Aligning State Systems for a Talent-Driven Economy

• A ROAD MAP FOR STATES •

NGA
NATIONAL GOVERNORS ASSOCIATION

ACKNOWLEDGMENTS

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About The NGA Center

The NGA Center is the only research and development organization that directly serves the nation's governors and their key policy staff. Governors rely on the NGA Center to provide tailored technical assistance for the challenges that face their states; identify and share best practices from across the country; and host meetings of leading policymakers, program officials and scholars. Through research reports, policy analyses, cross-state learning labs, state grants and other unique services, the NGA Center efficiently informs governors about what works and what does not work and highlights the lessons governors can learn from others grappling with similar issues.

About the Talent Pipeline Policy Academy

In 2014, the NGA Center competitively selected 13 states to participate in the Talent Pipeline Policy Academy, an intensive, multiyear technical assistance initiative to strengthen the connection between states' education and training systems and the needs of states' economies. The following states participated in the Talent Pipeline Policy Academy:

- Colorado
- Illinois
- Indiana
- Iowa
- Kentucky
- Minnesota
- Montana
- New Jersey
- North Carolina
- Oklahoma
- Virginia
- Washington
- West Virginia

The NGA Center extends its thanks to these states for their dedication to the issues under discussion and their willingness to share the stories and lessons learned that inform this road map.

Executive Summary

Changes in the Economy May Leave Many Americans Behind

Today's fastest-growing industries demand not only new skills but a higher level of skills overall. In fact, individuals who have obtained these higher-level skills have enjoyed more success in the economy. For example, individuals with at least some postsecondary education have captured 11.5 million of the 11.6 million jobs created since 2007, whereas individuals with a high school diploma or less education have faced a net loss of more than 5.5 million jobs since 2007.[1,2] Today, there is consensus among experts and practitioners that postsecondary education or training is the new minimum for succeeding in today's economy.

Unfortunately, projections indicate that the United States will struggle to meet the needs of the future economy. With 65 percent of all jobs projected to require a postsecondary education within the next decade, an inability to meet that need could translate to unfilled jobs and lost economic opportunity for millions of workers.[3,4,5] A recent analysis of postsecondary educational attainment found that only 45.8 percent of working-age adults in the United states have obtained a certificate, associate degree, bachelor's degree or advanced degree.[6] Closing this gap will require millions of Americans–primarily adults older than 24 years of age–to acquire further postsecondary education. Furthermore, although the United States has increased educational attainment during the past 50 years, other developed countries have increased attainment more rapidly, leaving the United States at risk of falling even farther behind.[7] For example, the Program for the International Assessment of Adult Competencies, an international survey of workforce skills in the adult population, found that the United States trailed 17 developed nations in workplace skills. Further, 57 percent of Americans ages 16 to 34 scored at or below the lowest of the three levels of proficiency on that assessment.[8]

These facts indicate a clear call to action for governors, state policymakers and industry leaders. To meet this challenge, many governors and states are taking action to ensure that their citizens are ready to attain the postsecondary education or training necessary to succeed in the future economy.

Finding Solutions: The Talent Pipeline Policy Academy

Recognizing the critical need for states to meet the new minimum of postsecondary education and to highlight solutions that address this issue, the National Governors Association Center for Best Practices (NGA Center) worked with states to develop new strategies that enable governors to align their education, workforce development and economic development systems to meet the needs of their state economies.

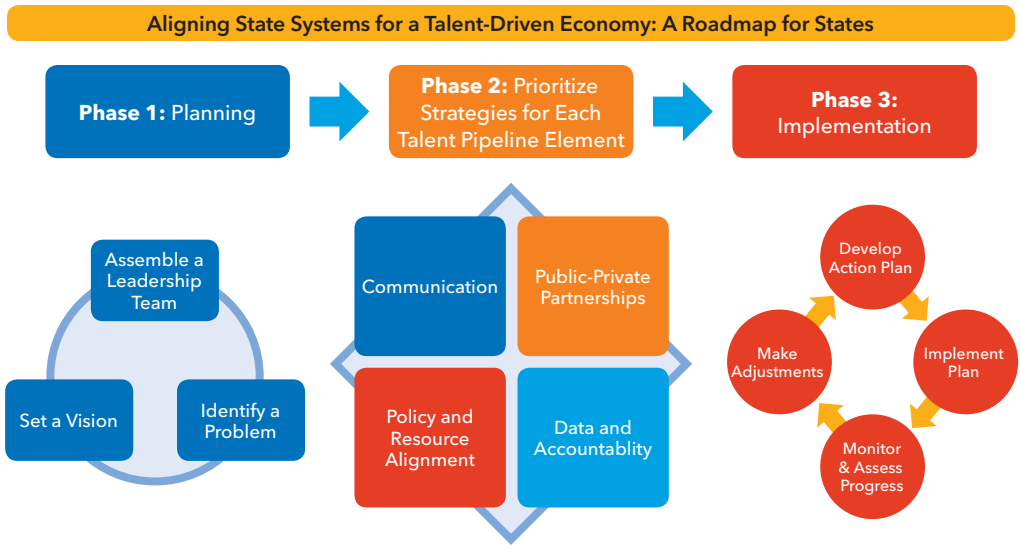
Oklahoma Governor Mary Fallin's 2013–2014 NGA Chair's Initiative, "America Works: Education and Training for Tomorrow's Jobs," raised awareness of the importance of governors acting to raise their population's educational attainment, better align their education and training systems with the likely future demands of employers and define the existing mismatches across states' talent pipelines.[9] To build on the awareness achieved through the America Works initiative in 2014, the NGA Center initiated a three-year Talent Pipeline Policy Academy to help states put these strategies into practice.

The Talent Pipeline Policy Academy convened teams from 13 competitively selected states to establish a common understanding of the issues, develop and implement action plans and ultimately change how their state agencies work together to better meet the needs of workers and businesses. Each of the 13 states made significant progress in driving systems change to meet the new minimum. They identified key lessons learned, and their insights contributed to the identification of a common process for managing systems change.

