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Workforce Strategies for New Industrial Policies: **Governors' Emerging Solutions**

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About the Project on Workforce

The Project on Workforce is an interdisciplinary, collaborative project between the Harvard Kennedy School's Malcolm Wiener Center for Social Policy, the Harvard Business School Managing the Future of Work Project, and the Harvard Graduate School of Education. The Project produces and catalyzes basic and applied research at the intersection of education and labor markets for leaders in business, education, and policy. The Project's research aims to help shape a postsecondary system of the future that creates more and better pathways to economic mobility and forges smoother transitions between education and careers. Learn more at www.pw.hks.harvard.edu.

About the National Governors Association

The National Governors Association is the voice of the leaders of 55 states, territories, and commonwealths. Our nation's Governors are dedicated to leading bipartisan solutions that improve citizens' lives through state government. Through NGA, Governors identify priority issues and deal with matters of public policy and governance at the state, national and global levels. Learn more at www.nga.org.

Executive summary

As the federal government allocates trillions of dollars toward new industrial policies, states face a significant challenge: they will only succeed in realizing the economic potential of new investments in infrastructure, clean energy, and manufacturing if they have the skilled workforce to meet growing industry demands.[1]

Filling millions of projected job openings in construction and advanced manufacturing is far from a straightforward task, despite the historic federal investments.[2] Workforce development is an allowable use of some funds in the Infrastructure Investment and Jobs Act (IIJA), CHIPS and Science Act (CHIPS), and Inflation Reduction Act (IRA), but the statutes are structured in ways that require significant coordination at the state and regional levels for those dollars to be invested effectively. Furthermore, the role of the state workforce system across these three new federal programs is undefined.

Governors are in a unique position to identify, prioritize, and align workforce development investments across agencies and ensure that the new wave of industrial policies are implemented successfully. Through interviews with Governors' workforce development policy advisors in sixteen states across parties, geographies, and population sizes, we explored how Governors are embracing this charge. We investigated how they are supporting workforce development related to new industrial policies, the challenges they are facing, and the emerging practices they are deploying.

This brief is part of a larger research effort that dissects Governors' workforce development leadership in their states. In this report, we highlight how Governors are leveraging new industrial policy opportunities to strengthen workforce development in their states and meet labor market needs. While it is too early to know definitively "what works," advisors shared their insights and strategies on the administration of the new laws and the implications they have observed for workforce development.

Through our interviews, we identified four common obstacles that Governors face to building the infrastructure, energy, and semiconductor workforce under IIJA, CHIPS, and IRA. Those obstacles include the lack of clarity around the role of the public workforce system, the complexity of coordinating funds across stakeholders, a lack of public sector capacity to support workforce development, and the difficulties of planning workforce development programs under uncertain timelines. In several cases, Governors are undertaking strategic approaches to tackle these challenges in partnership with state agencies, industries, and regions.

We identified seven emerging strategies that Governors are deploying as they implement industrial policies, including:

1. **Establishing a coherent, integrated workforce vision and related goals.** Communicating a clear, strategic vision and targets through Executive Orders and other directives to build alignment across agencies.
2. **Hosting regular convenings with key stakeholders.** Periodically bringing together stakeholders within and outside of government and in the business community to share activities and provide support.
3. **Investing in workforce system infrastructure.** Funding new and updated workforce facilities and acquiring equipment to scale training programs.
4. **Developing data tools and resources.** Building data dashboards and crosswalks to track funds, projects, and workforce needs.
5. **Providing guidance to grant applicants and administrators.** Providing technical assistance and workforce resources to applicants seeking or implementing grants.
6. **Leveraging the public workforce system as a local connector.** Connecting with employers across the state through workforce boards and American Job Centers.
7. **Aligning existing education and training efforts with new industries.** Providing funding to align training programs and systems with new industrial policy goals.

Several states are advancing targeted approaches. For example, Michigan Governor Gretchen Whitmer issued an Executive Order setting a clear workforce vision for new industries. She is also investing in workforce capacity-building and community outreach efforts. Meanwhile, Utah Governor Spencer Cox's Office of Planning and Budget created an IIJA Opportunity Tracker tool, which allows the office to manage the allocation of new resources and monitor progress toward workforce goals. Throughout this brief, we highlight several innovative strategies that Governors are leading in their states.

As Governors navigate the complex landscape of new industrial policies, they can learn from one another and implement new solutions to meet workforce challenges. We hope that this paper can help Governors achieve their workforce development goals and grow their state economies.

