IBM Center for The Business of Government

2025

GenAI AND THE FUTURE OF GOVERNMENT WORK

William G. Resh, PhD
Georgia State University

IBM Center for
The Business
of Government

GenAI and the Future of Government Work

William G. Resh
Georgia State University

Contributors
Gül Nisa Gürbüz, Yi Ming, Xinyao (Andy) Xia,
Michael Overton, PhD, and Brandon De Bruhl

AUGUST 2025

IBM Center for
The Business
of Government

Table of Contents

GenAI is not a distant, speculative force. It is here now, and it is already altering how work gets done. The choices leaders make today will determine whether that alteration is disruptive or transformative in the best sense.

Foreword

On behalf of the IBM Center for The Business of Government, we are pleased to present this new report, *GenAI and the Future of Government Work* by Professor William G. Resh, Andrew Young School of Policy Studies, Georgia State University with contributors Gül Nisa Gürbüz, Yi Ming, Xinyao (Andy) Xia, Michael Overton, PhD, and Brandon De Bruhl.

Daniel J. Chenok
Executive Director
IBM Center for
The Business of Government
chenokd@us.ibm.com

Mike Chon
Vice President and Partner
Federal Talent &
Transformation Leader
mike.chon@ibm.com

This timely report explores the transformative potential of generative artificial intelligence (GenAI) in reshaping the U.S. federal workforce, one of the largest and most complex workforces in the world. Dr. Resh's analysis provides a forward-looking perspective on how GenAI can serve as a collaborative partner, enhancing human capabilities and driving efficiency without displacing the critical human judgment, creativity, and interpersonal skills that define public service.

The report guides federal agencies in strategically integrating GenAI into their workforce planning. Through a cutting-edge analysis of federal occupations, the authors highlight where AI can complement, augment, or automate tasks, offering a nuanced view of its impacts across diverse job types. Key recommendations include investing in targeted retraining, upskilling, and cross-training to foster human-AI synergy, alongside prioritizing recruitment and technological investments that align with AI's productivity potential. By embracing these strategies, agencies can cultivate a workforce that is more innovative, efficient, and resilient in an increasingly digital era.

This report expands the IBM Center's ongoing commitment to exploring the intersection of technology, workforce dynamics, and public administration. The report builds on multiple IBM Center reports that have helped government leaders to achieve success in using AI and innovative technologies to improve mission delivery, including *Navigating Generative AI in Government*, which presents 11 strategic pathways for integrating generative AI in government, *Enhancing Government Payment Integrity: Leveraging AI and Other Emerging Technologies*, which offers pathways to enhance payment integrity leveraging AI and other emerging technologies, and *Pathways to Trusted Progress with Artificial Intelligence*, which explores case studies, addressing the potential that AI has to transform how government agencies interact with citizens, along with risks that can arise when AI is left unchecked. Along with other reports—*Digital Modernization for Government: An Implementation Framework*, *A Prepared Federal Government: Preventing Fraud and Improper Payments in Emergency Funding*, and *AI and the Modern Tax Agency*—these works together underscore the IBM Center's dedication to equipping government leaders with actionable strategies to navigate technological change.

We are grateful to Dr. Resh and his contributors for this insightful contribution and believe the report will serve as a valuable resource for federal leaders seeking to harness GenAI's potential, while keeping the human element at the heart of public service.

Executive Summary

Generative artificial intelligence (GenAI) is rapidly moving from hype to reality, reshaping how work gets done across industries.

This report examines AI's impacts on the U.S. federal workforce, as one of the world's largest and most complex employers. This research finds that GenAI is poised to have transformative impacts on this workforce by enhancing human capabilities, not simply replacing human workers. Using a cutting-edge analysis of federal occupations, the report investigates where AI can complement, augment, or substitute for human labor.

The results reveal a nuanced picture: AI is far more a collaborative partner than a threat. It streamlines routine tasks and elevates human expertise, but cannot easily replicate complex human judgment, creativity, or interpersonal skills that are imperative in the relational, highly contingent, and professionalized work of the federal government. The analysis outlined in this report intends to inform government agencies strategic workforce planning as they invest in and cultivate talent around these technologies.

Key Findings and Insights

- **AI as Enhancer, Not Eliminator:** In most federal roles, GenAI primarily acts as a force multiplier for employees. For example, white-collar professionals can offload tedious data processing to AI and focus on higher-value analysis. Overall, our analysis shows high *complementarity* (AI working alongside humans) and *augmentation* (AI extending human capabilities) scores in many jobs, while *substitutivity* (AI fully replacing human capacities) scores remain moderate to low. In short, GenAI is expanding what workers can do rather than making them obsolete.
- **Varied Impact by Job Type:** The extent of GenAI's impact differs by the nature of work. Knowledge-intensive and technical fields (e.g. engineering, data science, medicine) see the greatest boost from AI, as automation handles routine functions and supports experts in complex tasks. Administrative and clerical roles experience more direct automation pressure—for instance, repetitive data entry and transaction processing can be largely automated. Meanwhile, hands-on trade and labor jobs (e.g., mechanics, electricians) remain less automatable overall due to physical and contextual demands, though even these roles benefit from GenAI-driven tools for diagnostics and planning.

- **Human Skills Remain Vital:** Tasks requiring critical thinking, creativity, and human interaction are the least amenable to automation. Roles like program managers, mediators, healthcare specialists, and educators that rely on judgment, empathy, and adaptability are shielded from full AI replacement. GenAI can assist with information and recommendations, but human decision-making and "soft skills" stay paramount.
- **Strategic Workforce Implications:** To harness GenAI's potential, government leaders should reimagine workforce development and talent strategy. Targeted retraining and upskilling will be needed in occupations heavily exposed to automation, so employees can transition into complementary roles alongside AI. Cross-training that blends technical know-how with human-centric skills will maximize human-AI synergy. Agencies should also prioritize technological investments in areas where AI offers the biggest productivity lift, and adapt recruitment to favor skills that work in tandem with AI (such as data literacy *combined* with communication skills). By proactively adapting, the federal workforce can become more efficient, innovative, and resilient in the AI era.

In summary, GenAI represents a tremendous opportunity for the public sector. Rather than displacing the federal workforce, it invites a new era of human-AI partnership: routine tasks handled by machines, and humans freed to focus on strategy, creativity, and mission-critical problem-solving. This report outlines how federal agencies can navigate this transition, embracing AI as a transformative tool for public service, while ensuring employees remain at the center of an increasingly digital government.

Introduction: Defining the Challenge of AI in Government Work

Few questions loom larger for today's organizations than how artificial intelligence will affect the future of work. Is GenAI truly going to transform jobs and tasks? If so, when, where, and how?

In the past, expert predictions on automation's impact have varied wildly: a widely cited study by Frey and Osborne warned that 47 percent of U.S. jobs could be at high risk of automation within a couple of decades,[1] while subsequent analyses argued this outlook was overly simplistic. For example, researchers at the OECD using a task-based approach estimated only about 9 percent of jobs to be highly automatable on average.[2] These divergent forecasts highlight a central challenge: the *impact of AI is not uniform across all work.* Jobs are made up of many tasks, some easier to automate than others, and context matters. More recent studies tend to vary widely, where one task-centered analysis predicts as many as 46 percent of occupations could have over half of their current tasks complemented by GenAI.[3]

These divergent forecasts highlight a central challenge: the impact of AI is not uniform across all work. Jobs are made up of many tasks, some easier to automate than others, and context matters. Moreover, jobs are not a function of tasks alone. Competencies are leveraged to inform, enable, and guide the execution of the tasks assigned to employees. Yet, in just the last few years, GenAI systems have advanced at breakneck speed that is far beyond what earlier analyses contemplated. They are not only performing tasks, but they are replicating and advancing human competencies in the workplace. The question is no longer if AI will change work, but how to prepare for its impact.

1. Frey, C. B., & Osborne, M. A. (2017). The Future of Employment: How Susceptible Are Jobs to Computerisation? *Technological Forecasting and Social Change*, 114, 254–280.
2. Organisation for Economic Cooperation and Development. *The Risk of Automation for Jobs in OECD Countries: A Comparative Analysis*. OECD Publishing, 2016.
3. Eloundou, T. et al. (2024). GPTs are GPTs: Labor market impact potential of LLMs. *Science*, 384,1306-1308(2024). DOI:10.1126/science.adj0998.

For the U.S. federal government, the stakes are especially high. The federal workforce encompasses over 2 million civilian employees across hundreds of agencies and occupations[4]—from scientists and engineers, to nurses and attorneys, to mechanics and clerks. This workforce delivers essential services and upholds critical missions nationwide.

As generative AI and related technologies mature, they carry both promises of greater efficiency and concerns about job disruption. The core problem this report addresses is how federal agencies can harness GenAI to transform work for the better, by enhancing productivity and services without simply displacing workers. In other words, where can AI *complement* and *augment* human labor in government, and what is the potential for direct substitution of human effort? By answering these questions, leaders can make informed decisions about workforce planning, training, and technology adoption.

The Federal Government's Proactive Approach

Public sector organizations are often perceived as cautious technology adopters or mere regulators. Yet the U.S. federal government—as both one of the largest employers and one of the most complex organizations in the world—is actively taking initiative to integrate GenAI into its operations. Federal agencies were not waiting on the sidelines; they have been investing in pilots, policy frameworks, and workforce training to harness AI's capabilities. This proactive stance comes from necessity: government faces mounting pressure to improve efficiency, service delivery, and mission execution, and leaders recognize that GenAI will be a critical tool in meeting these goals.

Multiple federal initiatives reflect this proactive posture. Agencies have launched AI task forces and innovation programs, and the Office of Management and Budget (OMB) issued guidance in 2024 encouraging the responsible use of AI in federal agencies.[5] For instance, the Department of Defense's Joint AI Center and civilian agency equivalents are exploring AI applications ranging from predictive maintenance of equipment to automated document analysis.[6] Federal Chief Information Officers are assessing how generative AI (like large language model-based chatbots) can improve customer service in programs such as Medicare or student aid.[7,8] Importantly, agencies must couple these tech explorations with workforce development as successful adoption requires equipping employees with the skills to use AI and adapting job roles accordingly. In this context, understanding where AI can add value in federal jobs (and where human expertise must remain front and center) is an essential strategic question for policymakers and managers alike.

4. U.S. Office of Personnel Management. Federal Employment Reports—Federal Civilian Employees Data. U.S. Office of Personnel Management, n.d., https://www.opm.gov/policy-data-oversight/data-analysis-documentation/federal-employment-reports/.
5. United States. Office of Management and Budget. Fact Sheet: OMB Issues Guidance to Advance the Responsible Acquisition of AI in Government. 3 Oct. 2024, The White House, https://bidenwhitehouse.archives.gov/omb/briefing-room/2024/10/03/fact-sheet-omb-issues-guidance-to-advance-the-responsible-acquisition-of-ai-in-government/.
6. U.S. Department of Defense. Delivering AI to Warfighters Is Strategic Imperative. DOD News, 25 Aug. 2020, www.defense.gov/News/News-Stories/Article/Article/2343500/delivering-ai-to-warfighters-is-strategic-imperative/.
7. U.S. Department of Education, Office of the Chief Information Officer. Artificial Intelligence (AI) Guidance. U.S. Department of Education, last reviewed 26 Feb. 2025, www.ed.gov/about/ed-overview/artificial-intelligence-ai-guidance.
8. Centers for Medicare & Medicaid Services. Artificial Intelligence at CMS. CMS, accessed 11 June 2025, https://ai.cms.gov.

