



PARTNERSHIP FOR PUBLIC SERVICE

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**“The Cyber Talent Pipeline:
Educating a Workforce to Match Today’s Threats”**

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Introduction

Chairwoman Clarke, Ranking Member Garbarino, and members of the Subcommittee on Cybersecurity, Infrastructure Protection, and Innovation, thank you for the opportunity to appear before you today to discuss the importance of building a robust cybersecurity talent pipeline.

The Partnership for Public Service is a non-partisan, non-profit organization dedicated to inspiring public service and increasing the efficiency and effectiveness of the federal government. The Partnership was founded on the premise that any organization's best asset is its people.

Cybersecurity, a critical element of any organization's resilience, has been indispensable to the federal government's response to the COVID-19 pandemic. Early in the pandemic, security considerations moved to the forefront as more employees than ever before worked and accessed agency information networks remotely and used digital tools to continue operations and service delivery. As the federal government thinks about the future of work, it is clear that cybersecurity will remain at the forefront. And, of course, there are moments of crisis in securing the nation's cyber infrastructure – the SolarWinds cyberattack in 2020 and the Colonial Pipeline hack in May 2021 illustrate the importance of having federal cyber experts who can respond quickly to an increasingly sophisticated threat landscape.

Although these cyberattacks shine a fresh spotlight on the country's vulnerabilities, cybersecurity has been identified as a GAO High-Risk List area since 1997.¹ Despite being on the list for 24 years, there remains a nationwide shortage of highly qualified cybersecurity specialists, and the federal government has fallen behind in the race for this talent. Amidst the growing demand for cyber professionals, agencies have struggled to recruit, hire, retain and train workers in the cybersecurity field. Many of the personnel issues confronting the cybersecurity workforce are endemic in the federal system that makes recruiting and retaining the best and brightest talent in any career field a formidable challenge. To protect the country against current and future threats, Congress must focus on revitalizing and investing in the federal cyber workforce.

The Partnership offers a variety of programs that allow us to work with federal employees to strengthen their leadership skills, prepare them to build strong teams and work across organizational boundaries. We also work with agencies on issues such as attracting top talent, engaging and supporting their workforce, and fostering innovation. For example, our cross-sector [Cybersecurity Talent Initiative](#)² is a partnership with Mastercard, Microsoft and Workday that provides students in cybersecurity-related fields with public and private sector work experience. This program guarantees students a two-year placement at a federal agency with cybersecurity needs and provides agencies with capable talent to address current and emerging challenges. Through these initiatives, we help federal leaders and agencies achieve better outcomes for the people they serve.

For the past decade, the Partnership's research has highlighted strategies and opportunities for government to build a more capable cyber workforce. For instance, our 2009 "[Cyber In-Security](#)" report outlines factors hampering government's ability to build an efficient and effective cybersecurity

¹ Senate Committee on Homeland Security and Governmental Affairs, "GAO's 2021 High Risk List: Addressing Waste, Fraud, and Abuse," March 2, 2021. Testimony from Eugene L. Dodaro, Comptroller General of U.S. Government Accountability Office. Retrieved from <https://www.hsgac.senate.gov/gaos-2021-high-risk-list-addressing-waste-fraud-and-abuse>.

² Cybersecurity Talent Initiative. Retrieved from <https://cybertalentinitiative.org/>.

workforce.³ Our 2015 supplementary report, “[Cyber In-Security II](#),” outlines key findings and strategies to help government build a capable cyber workforce and close the federal talent gap.⁴

Challenges Facing the Federal Cyber Workforce

Unpacking the data on the federal cybersecurity workforce reveals different stories across the government. There are areas of growth, including in government-wide totals – the number of full-time federal cyber employees increased by 7.85% between September 2016 and September 2020. Over the same period, the federal workforce overall increased by 3.66%.

However, there are concerning trends in other areas of the cyber workforce. For example, some agencies saw declines in full-time employees – the Department of Agriculture’s cyber workforce decreased from 3,300 employees in September 2016 to 2,700 in September 2020, while at the Department of Labor it decreased from 750 to 660 employees in the same timeframe.⁵

Government also faces challenges in recruiting, hiring and retaining a cyber workforce that looks like the American public. For example, 50.8% of the U.S. population identifies as female;⁶ however, in September 2020, just 25.4% of the full-time federal cyber workforce identified as female, compared to 43.2% government-wide.

