

Written Testimony of Justin Heck, Opportunity@Work
As Prepared for Delivery Before the U.S. Senate Subcommittee on
Employment & Workplace Safety
“The Impact of AI on the Workforce”
July 29, 2026

Introduction

Chairman Banks, Ranking Member Hickenlooper, and distinguished Members of the Committee, thank you for the opportunity to testify before you today. It’s an honor to be here to discuss the American workforce. By way of introduction, my name is Justin Heck and I lead the research and data production team at the nonprofit social enterprise Opportunity@Work.

Career pathways are a missing part of the AI jobs debate

Public debate about AI and the labor market has focused almost entirely on whether jobs will be augmented or automated. Will workers be made more productive or obsolete? Will these dynamics result in a net gain or loss in jobs? Far less attention has gone to a broader question about how AI will reshape mobility. As jobs are transformed, will the pathways connecting workers to opportunity stay strong enough to support the moves needed to meet employer demand, provide economic advancement for workers, and power regional growth?

As AI changes how and what workers spend time on in any given role, it will also change the way workers move from job to job. Research consistently shows that [workers move into higher-paying occupations that share skill similarities with their current job](#). Workers build skills in one job and then use those skills at the next job. In aggregate, these moves form job pathways: sequences of roles through which workers build in-demand skills, accumulate experience, and reach higher-wage work. The quality and durability of these pathways determine whether employers can find the talent they need.

Among workers, these pathways matter most for the more than [70 million workers Skilled Through Alternative Routes \(STARs\)](#), who lack a four-year degree but have built valuable skills through work experience, military service, apprenticeships, or community college. For STARs, mobility depends on whether that skill is transferable and recognized. As AI changes pathways, it will also change what is transferable, and this applies to all workers. AI’s impact on the labor market must be understood through its impacts on career pathways.

Over the past decade, Opportunity@Work has studied how workers build careers through skills gained on the job rather than through a bachelor’s degree. That work has shown that

career mobility depends not only on whether jobs exist, but on whether workers can move between them through strong skills-based pathways. The emergence of AI makes understanding and strengthening those pathways more urgent than ever.

Gateway jobs are key to mobility across the labor market

[Opportunity@Work](#) has done extensive analytic work on how workers move through the labor market. Specifically, we analyzed 130 million job transitions made by workers over a 10 year period to see how they move from job to job.¹ We saw distinct patterns around skill sets and job pathways.

First, we determined that workers in general, and STARs in particular, leverage their skills to make transitions to higher paying jobs with similar skills descriptions. This pattern shows that, for workers on a strong pathway, skills demonstrated on the job open the door to what comes next.

Having identified the prevalence of these skills-based transitions, we found consistent patterns in how workers move and defined a framework of three job types: Origin jobs, low-wage roles that serve as entry points; Destination jobs, which offer higher earnings and stability; and Gateway jobs, the stepping stones between them. Gateway jobs have strong skills-based connections to both lower- and higher-wage roles. Workers moving into Gateway jobs see immediate wage gains from Origin roles, and build the skills required for higher-wage Gateway and Destination work. This makes Gateway jobs an important source of experienced talent for employers, as well as a launching pad for workers.

Consider the Gateway occupation Customer Service Representative. Workers reach this role from Origin jobs like receptionist or cashier. On the job, they build skills such as critical thinking, speaking, and persuasion, which qualify them for higher-wage work like HR assistant or wholesale sales representative.²

These pathways matter for all workers, but they are pivotal for STARs. Of the 60 million workers in Gateway jobs, 62 percent are STARs, who build their skills primarily on the job rather than through a four-year degree.³ [Opportunity@Work's research](#) shows that STARs are more likely to move into new roles, and to see mobility gains from those moves, when their current job shares strong skill similarity with the target role. Because Gateway jobs

¹ Opportunity@Work analysis of the 2015 to 2024 Current Population Survey, Annual Social and Economic Supplement, IPUMS.