AI Governance, Accountability, and Leadership

AI success in the federal government depends not only on technical proficiency—but on governance fluency across all roles. That includes training public workers how to be accountable and hold vendors contractually accountable for AI outcomes. Governance without accountability is not governance—it's automation of authority. Government could strengthen the case for deliberate governance, transparency, and workforce preparation by introducing this data point as external support for your response or commentary.

AI projects failing to deliver value largely due to gaps in governance, skill, and trust. It is essential that federal investments in AI are paired with clear accountability structures, transparency mechanisms, and literacy initiatives that reflect public interest. The best AI systems in the public sector are not those built in isolation—they are the ones built in collaboration with the people who have served the public long before the first algorithm was trained.

This report contributes to that understanding by presenting a data-driven analysis of AI's prospective impact across federal occupations. The sections that follow summarize our methodology for assessing AI's role in job tasks, present key findings on how GenAI could complement, augment, or substitute various types of work, and discuss the practical implications. Throughout, the focus is on actionable insight: identifying how agencies can leverage AI to empower their workforce and improve operations, while safeguarding the irreplaceable elements of human contribution.

Methodology Overview: Assessing AI's Impact

To explore GenAI's potential impact on federal jobs, a sophisticated analytical methodology was applied that combines advanced AI with traditional workforce data. In essence, the analysis uses an AI-powered research assistant to examine thousands of federal occupational competencies and determine how GenAI might contribute to each. The approach can be summarized in three major steps:

1. **Building an "Intelligent" Job Database**: For this research, a vast digital library of federal job information was compiled. This included detailed data on occupational roles, tasks, and competencies drawn from sources like the U.S. Office of Personnel Management (OPM) classification guides, federal job descriptions, and the Department of Labor's O*NET database.[9] Organizing these documents into a structured, searchable knowledge base gave the AI model a rich context on what federal employees do. In simple terms, doing this provided the AI with a deep well of federal workforce knowledge to draw from.
2. **Retrieval-Augmented AI Analysis**: For this research, a retrieval-augmented generation (RAG) system using a large language model (specifically GPT-4) to analyze the job data was used. Retrieval-augmented means the AI doesn not just rely on its built-in knowledge; it actively pulls in relevant information from a custom job database when answering questions. For each occupation, the AI was prompted with carefully crafted questions about that job's tasks and how AI could be applied. Importantly, it asked about three distinct aspects of AI's role in the job (defined below), posing separate queries for each to avoid one answer biasing the others. This multi-query strategy helped maintain objectivity in the AI's assessments. The AI essentially acted as an analyst, scanning the job's required competencies and then "judging" where GenAI could fit in.
3. **Scoring AI's Impact on Jobs—Complementarity, Augmentation, Substitutivity**: For every job, the system evaluates the competencies to judge the degree of Complementarity, Augmentation, and Substitutivity possible with GenAI. These key dimensions are defined as follows:

9. U.S. Department of Labor, Employment and Training Administration. ONET Online Database. U.S. Department of Labor, n.d., www.dol.gov/agencies/eta/onet.

- **Complementarity**: Ways in which AI can enhance or support the human worker's existing knowledge, skills, and abilities (KSAs) *without fundamentally changing the job*. In other words, AI as a helpful assistant that makes the human's work easier or more effective. A high complementarity score means AI can significantly aid humans in doing the job as it is currently defined.
- **Augmentation**: Ways in which AI can transform the nature of the work by introducing new capabilities or approaches, requiring the human worker to adapt and integrate AI tools. Augmentation implies the job evolves as AI extends what is possible, leading to new workflows or methods. A high augmentation score suggests AI could reshape how the job is done (though the human is still very much "in the loop," working alongside AI).
- **Substitutivity**: Ways in which AI can replicate or replace human effort, automating tasks or even entire roles. This indicates the potential for AI to take over parts of the job completely. A high substitutivity score means many tasks in that job could feasibly be done by AI with minimal human intervention (i.e., a high risk of automation).

Each job receives a scored assessment along these three dimensions, on a scale (for example 1 to 5) indicating low to high impact. A job with high complementarity and augmentation but low substitutivity would suggest AI is very useful as a tool for the human worker, but unlikely to fully replace them. By contrast, a job with a high substitutivity score might be heavily automatable. Analyzing these patterns across 371 federal occupations for this study, the report identifies where GenAI is most likely to play a supportive role versus where it could feasibly automate work. This AI-driven method provided a data-informed, systematic view of GenAI's role in the federal workforce, grounded in real job content and responsibilities.

Methodological Note

Most technical details of the model development, such as how we structured prompts, ensured consistency, and validated the AI's responses, are provided in Appendix A. In brief, we utilized a multi-stage RAG pipeline: first extracting the key Knowledge, Skill, and Ability elements of each occupation from the database, then using a second retrieval step to ground the AI's evaluation of AI impact. This included asking the model to explain its reasoning (using natural language inference techniques) to ensure the scores had justifiable rationales. The approach draws on recent research in using large language models as annotators or "judges" of task properties, which has shown such models can align well with expert assessments when carefully configured.[10] While no predictive model is perfect, this method provides a structured way to systematically survey a broad range of jobs with the latest AI knowledge. For the a fuller idea of the method, access the preprint of the article on which this report is based at ArXiv.org.[11]

10. Zheng, L., Chiang, W. L., Sheng, Y., Zhuang, S., Wu, Z., Zhuang, Y., . . . & Stoica, I. (2023). Judging llm-as-a-judge with mt-bench and chatbot arena. *Advances in Neural Information Processing Systems*, 36, 46595-46623.
11. Resh, William G., et al. Complementarity, Augmentation, or Substitutivity? The Impact of Generative Artificial Intelligence on the U.S. Federal Workforce. *arXiv*, 12 Mar. 2025, arXiv:2503.09637, https://doi.org/10.48550/arXiv.2503.09637.

Scope and Terminology

This report's empirical analysis focuses on generative AI (GenAI), with modeling conducted using large-language-model (LLM)–based systems. Throughout the narrative we occasionally use "AI" generically to acknowledge that federal agencies will encounter a broader spectrum of AI applications; however, all quantitative findings and impact scores reported here are derived from and focused on GenAI systems as they exist today.

The conceptual framework—complementarity, augmentation, and substitutivity—is technology-agnostic. It can be applied to other modalities (e.g., agentic or autonomous AI) as they mature, because those systems will also reshape tasks along similar dimensions of support, transformation, or substitution. We do not empirically evaluate agentic AI in this study, though agentic AI can involve GenAI.

In fact, many GenAI use cases intersect with broader AI categories (e.g., automation, predictive analytics). Our intent is to clarify (and not conflate) that while examples may reference the wider AI landscape, the evidence base for the results in this report is GenAI-specific (LLM-based).

In short: (1) the research models GenAI (LLM-based) capabilities; (2) it does not claim empirical coverage of agentic AI; and (3) the framework can be readily extended to study such systems in future work.

GenAI's Impact on White-Collar Occupations

White-collar roles—including analysts, managers, scientists, policy experts, and other professionals—primarily involve complex cognitive tasks such as research, strategic planning, detailed analysis, and specialized decision-making. This comprehensive study demonstrates that GenAI significantly complements and reshapes these roles rather than substituting for them outright. On average, white-collar occupations in the federal government show high complementarity and augmentation scores (generally above 3.5 out of 5), alongside lower substitutivity scores (typically below 3). In plain terms, AI is well-suited to assist and elevate knowledge workers in these jobs, but wholesale automation of such roles is limited within the near future.

Consider, for instance, a government policy analyst. GenAI can quickly process and analyze massive datasets, retrieve relevant policy documents, and even generate preliminary draft reports, substantially accelerating the analytic cycle. However, interpreting nuanced political implications, understanding intricate socioeconomic contexts, and crafting ethically-informed recommendations remain firmly within human purview. Similarly, budget analysts can leverage GenAI to automate routine portions of fiscal tracking and scenario modeling, enabling these professionals to focus on higher-level strategic financial planning and risk assessment. In both examples, AI serves as a junior collaborator, handling the grunt work of data crunching and first-draft generation, while the human experts apply judgment, domain knowledge, and insight to guide final outcomes.

Consonant with these examples, several themes emerged within the broad category of white-collar occupations, which are identified and described below.

Technical and Scientific Roles vs. Administrative Functions

Technical and Scientific Roles: Occupations in fields like Mathematical Sciences, Engineering, Physical Sciences, and IT see substantial augmentation from GenAI. These roles increasingly depend on sophisticated AI-driven analytical tools, simulations, and predictive modeling. AI integration fundamentally reshapes these positions, allowing technical experts to enhance precision, efficiency, and innovation. For example, federal engineers can utilize AI to simulate complex structural stresses or fluid dynamics, accelerating design and testing cycles and enabling rapid innovation. Likewise, a data scientist in government might use generative AI to quickly generate code for data cleaning or to suggest model approaches, speeding up the experiment cycle. In fields such as medicine and public health, AI systems can assist by ana-

lyzing medical images or predicting disease outbreaks, giving doctors and analysts powerful new instruments (though final diagnoses and strategy remain human-led). In short, in high-skill technical domains, GenAI acts as a force multiplier, extending what one expert can do and opening doors to new methods.

Administrative and Clerical Functions: By contrast, white-collar administrative roles (such as office administration, accounting technicians, or program support clerks) show higher substitutivity. These positions involve a significant amount of repetitive, rules-based tasks, which is exactly the kind of work AI excels at automating. This analysis found that many routine administrative and clerical tasks can be handled by AI with high efficiency. Data entry, basic record-keeping, scheduling, and standardized reporting are examples of duties that GenAI (especially when combined with robotic process automation) can perform with speed and accuracy. This suggests an imminent shift wherein these administrative roles evolve toward tasks requiring higher-level judgment, oversight, and interpersonal skills, as the rote components are increasingly handled by machines. For instance, an HR assistant who today spends time manually checking forms might tomorrow rely on an AI system to flag irregularities, freeing the assistant to focus on counseling employees or coordinating training and other tasks that require human contact and decision-making. Importantly, those occupations that score high in substitutivity on our scale are not jobs that will necessarily disappear. Rather, their skill profile will tilt more toward monitoring and managing AI outputs and providing human context where needed.

High Complementarity in Knowledge-Intensive Roles

Occupations demanding deep expertise and specialized knowledge—such as law, medicine, advanced scientific research, or policy analysis—demonstrated the highest complementarity scores in our study. GenAI serves as a potent research assistant in these domains, capable of rapidly retrieving and synthesizing vast amounts of complex information. In legal professions, for instance, AI-driven tools can digest massive repositories of case law or regulations and surface relevant precedents in seconds, directly complementing and elevating the work of attorneys and paralegals. Similarly, in medicine, generative AI can scan medical literature or analyze electronic health records to suggest potential diagnoses or treatment options that a physician might consider. In these roles, AI does not replace the human's expertise, but it provides a breadth of knowledge and an analytical horsepower that enhances human decision-making.

Conversely, roles reliant on simpler, routine decision processes benefit less from advanced AI integration beyond straightforward task automation. For example, a junior claims processor might use an AI to auto-fill forms, but the core job (which is fairly procedural) does not gain *new* capabilities from AI, it just gets faster. In contrast, a senior policy advisor can harness GenAI to explore alternative policy scenarios or summarize stakeholder opinions from thousands of public comments, augmenting the advisor's ability to craft informed strategies. The difference comes down to how much the job requires complex, varied information processing and judgment (where AI helps a lot) versus structured, repetitive workflows (where AI might simply take over the process entirely or offer only modest help).