The federal cybersecurity workforce is also older than the U.S. labor force. The percent of full-time cyber employees under the age of 30 steadily increased from 4.1% to 5.7% between September 2014 and September 2020; however, this still lags behind the almost 20% of the employed U.S. labor force in 2020 that is under age 30.

To revitalize the cyber workforce, the administration and Congress must address both immediate and long-standing problems. Key data points from the overall federal workforce signal the urgent need for attention to this vital national asset. These trends are not new but will be harder to fix the longer we wait:

- In the federal IT workforce, there are 16 times more employees over the age of 50 than under age 30.
- Roughly one-third of full-time employees on board at the beginning of fiscal 2019 will be eligible to retire by the end of fiscal 2023.
- Use of the federal Pathways intern program, which should be a main pipeline into federal service, has plummeted. According to the fiscal 2020 budget request, the number of new hires of student interns fell from 35,000 in 2010 to 4,000 in 2018.⁷
- Of the full-time employees under 30 who voluntarily quit federal service in fiscal 2019, over 73% did so with less than 2 years of federal tenure, suggesting that many young people do not have a

³ Partnership for Public Service, “Cyber In-Security,” July 2009. Retrieved from <https://ourpublicservice.org/publications/cyber-in-security-strengthening-the-federal-cybersecurity-workforce/>.

⁴ Partnership for Public Service, “Cyber In-Security II,” April 2015. Retrieved from <https://ourpublicservice.org/publications/cyber-in-security-ii-closing-the-federal-talent-gap/>.

⁵ Statistics on federal employees are drawn from Office of Personnel Management FedScope data on the federal workforce unless indicated otherwise.

⁶ U.S. Census Bureau. Retrieved from <https://www.census.gov/quickfacts/fact/table/US/PST045219>.

⁷ “Analytical Perspectives, Budget of the United States Government, Fiscal Year 2020,” March 18, 2019, p.77. Retrieved from <https://www.govinfo.gov/content/pkg/BUDGET-2020-PER/pdf/BUDGET-2020-PER.pdf>.

positive work experience in the federal government or lack sufficient incentives to stay in federal service.

- Data also shows major diversity challenges in the federal workforce, which grow even greater at the higher echelons of service. For example, only 35.5% of the career Senior Executive Service are female, and only 22.7% of the career SES are people of color.
- The 2020 [Best Places to Work in the Federal Government](#)⁸ employee engagement score was 69 out of 100, lagging behind the private sector by more than 8 points and suggesting that more can be done to cultivate a highly engaged, high-performing federal workforce.
- It takes the government an average of 98 days to bring new talent on board – more than double the time in the private sector.⁹
- About 83% of major federal departments and agencies struggle with staffing shortages and 63% report gaps in the knowledge and skills of their employees.¹⁰
- According to the [Survey on the Future of Government Service](#),¹¹ just 32% of respondents say their agency has a strategic recruitment plan that is aligned to its workforce needs.

The Importance of Strengthening Government’s Cyber Workforce

Federal jobs offer mission-driven work with opportunities to help solve the biggest challenges facing our nation. Our government needs cyber talent to secure our national security and economic interests, and help the country rise to the significant challenges of the day and prepare for what lies ahead. In particular, the dearth of young civil servants represents a lost opportunity for our federal government as well as the nation’s young professionals.

The federal government not only needs to work harder to recruit and hire great talent, but also create an environment that retains high-performing employees. Fundamental reforms to the government’s antiquated pay and classification system—or more targeted personnel systems, such as the DHS cyber personnel system—would better equip the government to compete for cyber talent. Even within the constraints of the federal pay system, though, our government can pursue multiple strategies to make the federal government the employer of choice not only for entry-level talent but also for mid- and senior-level talent.

There are many reasons why government is failing to recruit and retain talent, especially young people, and the problems are deep-seated:

The federal government’s brand is damaged. Government shutdowns, hiring freezes, and negative rhetoric have hurt the image of government and the people who serve. An Axios Harris poll in March 2019 examined the reputation of America’s 99 most high-profile companies and the federal

⁸ Partnership for Public Service, [Best Places to Work in the Federal Government](https://bestplacestowork.org/)[®]. Retrieved from <https://bestplacestowork.org/>.

⁹ Office of Personnel Management, “OPM Issues Updated Time-to-Hire Guidance,” February 2020. Retrieved from <https://www.opm.gov/news/releases/2020/02/opm-issues-updated-time-to-hire-guidance/>.

¹⁰ Office of Personnel Management, “2018 Federal Workforce Priorities Report,” February 2018. Retrieved from <https://www.opm.gov/policy-data-oversight/human-capital-management/federal-workforce-priorities-report/2018-federal-workforce-priorities-report.pdf>.

