Response of the MITRE Corporation to GSA’s RFI on the Federal Workforce

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About MITRE

The MITRE Corporation is a not-for-profit company that works in the public interest to tackle difficult problems that challenge the safety, stability, security, and well-being of our nation. We operate, on behalf of the Federal Government, multiple federally funded research and development centers (FFRDCs), participate in public-private partnerships across national security and civilian agency missions, and maintain an independent technology research program. Working across federal, state, and local governments—as well as industry and academia—gives MITRE a unique vantage point. MITRE works in the public interest to discover new possibilities, create unexpected opportunities, and lead by pioneering together for public good to bring innovative ideas into existence in areas such as artificial intelligence (AI), intuitive data science, quantum information science, health informatics, policy and economic expertise, trustworthy autonomy, cyber threat sharing, and cyber resilience.

MITRE has a long history of supporting federal agencies, and cross-agency teams, in understanding and overcoming workforce issues through the FFRDCs it operates, independent research, and public-private partnerships. This work has included:

- Analyzing whole-of-government trends and developing recommendations or guidance to enhance the federal workforce and associated activities;
- Supporting both civilian and defense agencies as they implement executive orders, establish new organizations, or restructure existing programs;
- Leveraging insights from state and international workforce activities to both enhance and benchmark federal workforce advancements.

MITRE has a history of technical expertise and has been active with regard to the analysis of federal workforce changes as a result of AI, quantum, cyber, 5G, Biotech, and other emerging technologies. MITRE projects employ a variety of skill sets to:

- Develop a vision and strategy for the future for building agility, enduring capability, and sustaining transformational change;
- Determine the knowledge, skills, and abilities that organizations need today and will likely need in the future;
- Analyze and identify gaps and barriers in organizational climate and performance through quantitative and qualitative data methods;
- Design human capital strategies and capabilities, including high-level transition plans, implementation risks, and mitigating approaches; and
- Conduct assessment of workload demand and supply to estimate current and future demand and supply, conduct scenario planning and strategic forecasting (staffing hours required to perform work of an organization).

effort that identified opportunities to revolutionize the way the government identifies, recruits, and onboard potential employees.

MITRE’s response to this RFI is organized into two distinct sections. The first is MITRE’s proposed “north star” vision for the federal workforce and human capital system. This section sets forth the vision for what and how to operationalize the PMA’s workforce priority area. The second is MITRE’s specific responses to the questions posed in the RFI.

The President’s Management Agenda Priority Area on Workforce: Designing for a “North Star”

With the release of the President’s Management Agenda (PMA), the Administration has set forth a bold approach to strengthen and empower the federal workforce, a long-standing management outcome. To achieve this outcome, the PMA enumerates key strategies including:

- **Strategy 1:** Attract and hire the most qualified employees, who reflect the diversity of our country, in the right roles across the Federal Government;

- **Strategy 2:** Make every Federal job a good job, where all employees are engaged, supported, heard, and empowered, with opportunities to learn, grow, join a union and have an effective voice in their workplaces through their union, and thrive throughout their careers;

- **Strategy 3:** Reimagine and build a roadmap to the future of Federal work informed by lessons from the pandemic and nationwide workforce and workplace trends; and

- **Strategy 4:** Build the personnel system and support required to sustain the Federal Government as a model employer able to effectively deliver on a broad range of agency missions.

Over the past 20+ years, the labor market has seen an evolution in job seeking and employment practices—moving from careers marked by a single employer to those characterized by multiple employers through the course of a career. Today, the federal workforce is marked not only by those who have served sequentially for decades but also those who have joined as early career (both first career and early career based on a change of career), mid-career, or near end-of-career individuals—as well as employees who move in and out of federal service, or across agencies, multiple times. The diversity of insights provided by these varied experiences provide a breadth and depth of understanding of how to best serve the American public. Prior academic, industry, academia, research, non-profit, state/local/tribal government, and international experience provide unique perspectives on the administration of our federal programs.