The Road Map

To help every state align its education and workforce systems to the needs of its economy, the NGA Center developed a road map for states (see Figure 1) that builds on the work of the Talent Pipeline Policy Academy states. The strategies, approaches and implementation tactics varied across states, but there were significant commonalities in states' efforts. Building on leading research and drawing on the experiences of state leaders and policymakers, this road map describes a process states can follow to ensure that they are poised to meet the new minimum. This road map can help states accelerate the process of aligning their education and training systems, paving the way to meet the talent needs of their economy.

FIGURE 1: THE STATE ROAD MAP FOR SYSTEMS CHANGE



Background

Changes in the Economy May Leave Many Americans Behind

The United States continues to exceed average global educational attainment percentages, but the changing nature of the economy has implications for existing education and training systems and their ability to ensure that Americans attain a quality postsecondary education.[10] State education and workforce development systems were initially designed to prepare students and workers for 20th century jobs in factories and routine office work. These systems have not always kept pace with significant societal and technological shifts, which have changed the nature of today's jobs and the skills needed to succeed in those jobs. If unmet, these challenges can potentially decrease employment security, threaten the economic stability of individuals and families and negatively affect the ability of businesses to grow and compete globally.[11,12]

Today's fastest-growing industries demand not only new skills but a higher level of skills overall. Individuals who have obtained these higher-level skills have enjoyed more success in the economy. For example, individuals who have at least some postsecondary education have captured 11.5 million of the 11.6 million jobs created since 2007, whereas individuals with a high school diploma or less education have faced a net loss of more than 5.5 million jobs since 2007.[13] Today, there is widespread consensus among experts and practitioners that a postsecondary education is the new minimum for succeeding in today's economy (see the sidebar, "What Is the New Minimum").

WHAT IS THE NEW MINIMUM?

A postsecondary education is the new minimum for achieving success in today's economy and preparing for the jobs of the future. "Postsecondary education" refers to any structured educational experiences beyond high school and includes traditional four-year and two-year degrees offered at universities and community colleges, respectively, as well as credentials and certificates offered through colleges, universities, apprenticeships and other training systems that have labor market value.

Projections indicate that the United States is not on track to meet the needs of the future economy. With 65 percent of all jobs projected to require a postsecondary education by the 2020s, failure to meet that need could translate into unfilled jobs and lost economic opportunity for millions of workers.[14] A recent analysis of postsecondary educational attainment found that only 45.8 percent of working-age adults in the United States have achieved a certificate, associate degree, bachelor's degree or advanced degree.[15,16] Closing this gap will require millions of Americans–primarily adults older than 24 years of age–to acquire further postsecondary education. Furthermore, although the United States has made gains in educational attainment during the past 50 years, other developed countries have improved educational attainment more rapidly, leaving the United States at risk of falling even farther behind. The cohort of American adults ages 55 to 64 achieved educational attainment levels higher than their peers in all but two developed nations, but American adults ages 25 to 34 now trail

their peers in 10 developed nations.[17] The Program for the International Assessment of Adult Competencies found that the United States trailed 17 developed nations in workplace skills, including that 57 percent of American adults ages 16 to 34 scored at or below the lowest of the three levels of proficiency on the assessment.[18]

These facts constitute a call to action to bolster the current and future economic competitiveness of American businesses and ensure prosperity for American workers and their family. Governors can work with industry to ensure that their citizens are prepared with the skills they will need in the future economy.

Progress to Meet the New Minimum: The America Works Initiative and the Talent Pipeline Policy Academy

Recognizing the critical need for states to meet the new minimum and to draw attention and highlight solutions to this issue, **Oklahoma** Governor Mary Fallin's 2013–2014 National Governors Association (NGA) Chair's Initiative focused on better preparing Americans to work in the new economy through improved postsecondary education and workforce training. The initiative, *America Works: Education and Training for Tomorrow's Jobs,*[19] raised awareness of the benefits for individuals, businesses and state economies when governors act to raise their population's educational attainment and better align their education and training systems with the future demands of employers.[20] Through conversations with researchers, experts and policymakers, America Works identified the existing mismatches across each state's talent pipeline where the supply of skilled workers was less than the predicted need of the labor market. The report identified four foundational elements and related promising state practices as a policy framework to help governors build strong state talent pipeline systems (see Figure 2).[21]

FIGURE 2: THE FOUR ELEMENTS OF STRONG STATE TALENT PIPELINE SYSTEMS

1. **COMMUNICATION.** Articulate and communicate the state's vision for an education and training pipeline that meets the needs of its economy.
2. **PUBLIC-PRIVATE PARTNERSHIPS.** Support and scale partnerships between industry and education to implement sector-specific strategies and career pathways.
3. **POLICY AND RESOURCE ALIGNMENT.** Align policy and the use of resources and incentives to support attainment of the new minimum.
4. **DATA AND ACCOUNTABILITY.** Integrate and use education and workforce data to inform policy, track progress and measure success.

Building on the America Works policy framework in 2014, the NGA Center for Best Practices (NGA Center) competitively selected 13 states to participate in the Talent Pipeline Policy Academy, an intensive technical assistance (TA) initiative to strengthen the connection between state education and training systems and the needs of the state's economy (see Appendix A on page). States identified and convened teams representing senior agency leadership from the governor's office, kindergarten through grade 12 education, postsecondary education, workforce development, economic development and other relevant partners. Each state's team developed a common understanding of the issues, created and implemented an action plan and ultimately changed how state agencies work together to better meet the needs of workers and businesses. Through facilitation–peer engagement and TA–the NGA Center helped the states make significant progress. Using the policy framework the NGA Center had identified and a structured action plan for implementation, states made strong gains in connecting their education and workforce systems to the needs of their economies, leading to systemic change (see Figure 3).

FIGURE 3: TALENT PIPELINE POLICY ACADEMY–RESULTS AT A GLANCE

- ✓ Every state authorized or established an entity to coordinate and align its priorities and plans across education, economic development and workforce development.
- ✓ States set clear goals, with nine states setting ambitious postsecondary attainment goals.
- ✓ Five states developed talent dashboards to answer key questions and share data in an actionable format.
- ✓ Every state increased its focus on engagement with industry, including 10 states that developed rigorous criteria to identify high-quality, industry-led partnerships.
- ✓ Each state engaged in asset mapping to track its current expenditures and make decisions about resources.
- ✓ At least three states passed legislation specific to strengthening their talent pipelines.
- ✓ Four states invested in strategic communications and marketing efforts to raise awareness.