¹¹ “Survey on the Future of Government Service,” October 13, 2020. The survey is a collaborative effort by the Partnership for Public Service, the Princeton School of Public and International Affairs at Princeton University, the Center for the Study of Democratic Institutions at Vanderbilt University and Georgetown University. Retrieved from <https://ourpublicservice.org/publications/survey-on-the-future-of-government-service/>.

government, and the government ranked dead last.¹² That was before a pandemic further eroded public confidence in government.

Opportunities for young people are hidden and scarce. Many students do not know about compelling career opportunities in government or how to apply for them. In addition, government hiring processes have historically shown a disproportionate preference for experienced professionals, limiting opportunities for promising young talent. For instance, internships are underused across the federal government and just 4% of new hires are drawn from federal programs employing current students and recent graduates. An added challenge for the cyber community is that candidates often find it difficult to enter the federal workforce due to poor advertisement of available cyber opportunities in government. This is largely due to the antiquated way these jobs are classified and outdated position descriptions that do not accurately depict the skills and knowledge necessary for the role.

Barriers to entry abound for job candidates. An unintuitive online jobs portal in USAJOBS, a 70-year-old compensation system, and a time-to-hire average of nearly 100 days all make it difficult for government to attract top talent. Government may always struggle to match private sector salaries, but it must do better on multiple human resource fronts in the competition for mission-critical talent.

We are failing to adapt to the needs of a more mobile workforce. Our federal personnel system is geared to the model of the lifetime federal employee. We value and need those who want to dedicate their whole careers to federal service. But we also must seize opportunities to recruit those who want to serve for shorter durations, especially as younger workers increasingly want more mobility in their careers. Just 35% of millennials expect to stay with their current employer for five or more years, but there were notable correlations between those who did plan to stay and those who believe their employers perform well on issues related to financial performance, community impact, talent development, and diversity and inclusion.¹³

Undergirding these challenges is the need for a heightened commitment to diversity, equity and inclusion. While the federal government outperforms many private sector organizations on this front, there is room for improvement in federal leadership ranks. Among career leaders in the government's Senior Executive Service (SES), just 36% are female and only 23% identify as people of color. And among SES leaders in STEM, just 26% are female and only 18% identify as people of color. Federal agencies need to do more to provide and promote opportunities to underrepresented communities and ensure that our government mirrors the people it serves.

Altering the status quo will not be easy but it will be critical to the nation's future. And this moment in time offers a rare convergence of opportunity: a federal workforce which has dramatically changed the way it works over the past year and is primed for adaptation amid the staggering health, social, and economic challenges it must take the lead in tackling; and the rise of Generation Z, which is technologically adept and hungry to make a difference.

¹² The Harris Poll, "Axios Harris Poll 100," 2019. Retrieved from <https://theharrispoll.com/axios-harris-poll-100-2019/>.

¹³ Deloitte, "The Deloitte Global Millennial Survey 2020," June 25, 2020. Retrieved from <https://www2.deloitte.com/global/en/pages/about-deloitte/articles/millennialsurvey.html>.

The past year has shown the dedication, resiliency and resourcefulness of the federal workforce. At many agencies, most federal employees shifted quickly to telework as the pandemic spread, while others bravely remained on the front lines in jobs that cannot be performed remotely. On all fronts, federal workers have found innovative ways to serve the people during the pandemic. Thus, out of crisis comes opportunity. We have a once-in-a-generation moment to transform the workforce and the way it works, and to inspire Americans to enter public service.

Both the world and the workplace are rapidly changing. In the post-pandemic era, we must not go back to the old ways of doing business when the new ways make more sense. We should seize this moment to modernize the ways in which government operates, which in many instances are predicated on laws and practices that are decades old and out of sync with today's fast-paced digital economy and invest in a cybersecurity workforce for the future.

Solutions for Building the Cyber Talent Pipeline: What Can Congress Do?

Here are ten ways that Congress can accelerate this revitalization and transformation of the federal cyber workforce:

1) Create high expectations for federal leaders.

A transformation of the workforce and how federal employees do their jobs will not be possible without also reimagining leadership in the federal government. Good leaders motivate and advocate for their employees, build trust and create the conditions necessary for employees to perform at their best. The civilian side of government should take a lesson from the military side, where people are viewed as an asset, not a cost, and where investments in leadership development are critical to the strategy for success.

