



OBSERVABLE COMPUTE FOUNDATION

Growing. And Not Ready.

*AI Exposure and Workforce Readiness
in South Dakota*

A State Workforce Readiness Report | May 2026

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What This Report Is. What It Is Not.

This report is:

- A South Dakota-focused synthesis of state labor projections, national AI impact evidence, and employer-specific workforce exposure analysis.
- A pushback on the growth-only narrative. The DLR projections are real. They do not tell the whole story.
- A named-population analysis. Tribal communities, rural counties, and back-office workers in Sioux Falls are identified specifically.
- A companion to OCF's national and Midwest papers, applying the OCF Readiness Stack at the state level.

This report is not:

- A claim that AI has caused mass unemployment in South Dakota. It has not. Yet.
- An endorsement of the DLR growth narrative as evidence that South Dakota workers are safe from AI disruption.
- A complete econometric model. Confidence levels are stated explicitly for all major claims.
- A substitute for employer-level workforce audits or individual transition planning.



Abstract

South Dakota has earned something most states have not: time. With employment projected to grow 7.72 percent through 2032, nearly three times the national rate, the state enters the AI workforce transition from a position of genuine strength. Sanford Health, the largest employer in the Dakotas, is headquartered here. The Black Hills economy is resilient. Tribal colleges on the Pine Ridge, Rosebud, and Cheyenne River reservations are genuine community institutions with local trust no outside program can replicate. South Dakota School of Mines, SDSU, and USD are producing the STEM pipeline the state's growing technical roles require. The state has the assets. It has the relationships. It has the runway. The question is whether it uses them before the window closes. The same projections showing 7.72 percent growth also show 62 occupations in decline, 93.8 percent of annual openings driven by replacement demand rather than new job creation, and concentrated exposure in exactly the occupational categories where South Dakota's largest employers operate: financial back-office work, customer service, administrative support, and routine data processing. Citi's 1,300 Sioux Falls employees perform Commercial Cards, Transaction Services, and Fraud Prevention work: the workflows AI agents are displacing in Chicago and Baltimore right now. Sanford Health's 55,000 employees statewide include thousands of administrative and clinical support workers whose task mix is changing faster than any 2024 projection modeled. On the Pine Ridge Reservation, the Oglala Lakota Nation faces 80 to 90 percent unemployment, a poverty rate of 49 percent, and per capita income of \$8,768. That community received a \$19.6 million broadband grant in 2024 and still lacks the device ownership, digital literacy, and training infrastructure to benefit from AI workforce transitions. South Dakota is not headed for collapse. It is headed for a readiness cliff. The difference between those two outcomes is whether the state acts now, while it has the time to choose its own path, or later, when the path is chosen for it.

Keywords: *South Dakota workforce, AI exposure, workforce readiness, Oglala Lakota, tribal broadband, Sioux Falls back-office, DLR projections, Readiness Stack, Pipeline Collapse, Rural Amplification Effect, ocf_schema_v1*



At a Glance

South Dakota is growing. The workers most exposed are not the workers in the growing sectors.

7.72% projected SD job growth 2022-2032, DLR	39,449 net new jobs by 2032 SD DLR	93.8% openings from replacements OCF calc from DLR	62 occupations declining of 577 tracked, DLR
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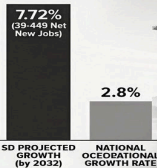
1,300 Citi employees in Sioux Falls back-office workflows	55,000 Sanford Health employees largest Dakotas employer	49% poverty rate, Pine Ridge Oglala Lakota County	80-90% unemployment, Pine Ridge Oglala Lakota Nation
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Pipeline note: South Dakota's fastest-growing occupations (data scientists, security analysts, software developers) are concentrated in Sioux Falls and require credentials that workers in declining occupations do not currently hold. The gap between who is growing and who is at risk is not being closed by the labor market on its own.



SOUTH DAKOTA'S GROWTH STORY: WHAT THE NUMBERS HIDE

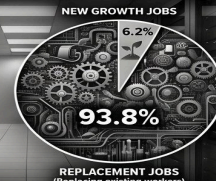
THE HEADLINE VS. THE REALITY



7.72% Projected Growth vs. 2.8% Nationally
 South Dakota projects a gain of 69,449 net new jobs by 2032, significantly outperforming the national occupational growth rate.



JOB OPENINGS COMPOSITION (ANNUAL)



93.8% of Openings are "Replacement" Jobs
 Of the 63,439 annual openings, only 6.2% are from new growth; the rest are simply replacing workers who exit or transfer, leaving displaced workers with fewer "new" options.



The "Blind Spot" in State Projections
 Official 2024 ULR projections based on historical trends do not account for the 2019-2020 shift toward agentic AI that replaces entire workflows.

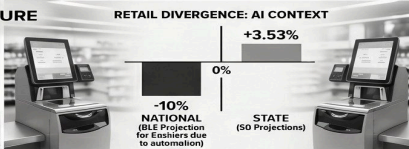
CONCENTRATION OF RISK: NAMING THE EXPOSURE



Citi Sioux Falls: 1,300 Back-Office Roles
 Employees in Commercial Cards, Transaction Services, and Fraud Prevention perform workdays that AI is already automating in larger metros like Chicago and Baltimore.

