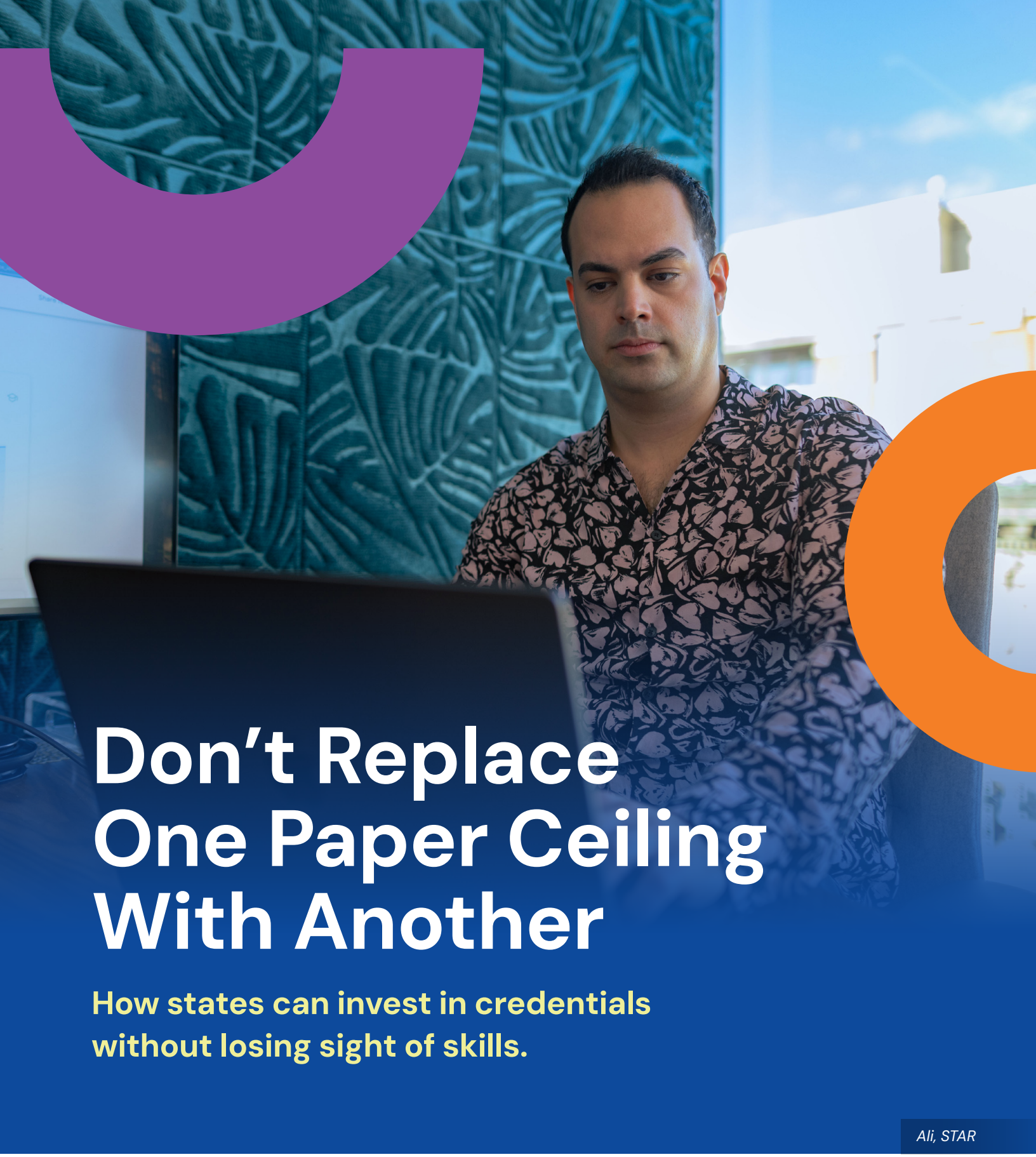


Don’t Replace One Paper Ceiling With Another

How states can invest in credentials without losing sight of skills.

Ali, STAR

Opportunity @Work

Skills are the driver of economic mobility.

The public sector shapes regional economies as a major employer, buyer, policymaker, and workforce development partner. Through their role as an employer, governments create stable and good-paying jobs while also delivering **dependable public services**. Those jobs are also the places where workers build the skills necessary for continued economic mobility, whether through formal training or the learning that accrues with on-the-job experience.