In 2019, the Partnership developed the [Public Service Leadership Model](#),¹⁴ recognizing the unique nature of leadership in government, centered on stewardship of public trust and commitment to public good. We believe this model should be the standard for leaders—both career and political—across the federal government. The model identifies the core values that leaders must prioritize and the critical competencies they must master to achieve their agencies' missions and desired impact. These include setting a vision, empowering others and being accountable for results. We were proud to create this model with a nonpartisan group of distinguished leaders from across sectors, and in the months to come we hope to work with Congress, the executive branch and others to improve and measure overall leadership effectiveness.

Congress also should hold political and career federal leaders accountable not only for owning policy but also for the organizational health of their agencies. In many cases, agencies and bureaus could benefit from career executives at the helm – nonpartisan, professional leaders who can provide needed stability and deep expertise. An example of this is the Department of Energy's Office of Cybersecurity, Energy Security, and Emergency Response (CESER), which is currently helmed by a career civil servant. Our

¹⁴ Partnership for Public Service, Public Service Leadership Model. Retrieved from <https://ourpublicservice.org/our-work/public-service-leadership-model/>.

government has over 4,000 politically appointed positions, with roughly 1,200 of them subject to Senate confirmation, and the process for selecting, vetting and appointing them is complex, inefficient and time-consuming. We encourage Congress to consider reducing the number of political appointees and creating more opportunities for career experts to lead.

In addition to taking ownership of the health of the workforce, political and career programmatic and policy leaders in government today must also have a familiarity with technology and cybersecurity issues in order to focus on key priorities and make informed choices. That's why the Partnership created the AI Federal Leadership Program in 2019. This six-month, complimentary program is meant to help federal leaders (specifically members of the SES) better understand the needs and opportunities around artificial intelligence, and prepare them to integrate this technology with policy and program implementation. This program is another cross-sector effort with technology leaders, including Microsoft, Google and the Ford Foundation.

With respect to the workforce, Congress should hold political appointees responsible for recruiting and retaining highly qualified talent, developing future leaders, engaging employees, and holding subordinate managers accountable for addressing performance. Congress should urge agency leaders to use the annual Federal Employee Viewpoint Survey and the Best Places to Work in the Federal Government® rankings to drive better results in their agencies. Employee engagement is not just about happy employees. Higher scores in employee engagement equate to better performance and higher-quality service, which in turn become valuable recruiting tools. For example, in a recent analysis of performance data from nearly 150 Department of Veterans Affairs hospitals across the country, the Partnership found that higher patient satisfaction, better call center performance and lower nurse turnover were all associated with a more satisfied and committed workforce.¹⁵

Congress and the administration should also embrace the bold goal of closing the over 8-point gap between the government and the private sector in the Best Places to Work in the Federal Government® engagement index, and even increasing the federal score over the private sector score. The government has a powerful asset in having a mission-driven workforce. This purpose-driven work, if combined with excellent leadership, will lead to much more engaged employees and better outcomes for the American public.

2) Utilize innovative talent models.

To attract talent at all levels, Congress and the administration should work together to create new and innovative pathways—and expand existing ones—for diverse mission-critical talent to join public service through fellowships, talent exchanges and service corps.

In 2019, the Partnership collaborated with Mastercard, Microsoft, Workday and a dozen federal agencies to establish the [Cybersecurity Talent Initiative](#), which aims to build the next generation of cyber leaders for our country. This innovative cross-sector opportunity enables recent graduates to spend two years working for and receiving training in the federal government in a cyber-related position. At the

¹⁵ Partnership for Public Service, "Employee engagement is more than just a survey," March 2, 2020. Retrieved from <https://ourpublicservice.org/blog/employee-engagement-is-more-than-just-a-survey/>.

end of two years, they will have an opportunity to apply for a position with one of the corporate partners and, if hired, will be eligible to receive student loan assistance up to \$75,000 from their private sector employer. This model is the first of its kind. The inaugural class of eight future cybersecurity leaders brings a variety of academic and professional experience to five federal agencies, and we anticipate placing at least 25 participants across nine federal agencies and components for the second cohort.

One benefit of these efforts is that we are educating young people about cyber careers across sectors and helping them learn about organizations and missions they may have never heard of before. Other federal programs like the U.S. Digital Service, 18F, and Presidential Innovation Fellows allow “technical tours of duty” with the federal government and are unique in helping promote and respond to an increasing desire for the next generation to be more mobile in their careers. The programs provide a model for filling other “hard-to-fill” positions in government.

3) Promote government’s mission.