Introduction

In 2021 and 2022, the 117th Congress passed and President Biden signed into law the Infrastructure Investment and Jobs Act (IIJA), CHIPS and Science Act (CHIPS), and Inflation Reduction Act (IRA). Collectively, those three laws represent the largest federal investment in industrial policy since the Cold War.[3] The multi-trillion dollar investment has the potential to create widespread economic opportunity, but success will hinge on the generation of good jobs matched with a sufficient supply of skilled workers.[4] With funding of $300 billion per year, some experts estimate that IIJA, CHIPS, and IRA could create as many as 2.9 million jobs annually in construction, manufacturing, and other sectors.[5]

Governors are in a unique position to direct state resources to meet new labor market demand spurred by these programs. Governors in each state have appointed infrastructure coordinators under IIJA to manage the flow of funds within their state.[6] In others, Governors are working with employer partners to develop the workforce plans required to secure financial incentives.[7]Furthermore, some Governors have directed state agencies to collaborate with industry partners, in part because IRA includes substantial incentives for employers who employ registered apprentices on qualifying energy projects.[8]

Despite the critical role Governors can play in implementing the three laws, very little is known about how they are approaching workforce development in the context of new industrial investments. To address this gap–and identify emerging promising practices–we interviewed Governors' workforce development advisors from across the country. We found that most offices are optimistic about the potential impact of this new federal investment, but they also have strong concerns that system inefficiencies will make it difficult to develop the workforce required for successful implementation. We consistently heard that state leaders have a strong desire to learn from officials in other states about what works, and what does not.

This paper presents findings from our interviews with workforce advisors, with a focus on emerging state strategies for leveraging IIJA, CHIPS, and IRA for workforce development efforts. We begin with an overview of the legislation, followed by a brief summary of our methodology. We then enumerate the key challenges Governors and their teams are facing as they implement IIJA, CHIPS, and IRA and the strategies they are deploying to leverage the resources available for workforce development. The Strategy Menu highlights emerging practices that state leaders may consult as they implement workforce development strategies for IIJA, CHIPS, and IRA.

Legislative background

The IIJA, CHIPS, and IRA funds are reaching states through a mix of formula and competitive grant funding designed to support the development of industries, including clean energy, advanced manufacturing, and construction. Across the three laws, workforce development is an allowable–and in some cases, encouraged–use of funds, but there is no requirement that dollars be directed to or through state workforce systems.

The largest of the three federal investment packages, IIJA, included $550 billion in new funding, with authorizations for an additional $373 billion.[9] Focused primarily on improvements to physical infrastructure–from highways to broadband and electric vehicle infrastructure–roughly 80 percent of IIJA funds will flow through states via formula funding.[10] There are 72 programs in IIJA, totaling $490 billion, in which states are allowed to spend program dollars on workforce development.[11] While IIJA encourages states to develop five-year Human Capital Plans outlining their immediate and long-term infrastructure workforce needs, it does not require that they do so.[12]

The CHIPS and Science Act takes another approach. The law appropriates $39 billion in direct funding and loan subsidies to businesses to incentivize private investments in the domestic production of semiconductor chips and $11 billion to support research and development programs.[13] The $39 billion in investment for manufacturing is being dispersed in the form of awards to major semiconductor manufacturing firms. To be eligible for this program, applicants are required to secure "commitments from regional educational and training entities and institutions of higher education to provide workforce training, including programming for training and job placement of economically disadvantaged individuals."[14] An additional $200 million is directed to the National Science Foundation's CHIPS for America Workforce and Education Fund to address short-term workforce shortages.[15] In total, CHIPS includes more than thirty programs throughout the statute that require, emphasize or allow education and workforce development activities.[16]

Under IRA, approximately two-thirds of the $370 billion estimated funds will be distributed in the form of federal tax credits over a ten-year period. That includes an estimated $216 billion in corporate tax credits to incentivize private investment in production of clean energy, transportation, and manufacturing.[17] Given the legislative structure, the Department of Treasury oversees the administration of the legislation.[18] Similar to IIJA and CHIPS, IRA does not direct money through the Department of Labor.[19] However, there are certain workforce development provisions, including requirements that qualifying energy production construction projects have 15 percent of total labor hours performed by registered apprentices and one registered apprentice for every four workers. There are also prevailing wage requirements.[20] While the three acts present a large opportunity for workforce development, the advisors we interviewed mentioned that navigating the funding programs can be challenging.[21]

Methodology

The findings in this paper are primarily based on semi-structured interviews of Governor-appointed workforce development policymakers in sixteen states.[22] The interviews were conducted between April and July 2024, as part of a larger research project focused on the ways Governors are exercising their authority over their state workforce systems. The interviews were supplemented by desk research of publicly available sources.

The states in this paper reflect a diverse cross-section of the nation; they are evenly distributed across political parties (including both the Governor's party and the state's legislature's majority party) and geographical regions, and they include various population sizes.[23] We believe our findings provide useful insights into activities across the nation, but we acknowledge that the paper and our findings are limited by the perspectives of the individuals with whom we spoke and the role they play in their state, which varies tremendously.[24]

We found that Governors have approached the implementation of industrial policy in different ways. For example, in some states, Governors' workforce advisors are involved in regular discussions about the labor needs generated by the three laws. One advisor noted that they participate in a recurring cabinet meeting series focused on IIJA, CHIPS, and IRA talent needs. In other states, workforce advisors are situated on the periphery of discussions. Some interviewees noted that they are aware that the executive office is leading implementation of some or all aspects of the three laws, but they do not have detailed insights into those activities because their department is not involved.

