforce Standing Committee, with oversight and input from OCIO executive leadership. Investing in the IT workforce gap closure strategies outlined in this Plan, and in corresponding action plans, will strengthen USDA’s ability to achieve the mission and effectively serve our community. With ongoing Department-level engagement and partnership on IT workforce matters, I know we will succeed.

Sincerely,

*Gary Washington
USDA Chief Information Officer*

A MESSAGE FROM THE CHIEF HUMAN CAPITAL OFFICER (CHCO)

I am pleased to support USDA's Office of the Chief Information Office in the development of the FY19- FY22 IT workforce plan. Our offices have worked in partnership to bring on the best and brightest information technology talent to USDA and will continue to collaborate to support the agency's modernization efforts and build a workforce of the 21st century.



This workforce plan will streamline and offer valuable input into the recruiting and talent development cycles in our Department. Developing a workforce planning cycle that analyzes the workforce supply, forecasts our business needs, and determines target talent management interventions is key to fulfilling the Office of Human Resources Management mandate – ensuring the recruitment and retention of a diverse, highly skilled workforce that is aligned with our program needs and to promote a competency-based culture at USDA.

Our collective efforts will result in mission level action plans to help us meet our hiring goals. I look forward to working with OCIO to refine and enhance the plan as we go through our first planning cycle together.

Sincerely,

Mary Pletcher
USDA Chief Human Capital Officer

A MESSAGE FROM THE CHIEF INFORMATION SECURITY OFFICER (CISO)

The mission of the Information Security Center (ISC) serves and supports USDA by helping to protect mission-critical assets and information, thereby securing our country's diverse food, agriculture, rural and natural resources programs. The ISC monitors and protects USDA's systems by keeping abreast of new threats to both existing and new technologies, and continually monitoring the USDA information technology enterprise to ensure USDA Mission Areas computing environments remain secure.



Organizations across the country face persistent challenges in recruiting skilled Cybersecurity professionals capable of protecting their systems against the threat of malicious actors. USDA's IT Workforce Plan will ensure our agency identifies the cybersecurity talent gaps that pose significant risks to fulfilling the ISC mission.

To best determine USDA's cybersecurity position needs, we will assess and ensure alignment to the National Initiative for Cybersecurity Education (NICE) Framework, led by the National Institute of Standards and Technology (NIST). NICE coordinates with government, academic, and industry partners to build on existing successful programs, facilitate change and innovation, and bring leadership and vision to increase the number of skilled cybersecurity professionals.

Cybersecurity is a burgeoning area at USDA. ISC will work with the IT Workforce Program and the Office of Human Resources Management (OHRM) to develop a baseline for key competencies and action plans that meet our critical needs.

Sincerely,

Venice Goodwine
USDA Chief Information Security Officer

EXECUTIVE SUMMARY

The FY20 – FY22 IT Workforce Plan represents a foundational understanding between the Chief Information Officer, Chief Human Capital Officer and Chief Information Security Officer to make USDA a data-driven, customer focused organization, and to ensure our IT Workforce is positioned to successfully support USDA's IT Modernization Initiatives. America's farmers work in an increasingly high-tech profession and are demanding more tech-savvy, efficient service from USDA. In response, USDA is modernizing in five Centers of Excellence: infrastructure optimization; cloud optimization; the customer experience; contact centers and data analytics, and the workforce must have the knowledge, skills and competencies to be effective in this new environment.

To ensure the workforce is positioned to successfully support these IT Modernization Initiatives, the IT Workforce Program developed and implemented a Department-wide strategic IT workforce planning process and the IT Workforce Plan to provide strategies and recommendations for closing skill and competency gaps. The Planning Process is a 5-step model to ensure USDA has the right people who have the right skills at the right time. We set strategic planning goals, analyze the current workforce, create a gap closure strategy and prioritization process, develop an action plan, and monitor the implementation of the plan. This planning cycle creates a sharper collective process to identify future staffing environments, possible risks of staffing shortages, and more importantly, develops a strategy to address competency gaps in the current workforce so no team member is left behind.

The landscape of USDA's IT workforce is changing. Our team will require critical cybersecurity, cyber information technology, cloud computing and agile professionals that will work alongside machines and new Artificial Intelligence technologies. Human skills will remain important at USDA and our agency will reskill, upskill and support employees to facilitate this collaboration.

USDA's IT Workforce Strategic Goal for FY20 – FY22 is to *cultivate a highly-effective IT workforce*. The IT Workforce objectives prioritized for these years include: 1. Fostering strategic, proactive IT workforce planning and management, 2. Enhancing IT workforce collection and analysis capabilities, and 3. Fostering an environment of supervisor/employee engagement, communication and accountability. The information in this plan includes a roadmap to identify the workforce demand, assess the workforce supply and eliminate workforce gaps to meet these strategic objectives. The IT Workforce Program has developed multiple opportunities for collaboration and shared learning on solutions.

The CIO and IT Workforce Program will continue to help all mission areas understand the department level workforce goals and develop mission level action plans to ensure USDA builds and maintains a modernized, highly effective workforce.

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INTRODUCTION

The United States Department of Agriculture’s (USDA’s) mission is increasingly dependent on information technology (IT) and modernizing the Department’s IT capabilities and capacity is a top priority across USDA. Critical to the success of USDA IT modernization initiatives, and in turn delivering on USDA’s mission, is ensuring the IT workforce consists of the right people, with the right skills, in the right places to effectively implement, operate and maintain IT assets.

In today’s environment, where organizations across public and private sectors are struggling to find IT workforce with the requisite skills and competencies, it is more important than ever that USDA be ahead of the curve in defining its current and future IT workforce requirements, identifying IT workforce gaps, and implementing strategies to optimize IT workforce succession planning, recruitment and retention across the Department. Further, the importance of information technology (IT) to Federal government effectiveness has resulted in legislation like the FITARA and the Federal Cybersecurity Workforce Assessment Act, and corresponding requirements from Office of Personnel Management (OPM), Office of Management and Budget and Government Accountability Office (GAO) related to maturing IT workforce planning and management capabilities and closing IT workforce staffing and skill gaps.

Recognizing the importance of strengthening and strategically managing USDA’s IT workforce to meet emerging technology requirements, the USDA Office of the Chief Information Officer (OCIO) formalized an IT Workforce Program. Key objectives for the OCIO IT Workforce Program in FY19 were to (1) create and implement a sustainable, Department-wide IT workforce planning cycle; and (2) develop and publish USDA’s first strategic workforce plan focused specifically on the IT workforce.

This FY20-FY22 IT Workforce Plan defines Department-wide goals, objectives and strategies to cultivate a highly effective IT workforce across the USDA. The goals, objectives and strategies outlined in this IT workforce plan will guide the priorities and initiatives included in Mission Area and Staff Office annual Human Capital Action Plans (HCAPs). The cascading of strategic IT workforce goals, objectives and strategies that drive the contents of this plan are described in detail in the *Strategic Direction* and *Process Alignment* sections that appear later in this plan.

USDA IT WORKFORCE PLANNING CYCLE

Implementing a Department-wide IT workforce planning cycle at USDA facilitates the development of strategic IT workforce plans and tactical action plans, enhances the impact of USDA investments in its IT workforce, and ultimately improves mission attainment across the Department. The IT workforce planning cycle described in this Plan represents the culmination of a collaborative effort led by USDA’s OCIO and including representatives from the USDA Office of Human Resources Management (OHRM), as well as Mission Area IT and human resources (HR) organizations.

PHASES & KEY ACTIVITIES

USDA’s IT workforce planning cycle consists of five (5) phases –

Strategic Direction: This phase involves understanding current and future mission requirements and the implications of those requirements on the IT workforce; and defining strategic IT workforce goals & objectives.

Gap & Risk Analysis: This phase involves defining future IT workforce requirements (demand analysis); baselining current IT workforce capabilities (supply analysis); and identifying gaps between the current state of the IT workforce and future IT workforce requirements (gap & risk analysis).

Strategy Development & Prioritization: This phase involves identifying the highest priority IT workforce gaps and developing strategies to address the root causes and mitigate risks associated with the IT workforce gaps.

Action Planning & Implementation: This phase involves defining specific initiatives, with associated metrics and targets, to implement during the upcoming fiscal year (FY); developing action plans for the IT Workforce Program, Mission Areas and Staff Offices; and executing the initiatives over the course of the fiscal year.

Monitoring, Reporting & Improvement: This phase involves monitoring and periodically measuring the performance of the gap closure initiatives using the pre-defined metrics, reporting performance against the targets established for each metrics, and identifying opportunities to improve. This phase also includes a process to review the Department’s priorities and Federal IT workforce requirements on a quarterly basis to identify any changes that may have occurred, confirming the IT workforce priorities are still in alignment, and making adjustments, if needed, to ensure strategic alignment.