Enhanced Strategic and Innovative Capacities

In roles involving strategy formulation, creative problem-solving, and innovation, GenAI provides a significant boost. AI can analyze trends across large datasets, generate simulations or scenario plans, and even suggest novel ideas by drawing connections across domains. For example, a policy planning team could use GenAI to generate scenario narratives ("What might happen if X policy is implemented under Y conditions?") informed by historical data and expert knowledge, as a starting point for discussion. A scientific research manager might employ AI to propose experimental designs or identify potential research gaps by reviewing global publications. In the creative realm, communication specialists might leverage AI to draft communication plans or produce multiple variants of outreach messages, which the human can then refine.

The result of integrating AI into these strategic roles is increased productivity and enhanced strategic clarity: individuals and small teams can accomplish analysis or ideation that previously required far more time and manpower. An illustrative case occurred in the computer science industry where AI coding assistance has significantly improved software developers' productivity. Similarly, one can imagine a policy analyst with AI being able to explore ten times more data in the same amount of time, or a diplomatic strategist using AI to instantly compile cultural and historical briefs on a country before negotiations. The human remains in charge of interpreting results and making final decisions, but they are effectively "supercharged" by AI assistance.

Strategic Implications for White-Collar Workforce: The findings above highlight a few important actions for agencies. First, invest in continuous learning and upskilling, particularly in administrative fields susceptible to automation. Employees in roles with high substitutivity need pathways to transition into higher-skill positions where they work alongside AI. Second, encourage cross-disciplinary training that combines technical proficiency (e.g. data analysis, working with AI tools) with advanced cognitive and interpersonal skills. This will maximize the collaborative potential of AI to produce workers who can both leverage AI and apply human judgment.. Third, adjust hiring and promotion criteria to value adaptability, analytical reasoning, creativity, and emotional intelligence. It is these qualities that complement AI the most and will enhance organizational resilience.[12] In recruiting a new analyst or manager, for example, agencies might explicitly look for experience with AI tools and demonstrated critical thinking and communication skills. By making these shifts, agencies can ensure that their white-collar workforce remains not only relevant but excels in an AI-augmented work environment.

In sum, GenAI profoundly enhances and transforms white-collar work by relieving professionals of routine burdens and enabling deeper focus on complex problem-solving and innovation. Rather than replacing humans, GenAI in these roles *elevates* their productivity and extends their capabilities, reshaping how the public sector accomplishes mission-driven objectives.

12. World Economic Forum. This Is the One Skill We All Need in the Age of AI. 16 Jan. 2024, World Economic Forum, https://www.weforum.org/stories/2024/01/this-is-the-one-skill-everybody-needs-in-the-age-of-ai/.

GenAI's Impact on Trade, Craft, and Labor Occupations

Not all federal jobs revolve around desk work. Trade, craft, and labor occupations include mechanics, equipment operators, electricians, inspectors, firefighters, and other hands-on roles critical to government operations. In these occupations, GenAI's influence is present but more bounded by the physical and contextual nature of the work. Many tasks in this arena require manual dexterity, on-site situational awareness, and real-time human decision-making in dynamic environments where AI and automation have notable limitations. Our analysis found that across most trade/craft jobs, substitutivity scores were relatively low. Fully automating a mechanic's or electrician's job with AI alone is not feasible with current technology. However, augmentation and complementarity scores in certain technical trades were moderately high, indicating plenty of room for AI to assist skilled tradespeople.

For instance, an aircraft maintenance technician might use an AI-powered diagnostic tool to help pinpoint equipment issues faster, or an augmented reality device guided by AI to perform intricate repairs with greater precision. These tools do not replace the worker, but they do boost efficiency and effectiveness. Overall, GenAI can be thought of as an advanced power tool for trades and labor, extremely useful in the right hands, but not a replacement for the hands themselves.

Within the trade, craft, and labor category, the following themes were identified and are described below.

AI Collaboration in Specialized Trades

Highly skilled maintenance and technical trades turned out to be a "sweet spot" for human–AI collaboration. Job families like Engine Overhaul, Electrical Systems, and Instrumentation Maintenance showed some of the highest complementarity and augmentation scores in this category. The pattern here is that when a job involves complex problem-solving in a physical context, AI-based tools can significantly aid the human worker. For example, an engine overhaul specialist might use a machine-learning-based predictive maintenance system that analyzes sensor data to predict engine part failures before they happen, thus allowing the mechanic to proactively replace or service components (AI complementing the mechanic's expertise). An electrical systems technician could employ an AI assistant to run simulations on circuit modifications or to quickly reference wiring schematics from a vast database, speeding up troubleshooting. These kinds of collaborations effectively marry human expertise (to interpret results and handle physical execution) with AI's ability to process information and identify patterns.

Notably, these specialized trades typically require significant training and experience, and AI makes those experienced workers even more effective. It is not learning the trade for them; it is providing expert support. This finding underscores that investments in upskilling trades workers to effectively use new AI-driven tools can yield substantial productivity gains. A veteran mechanic armed with an AI diagnostic system is exponentially more productive than one without such aid. However, the mechanic's deep knowledge is still crucial to validate AI suggestions and perform the actual repairs. Overall, the analysis shows GenAI in trades as augmenting human capacity rather than begetting pure automation.

Automation of Routine Manual Tasks

On the other hand, jobs in the trades domain that consist of highly standardized, repetitive processes showed relatively higher substitutivity scores. For example, roles in warehousing, stock handling, or basic materials processing involve sequences of routine tasks that could be increasingly automated with AI-driven machines or robotics. Indeed, the study found that some of these positions were among those with the highest likelihood of partial or full automation. A case in point might be a warehouse supply clerk who spends much of the day scanning inventory and moving stock, tasks that autonomous robots and AI vision systems are becoming adept at. Similarly, a laundry and textile maintenance role involves repetitive handling of materials (washing, sorting, folding) which is already being automated in commercial settings through AI-enabled machinery.

It is important to note here that generative models play a minor or emerging role in this context, such as generating synthetic training data for vision models, or natural language interfaces that allow humans to instruct robots using speech, or planning algorithms in simulation environments for learning movement sequences. Hence, substitutivity scores in this domain seem to be applying a more generic assessment of AI rather than specific to GenAI. Even in these cases, full replacement often requires advanced robotics in addition to AI, and usually some human oversight remains necessary for exceptions or maintenance. So, while a routine manual task might score high on substitutivity in principle, implementing automation in practice might be expensive or require reengineering the work environment. That said, agencies should be mindful that *if* such technologies become cost-effective, roles heavily centered on repetitive manual tasks could be streamlined or reduced. The key point is that the more routine and predictable the task, the more ripe it is for automation, which is a trend that holds in both white-collar and blue-collar contexts.

Resilience of Human-Centered Service Roles

It is worth noting that certain personal service and direct care roles (which are part of some federal operations such as healthcare aides, security personnel, or recreation staff at parks) scored very low on augmentation by AI. These are jobs that rely heavily on human presence and empathy—for example, a rehabilitation therapy assistant working with injured veterans, or a security guard patrolling a facility and interacting with visitors. These roles derive their value from human traits like compassion, authority, and responsiveness. Current GenAI tools offer minimal assistance in the core of these roles. At best, AI might provide some background support (like an app for scheduling or a report generator for case notes), but it does not fundamentally change the human-driven nature of the work. A robot or AI cannot (at least as of now) console a patient with genuine empathy or exercise on-the-spot judgment in a tense security situation with the same trust and adaptability as a person.

Thus, these roles remain heavily human-driven and resistant to significant AI enhancement or replacement. While technology may add incremental conveniences, the primary value comes from human qualities that AI cannot replicate. This underscores that in many service-oriented jobs, people will continue to be the irreplaceable center of the work, with AI playing only a minor supporting role if any.

In summary, across trades and labor jobs, GenAI will not cause the kind of upheaval some fear. Instead, government will see targeted adoption of AI tools that assist skilled workers (especially in technical maintenance fields) and gradual automation of the most repetitive low-skill tasks (often augmenting workers rather than completely replacing them). The physicality and human element in these occupations acts as a natural safeguard against widespread automation, at least with foreseeable AI capabilities. Agencies should still monitor advances in robotics and AI closely, but for now the approach should be on empowering trade workers with AI assistance rather than planning for broad labor displacement in these fields.

(See Appendix B for a summary of average AI impact scores in white-collar vs. trade occupations. White-collar jobs in our dataset averaged higher complementarity (mean~3.46) and augmentation (~3.13) than trades jobs (mean complementarity~3.18, augmentation~2.77), reflecting greater AI integration opportunities in knowledge work. However, substitutivity remained relatively low in both groups (averaging~2.5 for trades,~2.66 for white-collar), underscoring that full automation is limited in most roles.)

Examples of Roles: Where AI Fits In and Where It Does Not

Drilling down to the level of specific job titles, this research identified clear examples at both extremes of the AI impact spectrum, as well as those in between. These examples help illustrate what kinds of work are most automatable and what kinds benefit from AI augmentation or support.

- **Roles Highly Susceptible to Automation:** Positions that involve very repetitive, rules-based tasks came out on top for *Substitutivity*. For instance, cash processing clerks, data entry technicians, and language translation clerks (roles that handle structured data or standardized text) all scored among the highest in potential automation. GenAI excels at managing and transcribing data, performing straightforward translations, and executing routine procedures with speed and accuracy. In the coming years, it is conceivable that much of the work in such roles could be handled by AI systems, with humans only managing exceptions or handling complex cases. These are the types of jobs likely to be restructured or reduced first as AI capabilities are deployed. Indeed, a Brookings analysis in 2024 found that over 30 percent of U.S. workers might see at least half of their tasks impacted by generative AI—notably *including many clerical and administrative duties*, a shift from previous automation which mostly affected blue-collar work. That aligns with the finding that clerical roles face high exposure.
- **Roles Resistant to Automation:** On the opposite end, the study found jobs that are highly resistant to AI-driven replacement. These typically require complex problem-solving, on-the-spot judgment, and human touch. Examples include a mediator (who facilitates conflict resolution between parties), a prosthetist/orthotist (who designs medical supportive devices and works closely with patients), or a wildlife refuge manager. Such roles scored very low on substitutivity in our analysis. The nuanced human interactions, ethical decisions, and creative problem-solving involved here are far beyond what current AI can handle. These employees might get decision support from AI—e.g., an AI could suggest possible solutions a mediator might consider, or analyze data on animal populations for a refuge manager—but the AI cannot replicate the core of the job. As one example, Wildlife Refuge Managers (Series 0485) benefit from AI tools for data collection on species and habitats (high complementarity), but fieldwork and unpredictable environmental decision-making keep their substitutivity low. These roles highlight where human expertise will remain paramount.

- **Roles Where AI Greatly Augments Human Capabilities:** In some occupations, AI does not replace the human, but it can dramatically extend their capabilities. For example, a geologist or geospatial analyst can use AI to analyze satellite imagery and geological data far faster than manual methods, identifying patterns or anomalies that would be easy to miss. Software developers and coders benefit from AI that can generate code snippets or debug suggestions, accelerating the programming process. (In fact, coding is cited among the professions likely to benefit most from GenAI augmentation, as it speeds up routine coding tasks while the developer still architects and verifies the solution.) Similarly, a nuclear engineer can leverage AI-driven simulations to test reactor scenarios or materials experiments virtually, exploring many more options than feasible by hand. These roles—which scored high on the Augmentation scale—see GenAI as a game-changing tool that boosts productivity and opens new possibilities. The humans in these jobs are still in charge of interpreting results and ensuring safety/accuracy, but they achieve outcomes that would be difficult or time-consuming without AI. This category of roles underscores the importance of equipping professionals with AI-enabled tools and skills, as it can lead to quantum leaps in efficiency and innovation in fields that drive much of the government's technical mission.
- **Roles with Limited AI Benefits (So Far):** There are also roles where AI's contribution, beyond basic efficiency gains, is fairly limited with current technology. For instance, a clerk-typist or records clerk can certainly use AI tools (like speech-to-text dictation or document classification) for incremental improvements, but much of their work is already straightforward and may simply be *automated* rather than truly "augmented" (moving the role toward substitutivity rather than a new human-AI collaborative model). An aircraft pilot or vehicle operator might use AI autopilot or driver-assist features for support, but these jobs still depend on human decision-making for safety and are heavily regulated. AI is not radically transforming the pilot's core duties yet. A veterinary technician can use AI-based scheduling or record-keeping systems, but the hands-on care and observation of animals remain human tasks. In short, these kinds of roles see some incremental help from AI (mostly by automating minor tasks), but not a sweeping change in how the job is done at present. Over time, further AI advancements or physical robotics might increase the impact in these roles, but as of 2025 the effect is modest. Organizations should be aware of AI hype in such areas—while AI might assist at the margins, it is not a panacea for fundamentally manual or interpersonal jobs.