The Road Map for Meeting the New Minimum

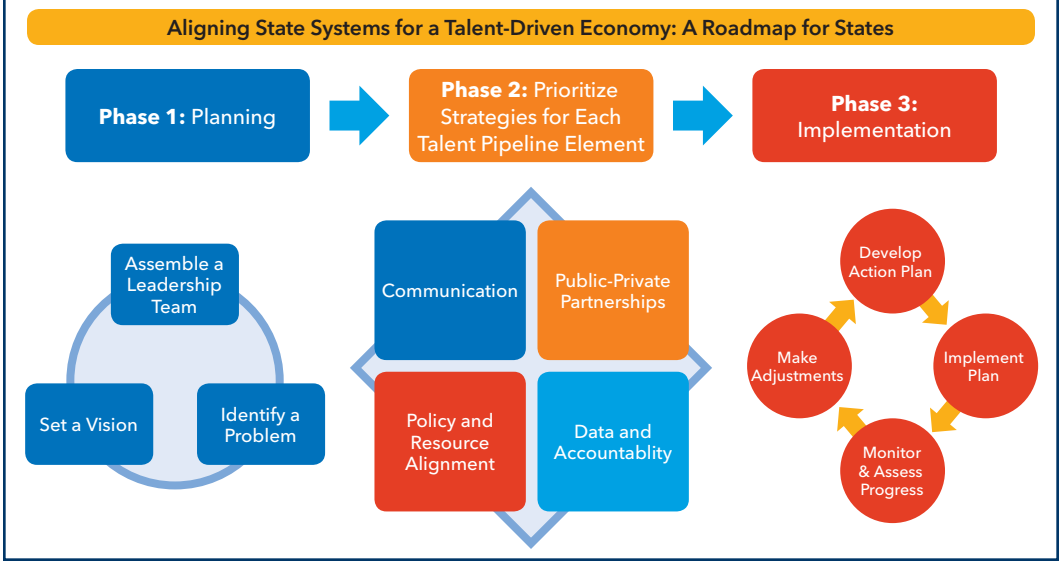
Overview of the Road Map

The challenges this road map outlines are complex and cross multiple federal, state and local systems. Dedicated leadership is required to align a state's education and training pipeline systems to generate economic growth and enhance the quality of life for state residents. Given the complexity of implementing systems change at the state level, governors are well positioned to lead deliberate, thoughtful strategies to help their states to achieve the new minimum.

Drawing on the lessons learned from the policy academy states and in collaboration with state experts, the National Governors Association Center for Best Practices (NGA Center) has developed a road map that describes a process states can follow to position themselves to better meet the new minimum of postsecondary education (see Figure 4). The policies and activities varied from state to state in the policy academy, but states can focus on several common features to implement talent pipeline systems change. This road map is a tool that interested states can use to accelerate the alignment of their education and training systems. The following sections describe the road map and delve into greater detail about the lessons learned from states throughout the policy academy process:

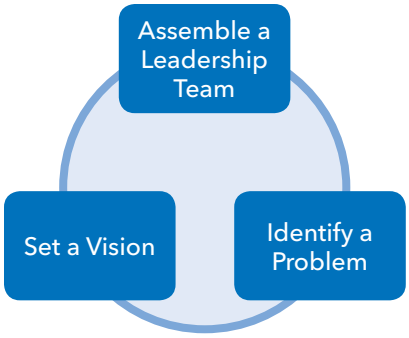
- **PHASE 1: Planning.** During this first phase, the state identifies the problem and establishes a vision and goals (short term and long term) to address the problem. Then, the state assembles a cross-functional team to prioritize strategies to achieve the vision.
- **PHASE 2: Prioritize Strategies for Each Talent Pipeline Element.** During this phase, the state identifies and prioritizes key strategies and workable policy actions across the four elements of strong talent pipeline systems to engage multiple stakeholders and fulfill the state's vision and goals.

FIGURE 4: THE STATE ROAD MAP FOR SYSTEMS CHANGE



- **PHASE 3: Implementation.** During this phase, the state leadership team develops an action plan for implementing the identified strategic priorities. The plan defines outcomes for each strategy and action, identifies agencies or individuals accountable for each action, sets a timeline and includes a plan for monitoring and assessing progress toward outcomes aligned with the overall vision.

This road map lays out a sequential process for states to follow. In reality, however, the work is more fluid, with activities in the three phases overlapping as states adapt policies and priorities to ongoing realities. The road map represents the common, critical components the policy academy states implemented to drive systems change that leads to stronger state talent pipeline systems.



Phase 1: Planning

In the planning phase, state leaders come to a shared understanding of the state's skill gaps and the requirements to achieve the new minimum, establish a vision for success and organize a high-level team to guide the work to achieve the vision. It is important to note that there is no single correct order in which states address the components in this phase. Each of the 13 policy academy states engaged in the planning phase in different ways based on context, and each found pros and cons to its approaches. For example, some governors set attainment goals, and then empowered a board or council to work toward meeting them. Others began by appointing a task force to study the problem and make recommendations that ultimately influenced the state's vision. Still others began

with listening tours around the state to identify the problem, the responses from which fed into a set of shared goals and a vision for the state. Although states followed different paths through the planning phase, every state's process included activities related to these three common planning components.