FIGURE 1 below shows key activities associated with each of phase of the IT Workforce Planning Cycle.



Figure 1: USDA IT Workforce Planning Cycle Phases & Key Activities

PROCESS ALIGNMENT

Critical to the successful and sustainable implementation of a Department-wide IT workforce planning cycle is ensuring that its phases and activities align with USDA’s existing annual budgeting, performance planning, and human capital planning processes. Currently, USDA’s Office of Human Resource Management (OHRM) leads the Department’s human capital planning efforts and publishes a Human Capital Operating Plan (HCOP) every four (4) years that defines broad human capital goals, strategies and actions aimed at strengthening USDA’s workforce and achieving the Department goals and objectives as defined by the Secretary in USDA’s Strategic Plan (also published every 4 years).

Another process currently in place at USDA that intersects with the IT workforce planning cycle is the Office of the Chief Information Officer (OCIO) strategic planning cycle. The OCIO publishes an IT Strategic Plan every four (4) years that defines specific information technology goals, strategies and actions focused on enhancing the USDA’s IT capability, capacity and mission support.

The goals and objectives defined in the USDA Strategic Plan, USDA Human Capital Operating Plan, and USDA IT Strategic Plan drive the IT workforce priorities and strategies included in the USDA IT Workforce Plan. Therefore, the IT workforce planning cycle defined throughout this document was designed to ensure alignment with the processes and timelines the Secretary’s Office, OHRM and OCIO follow when developing their respective strategic plans. Figure 2 a detailed workforce planning timeline, including milestones and deliverables between FY20 – FY22.

USDA IT Workforce Plan FY20 – FY22

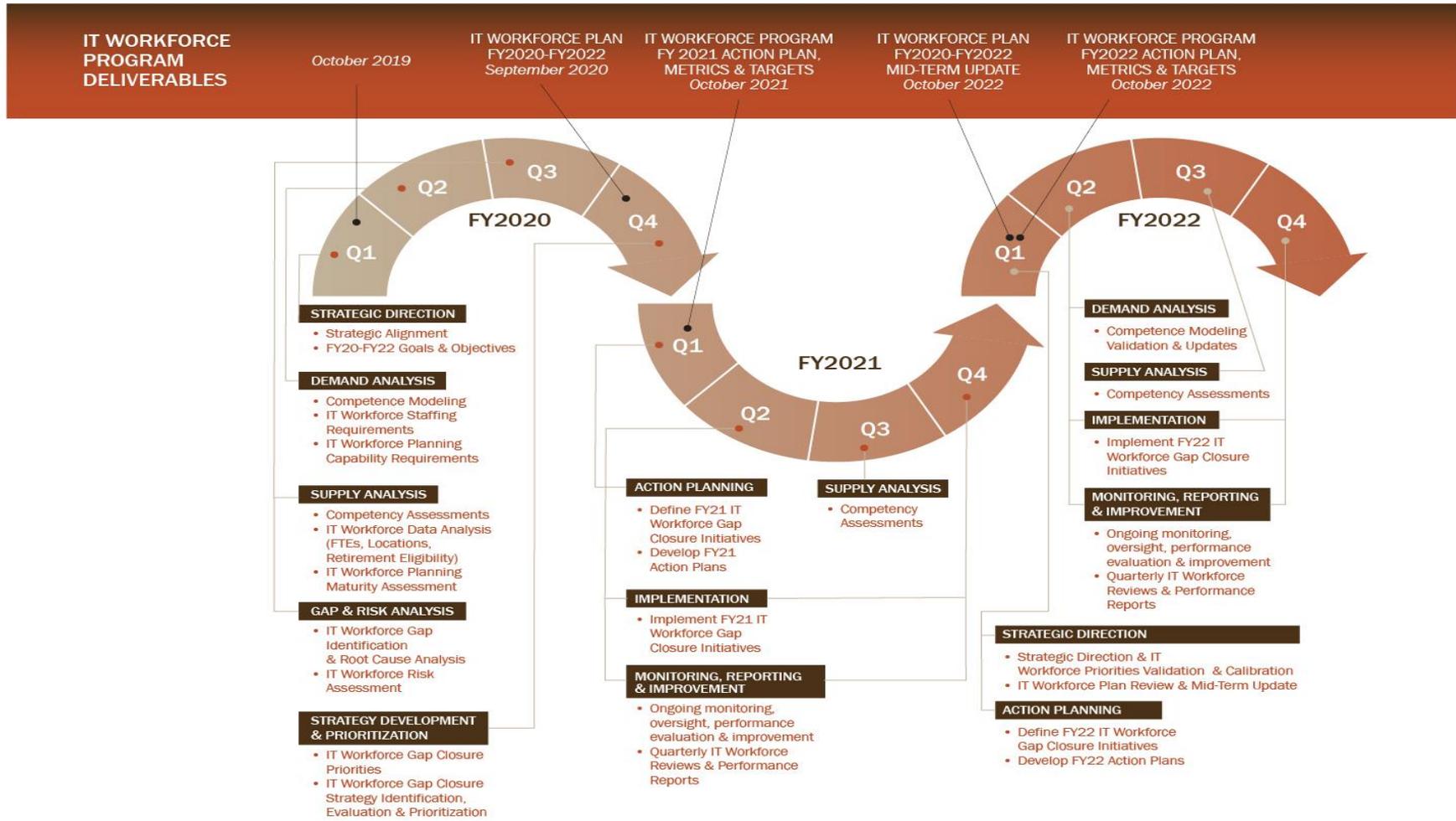


Figure 2: USDA IT Workforce Detailed Planning Timeline

DEPARTMENT-WIDE ADOPTION AND COLLABORATION

Successful and sustainable IT workforce planning, development and management at USDA requires regular coordination and collaboration among IT and HR stakeholders located throughout the Department. To facilitate this, in April 2019 the USDA CIO and CHCO Councils approved the creation of an IT Workforce Standing Committee for a minimum of one (1) year (May 2019 – April 2020). The IT Workforce Standing Committee consists of representatives from OCIO, OHRM and Mission Area IT and HR organizations and the OCIO IT Workforce Program Manager serves as the Committee Chair.

The IT Workforce Standing Committee played an integral part in the design of the USDA IT Workforce Planning Cycle, sharing best practices, providing feedback on draft versions of the cycle. Engaging the IT Workforce Standing Committee early in the development of the Department-wide cycle significantly reduces risks associated with implementation and establishes Committee members as ‘Change Agents’ that can guide their respective organizations throughout adoption.

COLLABORATION

Collaboration at the Department-level is more than cooperating with mission areas and offices, it involves a shared vision for the workforce, mutual respect and an in-depth understanding of each other’s role in fulfilling this IT Workforce Plan and preparing the organization to hire and retain professionals with the technology skills to fulfill USDA’s mission. The IT Workforce Program has joined the CTO, CHCO, CISO and CDO in promoting a 21st Century Workforce – one fueled by continued learning and a passion for the critical IT work roles that will modernize the USDA landscape.

An emphasis on future-oriented learning recognizes the gap between previous or antiquated hiring concepts and measures of knowledge, skills and abilities development, and the demands for updated competencies, position descriptors and employee development initiatives. Hiring, as a core function of the enterprise, must assume new ways of identifying critical roles, developing robust position descriptions, and innovating our recruitment strategies. The volume, magnitude, and pace of information and technology affecting our workforce requires adaptation and agility on multiple levels. People and data are at the forefront of these activities. Data will drive business value at USDA - identifying the right people and roles to prioritize at USDA and the right time for OHRM to bring on staff for offices to train and deploy.

The IT Workforce Program will regularly convene Department Offices and the IT Workforce standing Committee to encourage information sharing and to help team members stay on top of workforce initiatives from workforce analysis and hiring to action planning and implementation.

GOVERNANCE & OVERSIGHT

Establishing a USDA IT Workforce Governance Model ensures accountability and strategic alignment of IT and cybersecurity workforce investments by formalizing a governance structure and defining roles, responsibilities and reporting requirements for IT workforce stakeholders and activities across the Department. Implementing an IT Workforce Governance Model also benefits USDA by –

- ✓ Enhancing the efficiency, effectiveness, transparency and accountability of USDA IT workforce planning, development and management initiatives and investments;
- ✓ Improving compliance with Federal IT workforce governance requirements such as those included in the Federal Information Technology Acquisition Reform Act (FITARA); and

- ✓ Facilitating coordination and alignment of USDA IT workforce stakeholder groups on responses to OPM, OMB, and GAO on IT workforce-related matters.

As depicted in FIGURE 3 below, the USDA’s IT workforce governance structure consists of five (5) levels:

Executive Sponsor: The senior executive who defines the vision for the program, provides resources and direction, and serves as the program champion and ultimate decision-making authority. The IT Workforce Program Executive Sponsor is the USDA Chief Information Officer (CIO).