Recent labor market disruptions have made it harder to fill these critical roles amid **retention and hiring challenges**. At the same time, workers have found more limited opportunities in good-paying public sector roles, particularly workers Skilled Through Alternative Routes (STARs), whose representation in **good-paying jobs declined** in the past **two decades**. An increased reliance on degrees as a proxy for skill created a **paper ceiling** that has limited worker access to good-paying jobs in the public sector and ultimately their economic mobility. It **doesn't need to be this way**. Many public sector employers as well as state and local leaders have responded by removing unnecessary degree requirements from government jobs — adopting skills-based talent practices to better connect workers with in-demand public sector jobs. Keeping skills at the center of these efforts is more important now than ever as the labor market continues to evolve due to advances in artificial intelligence (AI), changing skill demands, and shifting **career pathways**.

Credentials should help make skills visible, not become another barrier to opportunity. Non-degree and short-term **credentials** have become a larger part of workforce policy, as policymakers, workforce development partners, and employers seek to help workers build and validate skills.[1,2] For example, the new **Workforce Pell** program creates additional opportunities to support short-term education and training, making it important to distinguish credential attainment from skill development and economic opportunities.[3] Credentials can serve a valuable purpose: providing credible evidence of what a person knows and can do, and helping employers recognize skills they might otherwise overlook.

STARs represent half of the U.S. labor force.

STARs
SKILLED THROUGH ALTERNATIVE ROUTES™

STARs = the more than 75 million U.S. workers Skilled Through Alternative Routes.

STARs have built their skills outside of a four-year bachelor's degree through military service, community college, partial college completion, certificate programs and bootcamps, apprenticeships, on-the-job experience, and other alternative routes.

Read more in **Reach for the STARs**.

While credentials can generate **positive workforce outcomes**, not all **create the same value**. Workers also need meaningful ways to demonstrate skills gained through work, military service, caregiving, and other experiences without being required to obtain an additional credential. When credentials become the required proof of skills rather than one way to demonstrate them, we risk overlooking capable workers, imposing unnecessary costs, and **reinforcing the paper ceiling with a different piece of paper**.

Not every worker pursuing a credential needs to build new skills. Employers ask workers to spend the necessary time and money to complete a credential for one of two reasons: (1) to build new skills they do not yet have, or (2) to provide proof of skills they have already built through other routes. While the first can open opportunities for workers, the latter turns a credential into a barrier for skilled workers and narrows the talent pool for employers. Hiring and talent practices can instead focus on demonstrated skills, assessments, apprenticeships, or other evidence of capability rather than asking workers to re-prove skills they already have.

Public sector workforce investments should focus on building skills employers value and ensure those skills are recognized and rewarded across a worker's career.

Opportunity@Work examines three common myths about credentials to explore where they add value, where they fall short, and what that means for public sector workforce strategy.

Myth 1	Myth 2	Myth 3
Workers need a new credential to move into a new job.	**If more workers had credentials, more workers would be earning higher wages.**	**A valuable credential automatically creates economic mobility.**
Most workers leverage skills from previous roles to land a new job.	Preparing workers with the skills employers need is how credentials provide value.	Even valuable credentials do not generate uniform economic mobility.

Myth 1

Workers need a new credential to move into a new job.

Credentials are not the dominant path to higher-wage work.

Recently obtained credentials support a small share of upwardly mobile job transitions.[4] Looking at the three technical roles on the next page, computer user support specialists, database architects, and computer & network systems administrators, only about 13% of workers leveraged a recent non-degree credential alone to make these moves. Instead, workers in IT occupations come from a wide range of backgrounds and take different paths to get there. **More than half of the workers transitioning into these roles leverage skills from a different job to make the move.**[5] Others have earned a recent degree or are changing employers while staying in the same role. Accessing 100% of the talent pool means recognizing **all of these pathways** where skills are built.

Credentials can help workers build skills: Credentials play an important part in career pathways by helping workers develop specialized skills needed for new roles. Take, for example, an individual moving from retail sales into IT support. While workers in both of these roles talk with customers and resolve problems, workers in IT support have specialized skills like troubleshooting computer software and hardware. A retail salesperson without prior tech experience might pursue a CompTIA A+ credential to build these technical and industry-specific skills before making this transition into IT support.