These examples reinforce a central theme: GenAI's influence is highly context-dependent. Where work is routine and information-based, AI can step in powerfully; where work is dynamic, physical, or deeply interpersonal, AI remains an accessory, not a replacement. Most jobs will lie somewhere between those extremes, incorporating AI for certain tasks but still relying on human talent for others. Understanding the specific tasks and demands of each role is key to determining how to integrate AI effectively. (See Appendix B for additional examples and detailed ranking of selected occupations by their AI impact scores.)

Impact on Knowledge, Skills, and Abilities (KSAs)

Beyond specific jobs and occupations, it is useful to look at how AI affects different categories of worker competencies—namely, their knowledge, skills, and abilities (KSAs). This study assessed how GenAI might complement, augment, or substitute each of these components of work, which provides insight into what aspects of jobs are most affected.

- **Knowledge:** Factual and domain knowledge is an area where GenAI has a significant impact across the board. In this analysis, knowledge elements showed high scores in complementarity, augmentation, *and* substitutivity on average. This indicates that AI can support human knowledge work (by providing information and expertise on demand), expand it (by enabling new ways to apply knowledge, such as through big data analysis or simulation), and even automate parts of it (for instance, retrieving, organizing, and even generating basic knowledge content is something AI can do autonomously). In practical terms, an employee's knowledge in fields like law, medicine, finance, or engineering can be greatly amplified by AI tools that bring vast libraries of information to their fingertips. At the same time, some routine knowledge tasks—like searching for standard reference information or compiling routine reports—can be offloaded entirely to AI. The key for workers is to leverage AI as a knowledge partner, while still applying their experience and context to use that information wisely. (Many legal offices already use AI research tools, for example, but it still takes a lawyer's judgment to apply the AI-found cases to an argument.)
- **Skills:** When it comes to skills (the practiced tasks and techniques people learn), AI's impact varies widely depending on the type of skill. Routine and procedural skills—for example, typing, basic bookkeeping, simple drafting—are more easily learned and executed by AI, meaning these are more susceptible to substitution. Conversely, complex and adaptive skills—such as strategic planning, creative writing, or advanced data analysis—are typically augmented by AI rather than replaced. AI can provide new tools or insights (like an algorithm suggesting marketing strategies to a planner, or a language model offering a draft paragraph to a writer), but the human still orchestrates and refines the outcome. Some skill areas fall in between: for instance, analytical skills can be partly automated (data crunching by AI) and partly enhanced (AI-generated visualizations and decision support for the analyst). Overall, Governments can anticipate that AI will handle many routine skills, pushing human workers to develop higher-level skills that work in

tandem with AI. Lifelong learning and adaptability become even more crucial—as AI takes over simpler tasks, the relative value of advanced human skills increases. Indeed, across industries there is growing evidence that workers who can "work with AI" have a performance edge. Recent studies have shown, for example, that customer support agents given an AI tool to help draft responses became more productive than those without one, but the best agents combined the tool with strong interpersonal skills to truly excel.

- **Abilities:** Innate human abilities and traits—like interpersonal communication, empathy, creativity, leadership, and judgment—remain the hardest elements for AI to replicate. These findings showed that these abilities are the most resistant to AI substitution (low substitutivity scores). No current AI can truly substitute for human emotional intelligence or moral judgment, for instance. However, AI can still complement these abilities. Think of an AI system that provides a diplomat with real-time data during a negotiation—it supports the diplomat's decision-making ability without replacing the need for the diplomat's experience and people skills. Or consider a creative designer using an AI tool to generate a dozen design mockups—the AI sparks ideas (augmenting creativity), but the designer's artistic ability and taste guide the final product. The bottom line is that human abilities remain at the core of work, while AI serves as a tool to enhance those human strengths. This is good news for workers: qualities that make us intrinsically human will become even more valuable as AI handles the mechanical aspects of work.

From a high-level perspective, the study found that "knowledge work" components are easiest for AI to assist or automate, whereas human abilities related to judgment and interaction are the least automatable. This aligns with broader analyses in the research community: for example, a 2018 study by Brynjolfsson et al noted that tasks involving perception and manipulation of knowledge (like pattern recognition in data) are highly suitable for machine learning, while tasks requiring creativity or social intelligence are not.[13] This study's quantitative results mirror those insights. To illustrate with averages, AI's complementarity with *Knowledge* had one of the highest mean scores (around 3.45 out of 5), whereas AI's substitutive impact on *Abilities* had one of the lowest means (around 2.4). These numbers reinforce what intuition: AI is a powerful tool for handling information and routine procedures, but human intuition, empathy, and flexible thinking remain critical and cannot be easily coded into an algorithm.

For organizations, this means workforce development efforts should focus on integrating AI for knowledge-based tasks (e.g., training staff to use AI research and data analysis tools), while cultivating human abilities that AI cannot replace (e.g., leadership, teamwork, customer service training). The future of successful work will be a blend: using AI where it is strong (data, speed, scale) and humans where they excel (judgment, empathy, creativity).

This report's RAG-LLM system provides an intuitive method for those engaged in strategic workforce development to identify areas of potential vulnerability across the workforce where upskilling may be needed or the sheer numbers of prospective professionals formerly needed in a give occupation may be reduced in future hiring plans based on the relative efficiencies that GenAI may allow. The general occupational score can be matched to existing staffing numbers by occupation down to an office and locational level to assess what given competencies across positions at those focal levels of the organization may need to be addressed as a function of GenAI's relative impacts.

13. Brynjolfsson, Erik, Tom Mitchell, and Daniel Rock. What Can Machines Learn, and What Does It Mean for Occupations and the Economy? AEA Papers and Proceedings, vol. 108, May 2018, pp. 43–47.

For instance, Figures 1-3 provide a heated tree map of subagencies across the United States Department of Agriculture according to staffing numbers as of September 2024 (according to OPM). Each respective type of impact from the index used in this report was averaged by the respective proportion of representative occupations. In other words, this analysis took the staffing numbers across USDA by its various component subagencies and calculated the average impact score by the overall staffing distribution. The size of each box reflects its relative size in overall workforce. The darker red shades reflect higher average impact scores, whereas darker blue shades reflect lower average impact scores.

Figure 1. Treemap of Subagencies in USDA by Complementarity Score

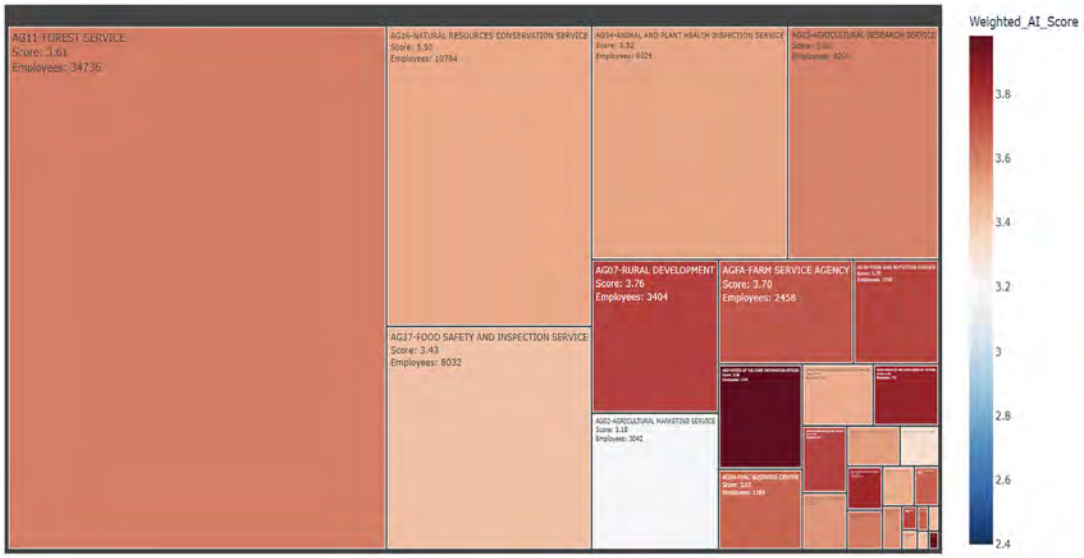


Figure 2. Treemap of Subagencies in USDA by Augmentation Score

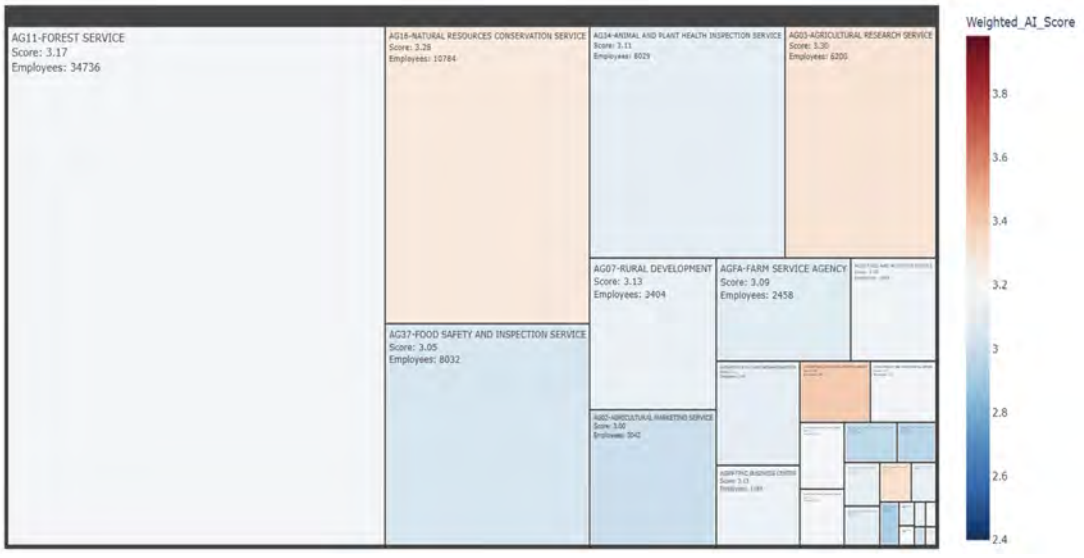
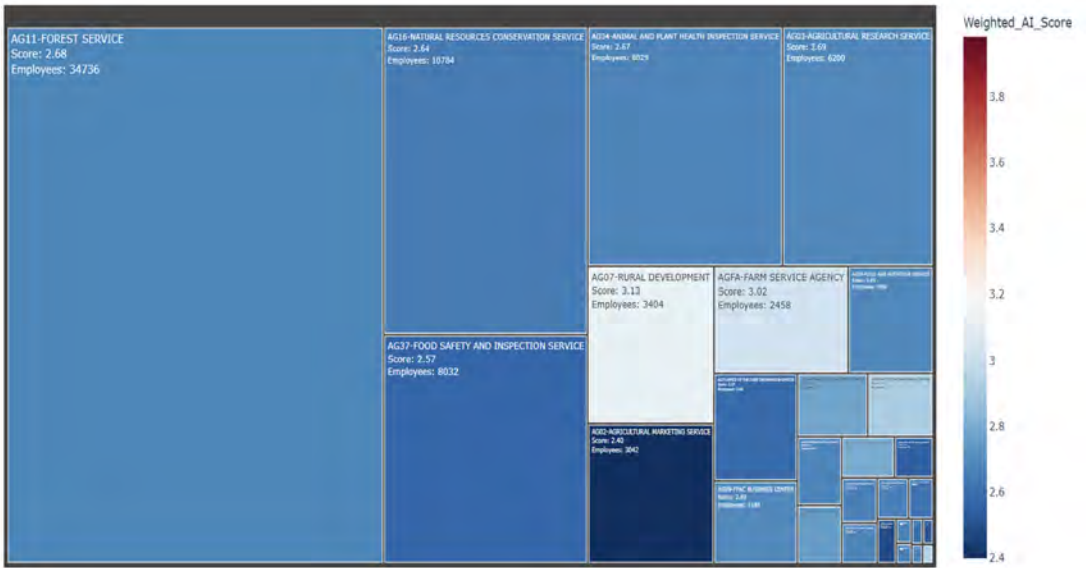