Planning: Assemble a Leadership Team

Each state in the Talent Pipeline Policy Academy identified and empowered a single cross-agency entity to lead the coordination and alignment of its state plans with education, economic and workforce development partners. Sometimes, this approach meant revitalizing or repurposing an existing entity, such as a state workforce board or a P-20 council. Other times, states created a new body, such as the West Virginia Governor Tomblin's Workforce Planning Council. These entities worked closely with the governor to set goals and priorities. For example, nine states set public goals for postsecondary attainment, such as **New Jersey**'s 65 by 25: Many Paths, One Future initiative, to ensure that 65 percent of **New Jersey** residents have a postsecondary credential by 2025.[22,23]

> *"Identify a team of positive, 'can do' players from multiple stakeholder groups that can articulate a strong sense of purpose and urgency. Be patient, and be satisfied with 'small wins' at first."*
>
> **–IOWA**

> *"The governor personally chairs the monthly Workforce Planning Commission meetings and requires cabinet secretaries to attend. Leadership and vision determine success."*
>
> **–WEST VIRGINIA**

The composition of states' cross-agency entities varied, but most included cabinet-level state leadership and executive-level industry leadership. Core partners typically included education (kindergarten through grade 12, career and technical education, postsecondary), economic development, workforce development and chambers of commerce or other industry leaders. Other common partners included state legislators, human services agencies, community organizations and local representatives. States noted that in addition to ensuring that the coordinating entities include the right state agencies and business groups, it is critical to have participants with decision-making authority who can effectively lead change in their organization. States also highlighted the importance of getting local buy-in, participation and leadership (see the sidebar, "Obtaining Local Buy-In"). In addition, states noted that direct support from the governor's office, through the governor's personal participation or by leadership close to the governor, is vital to building momentum and getting buy-in from partners.

OBTAINING LOCAL BUY-IN

Achieving scale, impact and sustainability requires buy-in at the local level from educators, elected officials, workforce development staff and others. States recognized the critical importance of this step and primarily used two approaches to secure local support:

- **Top down.** **Governors and state leaders initially identified the problem and some solutions, and then held a series of local or regional meetings to refine the problem and solicit local solutions. States that used this approach found that it led to quicker action but sometimes resulted in less local ownership of the initiative.**
- **Bottom up.** **Governors established or appointed a task force or other entity comprising local leaders to study the problem and identify recommendations. States that used this approach found that it builds local ownership but requires more time to implement.**

Planning: Identify the Problem

Many state leaders and policymakers have some understanding of the importance of postsecondary education for accessing good jobs, but reaching consensus on strategies to meet the new minimum requires a clear understanding of the challenge. Each state's identified problem is unique, and framing that problem serves as a call to action for systems change. The state's challenge must be clearly stated and resonate with stakeholders across state, regional and local government as well as with the business community.

States can identify and frame the problem by using any of several methods, such a centralized research process or a more organic, bottom-up process. Several states partnered with local universities to study the issue or turned to national experts, citing the value of outside validation. Whichever method a state chooses to frame the problem, policy academy states emphasized that getting buy-in from partners was a critical step. **Oklahoma** Governor Mary Fallin emphasized that 77 percent of all jobs in Oklahoma by 2020 would require a workforce that holds postsecondary credentials, including certifications, associate degrees or higher levels of education, citing an analysis by the Oklahoma Department of Commerce. At the time, only 54 percent of working-age adults met that criterion, leaving a 23 percentage point gap. This clear description of the problem allowed members of the governor's cabinet to identify goals, including adding more than 50,000 individuals with postsecondary credentials to the workforce by 2023 and focusing much of the state's efforts on the five key industries that had the greatest potential for growth, competitive advantage and capacity to generate wealth.

Planning: Set a Vision

Policy academy states consistently reported that one of the most important activities they undertook was developing a shared vision for talent pipeline systems change. A successful state vision should achieve three goals. First, it should elevate and communicate a message to individuals that postsecondary education is the new minimum for reaching the middle class and beyond. Second, it should communicate to business leaders that the state is committed to providing the talented workforce they will require in the future. Third, it should be aspirational, or a rallying cry for state agencies and postsecondary institutions to coordinate and align across programs and services to meet the new minimum vision. For example, **Iowa**'s Future Ready Iowa goal–to ensure that 70 percent of Iowans have some postsecondary credential by 2020–makes the case for setting an aspirational goal to meet the needs of the business community while clarifying that Future Ready Iowa was the collaborative alignment of many existing efforts rather than a new program.[24] In **Minnesota,** the deputy commissioners of the Minnesota Department of Education and the Minnesota Department of Employment and Economic Development served as co-chairs to lead the effort, with the Governors Workforce Development Board acting as the convener, and bringing in several other agencies. Building on prior legislation, the state's team developed and now tracks an array of goals across the continuum from education to career.[25]

> *"Setting big, audacious and well-publicized goals was the foundation of Virginia's success in this initiative."*
> –VIRGINIA

> *"It's critical to have a clear vision before undertaking a new initiative."*
> –INDIANA

> *"Be relentless in advocating a shared vision in a coordinated fashion with key stakeholders."*
> –IOWA

> *"A cross-agency leadership team was formed and members coalesced around a shared vision, which became the vision for the State Combined Plan under WIOA and the vision for the State Board's Strategic Plan."*
> –MINNESOTA

States recognized that getting buy-in and aligning the vision with existing or overlapping initiatives requires a significant time commitment. So, to accelerate this process, several governors used their position of authority to elevate the importance of talent pipeline systems change. Governors held listening tours or regional meetings to engage local stakeholders in developing and acting on their vision. States noted that the governor's direct participation in these meetings was critical. For example, **Oklahoma,** after holding eight regional meetings, provided the following reflections in a final report on their participation:

"We underestimated the impact these meetings would have on buy-in to the initiative. These meetings made it clear to the business community that Governor Fallin was serious about the initiative, which led to greater overall support."

Phase 2: Prioritize Strategies for Each Talent Pipeline Element

Given the scope of the talent pipeline challenges facing them, states recognized that they needed to implement targeted strategies to drive systems change. States implemented strategies across each of the four elements of strong talent pipeline systems: communication, public–private partnerships, policy and resource alignment, and data and accountability. The specific policies and priorities varied based on a state's specific context, but these four elements represent the foundational areas states should have specific strategies to support. The following sections describe the various policies that states implemented under each element and their lessons learned.

Prioritize: Communication

In keeping with the planning components of Phase 1, many states developed strategies to communicate the importance of their work with both external and internal audiences. Externally, states communicated the importance of achieving the new minimum to students, parents, businesses and educators. Internally, states communicated to agency partners and other stakeholders and

> *"Diverse groups can sometimes look at issues from different perspectives with divergent aims. The key to making progress is to build communication bridges to arrive at a shared vision and complementary goals."*
> –WASHINGTON

> *"It is critically important and incredibly challenging to regularly and succinctly update stakeholders on progress."*
> –VIRGINIA

practitioners the progress underway across state programs and initiatives that better connect individuals to in-demand jobs. Both types of communication are important, and states invested in both, even though the activities were often quite different.