Credentials can validate skills: In other cases, credentials may not build new skills but instead validate skills workers have already developed through experience. Consider office coordinators and administrative assistants, who build skills in data entry, Microsoft tools, communication, and understanding organizational needs. These same foundational skills are valuable for database architects, who apply them to understand operations and develop new data pipelines. For an administrative assistant pursuing this transition, a credential may help signal existing capabilities to employers, but it is not necessarily what makes them qualified. In fact, **most workers moving between these two roles do so without earning a recent credential**, relying instead on skills and knowledge developed on the job.

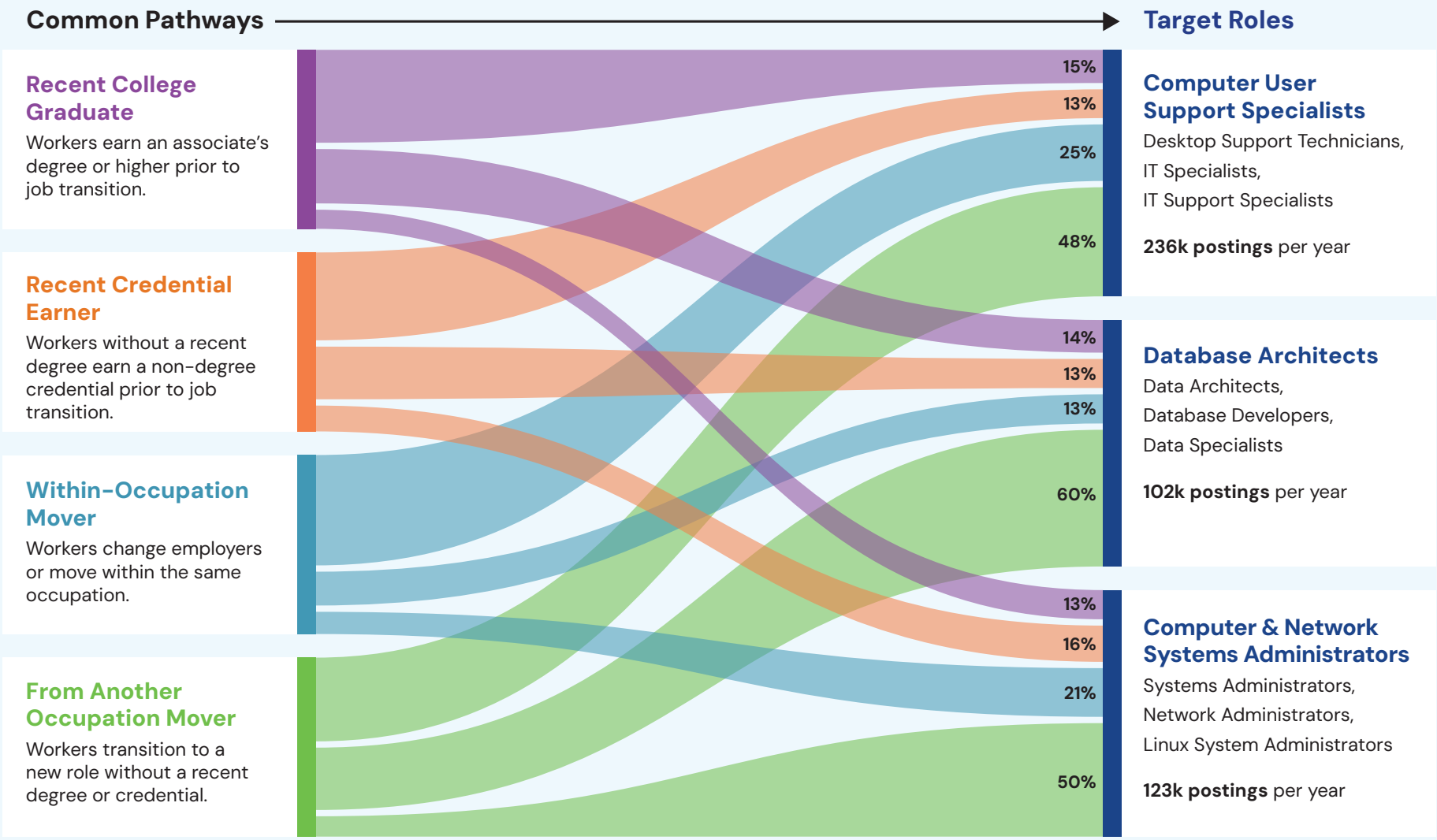


Shanel, STAR

> "By embracing a skills-first approach, Connecticut is ensuring that talented individuals, regardless of their educational paths, have the opportunity to excel in the public sector."
>
> – **Governor Lamont, Connecticut**

WORKERS TAKE MULTIPLE ROUTES INTO NEW ROLES.