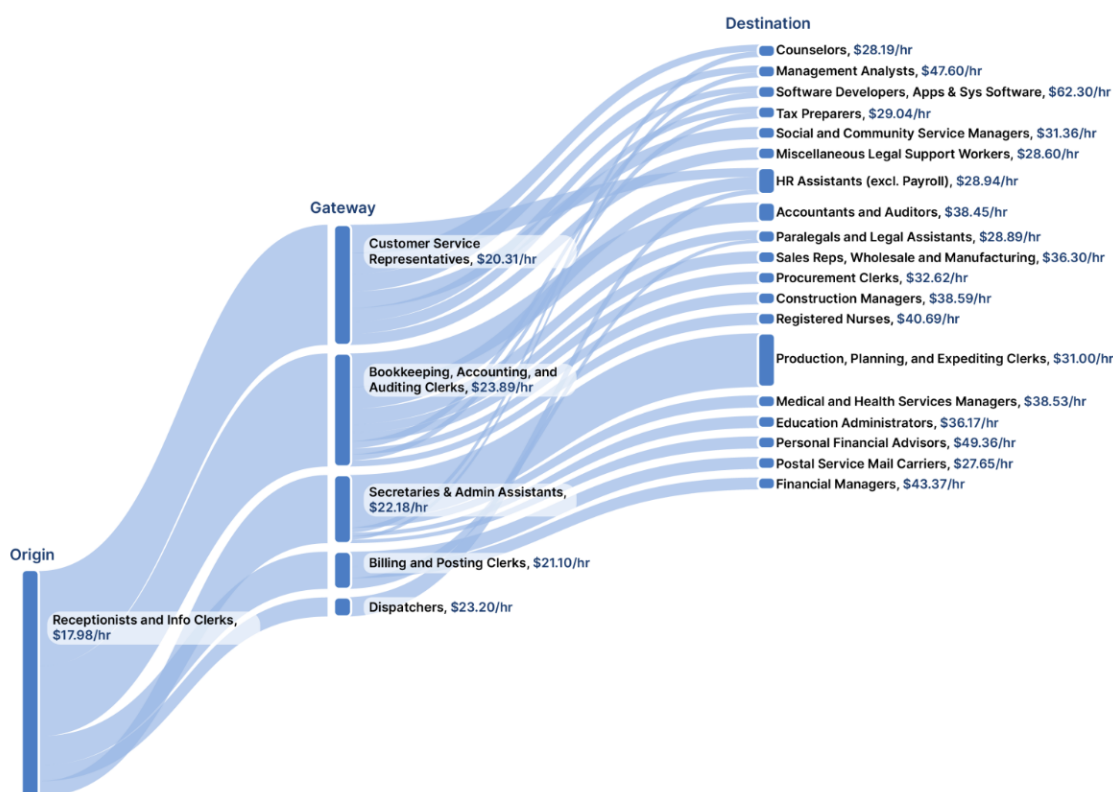
² Opportunity@Work analysis of the Occupational Information Network (O*NET) Skills Database, Version 29.1 and the 2015 to 2024 Current Population Survey, Annual Social and Economic Supplement, IPUMS.

³ Opportunity@Work analysis of the 2024 1-year American Community Survey and the 2015 to 2024 Current Population Survey, Annual Social and Economic Supplement, IPUMS.

share skills with many higher-wage roles, they offer STARs not just skill-building but skill validation and recognition, opening doors to higher-wage work.

These insights from a body of analyses elevating these insights are not simply descriptive: they provide a roadmap for where employers, workforce systems, and policymakers should focus. By understanding which Gateway jobs drive upward mobility, we can identify where AI poses the greatest risks to workers' career progression and where interventions can have the greatest impact.

Figure 1. Gateway and Destination occupations offer mobility along skills-based pathways.



Source: American Community Survey (2024), Current Population Survey (2016-2025 pooled)

Note: Flow width reflects the transition volume of workers without a four-year degree, also referred to as workers "skilled through alternative routes" (STARs) by Opportunity@Work.

AI can disrupt pathways even without displacing workers

Career pathways depend on Gateway jobs functioning as reliable stepping stones: places where workers gain experience, build new skills, and become credible candidates for higher-wage work. AI can break that function in two distinct ways, one through the number of Gateway jobs available, the other through what workers learn by actually doing them. The first is widely discussed. The second is not, and it may matter more.