Oversight CXOs: Executives representing the IT Workforce Program’s key stakeholder groups who provide feedback, make key decisions, delegate authority, and ensure support from within their respective parts of the organization. USDA’s IT Workforce Oversight Chief Experience Officers (CXOs) include the members of the CIO Council and CHCO Council.

OCIO IT Workforce Program: The team within the OCIO who leads IT workforce planning activities and serves as the primary point of contact for USDA leadership and external stakeholders including OPM, OMB and GAO, on matters related to IT workforce. The IT Workforce Program is led by the IT Workforce Program Manager.

IT Workforce Standing Committee: A group of representatives from USDA Mission Area IT and HR, OHRM and OCIO who are designated by leadership as the points of contact (POCs) for their respective organizations on matters related to strategic IT workforce planning and management.

IT Workforce Working Groups: Teams across USDA that are formed for the purpose of planning and implementing specific IT workforce initiatives.



Figure 3: IT Workforce Working Groups

MAINTENANCE PROCESS

Like the HCOP and IT Strategic Plans, the IT Workforce Plan covers a period of three (3) years and is reviewed annually to ensure continued alignment with USDA priorities and Federal IT workforce priorities. Further, this IT Workforce Plan is updated every two (2) years to address changes in priorities and reflect progress made toward IT workforce goals and objectives. The USDA IT workforce planning cycle is designed to support these bi-annual updates, and the OCIO IT Workforce Program Manager is responsible for leading the creation and maintenance of the USDA IT Workforce Plan.

CONTINUOUS IMPROVEMENT

An important component of USDA’s IT workforce planning cycle is that it also involves periodic reviews of the cycle to ensure its efficiency and effectiveness. The IT Workforce Program Manager leads the review process and results of each review are reported to the IT Workforce Executive Sponsor. When evaluating the effectiveness of the IT workforce planning cycle, the IT Workforce Program examines both how the process has been performing, as well as whether new requirements and/or best practices have emerged since the last review that should be considered as potential improvements. The IT Workforce Program will identify opportunities for improvement and make recommendations about enhancements to the Department-wide cycle and standards.

IT WORKFORCE STRATEGIC DIRECTION

The purpose of the Strategic Direction Phase is to define IT workforce strategic goals and objectives for USDA to accomplish over the three-year period that the IT Workforce Plan covers. The graphic below provides an overview of the key activities that make up the Strategic Direction Phase. The IT Workforce Program is responsible for the first two activities, as well as for creating the first draft of the IT workforce goals and objectives. After the draft goals and objectives are complete, the IT Workforce Program facilitates gathering review and feedback from stakeholders across USDA.



Figure 4: Strategic Direction Phase Activities

UNITED STATES (US) IT WORKFORCE TRENDS

An important component of effective IT workforce planning is awareness of trends impacting the workforce across the information technology industry as a whole. The global IT industry is on pace to reach \$5 trillion in 2019.¹ The United States is the largest tech market in the world, representing 31% of the total, or approximately \$1.6 trillion of funding for calendar year (CY) 2019. The continual growth of the industry is a function of many of the trends discussed in this workforce plan. Economies, jobs, and personal lives are becoming more digital, more connected, and increasingly more automated.

IT TALENT SHORTAGES

Organizations across public and private sectors are currently struggling to find IT candidates with the requisite skills and competencies. This shortage of IT talent is expected to be even more challenging in the future due to several factors, including: competition with other organizations for IT talent; finding technical workers who are also proficient in soft skill competencies; rapidly evolving and emerging technologies requiring new IT skillsets; rising salary expectations among IT professionals; and insufficient pools of IT talent in their regions. In response to these challenges, many organizations are investing in professional development initiatives to enhance their IT workforce capabilities.² This tactic could require hiring candidates who might not have all the desired skills and qualifications, but who

¹ CompTIA Report, *2019 IT Industry Trends*, <https://www.comptia.org/resources/it-industry-trends-analysis>

² CompTIA Report, *2019 IT Industry Trends*, <https://www.comptia.org/resources/it-industry-trends-analysis>

could perform the job with appropriate training and mentorship, and/or upskilling current talent out of the skills gap. The starting point for upskilling is creating a culture of learnability – encouraging employee desire and ability to develop in-demand skills.³

Mitigating talent shortages also requires organizations to expand their search for talent beyond traditional talent pools, such as tapping into professional organizations for potential candidates and recruiting on social media platforms. Organizations may experience faster and higher response rates when using social networks to communicate with potential candidates.⁴ Every minute 2 million queries are searched on Google, 684,478 pieces of content are shared on Facebook and 100,000 tweets are sent on Twitter. Social media makes real time engagement with candidates possible in ways that were previously not accessible. Social media networking sites such as LinkedIn allow employers to engage with their target audience and easily identify whether the candidate is a good fit by assessing their employment profile.

AUTOMATION AND ARTIFICIAL INTELLIGENCE

As the world population continues to grow and land becomes scarcer, the agriculture industry is getting more creative and more efficient about how they farm. The industry is turning to automation and artificial intelligence technologies to help yield healthier crops, control pests, monitor soil and growing conditions, help with workload, and improve other wide-ranging agriculture tasks.

The adoption of automation and artificial intelligence (AI) technologies will transform the workplace in many ways, including an acceleration of the shift in required IT workforce skills that typically follows the introduction of new technology. Machines will be able to carry out tasks done by humans and compliment the work that humans do. The competition for high-skilled workers will also intensify, making it more important than ever for organizations to be proactive in recruiting and retaining skilled talent that can work alongside intelligent machines and software most effectively.⁵ Demand for advanced technical skills such as programming will grow rapidly along with cognitive skills such as creativity, critical thinking and complex information processing. To adapt to this changing landscape, organizations must undergo a mind-set shift instilling a culture of lifelong learning to adopt automation and AI technologies as well as promote training and reskilling to raise the skill capacity of current employees. Additionally, as automation of processes increase within an organization, the manual effort to perform those tasks decrease, and allow for more streamlined and efficient processes. As a result, this permits the workforce to transfer capacity to higher skilled activities.

CYBERSECURITY

The line between cybersecurity practitioners and IT specialists will continue to blur. Most IT staff will be required to have at least some expertise in cybersecurity. Experts now realize this is the only way to ensure that security is ubiquitous throughout networks and systems, and the Federal Government's cybersecurity posture, policies, and requirements are updated continuously to address adversarial tactics. Many required statutes and polices are in place to ensure robust Federal cybersecurity, including the Federal Information Security Modernization Act (FISMA) of 2014; the Cybersecurity Workforce Act of 2015; the Privacy Act of 1974; the E-Government Act of 2002; and numerous Office of Management and Budget (OMB) memoranda.

³ HR Drive, Upskilling your way out of the skills gap: A Q&A with a ManpowerGroup exec, <https://www.hrdrive.com/news/upskilling-your-way-out-of-a-skills-gap-qa-with-a-manpowergroup-exec/521664/>

⁴⁴On rec, The benefits of social media recruiting, www.onrec.com/news-archive/the-benefits-of-social-media-recruiting.html

⁵ McKinsey Global Institute Report, *Skill Shift: Automation and the Future of the Workforce*, <https://www.mckinsey.com/featured-insights/future-of-work/skill-shift-automation-and-the-future-of-the-workforce>

DATA SCIENCE

Data-related skills are and will continue to be in high demand. Organizations want data to work for them quickly and strategically, hence the rise of automation and machine learning. Data Scientist work involves a hybrid of skills including, business analysis, domain knowledge, software and systems engineering to manage end-to-end data processing. Linked In's 2019 annual skills report found that data mining and analysis was the highest demand skill set aside from cloud computing in the IT Workforce. The federal government is actively working to acquire top data science practitioners to solve complex data challenges and issued titling guidance for occupational series in which data scientist work is performed. USDA has also included a data driven workforce as a tenant in the strategic plan and curated a role of Chief Data Officer to merge the science and business of data. This enables USDA to not only collect quality data but act on that data intelligently.

DIVERSITY

Diversity in the workforce has been a major focal point of the tech industry over the past 10 years. While the emphasis has been on encouraging more women and people of different ethnicities to join the tech workforce, the definition of diversity is expanding. Diversity today is not only determined by traditional categories such as age, race, and gender, it also includes generational differences, lifestyle and work-style values, employment expectations and goals, learning styles and abilities, and educational levels. Organizations are realizing that building an effective IT workforce requires an expansion of the types of diversity that are sought after when reviewing the qualifications of IT applicants.

STRATEGIC ALIGNMENT

Determining the strategic direction of USDA's IT Workforce Plan requires review and consideration of higher-level strategic planning documents to identify IT workforce implications, explicit and implicit, and determine how to cascade goals outlined in those documents into specific IT workforce goals and objectives for USDA. More specifically, the following strategic documents were reviewed when developing this IT Workforce Plan: 2018 President's Management Agenda; USDA Strategic Plan FY2018–FY2022; USDA FY19 Performance Plan; USDA IT Strategic Plan FY19–FY22; USDA Human Capital Operating Plan FY18–FY22. This document alignment optimizes the contributions of staff and minimizes the misdirection of effort and resources. An IT Workforce Plan aligned with strategy will deliver a business benefit to OCIO that is clear and quantifiable.