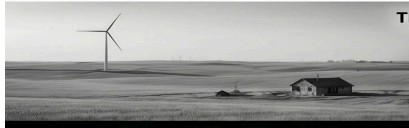


Sanford Health: 55,000 Total Employees
 As the region's largest employer, thousands of its clinical support and administrative roles face changing task mixes due to AI-assisted scheduling and tilling.



Retail Divergence: -10% National vs. +3.53% State
 While the BLE projects a 10% decline for cashiers nationally due to automation, SD projections still show growth, suggesting a temporary and dangerous lag in technology adaptation.

THE READINESS CLIFF: WHO GETS LEFT BEHIND?



The "Rural Amplification Effect"
 Rural workers face a multiplicative barrier: lower training providers, less employer-funded upskilling, and a lack of alternative jobs within commuting distance.



The Tribal Access Gap: 80-90% Unemployment
 In the Oglala Lakota Nation (Pine Ridge), a \$18.6M broadband grant exists, but per capita income is only \$8,758, and many lack the devices or literacy to use the infrastructure.



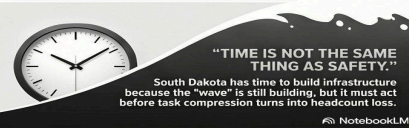
High Growth is Locked in Sioux Falls
 The fastest-growing roles—Data Scientists (+40.5%) and Security Analysts (+37.6%)—require credentials that workers in declining service roles do not currently hold.



Transition to "Modular Credentials"
 Shift from two-year degrees to 6-12 week retraining pathways for workers in exposed roles, like bank tellers and customer service reps.



Empower Tribal Colleges
 Use Oglala Lakota College and Sinte Glesne University as the primary hubs for AI literacy, leveraging their existing trust and geographic presence.



"TIME IS NOT THE SAME THING AS SAFETY."
 South Dakota has time to build infrastructure because the "wave" is still building, but it must act before task compression turns into headcount loss.

© NotebookLM

Figure 1. South Dakota's Growth Story: What the Numbers Hide. The 7.72% headline vs. the 93.8% replacement reality, named employer exposure, and the readiness cliff. OCF / NotebookLM, 2026.



I. What South Dakota Has Right

This paper carries an urgent argument. It is important to state clearly what that argument is not. It is not that South Dakota is failing. It is not that the state's economic trajectory is broken. It is not that South Dakota workers are helpless against automation. None of those things are true, and saying them would be dishonest.

South Dakota has genuine assets entering the AI workforce transition. Naming them is not spin. It is the precondition for building on them.

A Labor Market That Is Actually Growing

South Dakota projects 7.72 percent employment growth between 2022 and 2032. The national occupational growth rate is 2.8 percent over the same period. That gap is real and earned. South Dakota's economic fundamentals: low taxes, lean regulation, a business-friendly environment, and strong infrastructure investment have produced a labor market that outperforms the national baseline. That outperformance gives the state something most of the country does not have heading into the AI transition: runway.¹

Low unemployment means workers have not yet been displaced at scale. That is time. Time to build the training infrastructure, time to connect employers to workforce systems, time to get ahead of the wave rather than respond to it. No state can buy that time once it is gone. South Dakota has it now.

Sanford Health: World-Class Anchor Institution

Sanford Health, the largest rural health system in the United States, is headquartered in Sioux Falls. With 55,000 employees regionwide and more than 13,000 in South Dakota, it is the largest employer in the Dakotas. It has been named one of Forbes' Best-In-State Employers for multiple consecutive years. Sanford is sophisticated, well-resourced, and already thinking about AI integration. That is not a problem. It is a partnership opportunity. An employer of that scale and institutional quality, if engaged on AI workforce transition, can move faster and more durably than any state program alone.⁴

A Technical Education Pipeline That Exists

South Dakota School of Mines and Technology in Rapid City produces engineers, data scientists, and technical workers with national-caliber credentials. South Dakota State University in Brookings has strong agricultural technology, engineering, and health science programs. The University of South Dakota in Vermillion produces healthcare, legal, and professional-sector graduates. These institutions are already producing the workers the state's fastest-growing roles require. The pipeline exists. The question is whether it is growing fast enough and whether it connects to the right employers.

Mitchell Technical College, Lake Area Technical College, Southeast Technical College, and Western Dakota Technical College in Rapid City provide the closest existing infrastructure for modular AI literacy training at scale. These institutions have employer relationships, existing student populations in exactly the exposed occupational categories, and geographic distribution across the state. They are the delivery system the state already has.



Tribal Colleges With Real Community Trust

Oglala Lakota College, Sinte Gleska University, and Sitting Bull College are not peripheral institutions. They are the primary educational infrastructure of the Pine Ridge, Rosebud, and Standing Rock communities respectively. They have decades of community trust, tribal government relationships, and local presence that no external program can replicate. For workforce readiness in those communities, these colleges are not the starting point. They are the only point.

A Foundation That Lives Here

The Observable Compute Foundation is headquartered in Rapid City. This paper is not written by a Washington policy shop or a coastal think tank analyzing South Dakota from a distance. OCF understands the Black Hills economy, the Sioux Falls financial services concentration, the reservation labor market, and the specific geography of workforce development deserts in the western part of the state. That proximity is not just credibility. It is a resource. OCF's mission is to help South Dakota workers use AI before AI is used against them.