Both the world and the workplace are rapidly changing. Our government needs a new generation of young people to serve in a data- and technology-driven environment, with expertise in such sectors as cybersecurity, technology, engineering, finance and health care. Making the federal government an “employer of choice” requires greater awareness by the government of what employees want in the workplace, coupled with improved public perception of opportunities in federal service. As the federal government struggles to attract students and recent graduates, it is clear that more must be done to improve the government’s “brand.” Government shutdowns, hiring freezes and negative rhetoric damage the image of government and the people who serve.

The federal government, because of budget constraints, will always have a hard time competing with the private sector on pay, but agencies almost always have an advantage in offering employees a sense of mission. Our Best Places to Work® rankings regularly show that the match between employee skills and agency mission is a key driver of employee engagement, second only to effective leadership. Too often, though, federal job announcements are dry, confusing and fail to inspire. The Partnership has identified bright spots in marketing, such as NASA’s custom-built career website, which supplements USAJOBS and showcases their mission, including through videos from current employees sharing their stories.¹⁶ NASA understood that, to attract professionals in STEM fields, the agency needed to set itself apart from other employers by focusing on its unique mission and impact. Other agencies, such as the Department of the Interior, leverage social media platforms to promote their missions and the work of their agency.

The federal government needs to do more to showcase the incredible array of professional opportunities it offers and to recognize the accomplishments and innovation of the current workforce. Without compelling and shared stories of success in government, government will struggle to become an employer of choice for the tech-savvy, forward-looking talent that it needs to attract.

¹⁶ Partnership for Public Service and Salesforce, “Tech to Hire: Transforming Federal HR Beginning with Recruiting and Hiring,” October 3, 2018. Available at <https://ourpublicservice.org/wp-content/uploads/2018/10/Tech-toHire.pdf>.

This subcommittee can also play an important role in encouraging congressional colleagues to recognize the successes of the federal workforce. Federal employees are often blamed for policy failures, and rarely acknowledged when things go right. One way to revitalize the workforce is simply to change the tone and get away from the demeaning rhetoric that frequently characterizes discussion of the federal workforce. Political leaders should celebrate outstanding contributions, such as the remarkable achievements of the nominees and winners of the annual [Service to America Medals](#)¹⁷ and the Presidential Rank Awards.

4) Improve recruiting, hiring and retention.

Congress should start the hard process of updating the legal framework for the civil service, much of which dates back to laws passed in 1949 and 1978. The federal government needs cybersecurity experts, doctors, economists, and emergency response specialists, but we have a personnel system designed for phone operators. The antiquated system is an impediment to the government’s ability to meet the needs of today’s interconnected, technology-driven world and prepare for the challenges of the future. A government-wide initiative could help agencies improve the hiring process so they can more easily attract, assess, hire and onboard highly qualified applicants. This effort should include simplifying and demystifying the application processes, including the USAJOBS portal.

As a starting point, Congress should enact the civil service recommendations of “[Inspired to Serve](#),” the final report of the National Commission on Military, National and Public Service.¹⁸ On a bipartisan and consensus basis, and after studying the federal civil service for over two years, the Commission issued last year a bold and thoughtful set of recommendations for improving talent management, including proposals to make federal hiring more efficient. We urge Congress to move forward on a bipartisan basis as quickly as possible to enact these proposals. Some key Commission recommendations—and ideas the Partnership has long supported—include:

- Establishing a civilian cybersecurity reserve program, as proposed in the bipartisan Civilian Cyber Security Reserve Act ([H.R. 2894](#)).
- Allowing agencies to appoint federal employees who have successfully completed reskilling programs to positions in their new field without the employee having to move to a lower grade level, as proposed by the bipartisan Facilitating Federal Employee Reskilling Act ([S. 1330](#)).¹⁹
- Amending the criteria for direct hire authority to enable agencies to use this authority when they face a shortage of highly qualified applicants.
- Expanding direct hiring authority for students and recent graduates.
- Modernizing the veterans’ preference rules, which are currently confusing for both agencies and veterans alike.
- Improving the Pathways programs, which include the Presidential Management Fellows and intern and recent graduate programs.

¹⁷ Service to America Medals. Retrieved from <https://servicetoamericamedals.org/>.

¹⁸ National Commission on Military, National and Public Service, “Inspired to Serve,” March 25, 2020. Retrieved from <https://inspire2serve.gov/reports>.

¹⁹ This legislation was included in S.1260, the U.S. Innovation and Competition Act of 2020, which passed the Senate in June.