Figure 5 shows how goals, objectives and strategies contained in these documents cascade through the Department and drive the strategic direction defined in USDA’s IT Workforce Plan. It also reflects the annual action planning documents that address workforce gaps will be driven by the goals, objectives, and strategies outlined in this Plan.

When defining USDA’s IT workforce strategic direction for FY20–FY22, it is important to also scan the Federal environment for Congressional legislation with IT workforce requirements, guidance published by OMB, OPM, and the GAO.



Figure 5: Hierarchy of Workforce Documents

FY20-FY22 IT WORKFORCE STRATEGIC GOAL, OBJECTIVES & METRICS

The strategic goal, objectives and metrics that follow were developed as a cross-Departmental collaborative effort facilitated by USDA’s IT Workforce Program. The goals, objectives and metrics are also reflected as *Strategic Goal 4* of the USDA OCIO Information Technology (IT) Strategic Plan FY2019 – FY2022 and align with goals and objectives defined in other key strategic planning documents).

USDA’s IT workforce strategic goal for fiscal years 2020–2022 is to **‘Cultivate a Highly-Effective IT Workforce’** capable of meeting mission requirements today and in the future. USDA leverages technology to enable critical support for citizens in all areas of American society, from providing loans to farmers, ranchers and rural communities, to protecting the public from food-borne illness. Critical to the success of providing these services and delivering on USDA’s mission is ensuring the IT workforce consists of the right people, with the right skills, in the right places, at the right times to efficiently and effectively implement, operate and maintain the Department’s IT assets. In today’s environment where there is a shortage of IT professionals with the requisite skills and experience, it is more important than ever that USDA proactively invest in attracting and retaining technology workers.

The IT workforce objectives that follow have been prioritized for fiscal years 2019-2022 as areas of focus for the Department as it works toward achieving its strategic goal of cultivating a highly effective IT workforce.

1. *Foster strategic, proactive IT workforce planning and management.*

Strategic IT workforce planning and management aims to minimize workforce staffing and skill shortages by proactively defining current and future IT workforce requirements; identifying IT workforce gaps and risks; and implementing strategies to optimize IT workforce succession planning, recruitment and retention across the Department. Implementing strategic IT workforce planning practices across USDA will enable the organization to stay ahead of the curve when recruiting IT talent and maximize the return on investments made to train and develop IT staff.

2. Enhance IT workforce data collection and analysis capabilities.

Access to complete, accurate and timely data is critical to an organization’s decision-making capabilities. USDA’s ability to make efficient and effective decisions about its IT workforce depends on the availability and reliability of IT workforce data. Ensuring leadership has insight into existing IT workforce staffing and skill levels enables USDA to identify its most critical IT workforce gaps and evaluate the effectiveness of strategies implemented to mitigate related risks.

3. Foster an environment of supervisor/employee engagement, communication and accountability.

Research indicates that the level of employee engagement is a key predictor of organizational productivity and efficiency, and in turn an employee’s performance. Engaged employees are more dedicated, persistent, and passionate about their jobs and service delivery, and are more willing to invest personally to support the mission. Encouraging proactive, agile performance management through regular supervisor/employee communication and accountability enhances employee engagement, and in turn effectiveness and retention.

USDA has defined the following metrics, with associated baselines and targets, to measure success in achieving the FY20-FY22 IT workforce strategic goal and objectives described above.

METRIC	METRIC DESCRIPTION
IT Workforce Skill Gap Improvement	Close gaps between current IT workforce skills and target proficiency levels for their work roles
Complete and Accurate IT Workforce Data	Decrease the % of active IT employee records with incomplete or inaccurate data
FEVs Employee Engagement Index (EEI)	Improve USDA’s FEVS Employee Engagement Index ‘Overall Engagement Score’

Figure 6: USDA IT Workforce Metrics

IT WORKFORCE ANALYSIS

USDA IT WORKFORCE OVERVIEW

USDA’s IT Workforce is comprised of 2778 employees primarily located in Washington, DC, Louisiana and Colorado. The technology workforce comprises approximately 36% of all USDA employees nationwide. Figure 7 illustrates the total number IT Employees by job category. There is a high concentration of IT Specialists, 2591, comprising 93% of the IT Workforce. IT Specialist includes both supervisory and lead roles, throughout the various Mission Areas and perform the role of developing, delivering and supporting IT systems and services. Departmental Marketing holds the largest amount of IT specialist within the mission areas with 1115 employees - 40% of the total IT Workforce. The second largest work role is IT Project Manager. USDA has 139 project managers responsible for leading IT projects from inception to execution. Six additional roles (Senior Advisor, IT Program Manager, IT Management Information Security, Director, Deputy CIO and CIO) make up the remaining 2 % of the IT Workforce. Data for those positions are described below.

Job Category	ASST SEC for Civil Rights	Departmental Administration	Farm Production & Conservation	Food Safety	Food, Nutrition & Consumer Service	Marketing & Regulatory Programs	Natural Resources & Environment	Offices	Research, Education and Economics	Rural Development	Trade & Foreign Agricultural Affairs	Grand Total
Assistant /Associate CIO	0	5	3	1	0	0	1	0	2	1	0	13
Chief Information Officer	0	1	0	0	0	0	0	0	0	0	0	1
Director	0	2	0	0	0	0	0	0	0	0	0	2
IT Management Information Security	0	0	0	0	0	4	0	0	1	1	0	6
IT Program Manager	0	32	2	0	0	1	0	0	1	0	0	36
IT Project Manager	0	39	19	9	10	12	26	1	10	6	4	136
IT Specialist	1	970	220	50	36	253	324	42	273	54	7	2230
Senior Advisor	0	123	21	12	11	41	37	7	28	13	3	296
Supervisory IT	0	123	21	12	11	41	37	7	28	13	3	296
GRAND TOTAL	1	1173	265	72	57	311	388	50	315	75	14	2721

Figure 7: IT Workforce Overview 2019

IT WORKFORCE RETIREMENT ELIGIBILITY

Nearly ten thousand baby boomers will retire each day over the course of the next decade. Developing strategies to reduce workforce retirement gaps broadly and within USDA is important because the mass retirement of baby boomers will greatly affect the composition of the workforce. Approximately 1114 of the 2278 employees in USDA’s IT workforce are eligible to retire in 10 years – nearly 50 % of the workforce. In 2019, there is a total of 129 employees eligible for retirement. The highest number of potential 2019 retirees, 16 people, work in the Applications Software (APPSW) parenthetical and 73 potential retirees are not correctly classified. In 2020, there will be 142 and in 2022, there will 124 eligible retirees with the vast majority in unclassified parentheticals as well.

Of importance to note and track is the growing number of 2210 series employees eligible for retirement but continuing on in the workforce. 478 professionals (21% of the IT workforce) reached full retirement age prior to 2019, and 243 of those 478 eligible retirees are unclassified. There is a

growing need to have more accurate and succinct data to prioritize retirement shortfalls in the Mission Area planning cycle and develop appropriate succession planning. Without accurate parenthetical data, we cannot forecast gaps in work roles by year.

Mission Area	Ret Elig Year										
	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	Grand Total
Departmental Administration	53	63	43	41	36	50	52	46	33	47	464
Farm Production and Conservation	11	19	12	15	13	10	7	6	5	16	114
Food Safety	3	3	2	2	1	3	6	1	4	5	30
Food, Nutrition & Consumer Service	2	3	2	2	3	2	4	1	1	1	21
Marketing & Regulatory Programs	10	14	14	19	13	12	10	14	16	14	136
Natural Resources & Environment	20	21	16	23	13	17	19	14	12	9	164
Offices	2	2	3	1	1	2	1	2		1	15
Research, Education and Economics	24	15	11	18	15	11	13	9	14	11	141
Rural Development	2		2	3	2	4	1	4	4	1	23
Trade & Foreign Agricultural Affairs	2	2				1	1				6
GRAND TOTAL	129	142	105	124	97	112	114	97	89	105	1114