South Dakota has the assets, the institutions, and the runway. The question is whether it acts while it still has all three.



II. The Growth Story and What It Hides

South Dakota projects 7.72 percent employment growth between 2022 and 2032. The national occupational growth rate over the same period is 2.8 percent. That comparison is real and the DLR data behind it is solid. Anyone telling a straightforward story of AI collapse in South Dakota right now is wrong.

But the growth story requires a correction layer. DLR projects 63,435 average annual openings statewide. Of those, 26,934 come from labor force exits and 32,556 from occupational transfers. Only 3,945 come from actual employment growth. That means 93.8 percent of the jobs South Dakota workers will be hired into over the next decade are replacement jobs, not new ones. The workforce system cannot solve the AI transition by chasing new job creation alone. It has to help workers move inside occupations that are changing around them.¹

The second correction is sector concentration. The growth is real and concentrated. Professional and Technical Services is projected to grow 15.2 percent. Healthcare and Social Assistance is projected to grow 12.0 percent. Construction is projected to grow 11.5 percent. Data scientists are projected to grow 40.52 percent and information security analysts 37.80 percent.

Those numbers are accurate and they are not where most South Dakota workers are. The workers in those growing occupations are disproportionately in Sioux Falls, have post-secondary credentials, and are already better positioned for the AI transition than the workers in declining roles. The DLR projection does not model who gets left behind. It models net employment. Those are different questions.²

The DLR Projection Has a Blind Spot

The DLR occupational projections were produced in 2024 and do not incorporate AI-specific modeling. They are based on historical trend analysis, industry growth projections, and occupational composition data. That methodology is appropriate for normal labor market forecasting.

It does not account for the 2025 to 2026 agentic AI shift documented in OCF's national paper, *The Skills Gap Is Here*. Agentic AI systems that replace workflows, not just individual tasks, were not yet at commercial scale when DLR ran its projections. The Citi Sioux Falls campus does Transaction Services, Fraud Prevention, and Commercial Cards processing. Those are exactly the multi-step administrative workflows that agentic AI systems now perform commercially. DLR projects no decline for related roles in South Dakota. National AI case studies do not support that confidence.³

South Dakota is projected to grow. That growth gives workers time. Time is not the same thing as safety.



Growing. And Not Ready:

South Dakota's AI Workforce Paradox (2026)

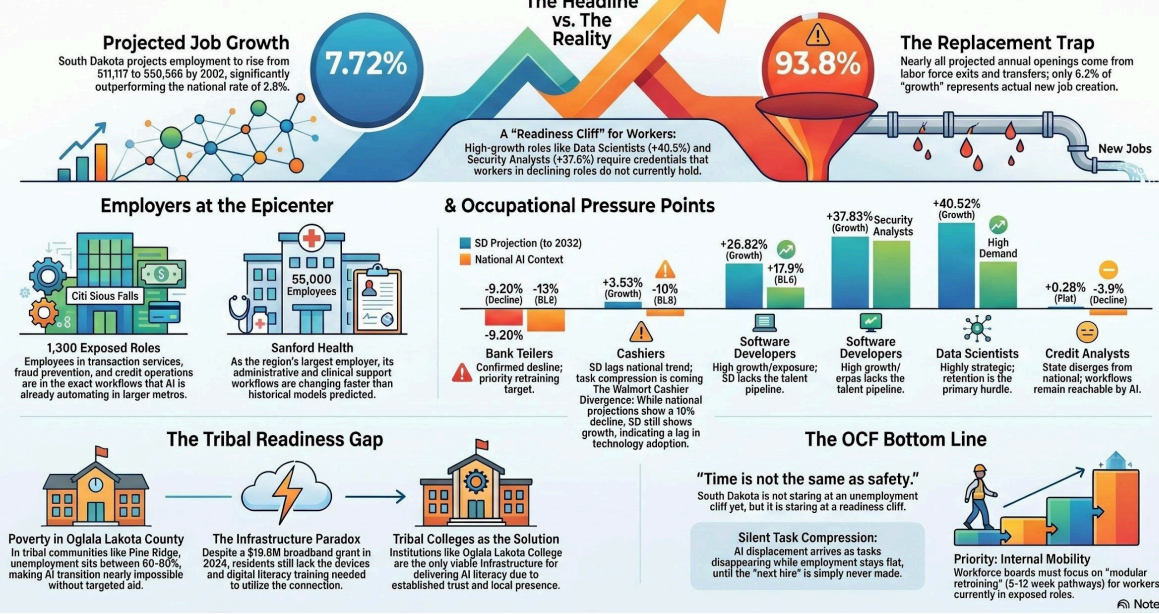


Figure 2. Growing. And Not Ready: South Dakota's AI Workforce Paradox. The 7.72% vs 93.8% gap, employers at the epicenter, occupational pressure points, and the tribal readiness gap. OCF / NotebookLM, 2026.



III. The Employers: Naming the Exposure

Workforce readiness analysis that does not name employers is too abstract to be useful. South Dakota has specific large employers with specific workforce compositions. Those compositions determine where AI exposure is concentrated and where readiness investment would have the most impact.