Figure 3. Treemap of Subagencies in USDA by Substitutivity Score



As indicative of the report's overall analysis, the highest impacts to the USDA workforce across agencies will be complementary in nature. Offices that require more employees with high technical or scientific orientations, such as the Office of the Chief Information Officer, will be the most impacted in terms of the complementary impact of GenAI. Offices with higher numbers of administrative or clerical positions, such as the Office of Rural Development, score more highly on average in complementarity but also show relatively moderate impacts in terms of augmentation and substitutivity.

Such analysis can be conducted across agencies, down to a very granular level, leveraging the data from this system. Leaders can use such approaches with this data to map their workforce accordingly and leverage GenAI as a catalyst to reimagine their talent strategies. This is a moment to update training curricula, invest wisely in technology, and redefine the qualities government seeks in its workforce. Organizations that move in this direction will not only mitigate the risks of automation but actually harness GenAI to become more innovative and effective. The tool introduced here allows leaders to not only identify areas of particular vulnerability across their workforce, but also to actively engage their workforce around these issues in order to address areas in need of upskilling toward the augmented nature of their work—emphasizing those competencies that are less substitutable and learning how to work with GenAI to enhance or complement existing competencies for more efficient and effective outputs.

(See Appendix B, Figure B3 for detailed statistics on AI impact across knowledge, skills, and abilities. Notably, in our dataset, Knowledge areas had high average scores for complementarity (mean~3.45) and even a moderately high substitutivity potential (mean~2.56), indicating AI's broad applicability in knowledge tasks. Abilities had the lowest substitutivity (mean~2.40), reflecting their resilience to automation.)

Recommendations: Preparing for an AI-Augmented Federal Workforce

The implications of these findings extend far beyondthe federal government; they offer a window into how organizations can adapt to the age of AI.[14] For public sector leaders (and those in other industries), the message is clear: planning for GenAI integration is now a strategic imperative for workforce development, technology investment, and recruitment. Below are key recommendations for federal agencies aiming to thrive in this new environment. These recommendations focus on leveraging AI as a tool of transformation while supporting the workforce through the transition, ensuring that employees are empowered (not undermined) by AI's growing role.

1. **Workforce Development and Reskilling:** ***Proactively retrain employees in highly automatable roles.*** Agencies should identify positions where substitutivity scores are high, where many routine tasks AI can automate. It is imperative to invest in retraining and reskilling programs for employees in these roles. The goal is to help staff transition from purely routine work into roles that complement AI. For example, if a large portion of an administrative clerk's data entry duties will be automated, that employee could be retrained for an analyst support role, overseeing AI outputs and handling complex cases that AI flags. This aligns with broader labor market trends calling for continuous upskilling: the World Economic Forum's *Future of Jobs* report (2025) notes that 40 percent of employers expect to reduce their workforce in areas where AI can automate tasks, but many will create new jobs requiring different skills.[15] To avoid displacement, federal workers should be given pathways to move into those new roles. Agencies should establish lifelong learning initiatives (e.g., digital academies, AI tool training workshops, rotations or detail assignments) that enable employees to acquire the skills needed for more value-added work that AI cannot do alone. By investing in people alongside technology, the government can mitigate job disruption and instead elevate its talent into more impactful positions.

14. Author's Note: Our analysis is updated on a regular basis to incorporate the latest capabilities and information regarding GenAI labor market interventions. We are committed to making this data available to researchers, policymakers, and practitioners whose ethical intent is to explore how generative AI can enhance, rather than erode, the stability and dignity of existing workforces.
15. World Economic Forum. The Future of Jobs Report 2025. World Economic Forum, 7 Jan. 2025, The Future of Jobs Report 2025, www.weforum.org/publications/the-future-of-jobs-report-2025/.

2. **Cross-Training and Interdisciplinary Skills:** ***Develop "hybrid" professionals who excel at working with AI.*** This report's data suggests great value in interdisciplinary skill sets, where employees blend technical know-how with human-centric skills. Organizations should encourage cross-training opportunities that produce employees who are both comfortable with AI tools *and* adept in areas AI lacks (like communication, leadership, creative thinking). For instance, an employee might pair training in data science or AI application development with training in project management or stakeholder engagement. Such hybrid professionals will be able to leverage AI in their domain and translate AI outputs into action. They act as bridges between technology and mission needs. The aim is a workforce fluent in both AI and agency subject matter. This not only maximizes complementarity (humans and AI each doing what they do best) but also builds resilience (i.e., staff can adapt as AI tools evolve). The federal workforce would benefit from multidisciplinary AI literacy, ensuring every team has people who can "speak AI" and integrate its capabilities into their workflow.

3. **Targeted Technology Investment:** ***Prioritize AI deployments where they have the highest payoff.*** To get the best return on investment, agencies should focus on domains where this report's analysis shows augmentation potential is highest. In this study, fields like mathematical analysis, engineering, and data-intensive science stood out as areas where AI can significantly enhance human work (high augmentation). Prioritizing GenAI tools in these high-impact domains will yield outsized benefits. For example, investing in advanced analytics and simulation software for engineering teams, or natural language processing tools for policy analysts dealing with public comments, can produce immediate productivity jumps. This does not mean ignoring AI for other areas, but it suggests a roadmap: start where AI can be a force multiplier for your mission, demonstrate success, and then expand. Another consideration is investing in AI that improves internal processes (like intelligent knowledge management systems) so that employees spend less time searching for information or doing paperwork and more time on substantive work. Importantly, involve end-users (the employees) in selecting and designing AI solutions, which will ensure that the tools meet real needs and gain buy-in. The IBM Center for The Business of Government has published several observations that support the notion that effective adoption often requires change management alongside tech deployment;[16,17] involving staff early can smooth this.[18] By focusing investments and rolling out AI thoughtfully, agencies can avoid wasted effort on gimmicky applications and instead integrate AI where it truly makes a difference.

4. **Rethinking Recruitment and Hiring Practices:** ***Hire for the future—people who can work well with AI.*** As work changes, so too must hiring. Recruitment strategies should place greater emphasis on skills and qualities that complement AI. This means seeking candidates who are not only technically proficient in relevant tools but also bring strong analytical thinking, creativity, and interpersonal skills—the human elements that make AI-driven teams successful. Job descriptions might start to include proficiency with AI tools or data literacy as a desired skill (e.g., "experience with data analysis or AI-supported decision systems" as a plus for an administrative officer job). Moreover, agencies might create new roles explicitly designed for an AI-enabled workplace. For example, a "Human-AI Teaming Manager" or "AI Integration Specialist" could be roles that focus on ensuring AI projects align with user needs and that employees are trained to use AI outputs effectively. Additionally,

16. Desouza, Kevin C. *Artificial Intelligence in the Public Sector: A Maturity Model*. IBM Center for The Business of Government, 14 Sept. 2021, https://www.businessofgovernment.org/report/artificial-intelligence-public-sector-maturity-model.
17. Bray, David A. and Jerry Mechling. *Artificial Intelligence and Public Service: Key New Challenges*. IBM Center for The Business of Government, 12 Sept. 2023, https://www.businessofgovernment.org/blog/artificial-intelligence-and-public-service-key-new-challenges.
18. Moldogaziev, Tima T., and William G. Resh. "A Systems Theory Approach to Innovation Implementation: Why Organizational Location Matters." *Journal of Public Administration Research and Theory*, vol. 26, no. 4, Oct. 2016, pp. 677–692, https://doi.org/10.1093/jopart/muv047.

already archaic hiring processes[19] should be updated to test for adaptability and learning mindset, such as scenario-based questions in interviews about how a candidate would handle incorporating a new AI tool into their work. The key is to build a pipeline of talent that is AI-ready. Studies show that better-educated, tech-savvy workers are currently the most exposed to AI (meaning they work with it the most), which suggests that higher education and continual learning should be valued. The federal government can also partner better with universities and professional societies to ensure relevant curricula (for example, public policy programs teaching about AI ethics and analytics).[20] By adjusting hiring now, agencies can bring in fresh talent that will lead and champion AI adoption rather than resist it.

5. **Employee Engagement and Change Management:** ***Involve the workforce in AI implementation and address concerns proactively.*** Introducing AI into the workplace can be disruptive, so it is vital to manage the change with transparency and employee involvement. Engage employees at all levels in conversations about how AI can be used and solicit their input on deployment. This could involve forming employee advisory groups for AI projects, piloting new tools with volunteer users and incorporating their feedback, and clearly communicating the goals (e.g., "this AI will assist you by automating X, not replace you"). Brookings researchers emphasize "fostering worker engagement in AI design and implementation" as crucial to ensuring workers benefit.[21] Alongside engagement, agencies should address fears and provide support: offer reassurances that AI is intended to elevate jobs, not eliminate them, and back that up by providing upskilling opportunities and, if necessary, career transition assistance. Partnering with employee unions or professional associations can also help in crafting fair policies around AI use (for example, establishing guidelines for AI-related performance metrics or ensuring no one is penalized due to AI missteps). The introduction of any major technology in history—from the printing press to the internet—has gone smoother and led to better innovation adoption when workers were part of the process and felt heard.[22] The federal government should lead by example in responsible AI rollout, emphasizing a *human-centered approach*. This includes also being mindful of ethics, privacy, and bias in AI systems, and involving employees in identifying issues and refining systems so that the tools are trusted and effective. Ultimately, embracing GenAI should be framed as a partnership between the organization and its people, where feedback loops are strongest and the workforce can be an active participant in shaping the future of work.