That said, to our knowledge, this is the first survey of Governors' industrial workforce strategies under IIJA, CHIPS, and IRA. As a result, we believe it provides valuable insights into strategies that are being implemented, and can be replicated in other states.

Challenges

States have experienced a variety of challenges in meeting workforce needs created by IIJA, CHIPS, and IRA. Each state faces unique circumstances, but our research revealed four common threads. We found that many Governors face:

1. **Uncertainties around the role of the public workforce system,**[25]
2. **Challenges in efficiently allocating resources for workforce development,**
3. **Insufficient institutional capacity to administer funds, and**
4. **Difficulty developing long-term workforce plans.**

The role of the public workforce system

Despite general acknowledgement that the laws will create heightened demand for workers,[26] **they do not include requirements or guidance around how states can or should engage their public workforce systems in addressing the workforce needs of new industries.**[27] Furthermore, the laws do not direct funds through the public workforce system.[28] Without funds and a clear role to play, several state leaders expressed that the public workforce system–which makes up the backbone of the nation's workforce development capacity–has been effectively sidelined. They noted that this complicated the development and implementation of a coordinated workforce development strategy, which can result in program "cost overruns, quality control problems, and delays."[29]

For example, the IIJA newly allows state departments of transportation to spend highway construction funding on workforce development activities. While key stakeholders acknowledge that having enough qualified workers for these projects is a critical element of success, agreeing upon the correct level of investment in workforce development can be challenging.

Others noted that not effectively integrating the workforce system can foment mistrust. "Until we get some more money, you know that [WIOA] set aside is tapped out, we don't have money... to convene people around CHIPS. And until we get some guidance about how we actually do that, in a lot of ways, it's just seen as a threat of joint labor agreements being slipped on to certain industries that maybe are not ready for that."

> *"A lot of these funds are not coming down to our public workforce system, and so... that means drawing on the Governor and [his/her] leadership within our cabinet to say, okay, DOT [Department of Transportation], for instance, you now have a lot more flexibility with your Federal Highway funds, what are you doing there?"*
>
> Governor's Workforce Advisor

Administration of new resources

Preparing the workforce needed to build the bridges and manufacturing sites funded by IIJA, CHIPS, and IRA requires efficient allocation of resources across government, industry, and nonprofit stakeholders. The funding mechanisms in the three laws are complex, especially as they apply to workforce development. They use a combination of direct spending and indirect tools such as grants, tax incentives, and loan guarantees, which may go to businesses and nonprofits, state and local governments, or educational institutions.

Given the complexity of the funding tools and the many stakeholders involved, state leaders cited challenges tracking and guiding the workforce funds across agencies. Many advisors asked questions such as, "How should the funds flow?" and "Who should manage the funds?"

> *"We're really just trying to figure out how to best deploy our resources."*
>
> Governor's Workforce Advisor

Institutional capacity

Some state leaders noted that the new funds require additional government managerial capacity to be managed effectively. However, the laws do not explicitly set aside funds to hire workforce-focused staff to implement the programs.[30]

Our interviews revealed that in some states, a high-level agency employee or senior policy advisor was tasked with taking on IIJA investments, in addition to their current portfolio. Moreover, Governors' infrastructure coordinators often manage CHIPS and IRA alongside IIJA, adding significantly to their workload.

> *"It could be a full-time job for any agency to have someone track all of these grants and applications… anytime [the] Department of Environmental Protection has a lot of grants they're going after, they want [a] workforce partner… We're trying to figure out how we have workforce representation on these teams and in the grant applications without tying up everybody's time."*
>
> Governor's Workforce Advisor

Long-term planning

State leaders also discussed challenges related to long-term workforce planning. They noted that there is significant lag time between identifying, applying for, and being awarded a grant, starting a new initiative, and hiring workers. Some advisors noted that their existing tools for making labor projections are not sufficiently robust or specific enough for their state to create long-term workforce plans. They noted that they need support in creating accurate regional projections in order to plan for jobs being generated by IIJA, CHIPS, and IRA.