Sanford Health: 55,000 Employees, Changing Task Mix

Sanford Health is the largest employer in the Dakotas with 55,000 total employees and more than 13,000 in South Dakota specifically. Headquartered in Sioux Falls, it operates the state's only Level I Adult Trauma Center and hundreds of clinic locations across the state including rural communities that have no other healthcare provider.⁴

Healthcare employment is projected to grow, and that growth is real. But growth at the sector level does not mean individual roles are unchanged. Clinical documentation, coding and billing, prior authorization, patient scheduling, and administrative coordination are all workflows where AI tools are actively being deployed by large health systems. Sanford is a sophisticated organization. Its workers will interact with AI-assisted workflows whether or not they are trained to do so. The question is whether that interaction is empowering or destabilizing.

Citi Sioux Falls: 1,300 Employees in Exactly the Wrong Workflows

Citi has approximately 1,300 employees at its Sioux Falls campus, working across more than 20 business areas including Commercial Cards, US Private Bank Credit Operations, Transaction Services, Fraud Prevention, and Financial Control. Citi arrived in South Dakota in 1981 and its presence has been economically significant for the Sioux Falls metro for four decades.⁵

The specific functions Citi Sioux Falls performs should give pause to anyone reading the state growth projections with uncritical confidence. Commercial card processing, transaction services, and fraud prevention are among the back-office financial workflows that AI agents have begun automating at scale nationally. In Chicago, Baltimore, San Francisco, and Dallas, financial institutions have already reduced back-office headcount in exactly these functions as AI tools took over routine processing. Sioux Falls is not immune to the same economics. It is insulated by its distance from the first wave. That insulation is temporary.

The workflows Citi performs in Sioux Falls are the workflows AI is automating in Chicago and Baltimore. The timeline is different. The trajectory is not.

Walmart and Retail: The Cashier Is Not Abstract

Walmart operates South Dakota stores employing thousands of cashiers, customer service representatives, and retail associates. BLS projects national cashier employment to decline 10 percent from 2024 to 2034 due to self-checkout expansion and online sales growth. DLR projects South Dakota cashier employment growth of 3.53 percent through 2032. That



divergence is worth examining, not celebrating. South Dakota's projected cashier growth likely reflects a lag in self-checkout adoption in smaller markets rather than immunity to the underlying technology trend. When the technology arrives, it will arrive fast.⁶

Cashier is one of the largest occupational categories in the United States. It is predominantly held by younger workers, workers without post-secondary credentials, and workers for whom it is a primary income source rather than a transition role. Treating its continued projection as evidence of stability misreads the signal.

Tourism: The Invisible Exposed Workforce

Tourism is among South Dakota's largest industries and it runs almost entirely on service and hospitality roles: front desk staff, restaurant workers, retail associates, tour guides, housekeeping. Mount Rushmore, the Badlands, Custer State Park, and the Sturgis corridor generate hundreds of millions in annual economic activity and tens of thousands of jobs that are concentrated in exactly the occupational categories AI is targeting. Customer-facing inquiry handling, reservation management, and administrative coordination are all AI-reachable. The tourism workforce is entirely absent from the state's workforce readiness conversation and should not be.