6. **Continuous Evaluation and Adaptive Policy:** ***Regularly assess AI's workforce impact and adjust strategies accordingly.*** The AI landscape is evolving rapidly. What is not possible today (fully autonomous vehicles, AI managing projects) could become feasible within a few years. Federal leaders should treat AI workforce integration as an ongoing process rather than a one-time change. This means establishing mechanisms to continuously monitor job impacts, productivity changes, and employee well-being as AI tools roll out. Agencies could incorporate AI impact reviews into their annual workforce assessments, such as tracking how task allocations have changed, whether certain job series are experiencing faster skill shifts, etc. Additionally, governmentwide, OPM or OMB could coordinate periodic studies

19. Kueffner, Ernest. "Modernizing federal hiring: Cutting bureaucracy, enhancing transparency and strengthening the workforce." *SC World*, 3 Mar. 2025, www.scworld.com/perspective/modernizing-federal-hiring-cutting-bureaucracy-enhancing-transparency-and-strengthening-the-workforce.
20. Mikhaylov, Slava Jankin, Marc Esteve, and Averill Campion. "Artificial Intelligence for the Public Sector: Opportunities and Challenges of CrossSector Collaboration." *Philosophical Transactions of the Royal Society A: Mathematical, Physical and Engineering Sciences*, vol. 376, no. 2128, 2018, article 20170357, doi:10.1098/rsta.2017.0357.
21. Kinder, Molly, Rakesh Kochhar, Alina Selyukh, and Christina Plerhoples Stacy. "Generative AI, the American Worker, and the Future of Work." *Brookings Institution*, 10 Oct. 2024, www.brookings.edu/articles/generative-ai-the-american-worker-and-the-future-of-work/.
22. Moldogaziev, Tima T., and William G. Resh. "A Systems Theory Approach to Innovation Implementation: Why Organizational Location Matters." *Journal of Public Administration Research and Theory*, vol. 26, no. 4, Oct. 2016, pp. 677–692, https://doi.org/10.1093/jopart/muv047.

to update the kind of analysis in this report: identifying emerging areas of high AI substitutivity or new augmentation opportunities; based on these assessments, adapt policies on hiring, training, and job design. If an evaluation finds that a certain role is becoming obsolete due to AI, the agency should anticipate and plan a transition path for those employees *before* attrition or disruption happens. Likewise, if new types of AI-related jobs are growing (say, AI auditors to check algorithm outputs for bias), agencies should create those positions and career tracks proactively. A Bipartisan Policy Center review recommended that policymakers *"regularly assess any job disruptions or new roles created by AI and assess the adequacy of job training and safety net programs*."[23] In practice, this could mean reporting to Congress on AI-driven workforce changes and ensuring policies like unemployment insurance and retraining grants are keeping up. On the internal side, agencies should remain flexible: pilot initiatives, learn from them, and scale or pivot as needed. The guiding principle is agility: by staying informed through data and being willing to update workforce strategies, the federal government can avoid both the panic of sudden disruption and the stagnation of clinging to outdated practices.[24]

In taking such steps, leaders can approach GenAI as a catalyst to reimagine their talent strategies. This is a moment to update training curricula, invest wisely in technology, and redefine the qualities we seek in our workforce. Organizations that move in this direction will not only mitigate the risks of automation but harness AI to become more innovative and effective. The federal government, given its size and influence, has an opportunity to lead in this arena and demonstrate how to integrate AI in a way that empowers employees and improves organizational performance.

23. Bipartisan Policy Center. AI and the Workforce: A White Paper on the Future of Work in the Age of Artificial Intelligence. Bipartisan Policy Center, July 2020, pp. 23–24, https://bipartisanpolicy.org/wp-content/uploads/2020/07/BPC_AI_Whitepaper_FinalV2.pdf.
24. Mergel, Ines. "Agile Innovation Management in Government: A Research Agenda." *Government Information Quarterly*, vol. 33, no. 3, Sept. 2016, pp. 516–523.

Conclusion: A New Era of Human–AI Partnership

The insights and recommendations described in this report offer leaders of government agencies and organizations at large a plan of action to embrace a future where human talent and AI systems work hand-in-hand. GenAI is not a distant, speculative force. It is here now, and it is already altering how work gets done. The choices leaders make today will determine whether that alteration is disruptive or transformative in the best sense. By adopting adaptive, forward-thinking workforce strategies, we can ensure that AI becomes a tool for empowerment rather than a cause for displacement.

At its heart, the story of GenAI in the workplace is one of collaboration. It is about forging new partnerships between humans and intelligent machines, and between policymakers, managers, and technologists in implementing change. Federal agencies can lead by example, pioneering ways for AI to enhance public service and other fields of industry. The lessons learned in government will resonate across the public and private sectors alike, showing how industries from healthcare to education to finance might similarly pair human expertise with AI assistance.

The path forward is clear. AI is less about replacing people, and more about elevating them. By recognizing this, leaders can craft policies and projects that boost effectiveness while still placing employees at the center of innovation. We can envision a federal workforce (and indeed a global workforce) that is more agile, adaptive, and productive—not despite AI, but *because of it*. Realizing that vision will require commitment: to invest in people, to deploy technology thoughtfully, and to continuously learn and adjust as we go. In this next era of public service, AI will not replace the workforce . . . it will transform it, unlocking new potential to better serve the nation.

Appendices

Appendix A—Methodological Details: Additional information on the RAG+GPT modeling approach, validation of AI outputs, and examples of prompts used. Discusses technical implementation such as the use of natural language inference for model explanations and alignment with emerging research methodologies (LLM-as-a-judge, etc.). This appendix provides transparency into how the analysis was conducted and guidance for those who may wish to replicate or build upon this approach in other workforce contexts.

Appendix B—Supplementary Data Tables and Figures: Includes descriptive statistics for complementarity, augmentation, and substitutivity across White Collar and Trade/Craft/Labor positions (Figures B1 and B2) and across Knowledge, Skills, and Abilities for all occupations (Figure B3). Also included are full tables summarizing the AI impact score distributions by occupational category (White Collar vs. Trade/Craft/Labor, Tables B1 and B2).

Appendix A. Methodological Details

Research Methodology: A RAG+GPT Approach to Analyze the Federal Workforce Impacts of GenAI

Our analysis leverages a sophisticated, multistage Retrieval-Augmented Generation (RAG) framework enhanced with Large Language Models (LLMs) to evaluate the potential impact of generative artificial intelligence on occupational competencies within the federal workforce. This approach integrates advanced natural language processing (NLP) techniques to systematically assess knowledge, skills, and abilities (KSAs) across federal job classifications, categorizing the AI impacts into three distinct dimensions: complementarity, augmentation, and substitutivity.

Retrieval-Augmented Generation (RAG) Framework The RAG methodology combines the accuracy of retrieval systems with the generative capabilities of large language models. This integration addresses common limitations of traditional LLMs, such as static training data and "information hallucination," by dynamically retrieving contextually relevant information before generating output. Specifically, our implementation involves Langchain, an open-source framework facilitating the orchestration of modular retrieval and generation components, thereby enhancing accuracy and contextual precision in responses.[25]

The multistage workflow is comprised of several distinct components:

1. **Document Loading and Parsing:** We begin by loading and parsing extensive textual documents from various sources, including the Office of Personnel Management's (OPM) occupational standards and competency frameworks. Additional sources include technical literature on AI capabilities and their labor market implications, grounding our system in accurate, domain-specific knowledge. Our analysis covers the more than 660 specific occupations represented across the U.S. federal government recognizes, as listed by OPM. And, although approximately 92 percent of its workforce are in white collar occupations, those 660 specific occupations run the gamut "literally from A (740 able seamen) to Z (43 zoologists)."[26]

25. For a comprehensive description of the methodology and additional technical details of the RAG-LLM system implemented in this work, readers are encouraged to consult Resh et al., "Complementarity, Augmentation, or Substitutivity? The Impact of Generative Artificial Intelligence on the U.S. Federal Workforce," arXiv, 2025, arXiv:2503.09637.
26. DeSilver, Drew. "What the Data Says about Federal Workers." *Pew Research Center*, 7 Jan. 2025, Pew Research Center, www.pewresearch.org/short-reads/2025/01/07/what-the-data-says-about-federal-workers/.

2. **Document Chunking and Embedding:** To optimize retrieval efficiency and accuracy, documents are divided into manageable semantic segments or "chunks." Each chunk is converted into a vector embedding (i.e., mathematical representations that capture semantic content) using domain-specific embedding models. These vectorized chunks are indexed in a specialized database, facilitating rapid similarity-based retrieval during the generative phase.

Knowledge Bases and Contextual Retrieval: Our methodology utilizes two separate knowledge bases tailored to distinct analytical tasks:

- The first knowledge base extracts detailed KSAs from federal occupational descriptions.
- The second knowledge base–enriched with empirical research on the impact of generative AI technologies on labor markets, a compendium of federal AI use cases, and other related scholarly and industry material–assesses the impact of generative AI on these competencies.

Structured Prompt Engineering: We employ structured prompts carefully designed to evaluate each of the three AI impact dimensions clearly and systematically:

- **Complementarity:** Ways in which GenAI can *enhance or support* the human worker's existing knowledge, skills, and abilities (KSAs) without fundamentally changing the job. (In other words, GenAI can be a helpful assistant that makes the human's work easier or more effective.)
- **Augmentation**: Ways in which GenAI can *transform* the work by introducing new capabilities or approaches, requiring the human worker to adapt and integrate GenAI into their processes. (Here, GenAI changes how the job is done, extending human capabilities into new areas.)
- **Substitutivity**: Ways in which GenAI can *replicate or replace* human effort, automating tasks or even entire roles. (This indicates the potential for GenAI to take over parts of the job completely.)

Table A1 provides a comparison of the three dimensions of relative impact that GenAI can have on human work. Each approach differs in its objective, impact on human roles, and the types of tasks it best supports. We incorporate these refined definitions into our prompts in the second stage of the RAG-LLM system to minimize biases and ensure precise, interpretable assessments from the generative models.

Table A1. Complementarity, Augmentation, and Substitutivity

	Complementarity	Augmentation	Substitutivity
Objective	Enhance human capabilities using existing KSAs	Transform human KSAs to integrateGenAI into tasks and processes	Replicate or replace human tasks and roles
Approach	AI works alongside humans, enhancing efficiency	AI forces a change in human capabilities to collaborate effectively	Automates tasks traditionally performed by humans
Outcome	Increases productivity without fundamentally changing human roles	Human roles evolve, requiring new skills to work alongside GenAI	May lead to job displacement in routine tasks
Focus	Efficiency and collaboration	Evolution of human cognition and skills to integrate GenAI	Functional equivalence to human intelligence
Application	Suited for tasks that benefit from enhanced efficiency but do not require a change in human cognition	Suitable for tasks that require both human cognitive evolution and GenAI capabilities	Effective for routine, repetitive tasks

3. **Generative Analysis and Scoring:** The outputs generated by GPT-4o are scored systematically according to their impact across the three dimensions. Each competency (KSA) is evaluated individually, accompanied by a brief rationale provided by the model to ensure transparency and interpretability. This nuanced scoring facilitates detailed analyses and comparative evaluations across various occupational roles and competencies.