Those plans are crucial because it also takes significant time to develop training programs, recruit talent, and train workers. Because the training requirements of different jobs vary significantly,[31] states must plan their timelines accordingly.Several state leaders expressed concerns that training too many workers too early would result in a waitlist of skilled technicians and an insufficient number of jobs.[32] Other state leaders worried about starting training too late and struggling to create training programs quickly enough to fill open jobs.[33]

Strategic human capital allocation is particularly important when emerging demand for labor is so heavily concentrated in a few industries. Approximately one in three jobs created by the laws are expected to occur in the construction and manufacturing sectors.[34] As one state leader noted, "We're…just trying to collaborate…The worst case scenario is, you know, everyone's siloed and thinking they're going to get the engineers and the manufacturing techs, right? And if everyone's thinking that, but there's only one pool of engineers and manufacturing techs, we're not going to be successful as a state."

Emerging strategies

Governors are leveraging a variety of strategies to meet new workforce development needs under IIJA, CHIPS, and IRA. In this section, we present a menu of strategies that states are deploying, but it is worth noting that states are in the very early stages of implementation. While the following approaches appear to be promising, they have not been evaluated to determine whether they are effective.

"We're talking about hundreds of billions of dollars coming into the state over the next ten years that, done well, will transform what opportunity is and what our state economy looks like for the next century. That's the opportunity before us."

Governor's Workforce Advisor

Emerging strategy	Overview	State example
Set a coherent, integrated workforce vision and goals	Communicate a clear, strategic vision and targets to ensure alignment across agencies.	Arizona: Executive Order 2024-04
Convene stakeholders regularly	Periodically bring together stakeholders across government and the broader business and education community to share work and provide support.	West Virginia: Biweekly infrastructure meetings and quarterly infrastructure summits
Invest in workforce system infrastructure	Establish additional workforce centers and fund facility development and equipment acquisition to scale training.	New York: ON-RAMP workforce centers
Develop data tools and resources	Develop data dashboards or crosswalks to track grants, projects and workforce needs.	Utah: IIJA Opportunity Tracker
Provide guidance and support to grant applicants and administrators	Provide technical assistance and workforce resources to applicants seeking or implementing grants	Washington: Securing Federal Funding Initiative
Leverage the state workforce system as a local connector	Leverage workforce boards and job centers to connect with industry stakeholders on the ground.	Colorado: Connecting organizations for strategic planning
Align education, workforce, and economic development funding with new projects	Provide funding to align training programs with economic development goals that leverage new funds.	Indiana: Mobilizing the education system to prepare for expected labor needs

Strategy 1: Set a coherent, integrated workforce vision and goals

To unify stakeholders around a shared workforce development plan, some Governors have issued directives that outline a clear vision and goals for the workforce system in IIJA, CHIPS, and IRA implementation. Executive orders may reduce redundancies across government and streamline implementation by assigning specific roles and responsibilities to agencies and offices. Executive orders can also encourage collaboration between the workforce system and other state entities receiving new federal funds, which can help make up for the lack of a legislated role for the workforce system across IIJA, CHIPS, and IRA. Governors have also outlined workforce goals, such as the number of workers to be trained by a specific date, to ground stakeholders in a shared purpose.

Some Governors have used executive orders to create new infrastructure workforce programs or offices, while others have updated existing workforce programs to meet new labor needs generated by industrial policies. Setting aside funding from IIJA, IRA, and CHIPS for workforce development can ensure that the workforce system and its key stakeholders have the tools required for successful implementation.

Arizona

Executive Order 2024-04

In September 2024, Arizona Governor Katie Hobbs signed Executive Order 2024-04, outlining a vision to leverage new industrial policy funds for workforce development.[35] The EO directs state agencies to allocate a minimum of 1 percent of funds from select new federal programs to workforce development efforts and prioritize practices like on-the-job training, in program solicitations and grant applications.

It also creates the Talent Ready AZ Workforce Cabinet, a new entity housed within the Governor's Office to be co-chaired by the Governor, as well leaders of the Office of Economic Opportunity, Arizona Commerce Authority, and Department of Economic Security. The Workforce Cabinet will consult with the Workforce Arizona Council (Arizona's Statewide Workforce Board) to coordinate policies and actions across the state government to meet incoming workforce needs relating to new federal funds.

Strategy 2:
Convene stakeholders regularly

The three laws use a combination of spending tools that can be accessed by a variety of stakeholders in and outside of government. **Given the complexity of the funding opportunities and the many stakeholders involved, some Governors have established recurring convenings to inform multi-stakeholder decision-making and project execution.**

Advisors mentioned that selecting which stakeholders will participate in recurring convenings is critical. Some Governors have used the meetings as an opportunity to integrate workforce system stakeholders into a strategic decision-making process. Others have used convenings to encourage the exchange of resources, knowledge, and expertise, and facilitate project tracking and alignment. Some Governors host meetings at different locations across the state to encourage broad participation and address regional needs.

West Virginia

Biweekly infrastructure meetings and quarterly infrastructure summits

West Virginia Governor Jim Justice created recurring internal meetings and regional summits focused on the implementation of IIJA, IRA, and CHIPS. The meetings and summits assemble key stakeholders to facilitate information and resource-sharing across the state.