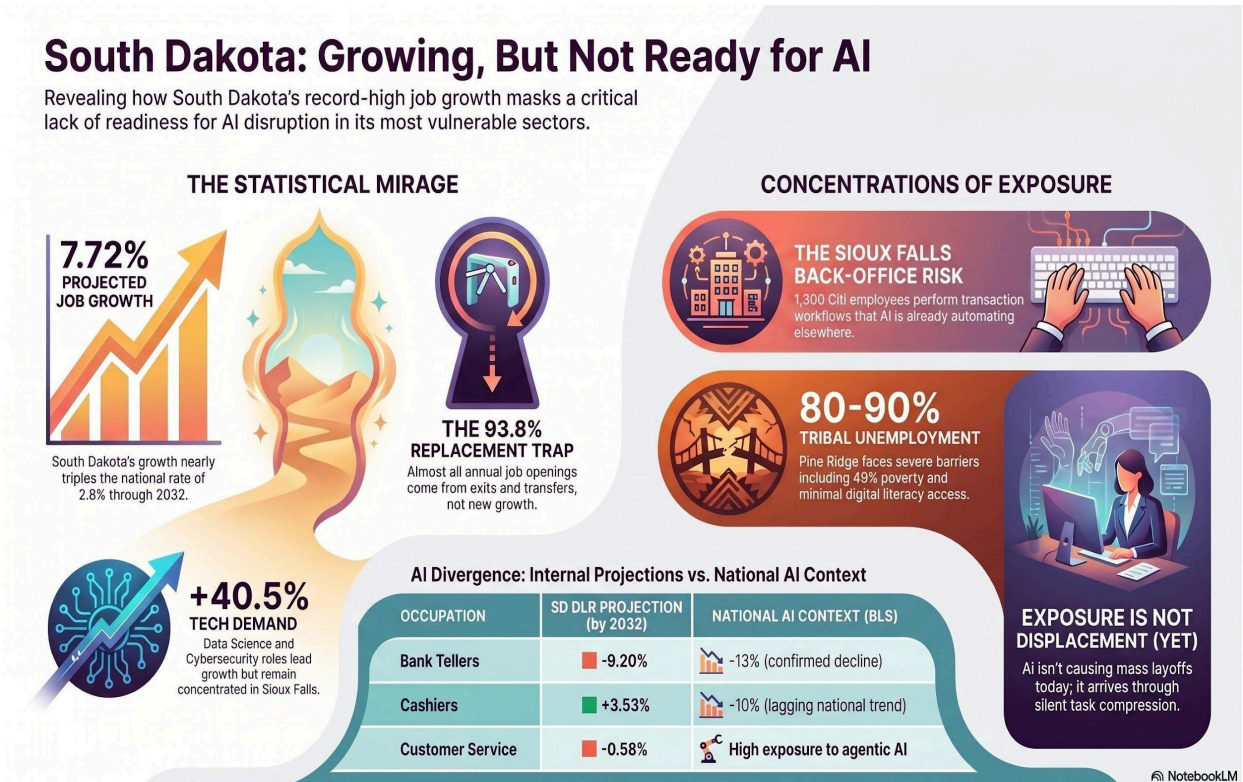


Figure 3. South Dakota: Growing, But Not Ready for AI. The statistical mirage, concentrations of exposure, and the exposure-not-displacement distinction. OCF / NotebookLM, 2026.



South Dakota state government is among the largest employers in Rapid City and Pierre. State government employment includes substantial concentrations of administrative support, clerical, data entry, and public-facing service roles. These occupational categories are not immune to AI. They are subject to the same task compression dynamics as private sector equivalents, with the added complexity of public procurement timelines that often delay tool adoption and then deploy it rapidly once procurement cycles clear.

The Wells Fargo, GreatWest Financial, and Wellmark back-office presences in Sioux Falls add to the financial services concentration. Sioux Falls has, by design, become the financial back-office hub of the upper Midwest. That concentration was a competitive economic advantage in the pre-AI era. In the agentic AI era, it is a concentration of exposure.⁷



IV. The Tribal Communities: Rural Amplification at Its Extreme

The Rural Amplification Effect, documented in OCF's national and Midwest papers as the multiplicative compounding of access barriers in rural communities, reaches its most severe expression in South Dakota's tribal nations. The Oglala Lakota, Rosebud Sioux, Standing Rock Sioux, and Cheyenne River Sioux peoples face conditions that go beyond the standard rural access gap and require specific, named acknowledgment in any honest South Dakota workforce analysis.

Pine Ridge: The Oglala Lakota Nation

Oglala Lakota County, which is entirely contained within the Pine Ridge Indian Reservation, has a poverty rate of approximately 49 percent, one of the highest of any county in the United States. Per capita income is \$8,768. The labor force participation rate on the reservation is approximately 35.9 percent. Unemployment is cited at 80 to 90 percent in qualitative reporting and correlates with documented SNAP and TANF dependency rates. Fewer than 12 percent of residents hold a college degree. The high school dropout rate among Native youth exceeds 70 percent.⁸

The reservation spans approximately 2.1 million acres with a population density of 4.3 people per square mile. Distance from training facilities, limited public transportation, and sparse employer presence compound every other access barrier. The Oglala Sioux Tribe received a \$19.6 million broadband grant in August 2024 and a \$500,000 Broadband Technical Assistance award in April 2025. Those investments are meaningful and necessary. Broadband infrastructure is the prerequisite. Device ownership, digital literacy, and training access are the next layer. The reservation has the infrastructure gap and the readiness gap simultaneously.⁹

AI workforce readiness programming that does not specifically address the Pine Ridge labor market is not a South Dakota workforce program. It is a Sioux Falls workforce program. Those are different things.

Rosebud, Standing Rock, and Cheyenne River

The Rosebud Sioux Tribe, Standing Rock Sioux Tribe, and Cheyenne River Sioux Tribe face conditions broadly similar to Pine Ridge: high poverty rates, low labor force participation, significant distance from urban training centers, and broadband access that ranges from limited to nonexistent in many areas. Standing Rock spans the North Dakota-South Dakota border and presents particular coordination challenges for workforce programs that operate within state lines.

Tribal colleges including Oglala Lakota College, Sinte Gleska University, and Sitting Bull College are the most viable existing workforce infrastructure in these communities. They have local trust, geographic presence, and established relationships with tribal governments. Any meaningful rural AI literacy program in South Dakota that is not built through or with tribal colleges is building the wrong infrastructure in the wrong places.



A South Dakota workforce program that does not name Pine Ridge is not a South Dakota workforce program. It is a Sioux Falls program.