Figure 8: USDA Retirement Overview 2019

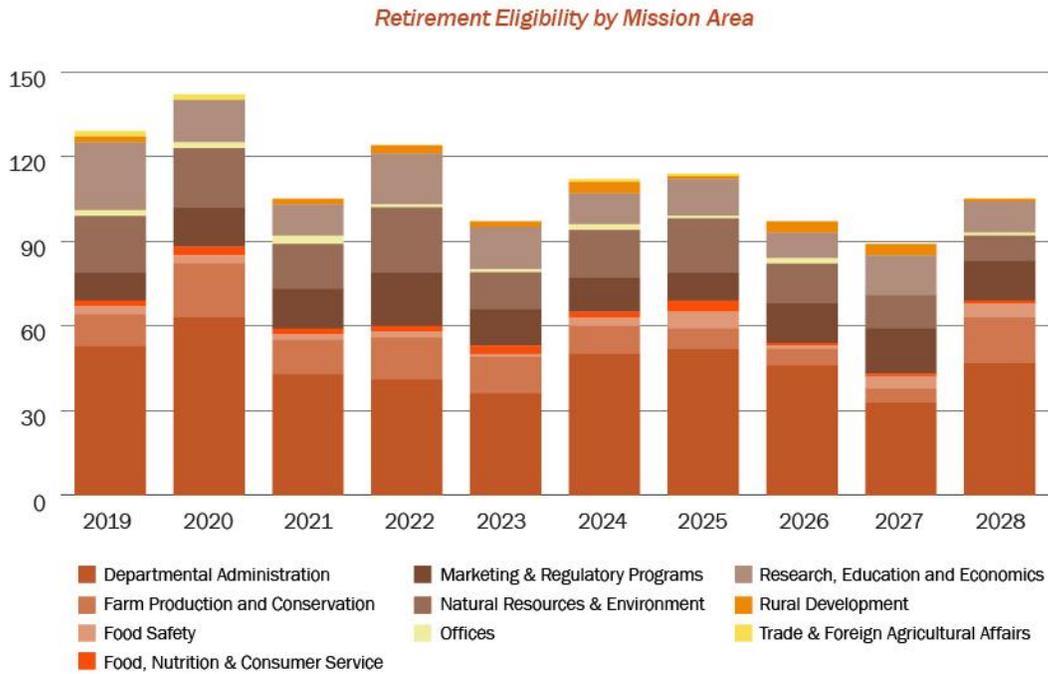


Figure 9a: USDA Retirement Eligibility by Mission Area 2019

Title Area	ASST SEC for Civil Rights	Departmental Administration	Farm Production & Conservation	Food Safety	Food, Nutrition & Consumer Service	Marketing & Regulatory Programs	Natural Resources & Environment	Offices	Research, Education and Economics	Rural Development	Trade & Foreign Agricultural Affairs	Grand Total
APPSW	0	110	83	12	7	48	2	0	45	8	1	316
CUSTSPT	0	35	11	10	10	112	6	2	26	10	0	222
DATA MGMT	0	7	14	3	0	8	15	0	20	0	1	68
ENT ARCHIT	0	20	3	1	0	5	13	1	3	10	0	56
EXECUTIVE	0	9	3	1	0	0	1	1	2	1	0	18
GENERAL	0	442	68	17	3	22	126	23	100	8	0	809
INFOSEC	1	263	44	14	15	15	78	15	29	12	3	489
NETWORK	0	39	2	1	11	13	31	4	36	2	1	140
OP SYSTEMS	0	48	0	0	0	5	19	0	1	3	0	76
PLCYPLN	0	23	3	1	1	12	3	1	10	5	2	61
PROG / PROJ MGR	0	67	21	9	10	13	26	1	11	6	4	168
SECURITY	0	8	1	1	0	17	0	0	7	3	2	39
SYS ADMIN	0	40	8	2	0	23	48	2	17	0	0	140
SYS ANALYSIS	0	62	4	0	0	18	20	0	8	7	0	119
GRAND TOTAL	1	1173	265	72	57	311	388	50	315	75	14	2721

Figure 9b: USDA Retirement by Parenthetical 2019

IT WORKFORCE COMPETENCY PROFICIENCY LEVELS

In 2018, the USDA’s IT Workforce Program began an initiative to create technical competencies for the 2210 IT Management occupational titles and parentheticals identified as important for USDA’s IT workforce. The IT Workforce Program confirmed competency models for Information System Security Officer (ISSO), IT Program Manager, and IT Project Manager. The IT workforce within those roles were assessed. Starting in 2019, the IT Workforce Program with the ITWSC began the development of competency models for the remaining parenthetical titles– Policy and Planning; Enterprise Architecture; Systems Analysis; Applications Software; Operating Systems; Network Services; Data Management; Systems Administration; and Customer Support.

The competencies were defined as the capability to apply a set of related knowledge, skills, and abilities to successfully perform functions or tasks in a defined work setting. The technical competency models standardize the level of knowledge, skills, and abilities needed for success. They are the foundation for important USDA human resource functions such as training, performance management, recruitment and hiring.⁶

The goal of the competency models is to ensure a scalable IT workforce planning and analytics capability and to standardize position descriptions and competency assessments for each position. In FY20, USDA’s IT Workforce Program will continue to update the technical competency models for the IT parenthetical roles identified and perform competency assessments for each role. The Program will include leadership and soft-skills competencies in future years.

⁶ https://www.careeronestop.org/competencymodel/getstarted/userguide_competency.aspx

A better understanding of the IT Workforce will allow us to make better decisions about future and current hires. The more data we have about USDA, the better we can train and develop our workforce, focus our recruitment efforts and ensure the efficacy of our workforce initiatives.

CRITICAL IT ROLES

In April of 2018, OPM issued Government-wide guidance on addressing and reporting agency cybersecurity work roles of critical need (WRCN). OPM required agencies to identify their WRCN, root causes and action plans with metrics to mitigate such root causes.

In August 2018, USDA complied with the OPM request for Agency List of Cybersecurity Work Roles of Critical Need. The IT Workforce Program provided guidance and oversight on the selection of 652 - Security Architect, 732 - Privacy Compliance Manager and 652 - IT Project Manager work roles of critical need – representing the greatest current and/or emerging workforce gaps.

The Mission Areas identified the root cause of WRCN skill shortage gaps, and those gaps include inadequate staffing and competency levels. There is currently no resource plan for hiring or a plan to strengthen competencies necessary to perform their roles. These gaps were identified as having a current impact (over the next 1-3 years). Mission areas anticipate the gaps to widen as emerging technologies are introduced. The Gap Prioritization process (Figure 18) in the document will enable the IT Workforce Program and Mission Areas to identify workforce gaps and prioritize them for closure moving forward.

IT MODERNIZATION'S IMPACT ON CRITICAL IT ROLES

IT Modernization and the shift to a cloud environment was a crucial component to streamlining and updating USDA's technology capabilities. Cloud and infrastructure optimization is an important aspect of phase two of USDA's modernization efforts. The Centers of Excellence (COEs) are using the agile iterative methodology to roll out these additional modernization efforts. A workforce competent in agile, scrum and cloud computing is necessary to fulfill these modernization goals.

WORKFORCE DEVELOPMENT STRATEGIES

Professional development is a continuous and long-term workforce strategy that combines the personal growth goals of the employee with the strategic business objectives of USDA. USDA has adopted a culture of lifelong learning to equip employees with the competencies to meet mission objectives and deal with the challenges in their work. Professional development can be accomplished via traditional training modules or using innovative strategies such as personal action plans and microcredential badges for completing learning pathway programs.

Microcredentialing is an internal, competency-based professional development learning experience. USDA employees will select pre-defined courses or other skill building activities specific to their work role. Once the training or activity is complete, USDA employees will receive a microcredential that goes into their individual development plan. These credentials are personalized, practical and nimble allowing employees to take ownership of their professional development and select opportunities that fill immediate knowledge gaps when longer-form degrees and certification programs are not feasible.

USDA will not overlook traditional certificate programs that result in IT credentials for our workforce. Some of our know priority areas include cloud architecture, program and project management, and Agile scrum methodology.

- The Cloud Architecture certificate allows IT professionals to demonstrate the ability to design, develop and manage a secure, scalable and reliable cloud architecture.
- The Federal Acquisition Certification for Program and Project Managers (FAC-P/PM) is a certificate for acquisition professionals in the Federal Government performing program and project management activities and functions. Program and Project Managers (P/PMs) are critical to project success - including developing accurate government requirements, defining measurable performance standards, and managing life-cycle activities to ensure that intended outcomes are achieved. The FAC-P/PM focuses on essential functional and technical competencies needed for P/PMs. The purpose of this program is to establish general training and experience requirements for those acquisition program and project management professionals.
- The Agile ScrumMaster certificate validates that an IT professional understands the Scrum methodology and can remove internal and external distractions that might hinder meeting goals.

Overall, these professional development activities ensure an efficient, consistent and compliant team.

1. Efficiency
Professional development ensures USDA maintains and enhances the knowledge and skills needed to deliver professional IT services to colleagues and customers. It further enables staff to advance in their career and move into new positions where they can lead, manage, influence, and mentor others.
2. Consistency
A structured training and development program ensures all employees have a consistent level of experience and knowledge across a labor category and gives the agency the confidence of knowing there is a uniform skill set across a position or grade.
3. Compliant
Training and development ensures that staff is relevant and up to date on regulations and/or policies that apply to day-to-day job responsibilities.