External Communications

To improve people's awareness of the skilled careers available to individuals who have some postsecondary education but less than a bachelor's degree, states focused on elevating the discussion of postsecondary options and providing new information to students, parents, teachers and businesses. For example, six states held governor's summits, which were major events to elevate the importance of postsecondary education among employers, educators and others. **Montana** Governor Steve Bullock, through his Main Street Montana initiative, engaged more than 200 chief executive officers and company presidents in statewide partnerships called "Key Industry Networks" in 11 target industries. **Colorado,** through talentFOUND,[26] is developing a centralized access point for information about careers, education and training. Officials in Talent Pipeline states also provided leadership on this front, noting that they were able to serve as effective champions by weaving these issues into public remarks they made, using real, tangible numbers to make their case to any audience. This consistent message and language built confidence and enthusiasm across partners, who often began to repeat the governor's rhetoric without prompting.

Internal Communications

States found that formal and regular communication across partners was both important and challenging. The governor's call to action needed to be communicated to agency leadership as well as management and program staff across state government, but helping leaders and staff across agencies understand the actions they could take to support achieving the vision presented a challenge. State officials had to communicate a talent pipeline strategy as a way to align state agencies' existing activities into a more cohesive framework rather than a new, discrete initiative. Common strategies for engaging state government staff included assembling working groups that report to a state leadership team and encouraging experts within state agencies to engage with their peers. To achieve their goal of equipping education professionals with information about work-based learning, and closing achievement gaps, **Minnesota** convened regional focus groups to gain insight on the unique challenges each region faces. These meetings, conducted by an external facilitator, allowed partners to develop strategies that address the barriers faced by youth among the state's increasingly diverse population, and were synthesized into a new reference guide for work-based learning.[27]

By bringing state experts and program staff together into working groups, participants learned about complementary initiatives in other agencies and could more easily align their efforts with statewide goals. Many groups established monthly meetings, which helped build trust and strengthen communication networks. Many continue to meet today.

"Industry engagement requires consistent staff support and follow-through."

–MONTANA

"Regional approaches promote grassroots participation, and a diversity of regions reflects a diversity of employer needs. Recognize that many strong partnerships already exist."

–ILLINOIS

"Sit back and listen to your business leaders. Focus on how you do this at the state AND local level: It isn't always duplication."

–MINNESOTA

Prioritize: Public–Private Partnerships

Beyond simply equipping individuals with postsecondary credentials, states have a role to play in seeding and supporting public–private partnerships at the local and regional levels that connect skilled individuals to in-demand jobs.[28] Traditionally, state education systems have approached these public–private partnerships through career pathways efforts, while state workforce systems have used sector-specific approaches. Officials in policy academy states realized that these approaches can be complementary: Both approaches seek to support employers within specific industry sectors by aligning education, workforce, economic development and community organizations to solve the pressing needs of the business community and ensure that long-term career opportunities exist for workers.[29]

Talent pipeline states noted the importance of conducting research and outreach to determine the programs and strategies that already exist. For example, **North Carolina** researched state agencies' existing business and industry engagement efforts and learned that many agencies had separate business engagement committees. Rather than creating a new talent pipeline business engagement committee, the state's talent pipeline leaders elected to use an existing business engagement committee for the purposes of broader talent pipeline discussions.

Instead of a single program or initiative, the talent pipeline states supported public–private partnerships as the foundation on which communities can build their talent pipelines to meet the new minimum. For example, **Washington** used the state planning process for the Workforce Innovation and Opportunity Act (WIOA) to set definitions and goals for its sector partnerships across the state as a collaboration of business, education, workforce and economic development. State approaches to supporting public–private partnerships and connecting sector strategies and career pathways varied, but several common factors helped states achieve scale:

- Designate a single, statewide entity to be accountable for supporting and scaling effective public–private partnerships;
- Use rigorous criteria to identify high-quality partnerships, expand them where appropriate and fill gaps as needed; and
- Provide resources, training or other assistance to local and regional partnerships, building capacity across the state to develop talent pipeline partnerships.

The talent pipeline states formed a cross-state working group to develop baseline criteria for high-quality talent pipeline partnerships (see Table 1). Recognizing the need for functional partnerships at multiple levels, the working group focused on partnerships that facilitated strategic communication among education, workforce and industry about the talent pipeline issues that face a region or sector as opposed to program-specific partnerships. Ten states ultimately developed customized and rigorous criteria for evaluating and scaling public–private partnerships, using this framework as a starting point.

TABLE 1: BASELINE CRITERIA FOR HIGH-QUALITY STATE TALENT PIPELINE PARTNERSHIPS

Baseline High-Quality Criterion for Defining and Identifying High-Quality Talent Pipeline Partnerships	Indicators That the Partnership Recognizes the High-Quality Criterion	Examples of Partnership Metrics for Measuring and Communicating the Value of High-Quality Partnerships (Process and Outcomes)
Employers lead the partnership.	Employers play leadership roles.	**Process:** Number of employer partners, regular attendance, holding leadership positions **Outcomes:** Employer investment in the partnership
	Employers participate consistently and regularly in partnership activities.	
A shared vision and clear roles and responsibilities guide partnership activities.	A clear strategy and action plan exist.	**Process:** Creation of a strategy and action plan, designation of a partnership support team **Outcomes:** Resources to support backbone capacity
	Roles and responsibilities are delineated for all partners.	
	A coordinator, convener or backbone organization exists.	
Data drive the scope and operation of the partnership.	Industry and labor realities shape the scope of the partnership.	**Process:** Use of state data to identify regional and sector skills gaps, industry concentrations **Outcomes:** Quantifiable and partnership-specific credential attainment and employment goals
	The partnership uses quantitative and qualitative data to identify industry sector demand and relevant credentials.	
The partnership influences education and training decision making.	The partnership includes all critical partners across the education and training pipeline.	**Process:** Number of education and training partners, establishment of new career pathways **Outcomes:** Agreement on time savings, investment in work-based learning programs
	The partnership shapes the development of career pathways and programs (for example, career readiness, apprenticeships).	
The partnership demonstrates tangible results and shared value.	The partnership can demonstrate outcomes for pathway participants and the relevant sector or region.	**Process:** Data systems alignment, balanced scorecard for the partnership **Outcomes:** Attainment, employment, employer satisfaction, employee retention, reduced time to hire
	There is attention to continuous improvement and sharing of best practices.	
A strategy and plan to sustain partnership activities exist.	The partnership uses diverse, braided funding resources.	**Process:** Development of a sustainability plan **Outcomes:** Resources secured to support implementation of a time-fixed strategic plan
	The partnership creates a plan for securing sustained funding.	

