Quarterly Business Meeting

May 20, 2021

NIAC **The President's National Infrastructure Advisory Council**

Opening Remarks

Workforce and Talent Management Study
Study Update

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Agenda

▶ NSC Guidance

▶ Study Approach and Update

▶ Findings

▶ Interim Recommendations

▶ Discussion Questions

Working Group Members

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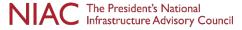
NSC Guidance

► The NSC issued guidance in April and December of 2020, asking the NIAC to conduct an in-depth study on the challenges facing *the critical infrastructure workforce* and the risks to national security posed by a lack of skilled workers, identifying:

- "mid- to long-term trends regarding the resilience of the nation's critical infrastructure workforce,"
- "examples of policies that have been particularly effective or counterproductive for workforce resilience,"
- and trends that "may require near-term policy intervention."

► Focus on four sectors—Energy, Transportation Systems, Communications, and Water and Wastewater Systems—but develop recommendations that are applicable across all sectors

► Provide "2–3 mid-term and 2–3 long-term recommendations that can inform future policy development."

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Study Approach

► The first NIAC study will examine worker readiness across critical infrastructure sectors.

- Since 2006, 7 prior NIAC reports have made 28 different recommendations regarding workforce development, most related to cyber or a single sector.

► The NIAC created a Working Group of 9 members to lead study.

- In response to NSC tasking, the Working Group formed an additional Study Group of 14 industry leaders and experts to provide additional analysis and identify case studies.

► The Working Group also investigated specific areas of interest to the NSC, including:

- cybersecurity education and training at the operator level;
- the potential impact of machine learning and artificial intelligence on critical infrastructure jobs, skills, and training; and
- progress toward identifying, creating, or enhancing credentials needed for critical infrastructure occupations.

Major Updates

► To develop the interim findings and recommendations presented here, the Working Group has:

- conducted 24 interviews with more than 60 individuals,
- directed in-depth research examining more than 300 sources, and
- received the Study Group report, representing more than 20 working sessions, interviews with 9 additional experts, and analysis of 9 case studies illustrating particularly effective programs or models.

► External developments:

- The COVID-19 pandemic has created massive unemployment and led many workers to seek new skills and careers.
- The pandemic has also highlighted the urgency of providing affordable, high-quality broadband internet to all Americans.
- A new administration has taken office, and the White House has announced its intention to invest in infrastructure and job creation with the American Jobs Plan.

► Study on track for completion in July

Unique Opportunity

▶ The current focus on infrastructure jobs represents a unique opportunity. If and when a bill emerges from Congress, the federal government will need public sector, private sector, and community input on a system that can effectively identify, train, and place workers to revitalize our nation's infrastructure.

▶ Congress is also currently debating the reauthorization of the Workforce Innovation and Opportunity Act, the country's most important workforce funding legislation, as well as several other infrastructure expansion proposals.

▶ New infrastructure investments create the opportunity to provide good jobs and address persistent diversity and equity challenges.

▶ The pandemic has exacerbated the changing nature of work, the workplace, and the workforce. As a result, new skills are needed to support our nation's vital infrastructure.

Cross-Sector Observations

► The U.S. workforce development system, in general, is fragmented, uncoordinated, and lacks a national lens.

- In comparison to countries with strong apprenticeship programs and integrated education and workforce development systems—such as Germany or Switzerland—the United States has a decentralized federal system in which state governments have major influence over workforce development.

► Developing and sustaining a skilled workforce for critical infrastructure is imperative to economic growth, national security, and public health and safety.

► All sectors have significant vacancies, lack diversity, and are deficient in workforce development.

► Prolonged federal hiring and clearance processes create a significant challenge in attracting and retraining top talent and impede cooperation with private sector partners in critical infrastructure.

Findings

► The traditional focus on the "systems and assets" that constitute critical infrastructure overlooks the vital role played by people and the necessity of deliberate workforce plans, policies, accountabilities, and performance measures.

► The American public is largely unaware of the opportunities available in critical infrastructure.

► Preparation to enter a four-year degree program has become thoroughly institutionalized and the default education track in American school systems. The country needs to put forward a deliberate plan to promote career technical training—and critical infrastructure jobs, in particular—as a viable alternative to the traditional four-year degree path.

Findings

► The critical infrastructure workforce faces many unique challenges. The Working Group finds the three most pressing to be:

1. Lack of coordination

2. Lack of diversity

3. Disconnect with traditional education system

► Looking to the future, the country needs strong, unifying national policy that provides critical infrastructure sectors with clear goals, accountabilities, and performance measures.

► National policy should encourage a more unified and cohesive system that connects education to career development to provide all American workers with lifelong learning opportunities and support.

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Interim Near-Term Recommendations

To address the trends that require *near-term policy intervention*, the Working Group recommends:

1. Request the White House Office of Management and Budget (OMB) to track interagency workforce efforts related to critical infrastructure.

2. Use existing federal executive authority to foster the development of national standards and incentivize quality training for essential jobs.

3. Establish a critical infrastructure workforce coordinating council.

   - This council would be led by a single individual within the White House and include executive-level representatives from across federal agencies, local partners, and critical infrastructure owners and operators.

   - Responsibilities would include synchronizing local, regional, and national efforts; developing national standards; aligning funding streams; and overseeing implementation of NIAC's workforce recommendations.

Interim Mid-Term Recommendations

To improve the resilience of the critical infrastructure workforce development and talent management pipeline in _the mid-term_, the Working Group recommends:

3. Develop national standards for job quality and training.

4. Launch a public awareness campaign to highlight the importance and opportunity of critical infrastructure jobs.

5. Provide funding and support to state and local governments to expand opportunity and access to work-based learning programs.
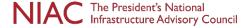
Interim Long-Term Recommendations

To achieve a more robust and cohesive workforce system _in the long-term_ the Working Group recommends:

7. Address challenges related to diminished national understanding of the importance of critical infrastructure jobs and opportunities for career technical training.

8. Develop a National Critical Infrastructure Workforce Plan that is regularly reviewed and updated to match training to skills and unify national policy.

9. Build a "K-Grey" system that connects education to career development and provides lifelong learning opportunities to all Americans.

Case Study Examples

▶ The San Diego Workforce Partnership Jobs Quality Framework

- A regional business development partnership that uses an array of metrics to define job quality, provide job placement programming, and redress historic inequality

▶ The North American Building Trade Union's Multi-Craft Core Curriculum

- A standardized, comprehensive pre-apprenticeship program that has become a gold standard in industry-recognized training

▶ AT&T's Nanodegree Program

- Partnering with online education platform Udacity, AT&T provides its employees with fast, skills-oriented training to transition from legacy technology into the digital age

▶ PG&E's PowerPathway Program

- A locally focused training program designed to expand the regional talent pool and quickly train workers for employment in the power industry while providing opportunities for underserved communities

Summary and Next Steps

▶ People _must_ be considered part of critical infrastructure.

▶ This effort comes at a unique moment and can help shape a once-in-a-generation investment in American infrastructure and ensure that critical infrastructure workforce development receives the attention it deserves.

▶ Coordination is essential, and the critical infrastructure workforce coordinating council stands to play a central role in synchronizing efforts across federal agencies, SLTT partners, front-line providers, and private sector employers.

▶ The Working Group will be finalizing report and recommendations to deliver for deliberation in July.

Discussion Questions

▶ Do you feel like you have a clear understanding of the challenges and solutions? Are there areas that we need to sharpen?

▶ How do the findings and interim recommendations align with your experience in your sector?

Public Comment

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Closing Remarks