First, AI can shrink the pool of Gateway jobs. Many Gateway occupations, such as secretary, bookkeeping, office management, and customer service roles, consist largely of tasks that are [highly automatable](#) because they are rule-based and standardized: data entry, drafting routine content, handling common customer inquiries. Among the ten highest-employment occupations with high AI task exposure, half are Gateway roles, and [BLS projects](#) declining demand for each of them over the next decade. Fewer Gateway jobs means fewer entry points to higher-wage work, [narrowing the on-ramp to mobility](#) for workers in origin roles.

Second, and more consequentially, AI can hollow out a Gateway job from the inside by eliminating what a worker learns from doing it.

There is [immense value](#) in education and training programs [for worker mobility](#) and, at the same time, workforce policy consistently underweights the fact that, for virtually every American, a significant portion of learning happens at work, not in school. Thirteen years of K-12 amounts to roughly 13,000 instructional hours. A forty-year career amounts to roughly 80,000 hours, a ratio of about six to one. Even for the ceiling case, say an American who completes K-12, a bachelor's degree, and a doctorate or professional degree, the total number of hours of learning in a formal instructional setting will be around 30,000 to 35,000 hours. That worker will still spend roughly twice as long continuing to learn on the job as they ever spent in a classroom.⁴

The workplace is not merely a place to deploy what a worker has learned elsewhere; it is one of the central locations where all workers build valuable knowledge, skills, and expertise. A worker becomes skilled at de-escalation by de-escalating angry customers. Much of what makes an experienced worker valuable is tacit: knowledge of how the work actually gets done at a specific company, difficult to articulate and nearly impossible to transmit in a classroom. It is acquired through the hard parts.

⁴ Instructional and working hours are approximate. K-12: 13 years at roughly 1,000 instructional hours per year. Career: 40 years at 2,000 hours per year. Maximum formal education: K-12 plus a bachelor's degree (120 credits at 45 hours each) plus a doctoral or professional program (~12,000 – 16,000 hours). Medical residency and funded dissertation research are excluded as compensated work; counting them would raise the education total while lowering the career total, and the ratio would still favor on-the-job learning by a wide margin.

AI is exceptionally good at removing the hard parts. If a customer service representative's job increasingly consists of overseeing an AI system rather than handling calls directly, the friction disappears and the learning disappears with it. That worker may no longer develop the critical thinking, speaking, and persuasion skills that historically qualified people for roles like HR assistant or wholesale sales representative. [As AI changes the skills and tasks jobs require](#), the job can survive even as the skill-building pathway is weakened.

This sort of disruption is particularly concerning because it can happen quietly. This type of learning has historically been the byproduct of getting work done, rather than an objective that anyone managed toward. An employer that automates the demanding parts of many of the roles at a company may achieve short-term efficiency gains while also inadvertently dismantling the pipeline that produces its own future supervisors and managers. That pipeline has been one of the most powerful engines of skill-building in this country, and it can be switched off without any deliberate decision.

This is the disruption that displacement-focused debates miss entirely. A worker whose job is eliminated knows it immediately. A worker whose learning and skill development has been quietly removed from the job may not find out for years, at the moment they apply for the next job and discover they no longer qualify for it.

One worker' story

AI is already changing how Americans learn, work, and pursue opportunity. Workers are using these tools to become more productive and acquire new skills, but many are also finding that AI is reshaping how employers recruit and evaluate talent.

One worker we interviewed, Keylin, described using generative AI to become more effective in his work—helping him learn new technical skills, solve problems faster, and prepare stronger job applications. Yet he also described receiving almost instantaneous automated rejections and feeling increasingly invisible in hiring systems. In his words, AI made him a better worker while making it harder to get his next opportunity.

His experience reflects a broader challenge. AI is changing not only how work is performed, but how workers signal their capabilities and how employers identify talent. Unless hiring systems evolve alongside AI, many capable workers risk becoming even less visible in the labor market.