RECRUITMENT

The thoughtful development of a recruitment strategy is essential to USDA’s workforce success and requires identifying who should be recruited and how to successfully reach the targeted individuals. The IT Workforce Program will work in collaboration with CHCO to establish the recruitment objectives during the yearly planning cycle. The number of open positions, timeline for fulfillment, number of applications desired, level of education, knowledge skills and abilities, proficiency levels and expected new hire retention rate will be included in recruitment objectives.



Figure 10: Model Recruitment Process

USDA’s employment brand – how the organization wants prospective and current employees to see the agency can help recruit target candidates. Effectively describing the mission and values of the agency on the USDA website and other recruitment platforms helps to influence a recruit’s view of the organization and visualize themselves as a member of the team.

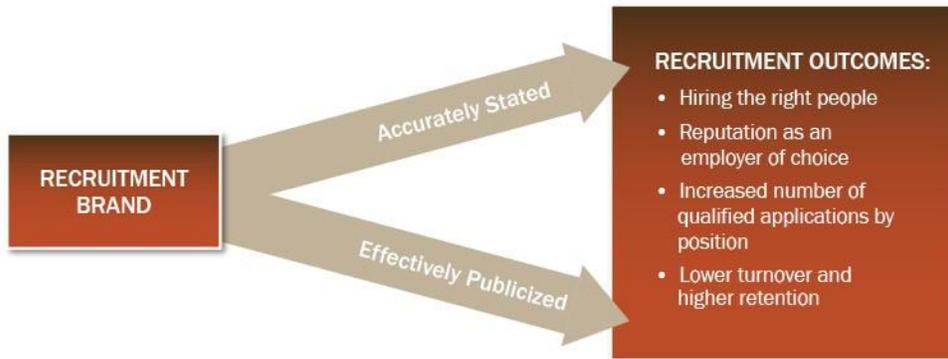


Figure 11: Recruitment Branding

Social media sites have become powerful tools for 21st century recruiters. Digital platforms allow employers to not only post job adds but to identify and recruit candidates by specific skill sets, identify candidates by previous employers, and effectively establish brand awareness to generate interest in the organization. Although research has yet to fully compare the advantages of using a social network site versus other recruitment methods, the use of such sites holds considerable promise. In addition to search functions, employers can use its current staff to publicize a job opening to their network. Advertising amongst a diverse array of platforms including industry publications, professional groups and social networking sites will allow USDA to access candidates of varying ages, interests and backgrounds. USDA’s recruitment strategy will require setting strategic goals and metrics based on organizational goals, supply and demand.

Defining strategies to achieve USDA’s IT workforce goals and objectives requires understanding the specific IT workforce gaps and risks that currently exist within USDA to ensure the strategies identified will effectively close gaps that are impeding USDA’s ability to achieve its IT workforce strategic direction.

Identifying the gaps and risks associated with USDA’s IT workforce first requires an analysis of current and future IT workforce requirements (Demand Analysis) and a baseline assessment of the current state of the IT workforce (Supply Analysis). Once USDA’s IT workforce demand and supply are understood, gaps between the desired and existing states can be identified (Gap Identification) and risks associated with those gaps can be defined.



Figure 12: Workforce Analysis Phase Activities

Gaps identified during this analysis generally fall into one of the following four (4) categories defined by the IT Workforce Program:

- **Staffing:** Gaps in the staffing levels and/or location of the IT workforce;
- **Competencies:** Gaps in IT workforce skills
- **Critical Roles:** Gaps in IT roles that have been identified by USDA as critical; and
- **Workforce Planning:** Gaps in USDA’s IT workforce planning capabilities.

IT WORKFORCE DEMAND ANALYSIS

USDA’s approach to analyzing its IT workforce demand to support the missions today and in the future involves assessing requirements in the four categories described above – Staffing, Competencies, Critical Roles, and Workforce Planning. The IT Workforce Program, in collaboration with the IT Workforce Standing Committee, established methodologies and guidelines for assessing USDA in each category. The IT Workforce Program initiates and leads the ‘Demand Analysis Activities’ summarized in the graphic below, with support from the IT Workforce Standing Committee in gathering data and assessing competencies and capabilities in each of their respective organizations within USDA.

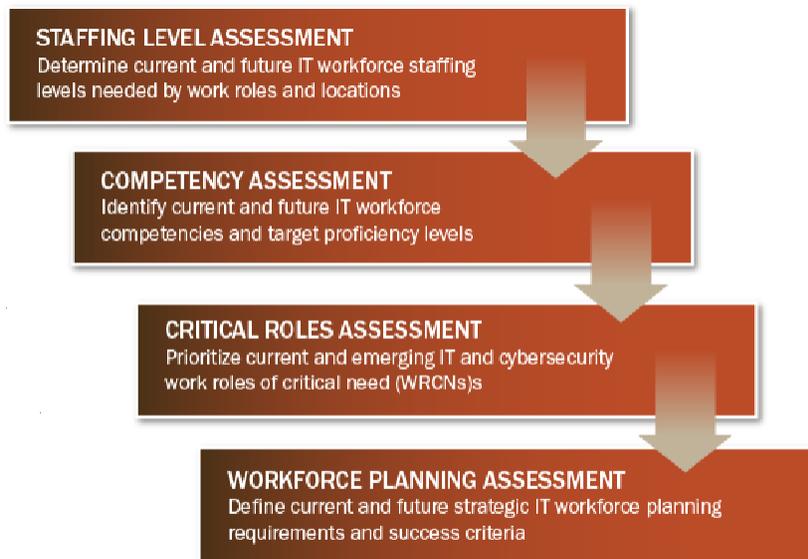


Figure 13: Demand Analysis Subphase Activities

IT WORKFORCE STAFFING REQUIREMENTS

Prior to the establishment of a Department-wide IT workforce planning cycle, USDA Mission Areas and Staff Offices assessed their IT workforce staffing requirements while completing their respective annual hiring plans. The Office of Human Resources (OHRM) leads the hiring plan development process and provides high-level guidance and a template for the Mission Areas and Staff Offices to use when submitting their plans to OHRM for consolidation.

In future years, the IT Workforce Program will integrate with USDA's existing hiring plan process and provide Department-level insights and guidance to Mission Areas and Staff Offices as they assess their staffing requirements.

IT WORKFORCE PLANNING CAPABILITY

Workforce planning is an ongoing process of analyzing USDA's current workforce, identifying future needs and developing solutions to address the gaps between the current workforce and future needs. Succession planning is an important component of the overarching workforce planning and prepares employees to become leaders within the organization and to develop competencies required to perform functions critical to organizational success. IT workforce planning will allow USDA to forecast talent needs and evaluate talent management issues like lack of competencies and hard to recruit classifications. It also provides realistic staffing projections for the budget office. Currently USDA lacks the planning capability and resources to bolster workforce initiatives from FY20-FY22.

In 2019, USDA reinforced the IT Workforce Program with the ITWSC to ensure the development of a robust IT workforce program to align to the IT modernization initiatives implementation. Currently the IT Workforce Program Manager has directed the initial workforce plan strategy, development of the planning cycle and this workforce plan. The Program will need ongoing support to implement the workforce planning process and administer the technical competencies of all 2210 series employees to address workforce gaps and ensure their successful closure. The competency assessments require software to administer 360-degree assessments on a secure, cloud-based server for nearly 3000 IT workforce.

IT WORKFORCE PLANNING REQUIREMENTS

USDA faces both ongoing and emerging workforce risks driven by budgetary constraints, changing IT trends, and limited workforce planning capabilities. To overcome these challenges, the IT Workforce Program developed its five-step annual planning cycle (referenced on page 6) in alignment with the USDA human capital plan and the workforce planning strategies of GAO and OPM. OPM suggests a workforce planning cycle must 1) Align workforce requirements directly to the agency's strategic and annual business plans (2) Develop a comprehensive picture of where gaps exist between competencies the workforce currently possesses and future competency requirements (3) Identify and implement gap reduction strategies (4) Make decisions about how best to structure the organization and deploy the workforce and (5) Identify and overcome internal and external barriers to accomplishing strategic workforce goals. Similarly, the Federal Information Technology Acquisition Reform Act (FITARA) recognizes the need for information technology's alignment to the functional needs of the agency. The USDA planning cycle aligns to all USDA strategic documents with a strong focus on workforce assessments. USDA will efficiently manage and oversee its IT resources and assets via workforce planning and capturing employee data to improving our ability to manage the future of the workforce and execute the agency's modernization efforts.

IT WORKFORCE SUPPLY

Conducting a workforce supply analysis involves understanding USDA’s current IT workforce staffing levels and how it will change over time. USDA will identify the existing profile of the current workforce by work role and location, and the changes needed to accomplish the agency’s strategic goals and objectives in the future. Once the strategic goals are determined, USDA will identify the workforce needed to perform those functions and define the competencies the workforce must possess to successfully perform the work.