Even though the federal workforce includes this wide variety of employee career paths, the federal human capital system remains aligned to an archaic vision of employees that join federal service early and stay for their entire careers in two ways. First, its policies, business processes, and technology do not affirmatively attract, recruit, hire, and incentivize retention based on different stages a worker may be in the individual’s career (early, mid, end-of career). Second, departure from federal service (to pursue a non–Federal Government opportunity or simply pause on working for personal reasons) equates to “separation” from the government, with no expectation that the individual will return to federal service in the future (or discussion with the outgoing employee to encourage them to return at some point in the future).

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The North Star Vision & Recommendations/Approach. What lies ahead is the opportunity to design a federal workforce that pulls in talent at all stages of one’s career and fluidly encourages movement into, out of, and within federal service—providing a variety of experiences that can be leveraged to improve public administration. While there are programs and authorities (e.g., Presidential Management Fellows, Pathways, Schedule A hiring) to support a more fluid approach to attracting, recruiting, and hiring special cases within the federal workforce, more needs to be done for the majority of the workforce.

To capture the talent needed to power a Federal Government that serves the American public, the Administration can establish a human capital “North Star” for non-political federal employees based on two key principles:

- Employee tenures that may begin at the early career/change of career, mid-career, and/or end-of-career stages; and
- Employee tenures that include joining, leaving, and re-joining the Federal Government, as well as an anticipation of regular migration across agencies.

The four (4) PMA strategies provide a construct to facilitate this design. Below is a brief overview of a set of proposed approaches for each of the strategies that can create a federal human capital construct that recruits, attracts, and retains an exceptional federal workforce:

**Strategy 1:** Attract and hire the most qualified employees, who reflect the diversity of our country, in the right roles across the Federal Government.

Recommendation/Proposed Approach: Identify and understand the personas of individuals at key stages of their career and identify use cases of what is needed to recruit, attract, and hire the diversity embedded in the talent pool for each. Identify enabling policies and business processes and corollary functions and activities needed and more equitable decision-making practices (to include technology and technology adoption) to best recruit, attract, and retain diverse individuals into federal service at any stage of their career and encourage re-entry into federal services. Explore specific opportunities to increase geographic and other aspects of diversity in the federal workforce. Design and execute a proof of concept to test out the prospective design and determine success to bring diverse talent into the federal workforce. Design metrics to evaluate impact. Collaborate with Congress to establish critical hiring authorities to attract qualified candidates for key positions.

**Strategy 2:** Make every federal job a good job, where all employees are engaged, supported, heard, and empowered, with opportunities to learn, grow, join a union and have an effective voice in their workplaces through their union, and thrive throughout their careers.

Recommendation/Proposed Approach: Individuals generally choose federal employment because it enables them to serve and positively impact the nation. Efforts made to ensure that every federal job is a good job should thus predominantly focus on this aspect. Where federal service provides an opportunity to make impact at scale, identify opportunities to lead retention activities with mission and impact. To compliment this outward-facing approach, use Federal Employee Viewpoint Surveys (FEVS), All Employee Survey data, and other related data sources to understand federal employee perceptions, sentiments, and attitudes of opportunities to encourage meaningful work, increase levels of engagement, satisfaction, inclusion, and well-being. Design and execute a proof of concept to test approaches that demonstrate the value of investment in a more diverse workforce and that fosters inclusive and equitable workplaces, to create the conditions for a “good job.”
Strategy 3: Reimagine and build a roadmap to the future of federal work informed by lessons from the pandemic and nationwide workforce and workplace trends.


- Federal Business Lifecycles, service areas, functions, and activities to serve as the basis for a common understanding of what services, capabilities, and functions agencies need and providers should offer. Business capabilities are the outcome-based business needs mapped to Federal Government authoritative references, forms, and data standards.
- Business Use Cases are a set of agency “stories” that document the key activities, inputs, outputs, and other intersections to describe how the Federal Government operates.
- Business Data Elements identify the minimum data fields required to support the inputs and outputs noted in the use cases and capabilities.
- Service Measures define how the government measures successful delivery of outcomes based on timeliness, efficiency, and accuracy targets.

Coupled with the Strategy 1 and 2 proofs of concept, the Human Capital FIBF would inform the roadmap and next steps needed to design the future federal workforce based on the future of work.