- **Biweekly Infrastructure Meetings**: Governor Justice has organized an infrastructure team consisting of key state officials, agency representatives, and other relevant stakeholders that meets every week. The team reviews new federal opportunities and develops a strategy for project location, responsibilities of relevant stakeholders, and a list of potential lead applicants. Governor Justice's advisor noted that this process has allowed for West Virginia to leverage federal funds effectively through continuous tracking and dissemination of grant opportunities.
- **Quarterly Infrastructure Summits:** Governor Justice organizes members of his cabinet and key state, local, and federal officials for an Infrastructure Funding Summit every quarter. Each summit has a well-defined agenda that includes project updates, new funding opportunities, and workshops on application processes. Discussing how to implement existing opportunities and collaborate better across government are also key components of the summits.

Strategy 3:
Invest in workforce system infrastructure

To build workforce development capacity and accommodate the growing demand for skilled workers, some Governors are investing in new workforce infrastructure, such as additional or updated training centers. For example, Governors have established workforce centers in underserved or high-demand areas to improve access to job training and employment opportunities for area residents.

Investing in the construction or renovation of training facilities that meet industry standards enables workforce development providers to develop state-of-the-art learning environments. Often, those projects are carried out in partnership with local businesses, educational institutions, and community organizations that can share resources and expertise. States are also developing training programs that are tailored to the specific needs of high-growth industries.

New York

One Network for Regional Advanced Manufacturing Partnerships (ON-RAMP)

New York Governor Kathy Hochul launched the One Network for Regional Advanced Manufacturing Partnerships (ON-RAMP) to establish four workforce development centers in Upstate New York, with a flagship facility in Syracuse managed by CenterState CEO.[36]

Key components of the ON-RAMP strategy include:

- **Tailored Workforce Centers**: New centers are designed to meet the specific needs of advanced manufacturing industries.
- **Local Collaboration**: Projects are designed in close collaboration with local governments, unions, and community leaders to address regional workforce needs.
- **Employer Partnerships**: Partnerships with companies like Micron and GlobalFoundries help employers navigate the local workforce landscape.
- **High-Impact Location**: Centers are built in locations across upstate New York that will benefit from job growth associated with semiconductor investments and other advanced manufacturing projects, and are accessible to underserved communities.

Strategy 4:
Develop data tools and resources

Some states have developed data dashboards or crosswalks to track projects and workforce needs. A centralized platform for consolidating and sharing information helps agencies and other stakeholders synchronize efforts and avoid duplication. At the same time, such tools may improve transparency by offering visibility into how funds are allocated and spent.

Dashboards may provide real-time updates on project status to enable timely decision-making and adjustments across stakeholders, ensuring projects meet deadlines and maximize the impact of funds. Some states have focused on building data tools with intuitive interfaces to ensure they are accessible and easy to use for various stakeholders.

Utah

Utah's IIJA Opportunity Tracker

Utah Governor Spencer Cox's Office of Planning and Budget created an IIJA Opportunity Tracker to monitor and manage the implementation of infrastructure projects.[37] The tool supports efficient allocation of resources and progress tracking towards the state's workforce development goals. The tracker serves as a single point of reference for all IIJA-related projects.

- **User-Friendly Interface**: Includes multiple options for users to select, including Grant Opportunities, Grant Timeline, Grant Eligibility, and Application Details. There is an option for users to view all the information in the form of a spreadsheet
  - **Advanced search and filtering:** *Allows users to search grants by eligible uses, including workforce development.*
- **Project Status Updates**: Provides regular updates on the status of various projects.
- **Funding Breakdown**: Includes detailed financial information on how funds are allocated and spent.

Strategy 5:
Provide guidance and support to grant applicants and administrators

Some states are providing expert support to grant applicants and administrators to help them secure and manage state and federal grants. Workforce experts can provide technical assistance, sharing resources and disseminating best practices to help applicants navigate and capitalize on opportunities. This strategy aims to strengthen and coordinate applications for workforce-related funding opportunities.

In some cases, Governors have hired additional workforce-focused staff to assist agencies who are administering grants with workforce components. They have created positions such as workforce coordinators, grant managers, and project implementation specialists who have expertise in grant writing, project management, and stakeholder engagement. Professionals may be embedded in existing project teams and organizational structures to ensure smooth integration and collaboration.

Other states have enlisted the support of outside experts in grant tracking and writing to get more comprehensive and timely information about available workforce-related funding opportunities.

Washington

Securing Federal Funding Initiative

Under Governor Jay Inslee, the Washington State Department of Commerce launched the Securing Federal Funding Initiative to help communities capture federal funds. As part of this initiative, the state is allocating $5 million in state funding as direct grants to eligible entities (up to $500k per award), including local governments, tribes, nonprofits, and businesses. Key features of the initiative include:

- **Technical & grant writing support t**o help applicants develop competitive proposals when applying for federal funds.
- **Economic analysis** to strengthen the impact and feasibility of applications.
- **Matching funds** to enhance the competitiveness of grant applications.
- **Broad eligibility and focus** so the initiative can support a diverse range of applicants, including local governments, nonprofits, and businesses, with a focus on rural and underserved communities.