The majority of workers leverage the skills from another occupation to make job moves.



Source: Opportunity@Work analysis of Lightcast worker profiles, for workers with at least one job listed on or after 2015, restricted to job transitions observed 2021–2026.

Myth 2

If more workers had credentials, more workers would be earning higher wages.

Not all credentials create equal value.

With more than **one million credentials available**, workers experience very different outcomes depending on the credential they earn. What a credential prepares a worker to do, and how well that aligns with employer needs, matters. A recent **Brookings** analysis found wide variation in the wage returns associated with non-degree credentials, with job-relevant credentials producing greater returns. **Anthropic's** recent work on workforce training similarly finds that programs closely connected to employers and local workforce needs can produce stronger earnings outcomes.

A credential is valuable when it:

- **Builds skills** that employers demand;
- **Provides skill validation** that employers recognize and trust;
- **Produces measurable labor-market returns** for workers;
- **Opens access to jobs** rather than becoming a new prerequisite; and
- **Adds new capabilities** workers don't already possess rather than forcing them to "re-prove" existing skills.

Credentials add value when they build, validate, and signal skills.

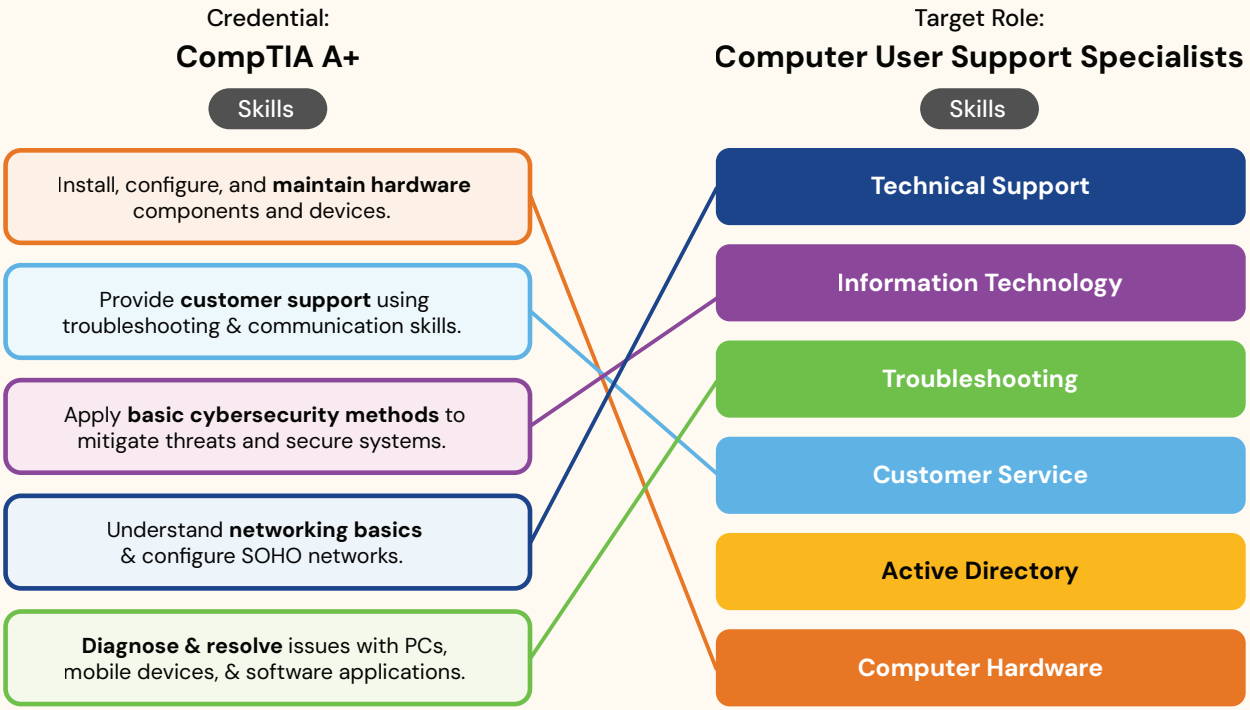
Research shows workers with job-relevant credentials earn higher wages compared to those with non-relevant credentials. Take the **CompTIA A+** example from earlier. Designed for IT and technical support roles, this credential covers many of the same capabilities that employers demand in recent job postings. This overlap is particularly meaningful for workers coming from non-technical backgrounds as shown on the following pages. Earning a CompTIA A+ credential can make the transition into technical roles less challenging, and ultimately leads to greater salary growth than among non-earners with similar career histories.[6]



Kelly, STAR

CREDENTIALS LIKE COMPTIA A+ ARE ALIGNED WITH EMPLOYER DEMAND.