Strategy 4: Build the personnel system and support required to sustain the Federal Government as a model employer able to effectively deliver on a broad range of agency missions.

Recommendation/Proposed Approach: Leveraging the approaches in Strategies 1, 2, and 3, identify necessary enabling conditions to meet the strategy area goals and develop policies and business processes, and identify investments in technology needed to support the future federal workforce and human capital system.

Questions Posed in the RFI

1. Area: Improving Hiring Outcomes
   a) Sub-Area: Attracting Talent to Create a Diverse and Inclusive Federal Workplace
   b) Sub-Area: Improving Hiring Processes

Government-Wide, Precision-Focused Workforce Planning: Positioning the Federal Government as an employer of choice in emerging technologies begins with government-wide strategic workforce planning for targeted technology areas (e.g., plans for AI/Machine Learning separate but aligned with the


other technology areas). Federal efforts in emerging technologies are both stove-piped and often redundant. For example, there are over 100 different federal talent programs focused on the cyber workforce. Although centralization efforts do exist for competency models and roles, there is not a comprehensive cyber workforce strategy. This results in lost opportunities to combine efforts, lost lessons learned, and an inefficient use of resources. Moreover, it creates confusion for external talent in determining which role at which agency would be the best fit. It also presents unnecessary challenges to existing federal employees seeking lateral or upward mobility in their career fields. Alternatively, for example, the government could provide research and training incentives, such as a cyber academy where select employees from throughout the government could attend joint training and exchange insights.

**Employer Branding for the Post-COVID Era:** Although strategic planning is imperative, it is not an end in and of itself. Workforce planning informs recruiting, staffing, and placement, all of which can be enhanced to better position the Federal Government to recruit and retain top talent in emerging technologies. Using data science to measure and enhance the employer brand of the Federal Government can not only help to attract a broader pool of candidates more likely to remain federal employees, but also to create meaningful, differentiated branding at federal agencies aimed to better align talent. Employees are seeking out more meaningful work with better work-life fit (e.g., telework, no or reasonable overtime). Both of these can be woven into the employer brand to demonstrate the value of federal careers. This can help to mitigate compensation issues typical in emerging technologies but cannot fully address them.

**Individual-Driven, Government-Enabled Career Paths:** In addition to seeking better work-life fit, today’s workforce values flexible career paths, often seeking to develop a career lattice of lateral moves across different related career fields or agencies. Despite this desire for diverse, lifelong learning experiences, federal employees often cite insufficient opportunities for personal development and career advancement. To address this, MITRE recommends creating a cross-governmental talent marketplace. In addition to providing employees with opportunities to move throughout the Federal Government more easily, such a marketplace could also assist separating military in finding civilian careers in the government. Finally, such a marketplace could easily include opportunities for eligible retired federal employees to find opportunities as surge workers (e.g., rehired annuitants) to create a more agile workforce.

**Market Data–Driven Rewards and Compensation:** To address compensation challenges in the Federal Government, MITRE recommends both expanding use of critical-hiring authorities and using data science to identify tipping points for salary by both occupation and specialization. Results from strategic workforce planning can be used to identify gaps in knowledge, skills, and abilities in mission critical occupations, which can in turn be applied to expanded critical hiring authorities (e.g., Critical Position Pay Authority) to streamline filling mission-critical gaps. MITRE’s experience with the 21st Century Cures Act has shown that the Federal Government need not match private sector salaries, but they have to be high enough that the other rewards of federal service mitigate any loss of salary. What matters may vary by career field or agency and should be aligned with employer-branded efforts. For example, MITRE’s interviews with federal quantum experts revealed the drive of those staffers to solve the unique, novel, and complex problems faced only in the Federal Government; but salary was still a factor in decisions about whether to work in the private sector, as a federal contractor, or as a federal employee.