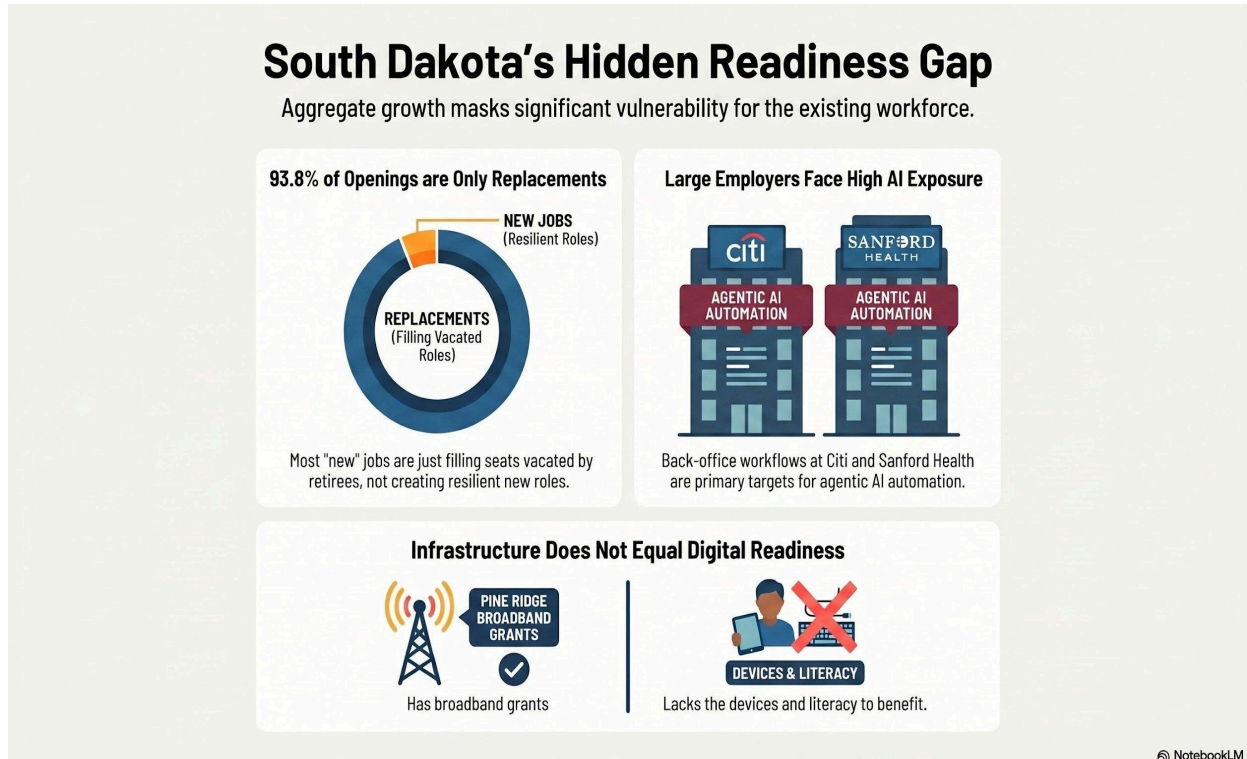
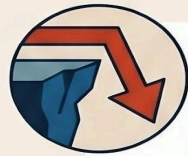


Figure 4. South Dakota's Hidden Readiness Gap. The 93.8% replacement trap, large employer AI exposure, and the infrastructure-does-not-equal-readiness problem at Pine Ridge. OCF / NotebookLM, 2026.

THE TRIBAL READINESS CLIFF

Tribal communities require specific, named workforce interventions to bridge the AI readiness gap.



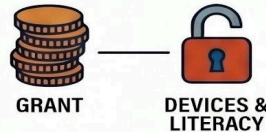
Pine Ridge faces 80–90% unemployment

With a 49% poverty rate and \$8,768 per capita income, the Oglala Lakota Nation faces the state's most severe economic barriers.



Infrastructure does not equal readiness

Despite a \$19.6 million broadband grant, the community still lacks the devices and digital literacy needed to benefit from AI.



The Rural Amplification Effect

This effect describes the compounding of access barriers—distance, transportation, and low device ownership—found in tribal nations.



Empower tribal colleges as anchors

Oglala Lakota College and Sinte Gleska University are the most viable infrastructure for delivering trusted, local AI training.



Figure 5. The Tribal Readiness Cliff. Pine Ridge unemployment, the infrastructure paradox, the Rural Amplification Effect, and tribal colleges as anchors. OCF / NotebookLM, 2026.



V. Occupational Pressure Points

The table below corrects a methodological problem in the original version of this report. South Dakota DLR projections and national BLS AI case studies must be read separately, not merged. A national BLS decline for an occupation is not a South Dakota decline unless the state projection says the same thing. Both need to be shown. Where they diverge, that divergence is itself the finding.

Table 1. South Dakota Occupational Projections vs. National AI and Automation Context

Occupation	SD DLR Projection	National AI Context	OCF Interpretation
Bank Tellers	-9.20% by 2032	BLS: -13% nationally, 2024-2034. Online banking and automation cited.	SD decline confirmed. Citi Sioux Falls employs tellers and related roles in transaction processing. Priority retraining target.
Cashiers	+3.53% by 2032	BLS: -10% nationally, 2024-2034. Self-checkout and online sales.	SD lags national trend, does not escape it. Walmart, gas stations, grocery stores. Task compression arriving regardless of employment level.
Customer Service Reps	-0.59% by 2032	AI automates routine inquiry, summarization, escalation routing.	Small decline, high workflow exposure. Best transition target for AI-assisted service training.
Credit Analysts	+0.28% by 2032	BLS AI case study: -3.9% nationally, 2023-2033.	Growth does not remove workflow pressure. Credit scoring and report synthesis are AI-reachable. Small base.
Insurance Appraisers	+1.92% by 2032	BLS: -9.2% nationally, 2023-2033.	State diverges from national case study. Monitor claims-tech vendor adoption in SD.
Financial Analysts	+12.36% by 2032	BLS: +9.5% nationally. Augmentation likely.	Strong augmentation signal. Human judgment and fiduciary context remain valuable. Requires AI fluency, not replacement.
Software Developers	+26.82% by 2032	BLS: +17.9% nationally. AI raises product demand.	High exposure, high growth. SD needs pipeline not just projections. Where are these workers coming from?
Data Scientists	+40.52% by 2032	AI adoption increases demand for data	Small base. Highly strategic. Retention and pipeline are the problems, not exposure.