In FY20, USDA will administer technical competency assessments for the 2210 technical roles that make up the IT workforce. The IT Workforce Program will compare the workforce supply projection to the workforce demand forecast considering the composition of the workforce, demographic characteristics, geographic location, and employee competency level. Analysis will show one of the following: a gap which indicates a future shortage in one or more of the 2210 series technical roles or a surplus which indicates an excess of employees in a technical role. It is important to know what gaps exist in critical positions so the necessary training and recruiting can be coordinated to meet mission objectives and what positions have a surplus to understand what positions may be deprioritized in the future.



Figure 14: Workforce Supply Analysis Activities

IT WORKFORCE GAP & RISK ANALYSIS



Figure 15: Gap & Risk Analysis Activities

IT WORKFORCE COMPETENCY ASSESSMENT GAPS

The section below is based on the results of the assessments completed in FY18 and will be updating following the completion of the remaining 2210 series employee competency assessments.

Through an assessment of USDA's IT workforce competency assessment capabilities, the following gaps were identified –

- USDA IT workforce competency assessments currently require the employee and the employee's supervisor to assess the employee's proficiency level in each relevant competency for the employee's role. With the increasingly project-based nature of work, as well as the utilization of integrated project teams (IPTs) where IT professionals may spend most of their time working with USDA employees who are not in IT, the quality of IT workforce competency assessments would be enhanced by evolving from 180-degree to 360-degree feedback.
- USDA's IT workforce competency assessments are solely qualitative, meaning the results are based on the individual subjective assessments of employees and their supervisors, which can lead to significant variation based on the assessor. USDA will consider adding a quantitative component to the IT workforce competency assessments, where employees take an 'exam' as part of their assessments, to increase the objectivity and reliability of the assessment results.
- USDA will identify and develop IT core competencies and leadership skills for IT positions and assess the workforce accordingly. The value of an IT workforce with strong competencies like

critical thinking continues to increase, so USDA must develop critical competencies for IT roles (NOTE: Critical competencies include communication, enthusiasm and attitude, teamwork, networking, problem solving and critical thinking, and professionalism).

SUCCESSION PLANNING GAPS

USDA currently lacks Department-wide succession planning methodology and guidelines. The Office of Human Resources Management (OHRM), Mission Areas and other Staff Offices have a wide range of succession planning practices, at varying levels of maturity, that they employ; and succession planning efforts often vary even further within each of these parts of the organization depending on factors like the role, grade level and location.

The gap in succession planning capabilities across USDA is particularly detrimental to the IT workforce because of information technology's strategic importance to USDA mission attainment. Further, with IT talent shortages being pervasive across public and private sector organizations today, the absence of succession planning capabilities leaves an organization at a significant disadvantage when trying to recruit and retain IT talent.

RISK & ROOT CAUSE ASSESSMENTS

A workforce risk is any workforce issue that poses a risk to USDA's ability to meet mission objectives and goals. Risk assessments are a component of the Workforce Analysis phase in the IT workforce planning cycle. Before a Risk Assessment is done, gap and root cause analysis must be performed to ensure a thorough understanding of workforce needs and the associated gaps. A workforce risk can arise from issues such as critical skills shortages, an increasing number of staff exits, access to available talent, or significant workforce retirement intentions at USDA. These issues are scored based on the potential impact to meet USDA's goals and mission.

USDA will use several tools to assess workforce risks including, gap analysis, SWOT, and DRAM. The Gap Analysis and Strength Weakness Opportunities Threat (SWOT) Analysis are completed first and will assist in the completion of a DRAM form. A Detailed Risk Assessment Matrix (DRAM) is used to document the analysis of workforce risks, identify mitigation strategies and monitor completion of the presented solutions.

Gap analysis is an environmental scan to understand workforce and successfully plan for workforce needs. By looking at USDA data, a risk assessment can be made with confidence. The SWOT analysis will allow the IT Workforce Program to identify internal strengths of a particular mission area and/or work role; Weaknesses of an internal mission area or work role; Opportunities for a mission area or work role; and external threats that impact workforce planning like the political environment or the federal budget.

The DRAM worksheet will be completed as a final step to analyze the results of the SWOT analysis and summarize USDA's business risks. The worksheet will define the risk, associated probabilities and severity, mitigation strategy, risk owners and estimated completion dates. See Appendix B for a sample DRAM worksheet.

STRATEGY DEVELOPMENT & PRIORITIZATION



Figure 16: Strategy Development and Prioritization Activities

FY20–FY22 USDA IT WORKFORCE GAP CLOSURE PRIORITIES

Gap closure prioritization is important to successfully accomplish the IT Workforce Program’s strategic goals of fostering strategic, proactive workforce planning and management. Prioritization enables rapid replacement of talent and filling federal vacancies is critical as mission areas face shortages in work roles of critical need and employees become eligible for retirement. Prioritization also facilitates key discussions on staffing projections for budget purposes and ensure budgets are allocated appropriately to meet mission objectives. Gap closure prioritization will happen on annual basis during the strategy and development prioritization phase of the workforce planning cycle.



Figure 17: USDA IT Workforce Planning Cycle

The prioritization process will consist of the following actions to systematically review each workforce gap, prioritize gaps for closure by considering all OCIO priorities.



Figure 18: USDA IT Workforce Gap Closure Prioritization Process

FY20–FY22 IT WORKFORCE STRATEGIC ROADMAP

The FY20-FY22 Workforce Strategic Roadmap outlines the long-term vision USDA needs to achieve the strategic goal of a highly effective workforce - one that is engaged, supported and gauged by quantifiable metrics. The IT Workforce Program has identified a three-year timeline, FY20 – FY22, to achieve three strategic goals: fostering strategic, proactive IT workforce planning and management; enhancing IT workforce data collection and analysis capabilities; and fostering an environment of supervisor/employee engagement, communication and accountability. The following chart describes the intended actions and workforce implications to accomplish the strategic goals. The IT Workforce Program will identify what action items to initiate each fiscal year in collaboration with key stakeholders.

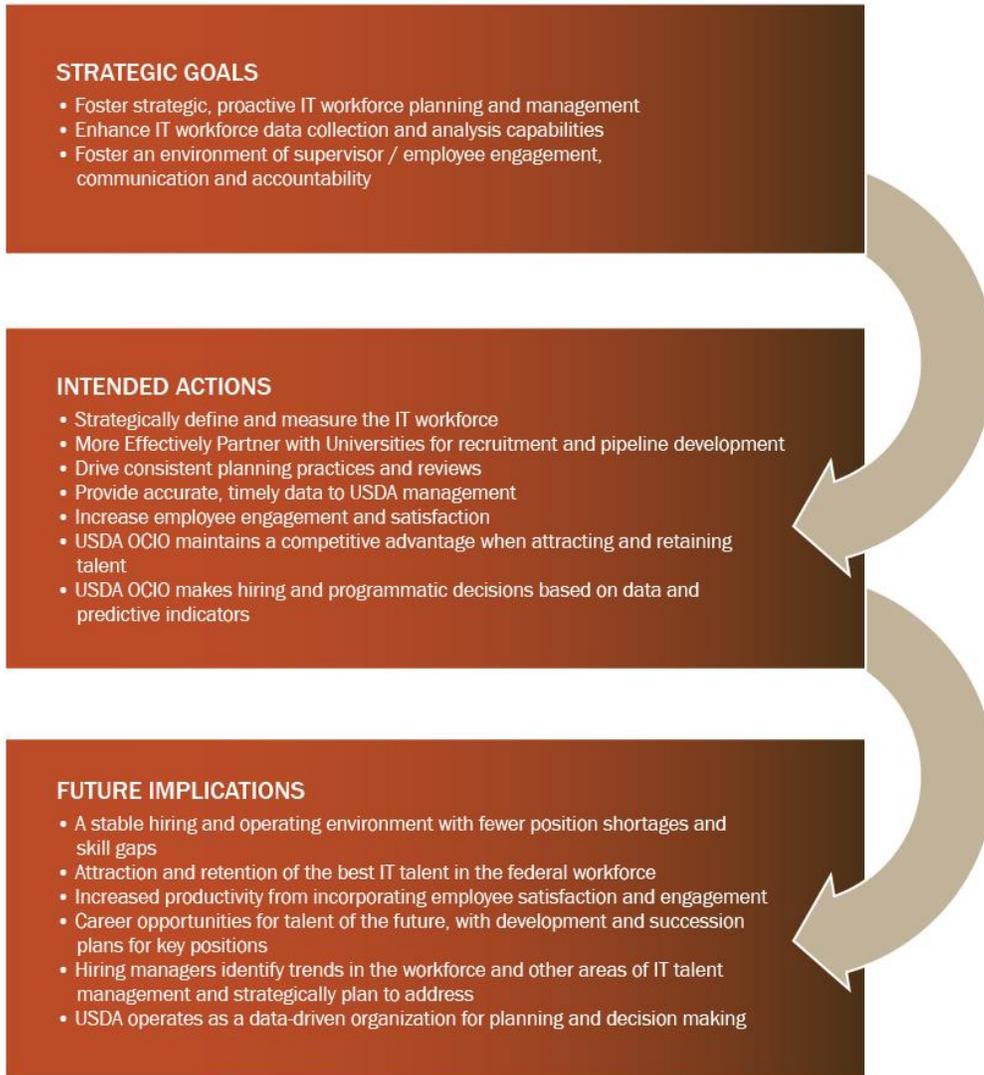


Figure 19: USDA Workforce Strategic Roadmap

ACTION PLANNING & IMPLEMENTATION

The USDA Office of the Chief Information Officer recognizes the importance of building, maintaining and motivating a high-quality workforce and the role of action planning in driving performance. Action planning at the mission level will have a measurable impact on employee performance and allows USDA OCIO to strategically respond to employee assessments with the goal of achieving and improving outcomes and engagement.