In addition to the need for aligning new hires’ salaries with market conditions, MITRE recommends structuring compensation to align with value and performance. Given the extreme competition for talent in emerging technologies, compensation approaches that effectively balance the importance of recognizing employees for individual accomplishments, skills, and educational advancement with the importance of paying for the position in a way that appropriately compensates equal pay for equal work positively impact both retention and performance. In addition to salaries, including expanded education reimbursement and training opportunities for cross-skilling would provide value as a reward to top performers as well as meet government needs. MITRE’s workforce studies in emerging technologies
revealed the need for adjacent occupations to have cross-training or “literacy” in the supported field. For example, our federal 5G workforce is predicted to need AI/ML professionals with expertise specific to 5G. Because universities do not generally provide training in such interdisciplinary ways, these skills are usually developed on the job or through professional education. Covering the cost of such education provides additional compensation, increases retention, and creates a more agile workforce.

**Career-Ready–Focused Partnerships with Industry and Academia:** Because both the Federal Government and the private sector face similar shortages in the emerging technologies workforce, partnerships with the government, private sector, and educational institutions benefit all. The private sector, especially large employers (such as Facebook, Apple, Amazon, Netflix, and Google), have already developed partnerships with educational institutions to target their specific workforce needs in education while creating an employment-ready workforce through internships, apprenticeships, and sponsored educational opportunities. MITRE has similarly contributed through our GenAI program, which created “off-the-shelf” lessons leveraging artificial intelligence that could easily be integrated into courses from engineering to fashion merchandising and criminal justice. These types of programs create a large workforce available to all while often making programs more accessible to underrepresented groups. For example, much of MITRE GenAI work has targeted Historically Black Colleges and Universities, as well as their feeder high schools. Because these programs incorporate work with academic training, participants have more opportunities to cross-train (e.g., see example above about the need for a 5G-literate AI workforce) and also develop professional skills. Such partnerships could also introduce potential future workers to the Federal Government even if their first career move is to the private sector. This could positively impact federal recruiting at the mid-career and senior levels later, creating a more balanced pipeline.

**Innovative Workforce Development from All Segments of Society:** Creating the federal workforce necessary to meet mission objectives requires not only recruiting from all segments of society, but also preparing a workforce pipeline across all segments. MITRE’s research, consistent with other data, indicates that many students lose enthusiasm for emerging technology’s required competencies (e.g., mathematics, computer science) at the K-12 levels. MITRE’s findings in emerging technology studies contributed to significant increases in K-12 STEM education by the Department of Defense. Although such investments can certainly be effective, greater economies of scale can be gained from such investments if they are combined across the Federal Government, supporting the strategic workforce planning described earlier. MITRE has also done innovative work with the Federal Government through the GEAR program to help train, recruit, and retain neurodivergent people (e.g., those on the autism spectrum) to the federal workforce. Neurodivergent cyber experts, for example, can solve some cyber problems up to six times faster than a neurotypical cyber employee. Nonetheless, neurodivergent Americans are often unemployed or under-employed due to the difficulties they face in the hiring process or antiquated ideas about how an employee should interact in the workplace. This untapped market creates a huge opportunity for the Federal Government.

**Rethinking Federal Career Entry and Re-Entry:** The Pathways program has been successful in helping first career employees to enter federal service. Entering the Federal Government mid or late career, however, can prove not only daunting but also confusing to candidates, especially those used to the recruiting practices in the private sector. Removal of unnecessary positive education requirements can certainly help to broaden the pool of candidates, but those candidates still often need help in navigating the federal hiring process. Developing transparent, more agile processes for federal hiring that better mimic best practices in the private sector while maintaining merit system principles could dramatically increase the talent pool. A less arduous federal application process, especially for emerging technology fields, would benefit candidates and hiring managers as well as human resources. This may include, for

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example, broader use of screened candidate pools such that if an otherwise good candidate is not a fit for one role or agency, the recruiting works across the Federal Government to determine whether there is another that is a better fit. An ACT-IAC report on Talent as a Service also investigates these concepts in further detail.6

**Modern Human Resources Information Systems with Quality Data:** The data-driven processes described above require updated federal human resources information to better facilitate modern talent management. Moreover, it should be customized for the government’s specific needs in emerging technologies. For example, many critical technology fields do not have separate indicators in federal human resource systems, making identification of these individuals difficult. For example, there is no separate indicator for most of the Department of Defense Modernization areas. Where an indicator is available—such as cyber—hiring authorities, compensation planning, and ultimately workforce planning can be conducted more efficiently. In areas without it, such as quantum and biotechnology, headcount data can be difficult to attain because of the number of job series doing critical work in these areas and the number of other areas covered by other individuals in those same job series.