In addition, the Department of Commerce is deploying more than $10 million to develop programs and resources to help the same entities find the federal funding that is right for them and get assistance applying for grants. The funds are also used to provide technical and legal assistance to entities navigating the federal clean energy tax incentives.[38]

Strategy 6:
Leverage the state workforce system as a local connector

"Our local workforce centers are giving us a presence that we don't have on the ground to help push out these priorities."

Governor's Workforce Advisor

Some Governors are leveraging the state workforce system as a coordination and distribution mechanism for the new funds provided by IIJA, IRA and CHIPS. Many workforce boards have strong connections with local employers, training providers, labor unions, and community-based organizations. This positions them to establish cross-sector networks and facilitate the distribution of resources and sharing of best practices among local and regional stakeholders.

In some cases, those strong connections also enable the state workforce system to engage stakeholders in project planning and decision-making processes, which ensures that state workforce development efforts are aligned with local needs.

Colorado

Connecting orgranizations for strategic planning

In 2022, Colorado Governor Jared Polis launched the Opportunity Now program to support the creation and expansion of talent development initiatives across the state. In addition to funding for training,[39] the program will convene seven regional summits that bring local education and workforce development practitioners together with state agencies to create regional talent plans.

The plans will be incorporated into the Colorado Talent Pipeline Report to ensure that local workforce needs are well represented in state strategic planning. The Colorado Workforce Development Council is responsible for the Talent Pipeline Report and supporting local workforce development centers in aligning their services to state and local talent needs.

Strategy 7:
Align education, workforce, and economic development funding with new projects

Some Governors are intentionally aligning education, workforce, and economic development programs with new industrial policies. This integrated approach may include funding higher education, apprenticeships, and internship programs that funnel into new industry sectors. In some cases, states are providing incentives like tax credits or matching funds for employers that participate in workforce training for jobs generated by IIJA, IRA and CHIPs.

This strategy often requires regional partnerships between education, industry, workforce boards, and economic development agencies, paired with regular analysis of labor market data to identify emerging trends and skill gaps. Such analyses may help ensure that funding is directed to areas with the greatest need.

Indiana

Mobilizing the education system to prepare for expected labor needs

Over the next five years, Indiana expects to receive billions of dollars in semiconductor investments, which will create more than one thousand jobs in the microelectronics industry.[40] **To prepare for emerging industry needs, schools are collaborating with industry leaders to design training programs that result in industry-recognized credentials.** Indiana's statewide, singly accredited community college system, Ivy Tech Community College (Ivy Tech), is partnering with Purdue University to provide education and training opportunities for positions throughout the microelectronics workforce value chain, including both short-term credential and doctoral programs.[41]

Ivy Tech and Purdue are also partnering with the K-12 system to attract high school students to the microelectronics field. The Purdue Ivy Tech Chips Program (PITCH) exposes rising juniors and seniors in Indiana high schools to semiconductor career opportunities through a paid two-week summer program. Students build circuits and programmed robots, visit cleanrooms at both institutions, participate in industry tours, and receive career readiness training as part of this experience. PITCH is supported by the Indiana Economic Development Corporation's READI program, which provides development services with the goal to "attract, develop and retain talent in Indiana."

Building a comprehensive state workforce strategy

While state activities differ, some Governors are combining multiple strategies to meet the workforce needs created by new industrial policies. Michigan presents an example of a state that is implementing several solutions to improve interagency coordination, build internal capacity to manage incoming funds, and plan workforce development programs to ensure labor supply and demand are aligned.

Michigan

Michigan Governor Gretchen Whitmer set a workforce vision through an Executive Directive (ED) signed in April 2024. The Governor's Administration has also leveraged the workforce system as a connector and provided assistance to state agencies and other stakeholders applying for or administering funding. Those actions have mobilized Michigan's workforce system towards the goal of training 5,000 infrastructure workers by January 1st, 2030.

Governor Whitmer's ED 2024-1 provides an integrated vision for workforce development efforts under the unprecedented new federal funding opportunities related to infrastructure including, but not limited to, IIJA, IRA, and CHIPS.[42] It directs the Michigan Department of Labor and Economic Opportunity (LEO) to lead coordination with agency partners, monitor performance and dispersed funds, and develop a statewide infrastructure workforce plan that prioritizes barrier removal and ensures equal access to infrastructure career and education opportunities. The plan is designed to enable Michigan to build the diverse, inclusive workforce of the future all while maximizing these historic investments.