Many of the skills participants learn and validate with a CompTIA A+ credential are frequently demanded by employers on job postings.



Source: Opportunity@Work analysis of the skills **provided by CompTIA** for an A+ certification and the top skills listed on job postings for computer user support specialists from 2021 to 2026.

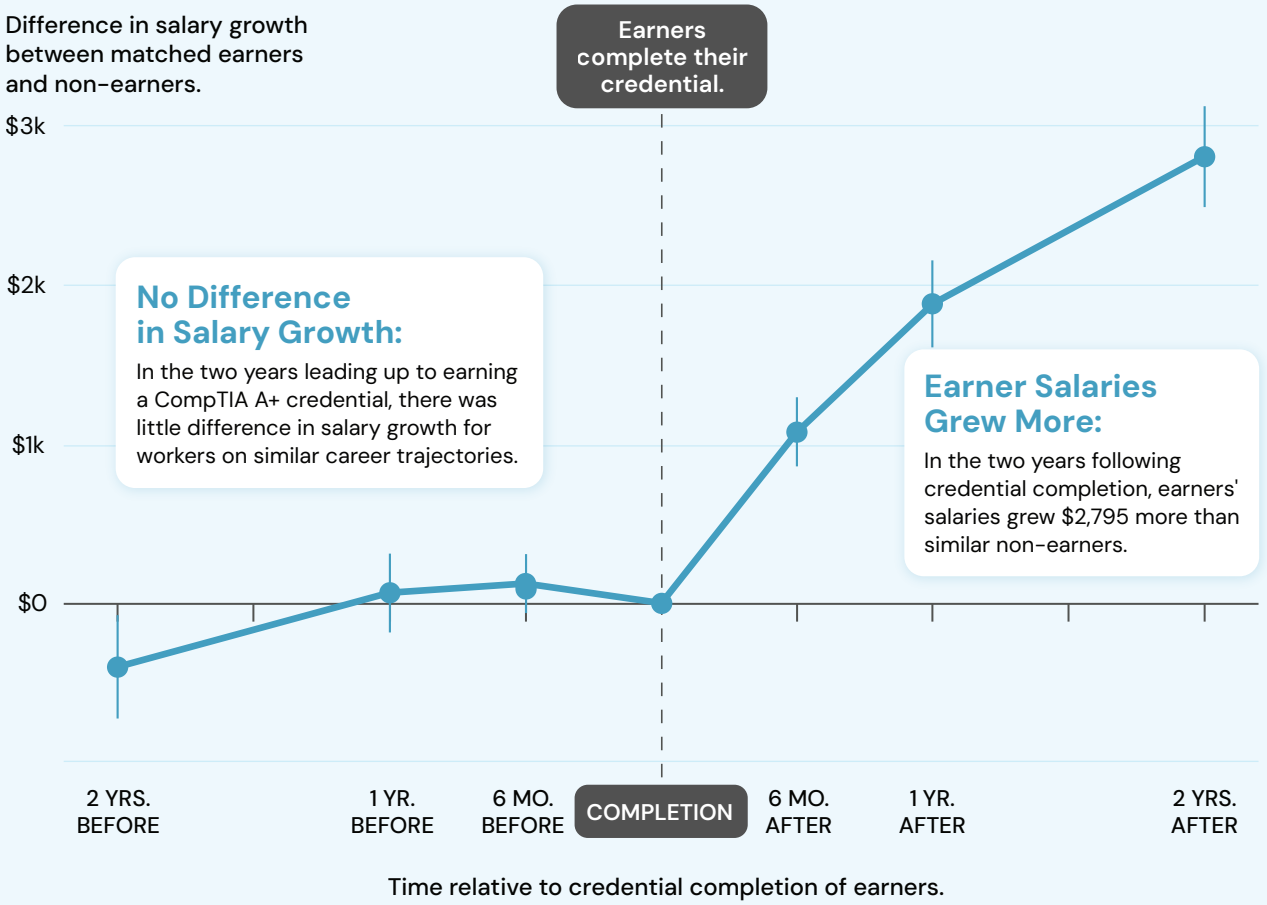
Credentials lose value for workers, employers, and policymakers when they create unnecessary barriers.