**Better Leverage Assessment Tools:** the private sector is using more sophisticated technology and innovative assessment methods and tools than the Federal Government, enabling more cost-effective and efficient assessment of candidates. Overall trends regarding the use of hiring assessments in the private sector include:

- Technology is enabling on-demand, online assessments, un-proctored internet testing, testing via mobile devices, and computer-adaptive testing.
- More firms are using media-enriched simulations and gamification to create compelling assessment experiences.
- Organizations want assessments to offer high-fidelity simulations and contextualized assessments that offer a realistic job preview.
- A move towards candidate-centric hiring requires shorter, more transparent, and engaging candidate experiences that invoke positive applicant reactions about the hiring organization.

A recent MITRE report investigated candidate assessment tools and their potential use in government hiring practices.7

2. Area: Diversity, Equity, Inclusion, and Accessibility (DEIA)

**Measuring the Success of DEIA in the Workplace and Creating a Culture of Inclusion**

While working to implement the 2021 President’s Management Agenda vision, agencies will be looking to strengthen and empower their workforces and use data-driven decisions to make their workplaces more diverse, equitable, inclusive, and accessible. At times, agencies lack awareness of important existing data sources and an understanding of how to effectively interpret them to make more evidence-based decisions about their DEIA workforce strategies to foster a culture of inclusion.

MITRE developed the Federal Inclusivity Index Tool (FIIT) as an evidence-based, data-driven tool for assessing and measuring the extent to which federal workplaces are equitable and inclusive.8 The FIIT

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accelerates agency analysis, prioritization and decision making about DEI organizational barriers, and specific actions to take to address them by providing:

- A deeper understanding of organizational DEI barriers,
- Targeted and individualized workforce strategies to overcome barriers, and
- Action planning guidance for building more inclusive climates.

The FIIT highlights DEIA issues by layering analytic tools over publicly available data (e.g., FEVS) from the Office of Personnel Management. The FIIT mix blends government-wide and component-level views of workforce programs so leaders can identify areas of strength, barriers, goals, and make informed decisions. Agencies can also upload their own data reports into the tool for further analysis and to create tailored equity and inclusion action plans. Based on their New Inclusion Quotient index (New IQ) and five habits of inclusion (Fair, Open, Cooperative, Supportive, and Empowering) measures, agencies can assess and design more diverse, equitable, inclusive, and accessible workforce strategies.

The FIIT incorporates MITRE’s Equity in Workforce Strategy Framework. The framework is an adaption of MITRE’s Workforce Strategy Framework, with an added equity orientation. It offers an evidence-based, systems-thinking equitable approach to workforce strategy and transformation. The framework provides analytics that prioritize equitable decision making about human resource practices and policies, including recruitment, hiring, promotion, retention, professional development, engagement and culture, performance management, pay and compensation policies, reasonable accommodations access, and training. The FIIT enables agencies to respond to White House guidance, by developing data-driven, DEIA-targeted workforce and human capital management strategies that can support their specific goals, measure the progress of their initiatives, and foster a culture of inclusion.

![Figure 1 - MITRE’s Equity in Workforce Strategy Framework](https://sjp.mitre.org/insights/610839d2139845001e9fe327)

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Measuring the Value of DEI Investments

Agencies are seeking data, methods, and tools to measure their DEIA outcomes and make more informed decisions about their workforce strategies and investments. DEIA measures exist today, but are not used effectively or triangulated to support meaningful decision making. Further, many DEIA measures focus on output metrics rather than outcomes. Agencies need new ways of looking at the value of DEIA outcomes to justify long-term investments and sustain enduring change.