The action plans are a result of the identified workforce gaps and corresponding gap closure priorities. The IT Workforce Program will use an agile approach to action planning to allow for consistent progress review and adjustment cycles throughout the implementation of the plan. These reviews are not solely status reporting but are working sessions to continually optimize the approach to closing workforce gaps and risks based upon best practices. Communication between the IT Workforce Program and stakeholders is key to making working sessions productive and efficient.

DEVELOPING IT WORKFORCE ACTION PLANS & TARGET METRICS

Critical to developing the IT Workforce Action Plan and subsequent mission area plans is the workforce demand and supply assessments, gap analysis and prioritization to reveal what actions are needed to meet our strategic goals.

Every fiscal year, the IT Workforce Program will create a suggested Program Action Plan that details our documented approach to addressing workforce gaps and risks at the enterprise level. This plan will further our IT workforce strategic objectives and guide mission areas as they execute human capital action plans at the local level. The Department-level Action Plan will include a description of the workforce problem, strategy to rectify the problem, success measures, responsible parties and projected completion dates. See Appendix C for an example of the Department action plan template.

Once completed, the mission areas can utilize the enterprise Action Plan to inform local Human Capital Plans. The IT Workforce Program Manager will review all action plans at both the OCIO and mission area level so that opportunities of scale are considered to promote optimization of effort across multiple areas. The IT Program Manager can utilize a Program Evaluation Review Technique (PERT) chart to ensure efforts are integrated into one tracking document. These action plans are intended to encourage data-driven problem solving and professional development initiatives.



Figure 20: Workforce Action Planning Steps

Action plans at the Mission Area level will focus on specific work roles and performance within those roles. Hiring managers can use a Human Resource Performance Potential Portfolio (HR3P) Matrix to measure current and potential assessments of employees in a model that can be enumerated to track progress. Employees and /or work roles generally assessed in the red categories should be targeted for reskilling or put on performance plans; those in the Brown categories are prime targets for increased training and skills training to increase their current performance; and those assessed in the Orange Categories should be targeted for potential upskilling, performance-based bonuses or succession planning



Figure 21: HR3P Risk Matrix

DEFINING IT WORKFORCE INITIATIVES & SUCCESS CRITERIA



Figure 22: Action Planning and Implementation Activities

The strength of USDA’s workforce action plans will rely on the ability to close workforce gaps, fill work roles of critical need and accomplish the OCIO’s strategic vision. The criteria for successful action plans include Commitment, Comprehension, Concrete and Continuous Improvement.

Commitment – Evidence of buy in from leadership, including the CIO, CHCO and mission area leaders with active participation in the plan.

Comprehension – Mission area activities should correspond to the Department level action plan and where possible, other areas across the department.

Concrete – Measurable, achievable goals that include metrics and timeframes for completion.

Continuous Improvement - Initiate a quality improvement cycle at the mission level and formally assign the task to a staff member. Communicate status updates to the IT Program Manager.

MONITORING, REPORTING & IMPROVEMENT



Figure 23: Monitoring, Reporting & Improvement Activities

USDA will regularly monitor the progress of the action plans to continuously improve solutions and determine the action plans ability to meet overarching workforce goals. Progress against the action plans at the mission and Department level will be shared by the IT Workforce Program with all relevant stakeholders. These updates will address performance achievements, shortfalls, budgetary changes and/or updated Federal regulations that impact human resources and IT initiatives. Modifications to the action plans as a result of this information will be communicated and documented so that progress towards the original goals can be tracked, and improvements can be measured and reported. Our commitment to monitoring, reporting and improvement supports organizational learning at USDA and demonstrates our progress towards the important goal of an empowered, data driven workforce.

APPENDICES

APPENDIX A

Potential IT Workforce Gap Closure Strategies

The following strategies were identified by the IT Workforce Program as considerations for addressing competency gaps. As we address the IT Competency Assessments, this list will be refined and available for consideration after your gap prioritization process.

- Cross-Functional Training – Provide employees with additional skills and proficiencies in roles outside of their core responsibilities and skillsets which promotes professional development and cohesion in the workplace.
- Microcredentialing – Provide personalized, on-demand certification training to develop competency in a specific skill. These credentials will be added to performance plans.
- Upskilling & Re-Skilling – Identify opportunities to enhance IT workforce skills (e.g. Robotics Process Automation and Microsoft Azure Training) in their existing roles and/or re-skill IT and non-IT workforce members for different roles.
- USDA IT Fellows Program Enhancements – Improve the ongoing networking and professional development opportunities for IT Fellow Program graduates through mentorship programs, panel discussions, etc.
- Industry-University Collaborations – Align with higher education institutions to expand the pool of potential employees in geographic areas where USDA has high IT workforce staffing levels.
- Career Paths for IT Program & Project Managers – Develop a structured program for IT P/PMs to improve opportunities for advancement, and as a result, better recruitment and retention.
- Recruitment & Retention Strategies –
 - Increase IT workforce participation in professional development opportunities like Federal Executive Institute (FEI) and IT Fellows to enhance retention (also consider adding commitment terms where employees must stay employed at USDA for a period of time following completion).
 - Presidential Management Fellows -Utilize the annual Presidential Fellows leadership development program to access top talent across industry sectors. Fellows tour federal agencies for a defined period of time to work on high-impact projects.
 - Explore new recruiting channels like LinkedIn and University partnerships.
 - Address telework limitations that could impact workforce attraction and retention.
 - Address performance bonus structure and other monetary incentives for workforce retention.

APPENDIX B
Detailed Risk Assessment Matrix (DRAM)

Mission Area	Risk Statement	Risk Status	Significant Progress This Month	Planned Progress for Next Month
FNS	If FNS does not hire two IT Security Specialists, we will not meet	4x3	Completed the FNS Action Plan	Update to the IT Workforce Standing Committee 12/19

APPENDIX C

Sample Workforce Action Plan

Workforce Development Planning
(Title of Mission Area)

DATE:

CONTACT:

DESCRIPTION OF WORKFORCE GAP:

GOAL:

CROSS DEPARTMENTAL GOAL:

ACTIONS	RESOURCES	RESPONSIBILITIES	COMPLETION DATE

ACTION PLAN REVIEW

ACCOMPLISHMENTS	NEXT STEPS	DATE

Appendix D Acronym List

- APPSW - Applications Software
- CHCO - Chief Human Capital Officer
- CISO - Chief Information Security Officer
- COE - IT Modernization Centers of Excellence
- CXO - Chief Experience Officer
- CY - Calendar Year
- DRAM - Detailed Risk Assessment Matrix
- FEI - Federal Executive Institute
- FISMA- Federal Information Security Modernization Act
- FITARA - Federal Information Technology Acquisition Reform Act
- FTE - Full-time Equivalent
- FY - Fiscal Year
- GAO - Government Accountability Office
- GSA - General Services Administration
- HCAP - Human Capital Action Plans
- HCOP - Human Capital Operating Plan
- HR - Human Resources
- HR3P - Human Resource Performance Potential Portfolio
- IPT - Integrated Project Teams
- ISC - Information Security Center
- ISSO - Information System Security Officer
- IT - Information Technology
- ITWSC - IT Workforce Standing Committee
- NIST - National Institute of Standards and Technology
- NICE - National Initiative for Cybersecurity Education
- OCIO - Office of the Chief Information Officer
- OHRM - Office of Human Resources Management
- OMB - United States Office of Management and Budget
- OPM - United States Office of Personnel Management
- PERT - Program Evaluation Review Technique
- PMP - Project Management Professional
- SWOT - Strength Weakness Opportunities Threat
- USDA - United States Department of Agriculture
- WRCN - Work Roles of Critical Need