		quality, governance, model eval.	
Info Security Analysts	+37.80% by 2032	Cybersecurity is core AI-adjacent infrastructure need.	High-growth resilience role. Critical for public sector, health, finance, small business.

Sources: SD DLR Statewide Occupational Projections 2022-2032; BLS Monthly Labor Review 2025; BLS Occupational Outlook Handbook.

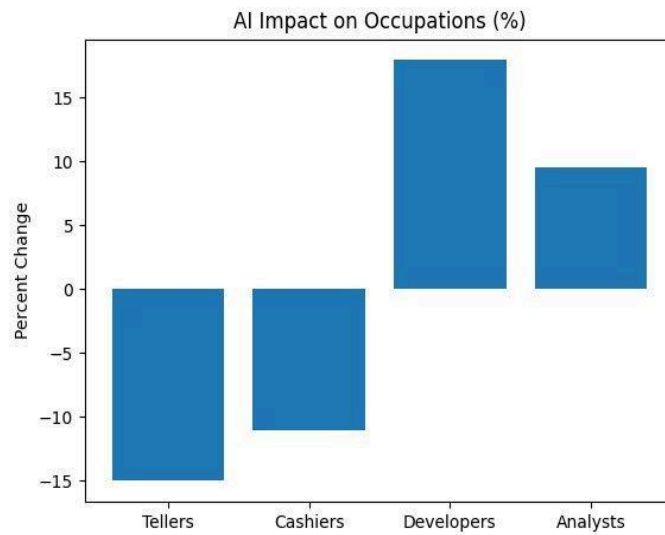


Figure 1. AI Impact on Key Occupations (% change). Tellers and cashiers face projected decline nationally while developers and analysts see growth. Sources: BLS OOH 2025; BLS MLR 2025.

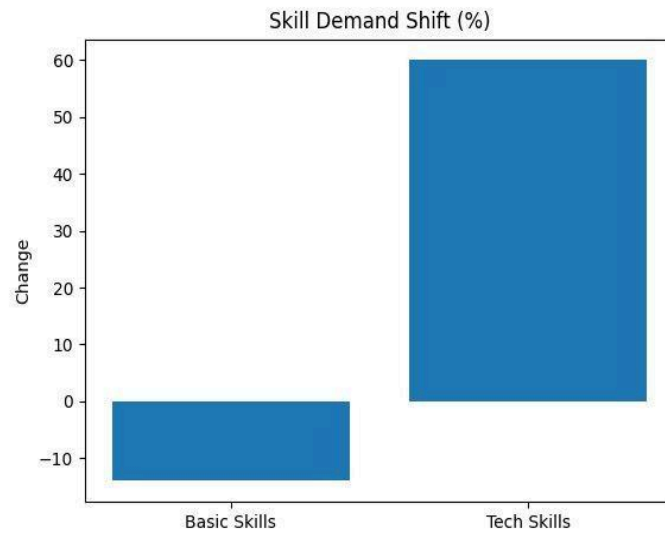


Figure 2. Skill Demand Shift (%). Basic skill demand declining; technological skill demand rising significantly. Source: McKinsey MGI 2024; national research.





VI. How South Dakota Compares: Peer City Analysis

South Dakota's labor market does not exist in isolation. Comparable mid-size metros in the region have already faced versions of what Sioux Falls and Rapid City are beginning to encounter. Looking at Fargo, Billings, Bismarck, and Casper tells a more honest story about what is coming than looking at South Dakota projections alone.

Table 2. Peer City Comparison: AI Workforce Readiness Landscape

City	Metro Pop.	Key Employers / Exposure Sectors	AI Exposure Profile	AI Workforce Plan
Sioux Falls SD	~290,000	Citi, Sanford Health, Wells Fargo, state government	High: finance, back-office, healthcare admin	Limited
Rapid City SD	~145,000	Ellsworth AFB, Monument Health, state/tourism	Moderate: government, healthcare, tourism	Minimal
Fargo ND	~260,000	Sanford, NDSU, Microsoft, farming tech	Moderate-High: healthcare, agtech, education	In Progress
Billings MT	~195,000	St. Vincent/SCL Health, energy, agriculture	Moderate: healthcare, energy admin, banking	Limited
Bismarck ND	~140,000	State government, Sanford, energy sector	Moderate: government admin, energy, finance	In Progress
Casper WY	~80,000	Energy sector, Banner Health, state government	Moderate: energy admin, healthcare, clerical	Minimal

The comparison tells a consistent story. Mid-size Northern Plains cities with financial services or back-office concentrations are further along the exposure curve than their optimistic labor market projections suggest. Fargo, with its stronger tech sector presence through Microsoft and NDSU research infrastructure, is better positioned than Sioux Falls to absorb AI-driven back-office changes. Billings and Casper, like Rapid City, face moderate exposure with limited workforce readiness infrastructure.