The government not only needs to work harder to recruit and hire great talent, but also to retain it. Even within the constraints of the federal pay system, the government can pursue multiple strategies to make the government the employer of choice not only for entry-level talent but also for mid- and senior-level talent. When people do leave government, agencies should be collecting data on their reasons for departing or taking another job. Currently, a government-wide exit survey exists only for the SES. Data on why people leave government will be instrumental in helping agencies better recruit and retain the next generation. The surveys would be particularly useful in understanding why almost half of people who quit working for the federal government leave within two years.

5) Get young people in government.

Today's college students are interested in making a difference, but those considering the federal government as a place where they can do so face challenges in getting hired. Programs that Congress should reinvigorate include the Pathways programs, which provide younger, early-career talent with exposure to and positive experiences working in government. Needed improvements include ensuring internships are paid and easing agencies' ability to convert interns into full-time positions. In addition to lifting the caps on the expedited hiring authority for students and recent graduates, Congress should also consider an ROTC-like program for federal service and encourage agencies to recruit on campuses.

The need to improve the hiring process is especially urgent for cybersecurity jobs, where government faces stiff competition for talent with the private sector. The federal government's antiquated hiring system is not designed to compete at the speed of private sector companies who can actively recruit and quickly hire young STEM and cyber talent. Dr. Elizabeth Kolmstetter, NASA's Director of Talent Strategy and Engagement, gave an example of one Texas A&M student who met a SpaceX recruiter and was offered a job the same day, finalized the offer over the weekend and moved to California the next week to begin work.²⁰ Kolmstetter also noted that in fiscal year 2018 about 61% of NASA's engineering vacancies, 87% of scientist vacancies, and 86% of mathematics vacancies had fewer than three qualified (not most qualified)²¹ applicants. The talent is out there, and government's mission remains more compelling than ever, but agencies are losing out because the federal hiring system isn't nimble enough to compete with the private sector.

6) Overhaul the pay and classification system.

The government's 1949 pay and classification system was designed for clerical workers, not for the highly professional, specialized skills that are needed in today's civil service. The lack of an occupation-specific, market-based compensation system is particularly damaging to the ability of the federal government to recruit and retain scientists, many of whom have far more lucrative opportunities in the private sector.

²⁰ Testimony before the National Commission on Military, National, and Public Service, "Public Service Hearing: Critical Skills and Benefits," May 15, 2019. Retrieved from https://inspire2serve.gov/sites/default/files/2020-09/Kolmstetter%20Testimony_Public%20Service%20Hearing_Critical%20Skills%20and%20Benefits.pdf

²¹ Qualification standards are "a description of the minimum requirements necessary to perform work of a particular occupation successfully and safely," according to [OPM](#).

The OPM Handbook of Occupational Groups and Families contains 407 separate job series. The sophisticated cyber, IT, data science and STEM skills that the government badly needs were barely envisioned when the system was created. We need broader pay-banding that allows agencies the flexibilities to set more market-based, occupational-specific salaries. Unique pay systems like that created under the authority of the Financial Institutions Reform, Recovery, and Enforcement Act (FIRREA) of 1989 are an acknowledgement that a rigid pay system does not work. While the federal government will never be able to match private-sector salaries for many positions, broader pay bands would enable agencies the flexibility to attract the most critically needed talent.

The Partnership's report, "[Building the Enterprise: A New Civil Service Framework](#),"²² laid out a new pay-setting process for the federal workforce. The modernized pay system would establish broad pay bands for employees rather than rigid grades, better align salaries and benefits on an occupation-by-occupation basis, set salaries based on those comparisons and give agencies the flexibility to bring talent in at the appropriate salary level. While this is a long-term effort, allowing market-based pay for specific mission-critical occupations in the near term is a place to start and would help attract and retain needed talent. Again, the final report of the National Commission on Military, National and Public Service also endorses a comprehensive modernization of the entire federal talent management system.

7) Invest in the HR workforce.

The Partnership's recent studies reinforce the need for investment in the federal human resources workforce. For example, our "[State of Renewal](#)" report lays out recommendations for improving the State Department's talent management life cycle over six to twelve months, without the need for any additional legislation, as well as changes that will take longer and require Congressional action. Our report "[Time for Talent: Improving Federal Recruiting and Hiring](#)"²³ lays out practical approaches that agencies can take within the existing system to attract mission-critical talent. And in "[Rapid Reinforcements: Strategies for Federal Surge Hiring](#),"²⁴ we identified strategies that can help agencies when faced with circumstances that require a rapid growth in the workforce, such as national emergencies, large-scale attrition, new mission requirements, or the need for emergent skills.