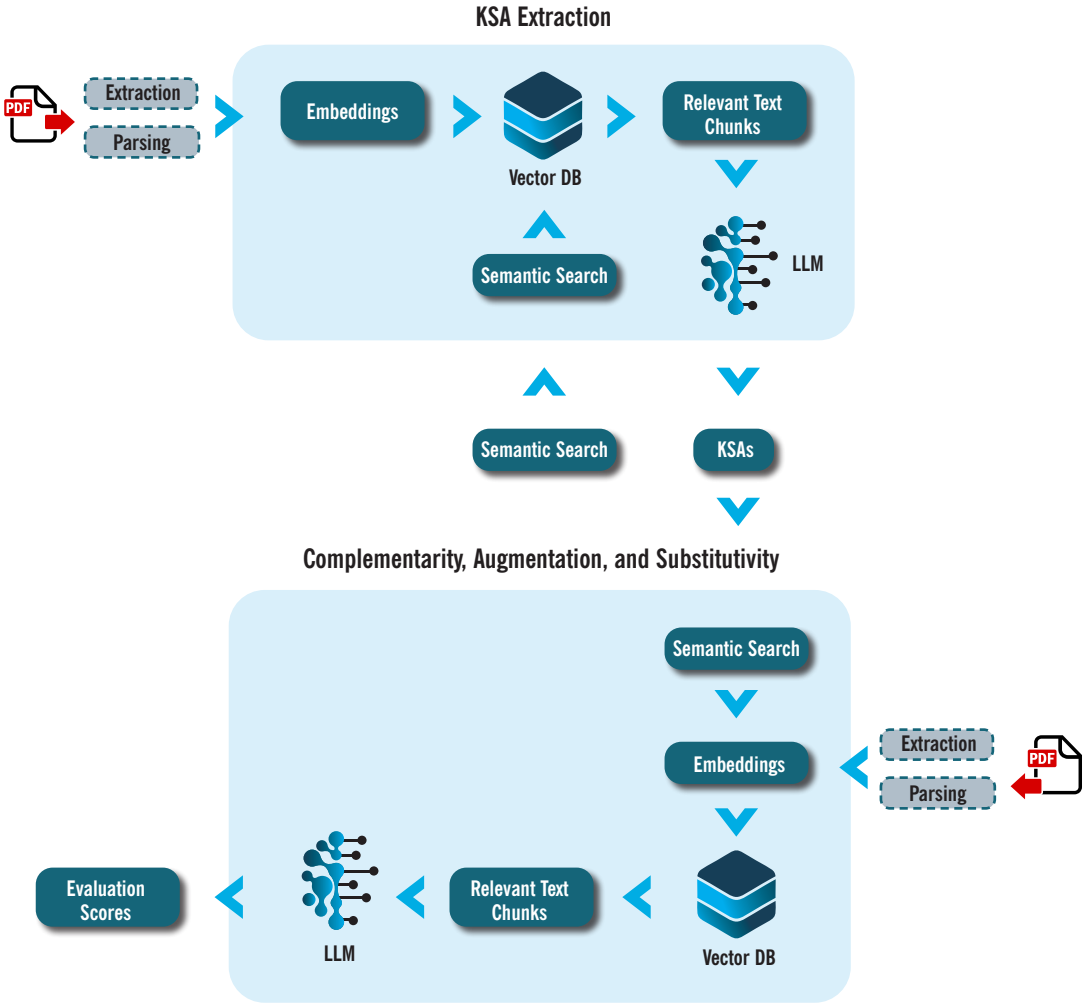
   The KSAs across a given occupation are then aggregated to provide an average AI Impact Score for an occupation along each of our three dimensions (for example, on a scale from 1 = no GenAI impact to 5 = high impact). A job with high complementarity and augmentation but low substitutivity would suggest GenAI is very useful as a tool for the human worker, but unlikely to fully replace them. By contrast, a job with a high substitutivity score might be heavily automatable. By analyzing these patterns across occupations, we identify where GenAI is most likely to play a supportive role versus where it could feasibly automate work. This AI-driven method provided a *data-informed, systematic view* of GenAI's role in the federal workforce, grounded in real job content and responsibilities.

4. **Validation and Application:** To confirm the reliability and validity of our model outputs, we engage in iterative validation strategies, comparing model scores and rationales against existing labor market analyses and emerging scholarly literature. This rigorous validation supports strategic workforce planning and informs targeted reskilling initiatives tailored to identified competency gaps and AI-driven labor transformations.

By integrating retrieval accuracy with generative AI's analytical capabilities, our RAG-LLM framework provides a powerful tool for proactively managing the impact of generative AI on occupational competencies. This methodology offers scalable insights for strategic planning across diverse employment contexts, ensuring workforce adaptability amidst rapid technological change.

Figure A1 provides a schematic of our methodology that illustrates the workflow described above–from data collection and processing to competency extraction and AI impact assessment.

Figure A1. Schematic Representation of the RAG-LMM System



Appendix B. Supplementary Data Tables and Figures

As evidenced in Figures B1 and B2, the distribution of our AI Impact Scores across occupations by each dimension of impact indicates both discriminant and convergent validity of our constructs in the sense that the mode and median of each respective dimension are closely aligned (convergent), yet the tails of the three distributions do not substantially overlap (discriminant).

Figure B1. Distribution of AI Impact Scores Across KSAs by Dimensions of Impact on White Collar Occupations

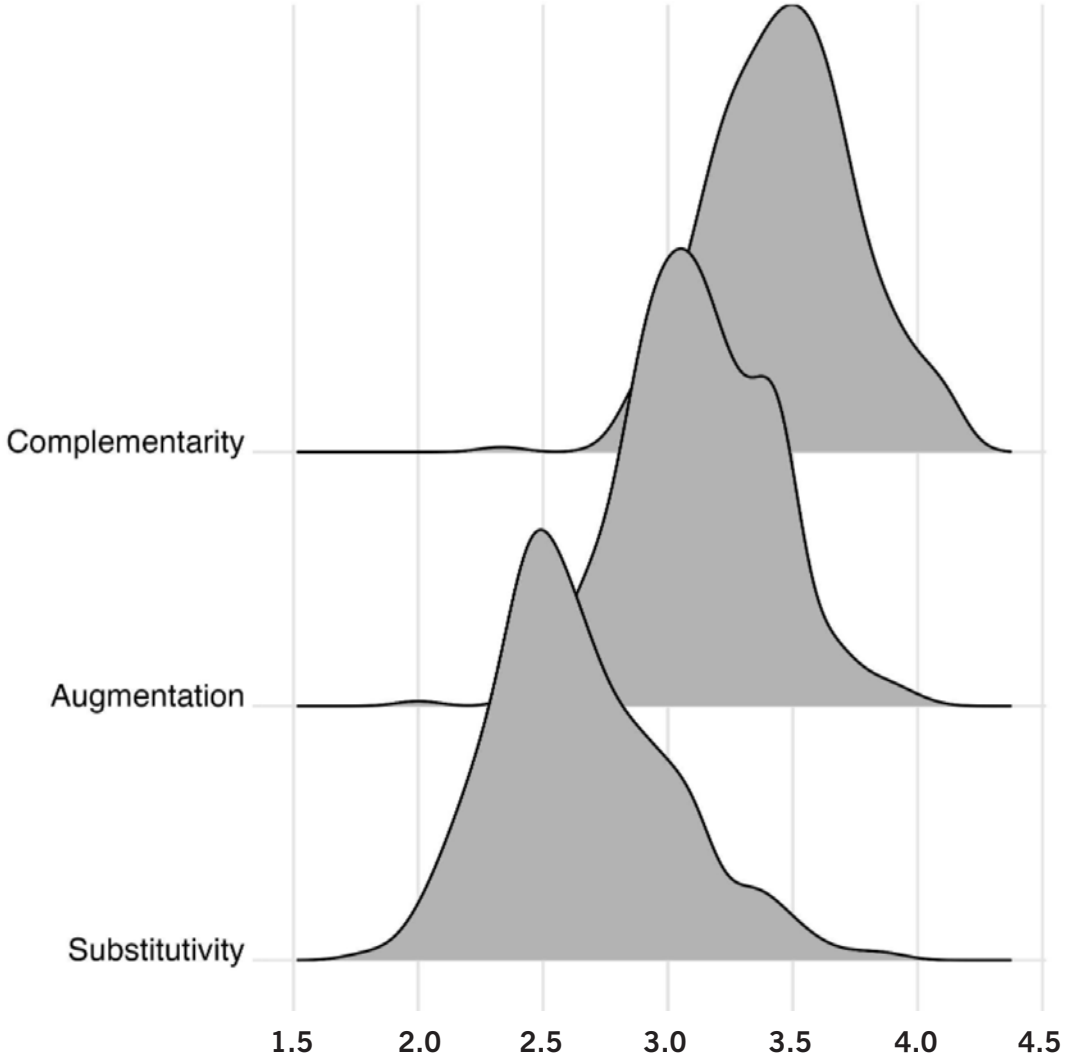
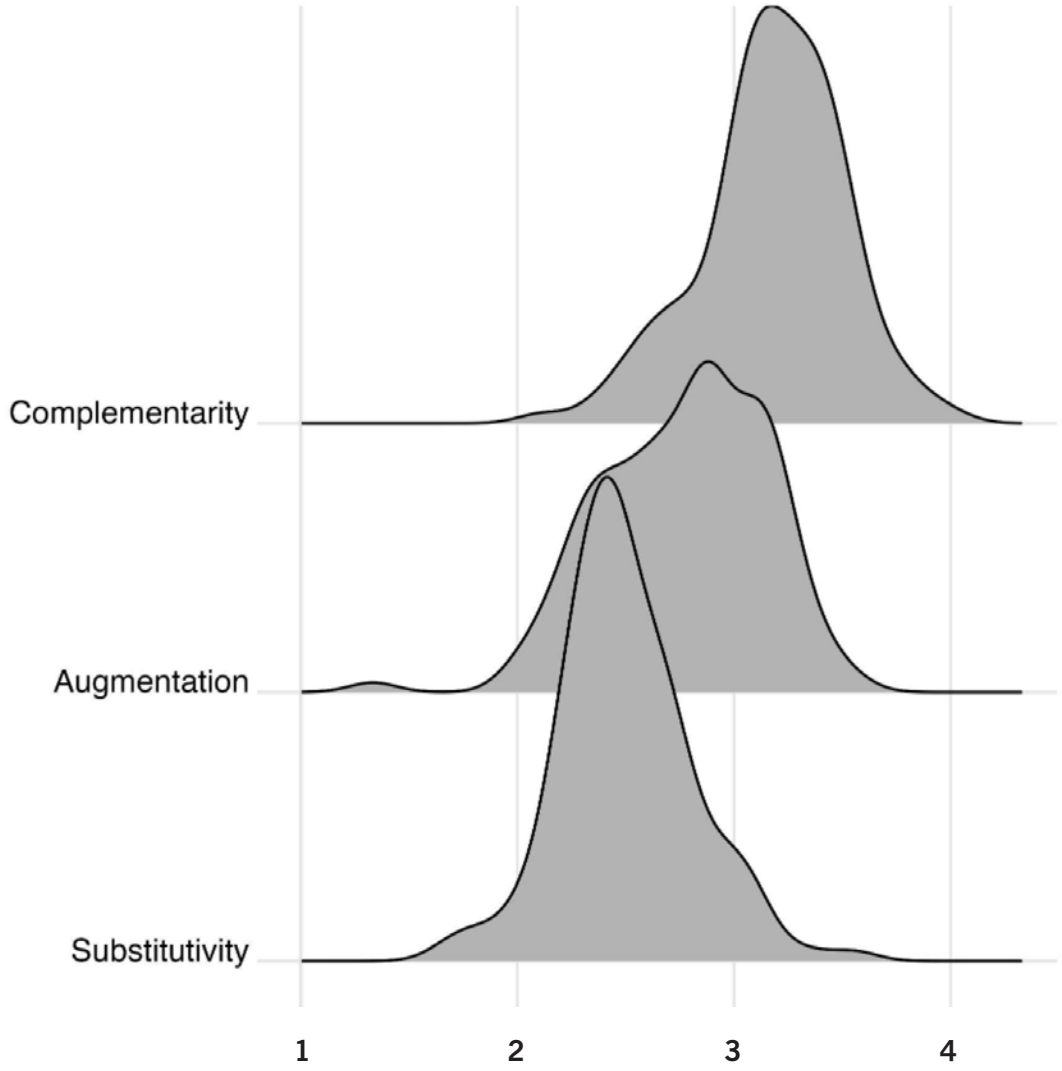


Figure B2. Distribution of AI Impact Scores Across KSAs by Dimensions of Impact on Trade, Craft, and Labor Occupations



We find that Complementarity—where AI enhances human capabilities without replacing them—received the highest average scores across all KSAs. Scores for Augmentation, which measure how AI transforms KSAs to incorporate new tools and workflows, were moderate, suggesting that workers will need to adapt to environments augmented by AI. Substitutivity scores, reflecting the potential for complete automation, were the lowest, highlighting the limited likelihood of AI fully replacing human labor in most roles. Notably, white-collar positions, which constitute the majority of federal jobs, showed higher scores for complementarity and augmentation, indicating greater AI integration into decision-making processes. Conversely, substitutivity scores remained consistently low across these categories, emphasizing AI's supportive role rather than a replacement.