When a credential becomes a requirement that overlooks a worker's existing skills, it shifts the burden and risk to the worker, with consequences for both employers and policymakers.

Earning a credential requires a worker to **invest** significant time and money. CompTIA A+, for example, can take up to **three months of study time** and can cost **over $500** to take the necessary exams.[7] For workers, this takes time away from work, adds financial strain, and makes balancing family responsibilities with credential attainment challenging. Positive outcomes are also not guaranteed. Once a worker completes a credential, they may not be hired in their desired role or fail to see positive wage gains. For individuals who already possess the skills to do the job, jumping through these hurdles merely for the validation and signaling of skills can be a waste of time and resources. Expecting all workers to take these financial and career risks is unrealistic.

CREDENTIALS THAT BUILD SKILLS ALIGNED WITH EMPLOYER NEEDS CAN LEAD TO GREATER SALARY GROWTH.

On average, CompTIA A+ credential earners from non-technical backgrounds saw nearly $3,000, or 3.8%, greater salary growth than non-earners with similar career trajectories during the same time period.



Source: Opportunity@Work analysis of Lightcast worker profiles, for workers with at least one job listed on or after 2015. Credential earners were identified as workers who listed the relevant credential with an end date on or after January 1, 2021. Error bars reflect the 95% confidence interval. For more detailed methodology, see the technical appendix.

For employers, these barriers can strain hiring efforts by shrinking the talent pool. These implications are broader for policymakers, where there may be reduced return on workforce investments and ultimately the economic mobility of workers across the labor force. Rather than valuing the credential, employers should value and compensate workers for their skills, regardless of where those skills were developed. **At the same time, leaders in the public sector must invest in worker skill development, skill recognition, and economic mobility, with credentials as just one tool that can contribute to those outcomes.**

Myth 3

A valuable credential automatically creates economic mobility.

A credential doesn't tear the paper ceiling; it is layered on top of it.

Credentials add another layer to the paper ceiling when they are valued more than the skills and capabilities workers build through experience. Both degrees and non-degree credentials serve as proxies for what workers know and can do, but it is those underlying skills and capabilities that matter most. Replacing one proxy with another does not remove the barriers workers face if employers continue to value degrees or credentials over the skills they represent.

Consider the earnings of bachelor's degree holders and STARs over time. It takes a STAR **30 years** to reach the same earnings as a new college graduate receives on day one. If earning a valuable non-degree credential were enough to overcome the wage premium held by workers with degrees, we would expect this wage gap to narrow substantially. Instead, this gap persists even after workers earn the same credential. As shown below, two years after earning the same CompTIA A+ credential, STARs continue to earn over $9,000 less annually than workers with a bachelor's degree. The credential is the same, building and signaling the same valuable skills, but those skills are not rewarded equally when hiring practices continue to privilege degrees.