ED 2024-1 also calls on LEO to set aside up to 5 percent of incoming federal funds from relevant programs to be used to build Michigan's infrastructure workforce by investing in workforce development activities. Funds can be used to scale existing programs, create new workforce development services, provide technical assistance, or support programming for barrier removal for workers and employers. It also codifies Governor Whitmer's goal of training 5,000 infrastructure workers by 2030, specifying that workers receiving training be issued an industry recognized credential, including, among others, registered apprenticeship certifications. Each infrastructure project also has a specific workforce goal to help Michigan compete for awards and ensure the state has a skilled workforce to complete the projects.

The Michigan Infrastructure Office (MIO) is a key partner in those efforts. Created in January 2022 following the passage of IIJA, MIO is housed within the Governor's Executive Office. As a consequence, it is "uniquely positioned to support the key role [of the Governor's office] in setting priorities, facilitating collaboration, promoting transparency, and creating accountability."[43] All projects are supported, monitored, and promoted under a Chief Infrastructure Officer, who serves as a central touchpoint for localities and stakeholders. In 2023, Governor Whitmer established the Make it in Michigan Competitiveness Fund (The Fund) within MIO, a pool of state money that provides matching grants to entities to help them win federally-backed investments. To date, The Fund has invested $148 million, leveraging $673 million in federal funds, a return on investment of more than 4:1. [44]

Additionally, the Technical Assistance Center (TAC) within MIO offers planning and grant writing support and matches funding where it is required under IIJA. The TAC provides information on 36 federal grant programs available through IIJA–18 of which include opportunities for workforce development– in the form of "fact packs." Fact packs include a standardized template highlighting application timing, available funding amounts, eligible uses, and required information for applications. As of September 2024, TAC has assisted with and/or provided matching funds to 33 projects in Michigan.[45]

Beyond the EO, the Department of Labor and Economic Opportunity and the state workforce system play a critical role in coordinating with industry to provide workforce training. MichiganWorks! Agencies–the state's American Job Centers–administer the Going Pro Talent Fund, which provides employers with state funds for training, development, and retention of employees. Over 175,000 Michigan workers and more than 7,100 businesses to date have received funding from the Going PRO Talent Fund since it was created in 2014.[46]

In March 2024, Governor Whitmer released Michigan's first-ever Statewide Workforce Plan. The comprehensive plan aligns state departments and external partners to create jobs and support employers across the state. It focuses on three goals: helping more Michiganders earn a skills certificate or degree, increasing access to opportunities that grow the middle class, and supporting business and entrepreneurial growth. Since the plan was released, Michigan has passed the Community College Guarantee, which provides free community college for most Michiganders and launched the Community and Worker Economic Transition Office to assist workers, employers and communities transition to the green economy. Michigan has also established a statewide Innovation Fund to help entrepreneurs access capital for startups located in the state.

Conclusion

Governors are navigating complex landscapes as they prepare their workforce to meet emerging industry opportunities under IRA, IIJA, and CHIPS–and they are rising to meet the challenge with ingenuity. Many are empowering their public workforce systems to take on a supportive role in industrial policy implementation. Others are embedding workforce experts in different agencies, leveraging workforce system connections to align across sectors, and investing in the infrastructure to scale training and support grantees. This diverse group of states has demonstrated how a whole-of-the-state approach to industrial policy and workforce development can be put into practice.

The stakes are high; workforce integration is not merely an operational necessity, but the linchpin for unlocking the full economic potential of the transformative investments in IIJA, IRA, and CHIPs. By drawing inspiration from one another and experimenting with locally-relevant strategies, Governors can maximize the return on those historic investments and build thriving economies and a more equitable society for generations to come.

Appendix A:
Participant breakdown

The states in this paper reflect a diverse cross-section of the nation; they are evenly distributed across political parties and geographical regions, and they include various population sizes.

Overview of 16 States

State Descriptors	Categories	No. of States
Political Distribution	Republican Governors	7
	Democratic Governors	9
	Republican-led Legislature	10
	Democratic-led Legislature	5
	Split Legislature	1
Population Size [47]	Over 7 million	7
	3 million - 7 million	5
	Under 3 million	4
Regional Distribution [48]	Northeast	3
	South	3
	Midwest	4
	West	6

Overview of Workforce Expert Interviewees [49]

Department/Agency	Count
Executive (Governor's) office	15
Department of Labor / Workforce	8
Department of Commerce	1

Appendix B: **Interview questions**

The interviews consisted of the following questions, with follow-up questions as needed. This paper is based primarily on the answers to question 7.