The outcomes of this transition are not predetermined

Both dynamics fall hardest on the same set of workers. Approximately 15.6 million STARs, more than one-fifth of the nation's 70 million STARs, work in occupations ranking in the top quartile of AI task exposure. They make up 43 percent of all US workers in that top quartile. Separately, [23 million STARs](#) have [low adaptive capacity](#) to weather disruption and transition to new work, due to factors like limited financial assets, age, and local economic conditions, and account for 68 percent of U.S. workers in that category. Taken together, STARs have a high degree of exposure and are among the least able to absorb that risk.

This outcome is not inevitable. AI can augment work rather than hollow it out, freeing workers from routine tasks to focus on the analytical, problem-solving, and social skills that AI cannot easily replicate, and [creating demand for new forms of expertise](#). The most productive application of these tools may be the reverse of the one currently being pursued: putting AI in the hands of workers who already have deep domain expertise and know exactly what is broken in their own work. Whether AI narrows Gateway pathways or strengthens them is not predetermined. It depends on how the technology is deployed, and on the policy choices discussed in the sections that follow.

However, it is worth being precise about the nature of this optimism. Daron Acemoglu, whose work [establishes the augmentation case](#), is also among the sharpest critics of the trajectory we are currently on, arguing that the prevailing approach is oriented toward replacing workers rather than empowering them. A group of more than [200 economists](#), including 16 Nobel Laureates, recently released a letter encouraging economists, policymakers, and technology leaders to act now in order to “build the incentives, guardrails, and institutions needed to steer AI in a direction that complements humans and benefits society.” Augmentation is a possibility. It is not the default.

Even in the scenario in which the labor market sees net gains over time from the introduction of AI in the workplace, those aggregate results are likely to mask the underlying reality. There will be winners and losers as a result of this disruption, and those losses will fall hardest on the workers least equipped to absorb them.

The costs of pathway disruption fall on workers, employers, and the economy alike

It is critical to keep in mind that when Gateway jobs shrink or are reshaped in ways that limit the learning that once made them valuable, the damage does not stay contained to the workers in those roles. It moves outward, from individual careers to employer hiring pipelines to the strength of entire regional economies. This is why attention to pathways is so important.

Workers lose mobility and skill-building opportunities. Consider the receptionist we discussed earlier, on track to become a customer service representative and, eventually, a manager. If that Gateway role disappears or remains but no longer builds the skills it once did, that worker doesn't just miss one promotion. They [lose the years of on-the-job learning](#) that would have carried them into higher-wage work, often with no clear alternative route to get there.

Employers see a shrinking talent pool. Take a large financial services firm hiring financial managers, a classic Destination role. The firm relies on a pipeline of workers moving up internally and across the industry: starting in entry-level roles like receptionist or retail sales, advancing into accounting-adjacent Gateway roles like accounting clerk or customer service representative, and building financial and client-facing skills over years. If that pipeline erodes, manager-track talent simply stops showing up.

Regions lose economic resilience. A [regional labor market](#) is a web of interlocking talent exchanges. Financial services firms hire analysts who got their start in retail. Healthcare systems hire care coordinators who came up through hospitality. When job pathways are disrupted, that exchange of talent across the local labor market breaks down, and the region loses the resilience that comes from workers being able to move where they're needed. This is not a marginal risk. [Roughly half of the pathways connecting Gateway and Destination jobs are highly exposed to AI](#), meaning the routes workers rely on to reach higher-wage work and employers rely on for sourcing, in large part, are already in flux.

Public policy has a critical role in strengthening career pathways in the AI economy

The disruption described above is not inevitable. AI's effect on career pathways will be shaped as much by policy choices as by the technology itself. If Gateway jobs are shrinking or changing, then the public sector, and by extension, the workforce system must respond with policy, investments, and incentives that sustain and strengthen job pathways. We propose five core policy initiatives to support that goal.

Opportunity@Work has worked alongside employers, technology platforms, and state governments to expand skills-based hiring practices that recognize workers' capabilities regardless of where they acquired them. These efforts demonstrate that employers can broaden access to talent while strengthening hiring outcomes when skills become the primary signal of readiness.