"Aligning the education and workforce systems will continue to be a challenge as they often operate independently and under separate governance."

–INDIANA

"Legislative strategies must be developed in concert with elected leadership early in the process and sustained through constant engagement."

–WASHINGTON

"Resource mapping should be a springboard to new policy and reallocation of funds to better align funds with goals and outcomes. This is not a goal to which all partners may aspire."

–VIRGINIA

Prioritize: Policy and Resource Alignment

Governors and state leaders can influence the direction of the education, training and economic development systems in their state. In addition to setting policy and guidance for local government, states make significant and continual investments in those systems. Furthermore, the recent trend in federal investments has been to give states increased discretion and flexibility. The talent pipeline states worked through their education, economic development and workforce partnerships to identify the resources and funding that currently support their state's talent pipeline vision. By engaging stakeholders in an inventory and mapping process designed to build trust among state agencies, talent pipeline states developed comprehensive asset maps, which are tools that visualize information about existing programs and resources in an area of the state talent pipeline systems. The asset maps and the process used to develop them helped stakeholders imagine new ways to braid and integrate resources.

The Colorado team took a strengths-based approach to developing an asset map, first identifying common goals through cross-agency dialogue. To make progress toward these goals, the natural next step was for each agency to share information about funding streams. State partners provided a common message to legislators that they were collaborating and aligning resources. This communication helped move legislation forward. Oklahoma's team digitized its asset map to make it easier for agencies to learn about each other's work and find opportunities to collaborate. For example, the digitized asset map showed that the state had only a 28 percent utilization rate for veterans' G.I. benefits. The team used this information to better target services to veteran populations, with the governor's office as a convener and facilitator.

Ultimately, the inventory and asset mapping process allowed states to:

- Initiate conversations across partners who have similar objectives for shared resources;
- Identify gaps and opportunities for better alignment among programs;
- Facilitate more efficient and effective program delivery in support of state goals;
- Use aligned initiatives and potential sequencing, merging or cross-agency integration; and
- Provide a neutral process for having difficult conversations among stakeholders about resources.

With a completed asset map of state and federal resources, states could analyze the way existing resources were used across agencies and programs and examine outcome measurement, accountability mechanisms and alignment with strategic plans across state agencies. As a result of the collaboration and trust that this process created, states were better able to use required federal collaborative planning efforts, such as implementation of the WIOA and the Every Student Succeeds Act (ESSA). State officials reported that these efforts ultimately led to the increased effectiveness of and efficiency in the state's postsecondary, workforce and career and technical education systems.

Prioritize: Data and Accountability

For states to have clear evidence that their efforts to align education, workforce and economic development have moved their state closer to meeting their new minimum vision and goals, states must have plans to collect and analyze relevant data demonstrating results and keep partners accountable. Talent pipeline states found that they could use the vast amount of data states, federal agencies,

"Focusing on data made partners less territorial and brought personalities and partnerships together."

–KENTUCKY

"Clarity around appropriate metrics is necessary to effectively measure progress and inform public policy."

–WASHINGTON

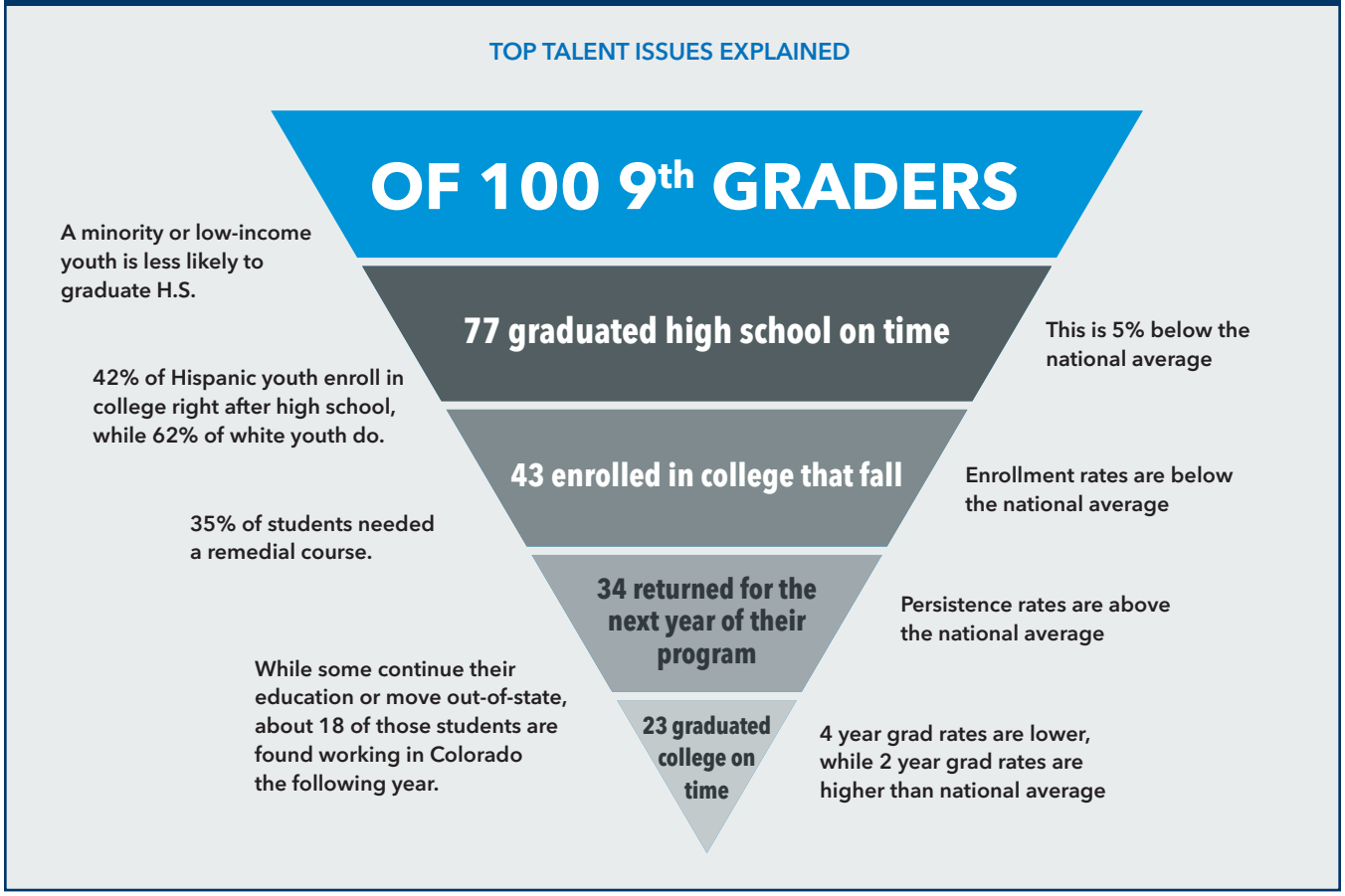
"Data sharing within the confines of privacy laws takes time, and obtaining individual level data from private entities has proven difficult–something we didn't anticipate."