Currently, agencies collect data on employee engagement, satisfaction, and inclusion, including perceptions of fairness, openness, and supportiveness. In addition, they collect data on well-being program participation, attrition, and absenteeism. To what extent are these data sources leveraged to inform DEIA strategies, overcome barriers, and inform workforce investment decisions? Agencies need a proof of concept value of investment tool that calculates the cost and benefits of DEIA investments and demonstrates progress towards achieving DEIA outcomes—specifically value of investment in inclusion and engagement. DEIA value of investment\textsuperscript{10} outcome measures can inform decision making about resource allocation planning and evaluating the effectiveness of DEIA investment strategies, mission effectiveness, and business outcomes that meet regulatory requirements.

There are business benefits associated with inclusion and engagement efforts, demonstrated in outperformance, increased customer ratings, productivity, lower absenteeism, turnover, shrinkage, disease prevention, and fewer safety incidents.\textsuperscript{11} There is a monetary value associated with employees not feeling engaged and included, as reflected in multiple studies that acknowledge the associations between engagement and inclusion and productivity, performance, low sense of well-being, turnover, absenteeism and attrition. Engagement has a value proposition by reducing absenteeism in some cases by 41\% and turnover by 59\%, thus making entities much more profitable, demonstrated by tenfold increase in sales.\textsuperscript{12} Healthy, engaged, and included employees are productive employees. There is a business case to DEIA and fostering a culture of inclusion. Hence, more tools are needed to support agency decision making to justify investments in people outcomes, including engagement and inclusion.

3. Area: Thriving in a Multi-Dimensional Federal Career
   C. Sub-Area: Planning/Strategy/Processes

The MITRE Workforce Strategy Framework provides a comprehensive systems-level view to evaluate and consider the strategic positioning of human capital at an agency. The workforce strategy framework is designed to assist management officials, human capital, and organizational strategists to discuss, assess, and plan. The framework consists of five elements and the relationships between the elements. For each element, there are key questions that can be used as considerations for policy and planning.

Element one aligns strategic workforce planning and organization design. The workforce planning process identifies and addresses the gaps between the workforce of today and the human capital needs of tomorrow. This is conducted in conjunction with the organization design process, which drives decisions about the configuration of the organization’s formal structures, processes, and systems. Both are critical to setting the workforce strategy.

Element two focuses on selection procedures that are used as a basis for making employment decisions related to hiring and promotion. This element includes developing recruitment strategies to attract talent to the organization, conducting a job analysis to determine the position’s competencies required for hiring, developing assessment strategies for candidate selection, and designing assessment instruments.

Employee development includes identifying and assessing the necessary skills to meet current and future job demands by developing coaching and training interventions. This includes the design and assessment of both technical and non-technical competencies, as well as leadership development. Some methods of employee development occur on the job, while other development occurs at training facilities or using online methods.

Figure 3- MITRE Workforce Strategy Framework
Element four includes all elements of the performance-management cycle. Performance management is the systematic process of planning work, setting expectations, monitoring performance, developing the capacity to perform, rating performance, and rewarding good performance. While employee performance is distinct from organizational performance, there are linkages between the measurement of metrics and outcomes at the individual and organizational levels.

Element five includes the culture of the organization and the level of engagement of employees within that culture. Culture of an organization includes the values, norms, attitudes, beliefs, and behavioral meanings that are shared by members of a group. Engagement specifies the connection that employees have to their work, their organization, or the people they work with, and the effect of that connection to produce better results for the organization.

Separately, federal leaders also need the knowledge, skills, and abilities to foster inclusion in the workplace. Inclusive leadership skills require specific competencies that are not always accessible for training in the Federal Government. Leaders and employees need more than a one-off training, but rather they need a professional-development model that builds and identifies knowledge, skills, and abilities that foster inclusive leadership behaviors. These competencies focus on developing inclusive leaders by building skills in cultural competence, unconscious bias, and emotional intelligence, to name a few, as well as technical competencies in organizational change and agility, equity-centered design thinking, and a commitment to DEIA through explicit equity consciousness and commitment behaviors. As the executive orders have catalyzed changes in policies and practice, it is important that agency leaders have the corresponding competencies and proficiencies to address the regulatory transformational changes that are needed to achieve their intended outcomes.