Agencies cannot move forward on these recommended strategies, however, unless their human resource offices have the requisite skills, capacity and tools. There are outstanding and innovative HR professionals across the government, but there are also skills gaps in their offices. They are often overwhelmed by responsibilities and the complexities of federal human capital law. Often, HR specialists are not familiar with the authorities they have available to them, and do not have the technologies, data and analytical skills that would better enable them to recruit and hire while also engaging in strategic workforce planning for the future.

²² Partnership for Public Service, "Building the Enterprise: A New Civil Service Framework," April 10, 2014. Retrieved from <https://ourpublicservice.org/publications/building-the-enterprise/>.

²³ Partnership for Public Service, "A Time for Talent: Improving Federal Recruiting and Hiring," August 26, 2020. Retrieved from <https://ourpublicservice.org/publications/a-time-for-talent/>.

²⁴ Partnership for Public Service, "Rapid Replacements: Strategies for Federal Surge Hiring," October 29, 2020. Retrieved from <https://ourpublicservice.org/publications/rapid-reinforcements-strategies-for-federal-surge-hiring/>.

Congress should jump-start efforts to increase the skills and professionalism of the federal HR community by requiring OPM to start providing technical training to HR specialists again, conducting a review of overall training needs and how those needs can be met, and funding IT needs of the HR community. Congress should also ensure that agencies undertake strategic workforce planning and make sure that Chief Human Capital Officers have a voice in the strategic and budget planning processes so that agency leaders will be informed of the HR needs necessary to carry out their policies and programs.

8) Create a workforce culture that embraces technology, innovation and collaboration.

Our recent report “[Resilient: Keeping Your Wits – Workforce, Innovation, Technology, Security – About You](#),”²⁵ summarizes a survey of 300 federal leaders and a series of roundtable discussions on the lessons of the pandemic. A key takeaway is that an agile workforce, cutting-edge cybersecurity, modern technologies, and continual innovation are all interdependent in creating resiliency in the federal government. Also, when asked what a resilient federal government looks like, more respondents linked resiliency to an agile workforce than the other issue areas discussed in the report.

The success of the federal workforce depends not only on the quality of its talent and its leaders, but also on a culture where employees are encouraged to try new ideas and make smart technology investments. The new workplace environment must also involve more collaboration between federal, state, local and tribal governments and the private and non-profit sectors.

Recognizing that revitalizing the government requires attention to leadership and stewardship, talent, innovation and technology, and collaboration, the Partnership’s “[Roadmap for Renewing the Federal Government](#),”²⁶ launched last fall, describes the challenges the government faces in each of these areas, bright spots showing improvements, and needed solutions. The Roadmap provides a list of actions that the Biden administration and Congress can take to begin laying the groundwork for renewing the federal government, and the issue pages on the website summarize proposals that we believe should have the support of both Congress and the administration.

9) Make diversity, equity and inclusion a central part of workforce strategy.

A commitment to diversity, equity and inclusion must be a cornerstone in the transformation of how the government recruits, hires, develops and retains talent.²⁷ The Partnership hears consistently from current and former agency leaders that it is critical to address this issue in the scientific and technical community. This commitment ultimately leads to higher organizational performance by ensuring the door is open for top talent and by enabling new and creative ways of thinking that empower better

²⁵ Partnership for Public Service, American Council for Technology and Industry Advisory Council, and Meritalk, “Resilient: Keeping Your Wits – Workforce, Innovation, Technology, Security – About You,” January 25, 2021. Retrieved from <https://ourpublicservice.org/publications/resilient-keeping-your-wits-about-you/>.

²⁶ Partnership for Public Service, “Roadmap for Renewing the Federal Government. Retrieved from <https://ourpublicservice.org/roadmap-for-renewal/>.

²⁷ For example, see Jennifer Miller, “For young job seekers, diversity and inclusion in the workforce aren’t a preference. They’re a requirement,” Washington Post, February 18, 2021. Retrieved from <https://www.washingtonpost.com/business/2021/02/18/millennial-genz-workplace-diversity-equity-inclusion/>.

decision-making. Also, a government that better reflects its people also will increase public trust in our democratic institutions.

President Biden has issued a memorandum prioritizing diversity, equity and inclusion as a national security imperative, in order to ensure that critical perspectives and talents are represented in the entire national security workforce.²⁸ Congress should support these efforts, and should help ensure that diversity, equity and inclusion are in the DNA of every department and agency in the federal government.