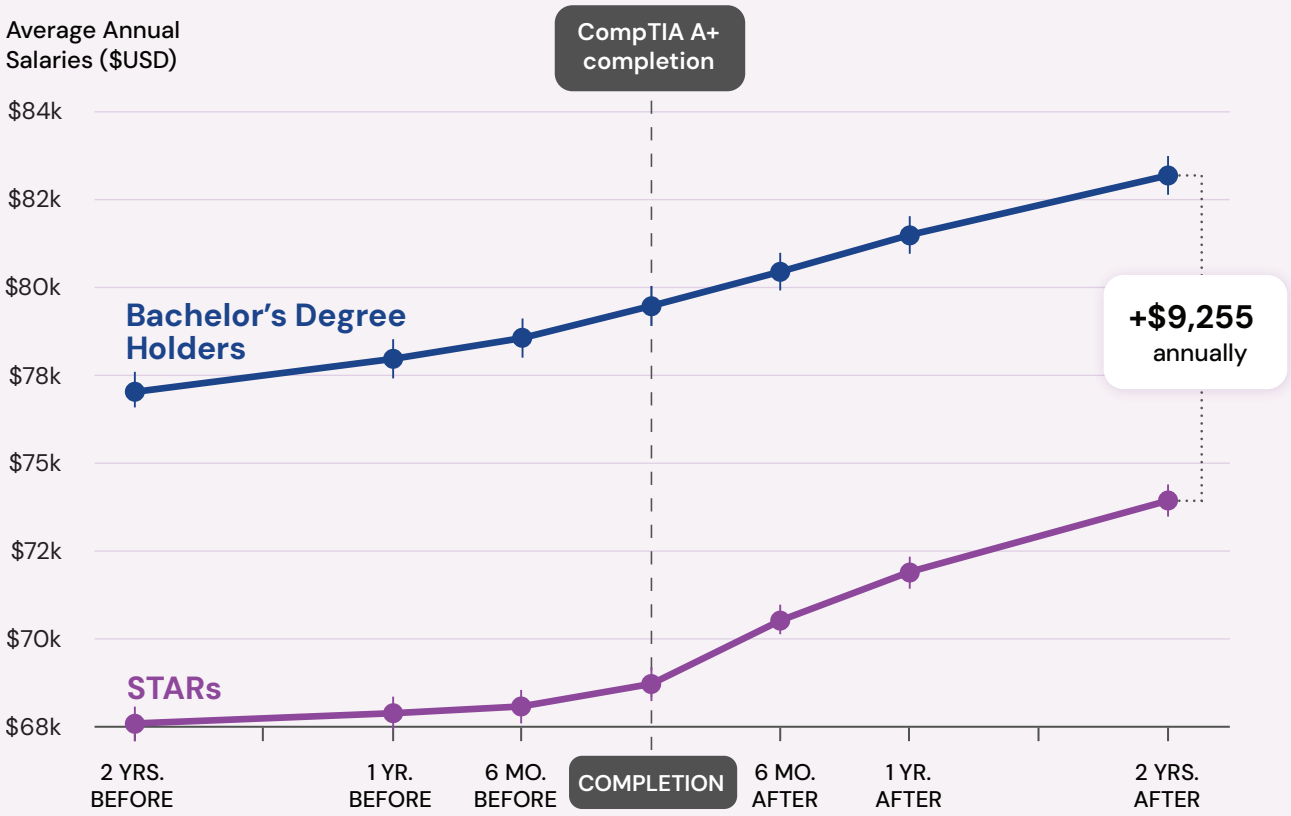
> "Instead of focusing on demonstrated competence, the focus too often has been on a piece of paper. We are changing that."
> - **Governor Cox, Utah**



Debrena, STAR

A CREDENTIAL CANNOT OPEN A DOOR AN EMPLOYER HAS ALREADY CLOSED.

Two years after earning the same credential, workers holding at least a bachelor's degree earn $9,000 more on average than STARs. Workers can only access higher-paying roles if their skills are recognized and valued throughout their careers.



Source: Opportunity@Work analysis of Lightcast worker profiles, for workers with at least one job listed on or after 2015. Credential earners were identified as workers who listed the relevant credential with an end date on or after January 1, 2021. Salaries are not individual wages, and instead were collected from Lightcast job postings from 2021 to 2026 and matched by occupation, employer, and state at each checkpoint. Error bars reflect the 95% confidence interval. See the technical appendix for more information.

Credential policy cannot substitute for skills-based talent strategies.

The earnings gap shown above points to a broader challenge: workforce systems cannot credential their way around employer practices. Recent McKinsey research reinforces this point, finding that employer-preferred credentials can block otherwise viable pathways into growing jobs, even when workers have relevant skills.

Workers with a bachelor's degree are about twice as likely to hold a non-degree credential as workers without one,[8] suggesting that non-degree credentials often complement degrees rather than replace them.

If employers continue to screen workers based on educational background, they risk overlooking workers who already have the skills for the role. Asking those workers to earn another credential creates a barrier rather than a pathway to mobility. Building valuable skills matters, but mobility ultimately depends on whether employers recognize those skills, remove unnecessary screens, and hire and advance workers based on what they can do.

Call to action: Put skills at the center of workforce strategy.

A skills-based ecosystem helps workers build new skills, demonstrate the skills they already have, and have those skills recognized and rewarded throughout their careers. Credentials can play an important role in that system, but they should remain one tool rather than becoming another layer of the paper ceiling.

State and local public sector leaders can take practical steps to understand and recognize skills:

Start with the skills the economy needs.

Bring employers, workforce agencies, education providers, economic development leaders, and workers together around a shared understanding of in-demand skills and career pathways.

- Identify the capabilities that **regional employers** need, the roles where demand is growing, and opportunities for workers to develop and apply those skills.
- Use employer input, job postings, and labor market **data** to direct investments toward demonstrated workforce needs and create a stronger feedback loop between training and hiring.
- Establish mechanisms for ongoing employer engagement to ensure that workforce investments remain responsive to changing skill demands and that employers recognize the skills workers acquire.