These patterns align with our expectations and suggest that generative AI primarily serves to enhance human skills within federal roles. The high complementarity scores support the projection that AI will mainly act as a collaborative tool in the near term, especially in tasks involving data analysis and decision support. The moderate augmentation scores imply that human workers will need to evolve their KSAs to effectively leverage AI, while the low substitutivity scores reinforce the notion that full automation is unlikely for most federal occupations.

GenAI's Impact on White-Collar Occupations

White-collar roles (including analysts, managers, scientists, policy experts, and other professionals) primarily involve complex cognitive tasks such as research, strategic planning, detailed analysis, and specialized decision-making. Our comprehensive study demonstrates that GenAI significantly complements and reshapes these roles rather than substituting for them outright. In Table B1, we average our AI Impact scores across white collar occupational families, as defined by OPM. Darker shaded cells represent higher relative scores of impact across our three dimensions.

Table B1. White Collar Occupational Families by Averaged AI Impact Scores

White Collar Occupational Families	# of Jobs	Complementarity	Augmentation	Substitutivity
Miscellaneous Occupations	21	3.21	2.98	2.42
Social Science, Psychology, and Welfare	17	3.42	3.01	2.46
Human Resources Management	5	3.2	2.98	2.4
General Administrative, Clerical, and Office Services	31	3.52	3.1	2.99
Natural Resources Management and Biological Sciences	30	3.51	3.19	2.48
Accounting and Budget	10	3.64	3.11	3.24
Medical, Hospital, Dental, and Public Health	25	3.32	2.97	2.54
Engineering and Architecture	22	3.58	3.32	2.56
Legal and Kindred	12	3.39	2.98	2.66
Information and Arts	15	3.34	3.07	2.79
Business and Industry	22	3.49	3.16	2.65
Copyright, Patent, and Trademark	5	3.24	3.2	2.69
Physical Sciences	19	3.61	3.29	2.67
Library and Archives	5	3.69	3.27	2.8
Mathematical Sciences	10	3.7	3.48	2.93
Equipment, Facilities, and Services	8	3.54	3.1	2.76
Education	9	3.44	3.22	2.48
Inspection, Investigation, Enforcement, and Compliance	18	3.44	3.09	2.58
Supply	7	3.71	3.25	2.92
Transportation	15	3.44	3.08	2.61

On average, white-collar occupations display high complementarity and augmentation scores (generally above 3.5 out of 5), alongside lower substitutivity scores (typically below 3). In plain terms, GenAI is well-suited to assist and elevate knowledge workers in these jobs, but wholesale automation of such roles is limited.

GenAI's Impact on Trade, Craft, and Labor Occupations

Not all federal jobs revolve around desk work. Trade, craft, and labor occupations including mechanics, equipment operators, electricians, warehouse staff, and other hands-on roles are critical to government operations. In these occupations, GenAI's influence is present but more bounded by the physical and contextual nature of the work. Many tasks in this arena require manual dexterity, on-site situational awareness, and real-time human decision-making in dynamic environments: areas where GenAI has limitations.

Table B2 presents the averaged AI Impact scores across TCL occupational families, as defined by OPM. Again, darker shaded cells represent higher relative scores of impact across our three dimensions.

Table B2. TCL Occupational Families by Averaged AI Impact Scores

Trade, Craft, or Labor Occupational Families	# of Jobs	Complementarity	Augmentation	Substitutivity
Wire Communications Equipment Installation and Maintenance	1	3.44	3	2.78
Electronic Equipment Installation and Maintenance	4	3.36	3.17	2.33
Electrical Installation and Maintenance	4	3.53	3.03	2.42
Fabric and Leather Work	3	3.15	2.74	2.59
Instrument Work	4	3.39	3.28	2.42
Machine Tool Work	3	3.3	2.89	2.81
General Services and Support Work	4	2.78	2.33	2.39
Structural and Finishing Work	5	2.69	2.42	2.13
Metal Processing	2	3.17	2.61	2.28
Metal Work	6	3.24	2.54	2.39
Motion Picture, Radio, Television, and Sound Equipment Operation	1	2.67	2.22	2.33
Painting and Paperhanging	2	3	2.56	2.67
Plumbing and Pipefitting	2	3	2.89	2.11
Pliable Materials Work	1	3.44	3.11	2.78

Trade, Craft, or Labor Occupational Families	# of Jobs	Complementarity	Augmentation	Substitutivity
Plumbing and Pipefitting	2	3	2.89	2.11
Pliable Materials Work	1	3.44	3.11	2.78
Printing	5	3.18	2.89	2.67
Wood Work	5	3.04	2.62	2.6
General Maintenance and Operations Work	4	3.22	2.92	2.5
General Equipment Maintenance	4	3.17	2.72	2.44
Plant and Animal Work	4	3.28	2.81	2.58
Miscellaneous Occupations	2	3	2.56	2.22
Industrial Equipment Maintenance	7	3.29	2.9	2.48
Industrial Equipment Operation	10	3.32	2.89	2.58
Transportation/Mobile Equipment Operation	10	3.28	2.76	2.43
Transportation/Mobile Equipment Maintenance	3	3.11	2.93	2.59
Warehousing and Stock Handling	6	3.33	2.93	2.87
Packing and Processing	3	3.26	2.7	2.67
Food Preparation and Serving	6	2.94	2.52	2.43
Personal Services	1	2.33	1.33	2
Fluid Systems Maintenance	2	3.44	3	2.56
Engine Overhaul	1	3.67	3.22	2.56
Aircraft Overhaul	3	3.26	2.93	2.33

About the Author

William G. Resh, PhD
Chair and Professor
Public Management and Policy

E: wresh@gsu.edu

William G. Resh is Professor and Chair of the Department of Public Management and Policy (PMAP) at Georgia State University's Andrew Young School of Policy Studies. A nationally recognized scholar of executive politics, public personnel policy, civil service systems, and the U.S. presidency, Resh brings a dynamic blend of research excellence, administrative experience, and deep commitment to public service education to his role.

Resh previously held the C.C. Crawford Professorship in Management and Performance at the University of Southern California's Sol Price School of Public Policy, where he directed the Civic Leadership Education and Research (CLEAR) Initiative. Under his continued leadership, CLEAR is now hosted at Georgia State, advancing experiential learning, student research, and community-engaged scholarship.

His award-winning book, *Rethinking the Administrative Presidency* (Johns Hopkins University Press, 2015), received top honors from the American Political Science Association and the American Society for Public Administration. His research has appeared in leading journals such as *Public Administration Review, Journal of Public Administration Research and Theory, Governance*, and *Presidential Studies Quarterly*. He has secured more than $800,000 in sponsored research funding and is widely recognized for his collaborative work in data science.

As department chair, Resh is leading one of the nation's top public management and policy programs through a period of growth and innovation. His priorities include expanding enrollment, launching online degree programs, increasing research activity, and advancing lifelong learning opportunities in alignment with Georgia State's BluePrint to 2033: Our Place, Our Time.

Report Contributors

Gül Nisa Gürbüz is a PhD student in Technology Management at the University of California, Santa Barbara. She transitioned to UCSB from the doctoral program in Public Policy and Management at USC and holds a master's degree in Urban and Regional Planning from UCLA as a Fulbright Scholar. Her research focuses on AI adoption and innovation in public sector organizations. Nisa combines academic expertise with practical experience, having worked as an IT Project Manager leading software development teams.

Yi Ming is a Ph.D. student in the joint Public Management and Policy program at Georgia State University and Georgia Tech, where he researches AI's impact on public sector employment and workforce policy. He holds Master's degrees in Applied Data Science and Business Analytics, and a Bachelor's degree in Business from Arizona State University. Yi has experience in econometric analysis, large language models, and public sector data. Yi is passionate about using data-driven research to inform policy decisions and advance the future of work in government.

Xinyao (Andy) Xia is a Master's student in Applied Data Science at the University of Southern California, with a background in Economics, Data Science, and Entrepreneurship. He is interested in the intersection of artificial intelligence, public systems, and health care. With experience in machine learning and computer vision, he is particularly curious about how emerging technologies influence real-world systems and structures. Andy hopes to pursue a PhD in an interdisciplinary field that bridges AI with broader societal impact.

Report Contributors

Michael Overton, Associate Professor of public administration and Associate Director of the Institute for Interdisciplinary Data Sciences at the University of Idaho, primarily researches the integration of data science and public administration through data science literacy and Administrative Informatics. His scholarship also addresses artificial intelligence, local governments, economic development, and the Community Development Block Grant program, funded by the U.S. Department of Housing and Urban Development, the Lincoln Institute of Land Policy, SMART Transit, and the North Central Texas Council of Governments.

Brandon De Bruhl is a senior technical analyst at RAND and professor of policy analysis at the RAND School of Public Policy. He previously served as a senior policy analyst at the Office of Management and Budget (OMB) within the Executive Office of the President and has taught at Loyola Marymount University (LMU). His research examines how emerging technologies like artificial intelligence (AI) and cryptocurrencies shape public finance and national security, particularly in conflict scenarios. He holds a B.A. in political economics from Seattle University, an M.A. in international relations from the Maxwell School at Syracuse University, and an M.P.P. from the USC Sol Price School, where he is pursuing a Ph.D. in public policy and management.

Recent Reports from the IBM Center for The Business of Government

Collaborative Public Engagement for Building Trust in Government

by Dr. Gregory S. Dawson, Dr. James S. Denford, Kevin C. Desouza and Marc E. Barda Picavet

Enhancing Government Payment Integrity: Leveraging AI and Other Emerging Technologies

Contributing authors:
Richard Hoehne and Karen Kunz

Resilience in action: Crisis leadership through innovation, collaboration, and human-centered solutions

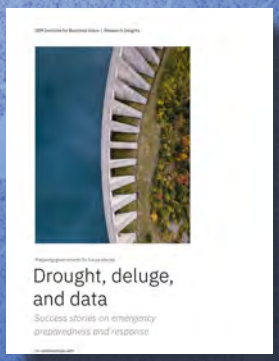
by Julia Carboni

Leadership Framework for an Agile Government

by Pallavi Awasthi and Kuang-Ting Tai

The Opportunity Project

by Joel Gurin and Matt Rumsey



Drought, deluge, and data: Success stories on emergency preparedness and response

by Samanta Varela Castro, PhD, Keri K. Stephens, PhD, Jongeun You, PhD, and Wendy D. Chen, PhD

IBM Center Research Announcement

by Dan Chenok

How TECHNOLOGY Can Drive GOVERNMENT EFFICIENCY

by Dan Chenok

For a full listing of our reports, visit businessofgovernment.org/reports

About the IBM Center for The Business of Government

Through research stipends and events, the IBM Center for The Business of Government stimulates research and facilitates discussion of new approaches to improving the effectiveness of government at the federal, state, local, and international levels.

About IBM Consulting

With consultants and professional staff in more than 160 countries globally, IBM Consulting is the world's largest consulting services organization. IBM Consulting provides clients with business process and industry expertise, a deep understanding of technology solutions that address specific industry issues, and the ability to design, build, and run those solutions in a way that delivers bottom-line value. To learn more visit ibm.com.

For more information:
Daniel J. Chenok
Executive Director
IBM Center for The Business of Government

600 14th Street NW
Second Floor
Washington, D.C. 20005
(202) 551-9342

website: www.businessofgovernment.org
e-mail: businessofgovernment@us.ibm.com

IBM Center for The Business of Government