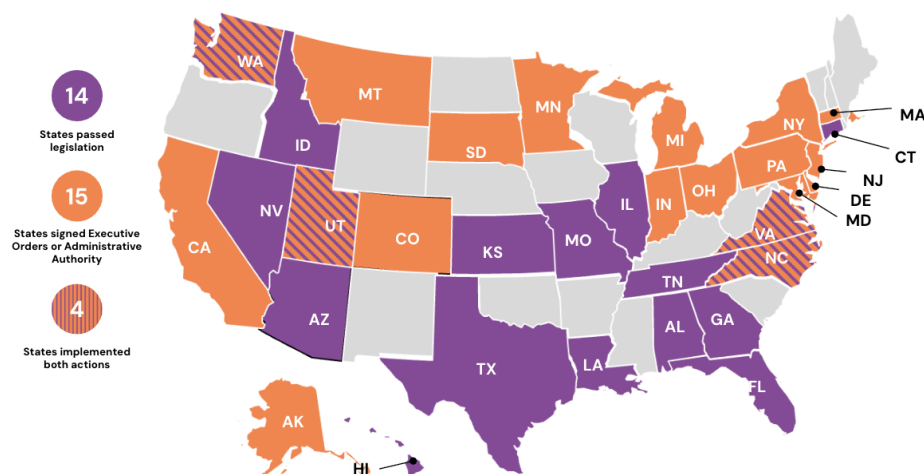
Build a skills-based labor market and adopt skills-based talent practices to drive mobility

Skills-based talent practices are becoming an essential strategy for building an agile workforce that can adapt to technological change and deliver results. The public sector was an early adopter of skills-based practices and has taken steps to mainstream this approach to talent both as an employer and as a driver of workforce policy.

Opportunity@Work has partnered with states across the country as they modernize hiring practices and remove unnecessary degree requirements from public-sector jobs. These efforts demonstrate that skills-based hiring can be implemented at scale while expanding opportunity and helping governments compete for talent in critical occupations. Since 2020, the federal government has moved to remove unnecessary degree requirements to tear the paper ceiling and shift toward skills-based talent practices, guided by [Executive Order 13932](#). At the same time, over [30 states](#) and many local governments have followed suit, expanding career opportunities for STARs in the public sector – becoming a new operating model for recruiting public sector talent.

As employers adopt skills-based talent practices, the broader hiring infrastructure must evolve alongside them. Technology platforms also have an important role to play by making workers' demonstrated skills more visible in hiring systems, enabling employers to identify qualified candidates beyond traditional degree requirements, and helping workers better understand how their existing skills connect to new career opportunities. When employers, technology platforms, and workforce institutions all recognize and communicate skills in consistent ways, workers are better able to navigate changing career pathways while employers gain access to talent.

Figure 2. States are making commitments to skills-based talent practices.



Congress can build on this progress by eliminating outdated degree requirements and codifying skills-based practices across the federal government. The [Federal Jobs for STARs Act](#) would embed skills-based hiring in federal employment, while the [Skills-Based Federal Contracting Act](#) would extend the same standard to federal contractors.

Through [Opportunity@Work's employer coalitions](#) in the Tear the Paper Ceiling Coalition and the STARs Public Sector Hub, companies [have expanded access to hundreds of thousands of jobs](#) by removing unnecessary degree requirements and adopting skills-based talent practices. These experiences show that skills-first approaches are not simply equity initiatives—they help employers access larger talent pools while improving workforce resilience.

Support evidence-based workforce innovation through partnerships with employers, states, and technology platforms

Rapid AI adoption across industries requires workforce systems to continuously test and evaluate new approaches to worker training, career navigation, job redesign, and employer partnerships. [Current research](#) demonstrates that collaboration among employers, state workforce agencies, educational institutions, and technology companies is necessary to [identify workforce strategies](#) that effectively [support worker transitions](#). Public investments should support rigorous evaluation of these initiatives based on [measurable outcomes](#), including employment, wage progression, retention, and productivity, and scale approaches that demonstrate proven success. This evidence-driven approach will help policymakers respond to changing labor market conditions while directing resources toward workforce strategies with proven impact.