Recognize the skills workers already have.

Not every worker needs another credential to prove they are qualified. Public investments and hiring practices should not force experienced workers to re-prove capabilities repeatedly when those skills can be appropriately assessed and recognized.

- Invest in career **coaches**, navigation tools, and other supports that help workers identify job and learning pathways that build on their existing skills.
- Use shared skills **frameworks** so workers, employers, education providers, and workforce systems can describe and recognize skills in a common language.
- Encourage employers to recognize demonstrated skills not only during hiring, but also in decisions about compensation, professional development, and career advancement.

State and local public sector leaders can take practical steps to invest in and support skills-based training:

Root training and hiring investments in skills.

Public investments in skill development will only translate into opportunity if employers also recognize and hire workers based on the skills they possess.

- Remove unnecessary degree and credential requirements, rewrite job qualifications around skills, and use **assessments**, work-based learning, and other skills-based approaches to evaluate what workers can actually do.
- Pair policy changes with implementation strategies that equip human resources professionals and hiring managers with the tools, training, and guidance necessary to adopt skills-based hiring practices.
- Establish clear implementation responsibilities and measures of progress to assess whether changes in hiring practices are expanding access to employment and advancement opportunities for STARs.
- Use public funding and partnerships to expand skills-based hiring among **contractors** and other employer partners, exploring opportunities to align procurement practices with skills-based talent strategies consistent with applicable contracting requirements.

Invest in programs that lead to better workforce outcomes.

Support **training that builds in-demand skills** and translates learning into better employment and earnings.

- Establish funding and accountability measures that evaluate programs based on demonstrated skill development, employment earnings, and career advancement.
- Support stackable pathways, apprenticeships, and work-based learning opportunities that allow workers to build on their existing skills rather than starting over.
- Expand opportunities to assess and recognize prior learning, including skills acquired through work experience, military service, and other alternative pathways, so workers are not required to repeat training for competencies they already possess.



Endnotes

1. With advancements in online learning capabilities in the past decade, short-term credentials have grown in popularity due to the appeal of quick skill development and reduced cost compared to traditional degrees. Since 2022, Credential Engine estimates about 700,000 non-degree credentials have been added to the labor market, with most of this growth coming from badges and certificates.
2. Through its FutureReady States initiative, Lumina Foundation is partnering with 12 states toward its goal of 75% credential attainment nationwide by 2040.
3. As of July 1, 2026, the U.S. Department of Education enacted changes to the Workforce Pell Grant program. These changes allow Pell Grants, historically awarded to fund undergraduate education, to be awarded for short-term workforce training programs. The aim is to support skill development for in-demand fields.
4. Opportunity@Work analysis of Lightcast worker profiles and salaries estimated from job postings over a five-year period from 2021 to 2026. Only about 10% of transitions into higher-earning occupations occurred after a worker completed a recent non-degree credential alone. The remaining transitions followed other routes, including earning a recent degree, moving within the same occupation, or moving without a recent degree or credential.
5. Across all movers into computer user support specialists, database architects, and computer & network systems administrators in the past five years, more than 52% did not have a recent degree or credential before making the transition.
6. Opportunity@Work analysis of Lightcast worker profiles for workers earning the CompTIA A+ credential on or after January 1, 2021, and listing at least one job on or after 2015.
7. Costs of the CompTIA A+ exams are based on participants who purchase the A+ voucher and take both the Core 1 and Core 2 exams. Bundles with learning materials can cost upwards of $1,000.
8. Opportunity@Work analysis of Lightcast worker profiles for workers currently employed in a job that started on or after 2015. Across nearly 50 million profiles, less than 13% of workers without bachelor's degrees, including STARs, list a non-degree credential (completed 2015 or later), compared to 27% of workers with a bachelor's degree or more.

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Methodology

For the methods and data used in this report, see the **Technical Appendix**.

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About Opportunity@Work

Opportunity@Work is a nonprofit social enterprise dedicated to advancing economic opportunities for the more than 75 million U.S. workers who are Skilled Through Alternative Routes (STARs) instead of through a bachelor's degree. Opportunity@Work's research capabilities inform the nation's understanding of STARs and uncover insights that show how to make positive change within regions and industries. The organization engages with corporate, public sector, and philanthropic partners to directly address the barriers that STARs face and equip organizations to make hiring STARs for higher-wage roles the norm. Learn more at **www.opportunityatwork.org**.