–INDIANA

"One lesson learned through our annual Credentials to Compete report is the importance of aligning goals, definitions and metrics between partners and stakeholders."

–VIRGINIA

FIGURE 5: COLORADO'S TALENT PIPELINE REPORT[32]



private companies and nonprofit organizations had already collected to ensure that their talent supply and demand were aligned. In fact, through careful evaluation, states such as Colorado found that a great deal of the data they wanted to collect were already being collected. States worked to take advantage of this wealth of available data to better understand how individuals enter and move through the state talent pipelines.

To harness these data resources, governors and state leaders can define a set of key policy questions about the state's talent needs. A clear set of policy questions helps signal what is important and provides a comprehensive picture of the overall talent pipeline rather than outcomes for specific programs or individual agencies. When Oklahoma sought to develop a comprehensive data dashboard, the state began the process by identifying which key policy questions the data should answer, allowing the state to narrow its focus to relevant, timely data metrics. North Carolina used a similar process, developing specific policy questions to identify data metrics that crossed agencies (such as the number of high school students who obtain college credit prior to graduation) and could be disseminated to the public at a high level.

Several states created dashboards to translate data into usable information. A dashboard highlights important figures and visualizes large data sets in ways that users can easily digest and use to inform decisions. Dashboards can serve a variety of purposes and audiences, including state policymakers, legislators, educators, businesses, parents and students. Depending on their purpose, dashboards' appearance and format can vary significantly. For example, Colorado, Washington and several other states developed simple dashboards that provide data about the performance of the entire talent pipeline system for use by their state talent pipeline leadership team.[31] Figure 5 on this page shows how Colorado used its dashboard to map individuals' progress through the state's talent pipeline.

To simplify the complex and potentially lengthy process of developing a dashboard, talent pipeline states formed a collaborative cross-state working group to develop a toolkit for dashboard development. While no simple template or one-size-fits-all dashboard exists, talent pipeline states identified a common process that states can follow to identify the dashboard that will best meet their needs (see Table 2 on page 12). Each state's dashboard should ultimately address the specific priorities and needs of that state; therefore, the dashboard will differ in the data required to inform effective policy decisions.

TABLE 2: TALENT PIPELINE DASHBOARD DEVELOPMENT PROCESS	
STEPS	**ACTIVITIES**
1. Plan	a. Determine which policy questions the dashboard will answer. b. Identify the ideal measures for answering these questions. c. Scan available data sources and existing dashboards to determine whether enough data exist to move forward with the dashboard and to confirm that no suitable dashboard already exists. d. Assemble the dashboard development team and its lead. Define the scope and purpose of the dashboard, and develop a work plan. Decide whether capacity exists to develop the dashboard or third-party assistance is required. e. Review and summarize literature on supply and demand measures. f. Review dashboard systems, best practices and audiences.
2. Develop measures	a. Specify a range of potential measures (for example, data sources, calculations), periodicity of data and data breakdowns. b. Conduct analysis, and test candidate measures for performance: How do they perform over time—reliability, validity, opportunity to show change? c. Engage stakeholders in the priority setting, present work to date, consider the cost of data collection for measures that do not exist and gain input and consensus on priority measures.
3. Design the dashboard	a. Evaluate potential dashboard delivery methods (for example, in house, out of the box, Software as a Service), and select the appropriate method based on cost constraints, target audience and the specific measure to be included. b. Based on data and dashboard delivery costs, reconvene stakeholders to make a go/no-go decision on whether to move forward with dashboard production. c. Design a presentation for each measure (visualization, table, time period, comparison group). d. Convene a focus group of target users to review the dashboard and measure presentation, and gather feedback on usability and clarity. e. Adjust the dashboard design based on focus group feedback. f. Develop a process for updating the dashboard, including timing and ownership.
4. Implement the dashboard	a. Implement the dashboard process. b. Conduct training and socialization sessions with potential users.
5. Ensure sustainability	a. Monitor usage of the dashboard and the update process. b. Reconvene and reevaluate measures to determine whether the dashboard is driving value and whether any changes should be made to the dashboard or process. c. Ensure ongoing review of systems, measures and stakeholder engagement.

Phase 3: Implementation

Achieving meaningful talent pipeline systems change requires significant planning and a long-term commitment from partners to cooperate on shared goals. However, given the scope and complexity of generating statewide systems change, translating a governor's or state leaders' vision into concrete change for students, workers and businesses requires such a long-term commitment. The talent pipeline states recognized the importance of staying focused on the efficiency and effectiveness of the day-to-day work to ensure success. Developing, implementing and assessing progress on the state's identified strategies can be challenging because of the reality of political and personnel changes, external events and other competing priorities. Success depends on the combined strengths of the high-level leadership team that provided the vision, direction and political capital to make real change and the core team of policy experts that led implementation.