Opportunity@Work's work with employers, states, and technology platforms demonstrates that the most effective workforce innovations emerge when researchers, practitioners, and employers co-design and rigorously evaluate new approaches together.

The [Better Jobs Through Evidence and Innovation Act](#) is an opportunity to invest in proven workforce programs and strategies that lead to better jobs and economic mobility. This bill also incentivizes state and local workforce innovation to test new and proactive approaches to meet the unique impacts of AI transformation.

Identify and scale workforce strategies that successfully help workers transition into AI-enabled and emerging occupations

In an environment where [AI is changing tasks, jobs, and job pathways](#), workforce strategies must support worker transitions to emerging occupations, through programs, policies, and investments that strengthen transferable skills, expand work based learning, support employer partnerships, and improve career navigation.

One way to incentivize employer investment in AI skill development is to [modernize the federal tax code](#). The current tax code makes it easier to invest in machines than the workers who must learn to use them. Employers can immediately write off an AI system, a robot, or a server, but face restrictions, caps, and outright disallowances when they try to deduct the cost of training workers to use that same technology. The [Mercatus Center](#) identified six specific Internal Revenue Code restrictions driving this imbalance. Removing them would make reskilling, skills-based job transitions, and internal mobility materially more affordable and lower-risk.

Advance evidence-based workforce strategies informed by worker and employer experience

Workforce policy must reflect both labor market evidence and the experiences of workers and employers adapting to the AI transformation. As industries and employers make changes to their ways of business, [policymakers should establish measurable criteria](#) for assessing outcomes experienced by both workers and employers. Then, they are in a position to share successful models across states, regions, employers, and workforce organizations. Continuous learning, rigorous evaluation, and knowledge sharing will help ensure workforce policies evolve alongside technological change while accelerating the adoption of strategies that improve worker mobility and career advancement.

Reauthorizing the [Workforce Innovation and Opportunity Act \(WIOA\)](#) and increasing funding for critical WIOA programs will ensure the nation's underlying workforce development system has the resources it needs to help American workers access opportunity and economic mobility in the AI era.

Invest in better measurement of worker mobility, career progression, and AI's impact on work

[Current labor market metrics](#) are [not sufficient](#) to understand AI's impact on workers. Most existing analyses measure the extent to which occupations are "exposed" to AI based on the tasks they perform, but exposure alone does not predict whether workers will experience displacement, wage growth, job redesign, or successful career transitions. Policymakers should [move beyond exposure measures to better understand workers' capacity to adapt](#), including transferable skills, educational attainment, geographic mobility,

labor market demand, and access to retraining opportunities. Improved worker-level data can help policymakers identify where interventions are most needed and evaluate whether workforce investments are producing meaningful career outcomes.

Modernize workforce data systems to provide timely, actionable labor market insights

Rapid changes in AI adoption require more timely and [comprehensive](#) labor market information than traditional workforce data systems often provide. Integrating employment, hiring, wages, occupational transitions, employer demand, and other labor market indicators would provide policymakers with a more complete understanding of AI's workforce impacts.

[Recent analyses from the Yale Budget Lab](#) illustrate why this approach is necessary. Although layoffs in the information sector increased during portions of 2023 and 2024, hiring also remained elevated, demonstrating that layoffs alone are not sufficient evidence of AI-driven displacement. Policymakers should rely on multiple complementary data sources to distinguish broader economic conditions from technological change and develop more targeted workforce responses.

The [AI Workforce PREPARE Act](#) is an important step in building federal capacity to understand how AI is changing our workforce and economy, enable research partnerships, and engage employers around how they are adopting AI and its impact on jobs, career pathways, and transitions.

Conclusion: We will navigate these pathways together

In closing, I thank you for your attention to this pressing and complex problem. AI presents enormous opportunity, but if done without care and consideration of the many cascading effects to jobs and the people in them, we risk losing a great deal of talent and squandering the opportunities offered by this transformative technology.