1. Can you start off by telling us briefly about your role?
2. Can you tell us about a time–ideally in the past year–that the Governor's workforce strategy shifted to adapt to changes in the labor market? What did that process look like? We know that the height of the pandemic posed difficult workforce challenges, but we're hoping to hear about more recent examples that are not specific to the unique circumstances posed by a global pandemic.
3. Can you tell us about any notable challenges the Governor has faced in meeting state workforce needs? We've heard that funding can be a challenge, but we're hoping to learn about other obstacles, as well.
4. A core purpose of WIOA is to increase "access to and opportunities for the employment, education, training and support services," particularly for "individuals with barriers to employment." How does the state ensure that different categories of "individuals with barriers to employment" benefit from services and programs?
5. How are Governors Reserve Funds used to address unmet workforce needs?
6. Can you describe any actions the Governor has taken to integrate or align education and workforce systems and goals?
7. How is the Governor leveraging new federal funding opportunities, including CHIPS, IIJA (Infrastructure Investment and Jobs Act), and IRA (Inflation Reduction Act), to enhance workforce efforts?
8. Is there anything else you'd like to share that we didn't discuss today?

Notes

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20 “Workforce Development in the IIJA, CHIPS and IRA,” *National Governors Association* (blog), February 8, 2023, https://www.nga.org/publications/workforce-development-in-the-iija-chips-and-ira/.

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22 Each interview was one hour long and included eight main questions. The majority of the findings in this paper are derived from responses to one specific question focused on IIJA, CHIPS, and IRA (see Appendix A, Question 7). Experts were selected by NGA based on the following criteria: workforce is a central focus of their portfolio; they play a role in WIOA Title 1 governance; they were appointed by the Governor. Interviewees included Senior Policy Advisors, Assistant Secretaries, Deputy Secretaries, and others in similar roles in workforce-focused offices, departments, or agencies. A breakdown of advisors’ departments is included in Appendix A.

23 See Appendix A for a more detailed description of the 16 states

24 Additional research involving other stakeholders would be a useful next step.

25 In this paper, when we discuss the public workforce system, we are referring to the WIOA-authorized system, including American Job Centers and the state and local workforce development boards and agencies.

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31 For example, when calculating the total annual direct jobs added to the labor market due to IIJA, CHIPS, and IRA, Construction Laborers, Electrical Power-Line Installers and Repairers, and General Operations Managers are the first, third, and fifth most in demand jobs respectively. Construction Laborers require no formal education credential and short-term on-the-job training. Electrical Power-Line Installers and Repairers require a high school diploma or equivalent and long-term on-the-job training. General and Operations Managers require a bachelor’s degree and 5 years or more related work experience. Wicks-Lim and Pollin, “Labor Supply, Labor Demand, and Potential Labor Shortages Through New U.S. Clean Energy, Manufacturing, and Infrastructure Laws.”

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36 “Governor Hochul Launches Major Workforce Development Program ‘ON-RAMP’ to Provide $200 Million Towards Job Training and Support for Careers in Rapidly Expanding Advanced Manufacturing Sector | Governor Kathy Hochul,” New York State Governor Kathy Hochul, September 20, 2024, https://www.governor.ny.gov/news/governor-hochul-launches-major-workforce-development-program-ramp-provide-200-million-towards.

37 “IIJA Opportunity Tracker,” State of Utah: Governor’s Office of Planning and Budget, accessed October 9, 2024, https://gopb.utah.gov/iija-opportunity-tracker/.

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39 In June 2024, recognizing the talent demand generated by the new industrial funds, the program was funded again under HB24-1365,

with a focus on "address(ing) workforce shortages in infrastructure and building trades" through state grants. HB24-1365 also created refundable tax credits to offset the cost of facilities and equipment for training programs that address workforce demand in sectors like construction, clean energy, and advanced manufacturing.

40 Silicon Crossroads Microelectronics Commons Hub was designated as one of eight regional innovation hubs. Based at Purdue University, the hub will receive $2 billion over the next 5 years from the CHIPS Act to grow the region's semiconductor innovation ecosystem. See Brian Huchel, "Purdue's Semiconductor Innovation Ecosystem Grows with CHIPS-Funded, Indiana-Led Semiconductor Hub and with Upcoming Summit - News," September 25, 2023, https://www.purdue.edu/newsroom/2023/Q3/purdues-semiconductor-innovation-ecosystem-grows-with-chips-funded-indiana-led-semiconductor-hub-and-upcoming-summit/; Between May 2020 and December 2023, there were 4 semiconductor supply chain manufacturing investment announcements in Indiana with an estimated 1,200 potential jobs in West Lafayette and Odon. See "Update on Workforce Opportunities in Three Key Federal Funds" (Governor's Workforce Cabinet, January 23, 2024), https://www.in.gov/gwc/files/Update-on-Workforce-Opportunities-in-Three-Key-Federal-Funds-GWC-Jan-2024.pdf.

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44 "Make It In Michigan Competitiveness Fund," State of Michigan, Office of the Governor, accessed October 8, 2024, https://www.michigan.gov/whitmer/issues/michigan-infrastructure-office/make-it-in-michigan-competitiveness-fund Numbers revised based on interviews.

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