Implementation: Develop and Implement an Action Plan

A clearly written action plan was an important tool for states in organizing the change process, sustaining momentum and holding partners accountable. Individual state agencies often develop strategic plans for internal use, but the scope of state talent pipeline systems change calls for collaborative, cross-agency plans to direct and guide the process. State action plans provided a single compilation of all strategies and actions related to developing stronger talent pipeline systems. The documents included several common components, detailing the key activities, lead individuals and organizations; identifying resources related to the activities (for example, state, grant funds, federal, in kind); specifying the timeline and deliverables; and suggesting measures of progress and success.

> *"Engaging relevant stakeholders in meaningful discourse leads to support and 'ownership' of outcomes."*
>
> **–WASHINGTON**

> *"Build on momentum–Changes in funding, such as WIOA, create perfect incubators for policy change and realignment."*
>
> **–MONTANA**

> *"Too often, data are collected to demonstrate program outcomes versus objectives."*
>
> **–MINNESOTA**

Talent pipeline states brought together diverse partners to develop their initial action plans in collaboration. This process enabled state leaders and experts who had not interacted regularly to come to a much deeper understanding of each other's work. States noted that the collaborative action planning process yielded significant benefits for state policy alignment across talent pipeline systems. As state teams built trust, they could identify opportunities for stronger collaboration and alignment of resources, leading to action plans that were transformative.

By having clear expectations for which partners were responsible for which tasks, states built in accountability to their implementation process. Having a unified plan also helped states develop shared responsibility and ownership of the entire scope of work. States used these plans as dynamic, living documents that continued to evolve over the course of the policy academy. Several states used their talent pipeline action plans as the foundation for state WIOA and ESSA plans, which helped ensure that strategies from states' talent pipeline action plans were incorporated into other state plans as appropriate.

Implementation: Monitor and Assess Progress and Make Adjustments

Clearly defined measures and a process to track progress were important components of each state's action plan and implementation process. In some cases, these elements were measures of progress, such as Colorado's goal to "increase the number of variables, data sets and users of the state longitudinal data system." Both progress and outcome measures were important, and states generally included both types of measures in their action plans. States highlighted the need to build on "quick wins" to generate momentum for longer-term efforts and more complex goals.

All states adapted their action plans as they progressed through their work, encountered roadblocks and discovered new information. Adaptability and perseverance were important ingredients for sustaining momentum.

Perhaps the greatest challenge the states faced was turnover in political leadership and personnel. These leadership and staffing changes often presented significant barriers to speedy and sustained progress. In every case where there was turnover in talent pipeline states' leadership, their work slowed down for several months. Through these experiences, states learned that it was both possible and necessary to engage new leadership and partners early to create awareness and gain buy-in and support for building stronger talent pipeline systems in the state. States successfully brought new leaders on board through consistent engagement and communication efforts and by building on the strong partnerships they had developed. States also gained support from new leaders and staff, even when changes in political party leadership had occurred in the state. By embedding their overall vision and goals across and throughout various agencies' efforts, states created momentum for continuing progress in the face of change.

> *"Remain flexible, and adjust to personnel and political changes."*
>
> **–KENTUCKY**

> *"Establishing the Future Ready Iowa Alliance – 58 leaders from business, education and nonprofits plus elected officials and others - to recommend how to reach the goal of 70 percent of our workforce with education or training beyond high school by the year 2025 built a strong statewide consensus for key policy changes."*
>
> **–IOWA**

Conclusion

Governors and states recognize that postsecondary education is the new minimum for individuals and businesses to succeed, and many have embraced the value of linking their education and training systems to meet their talent needs. The states that participated in the Talent Pipeline Policy Academy from 2014 to 2017 made significant progress in taking this approach and implemented many strategies and practices that other states could replicate. The challenge of building a talent pipeline to achieve the new minimum has grown as a topic of national dialogue and critical importance. This road map can be an important tool for governors and states interested in talent pipeline systems change to meet the new minimum.

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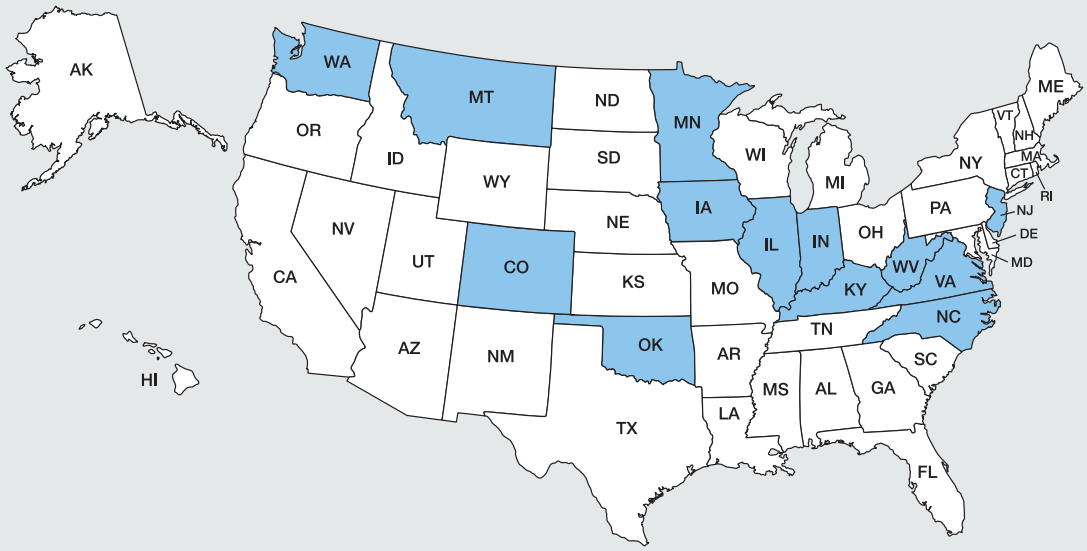
Appendix A: Talent Pipeline Policy Academy States



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