10) Continue oversight and get to know federal employees.

The subcommittee today is helping to identify challenges and opportunities facing the federal cyber workforce. We encourage you to make this hearing an annual occurrence. The subcommittee could follow up by holding a hearing on agencies and subcomponents that are doing well with cyber recruiting, hiring and employee engagement to help celebrate success and encourage replication.

Members of Congress should also get out to visit agencies and their employees and hear from those on the front lines. Visiting federal employees where they work, whether at headquarters or in the field, is one of the best ways to understand both the deep challenges facing the federal workforce and the incredible work that the federal government does on behalf of the American people every day. Better yet, the vast majority of federal employees are located outside of Washington, in every state and congressional district, so they are also your constituents.

Finally, policymakers should remember that they are stewards of government's brand. How Members of Congress discuss public servants matters, especially when communicating with the next generation. When speaking to students—in formal settings like commencement speeches or simply in conversations with constituents—take the opportunity to share government's unique, mission-focused work and the vital role of federal employees.

Conclusion

Congress has an opportunity right now to further drive bold cybersecurity reforms to keep pace with the evolution of technology and meet the challenges of today and tomorrow.

For this reason, we want to commend the bipartisan effort made by this Subcommittee to pass legislation that will strengthen the nation's cybersecurity.²⁹ The State and Local Cybersecurity

²⁸ President Joseph R. Biden Jr., "Memorandum on Revitalizing America's Foreign Policy and National Security Workforce, Institutions, and Partnerships," February 4, 2021. Retrieved from <https://www.whitehouse.gov/briefing-room/presidential-actions/2021/02/04/memorandum-revitalizing-americas-foreign-policy-and-national-security-workforce-institutions-and-partnerships/>.

²⁹ House Committee on Homeland Security, "House Passes Thirteen Bipartisan Homeland Security Bills, Including Cybersecurity Grant Program," July 1, 2021. Retrieved from <https://homeland.house.gov/news/legislation/house-passes-thirteen-bipartisan-homeland-security-bills-including-cybersecurity-grant-program>.

Improvement Act ([H.R. 3138](#))³⁰ introduced by Chairwoman Clarke and Ranking Member Garbarino will provide funding to ensure state, local, tribal and territorial governments are securing their cyber environments. The Cybersecurity Vulnerability Remediation Act ([H.R. 2980](#))³¹ introduced by Rep. Jackson Lee will allow the Department of Homeland Security to continue mitigating cybersecurity weaknesses that exist due to insufficient software or hardware. And the CISA Cyber Exercise Act ([H.R. 3223](#))³² introduced by Rep. Slotkin will strengthen the agency’s ability to fulfill its intended mandate by establishing a program to assess and review CISA’s preparedness and resilience to cyberattacks. These measures will build upon work from the previous Congress to improve government’s cyber capabilities and ensure the effectiveness of CISA and other cyber components.

We also applaud the introduction of the Federal Rotational Cyber Workforce Program Act by Senators Peters, Rosen and Hoeven in the Senate ([S. 1097](#))³³ and Representatives Khanna and Mace in the House ([H.R. 3599](#)).³⁴ These bills would help the federal government better train and retain cybersecurity professionals and provide federal employees with professional development opportunities that ensure the nation’s future cyber needs are met.

Thank you again for holding this hearing. Building a robust cyber talent pipeline is a complex but necessary endeavor, and this testimony only scratches the surface of the efforts that are needed across the executive and legislative branches. We look forward to working with you and your staff as you move forward with your legislative and oversight agenda for the federal cyber workforce in the 117th Congress.

³⁰ H.R.3138, “State and Local Cybersecurity Improvement Act.” Retrieved from <https://www.congress.gov/bill/117th-congress/house-bill/3138/text>.

³¹ H.R.2980, “Cybersecurity Vulnerability Remediation Act.” Retrieved from <https://www.congress.gov/bill/117th-congress/house-bill/2980/text>.

³² H.R.3223, “CISA Cyber Exercise Act.” Retrieved from <https://www.congress.gov/bill/117th-congress/house-bill/3223>.

³³ S.1097, “Federal Rotational Cyber Workforce Program Act of 2021.” Retrieved from <https://www.congress.gov/bill/117th-congress/senate-bill/1097>.

³⁴ H.R.3599 - 117th Congress (2021-2022): “Federal Rotational Cyber Workforce Program Act of 2021.” July 2021. Retrieved from <https://www.congress.gov/bill/117th-congress/house-bill/3599>.