It is worth naming where the AI displacement wave has already crested. In Chicago, San Francisco, Dallas, and Baltimore, financial services and insurance back-office headcount reductions tied to AI automation are documented and measurable. Those cities are 3 to 5 years ahead of Sioux Falls on the adoption curve. What happened to transaction processing, commercial card operations, and claims administration in those metros is coming to Sioux Falls. The timeline differs. The direction does not.





VII. South Dakota's Growth Looks Different at Ground Level

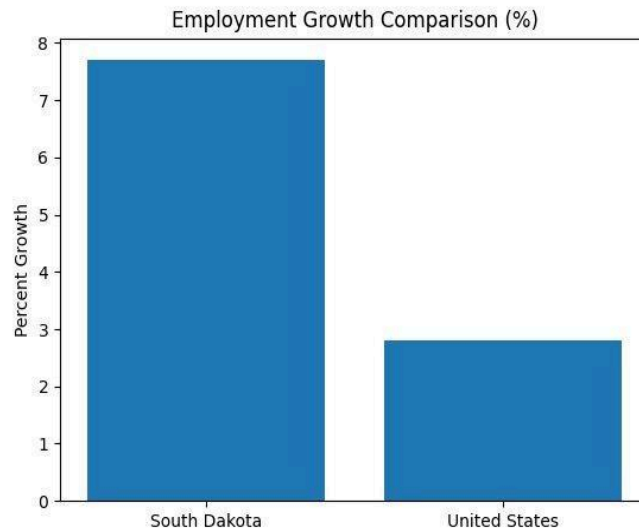


Figure 3. Employment Growth Comparison (%). South Dakota projects 7.72% growth vs. 2.8% nationally. The gap is real. It does not protect workers in declining occupations. Sources: SD DLR 2024; BLS national projections.

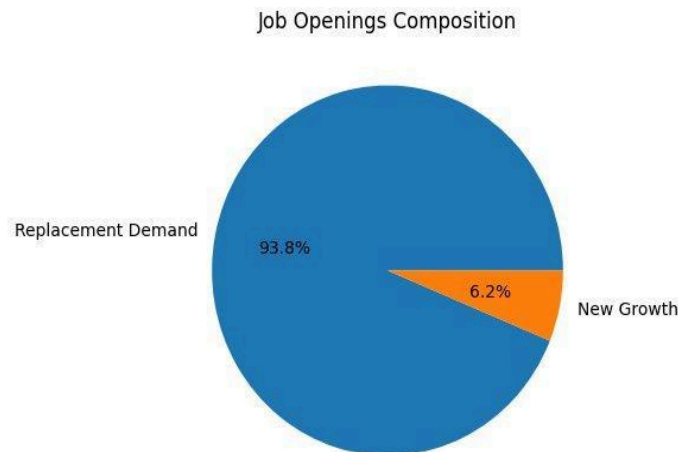


Figure 4. Job Openings Composition. 93.8% of SD openings come from replacement demand. New job creation accounts for only 6.2%. Source: OCF calculation from SD DLR 2024.

The Replacement Demand Problem



93.8 percent of South Dakota's 63,435 projected annual openings come from labor force exits and occupational transfers. Only 3,945 per year come from net employment growth. This means that the state's workforce system is primarily a replacement system, not a growth system. Workers who lose jobs to AI-driven task compression are not being replaced by new job creation. They are competing for the seats vacated by retirements and transfers.¹

That distinction matters enormously for policy design. A workforce system focused on new job creation is solving the wrong problem for most South Dakota workers. The more urgent need is transition support for workers already employed in exposed roles, internal mobility pathways within large employers like Sanford and Citi, and modular retraining that does not require two years out of the workforce.

Sioux Falls: Financial Back-Office Hub Under Pressure

Sioux Falls developed its financial services concentration deliberately, beginning with Citi's 1981 arrival and accelerating through favorable South Dakota banking laws. The result is a city where a disproportionate share of employment sits in exactly the occupational categories that national AI data identifies as most exposed: transaction processing, credit operations, customer service, financial control, and fraud analysis.

That concentration was an economic win for three decades. It is now a concentration of risk. Workers who have built careers in Sioux Falls financial services need AI literacy investment now, before employer-driven automation arrives in the form of layoffs or silent task elimination rather than training programs.

Rapid City: Mixed Exposure, Thinner Infrastructure

Rapid City presents a different exposure profile. Healthcare through Monument Health and Ellsworth Air Force Base are the dominant employers, supplemented by tourism, state government, and small business services. Healthcare exposure is real but slower-moving than financial back-office. Government employment moves at procurement timelines.

The infrastructure concern for Rapid City is not immediate displacement. It is that Rapid City has fewer training providers, less employer-funded upskilling, and a larger catchment of rural workers who commute from counties with no alternative employment base. When disruption arrives, the support infrastructure is thinner.



VIII. What AI Is Actually Doing in the Data

AI exposure is not the same as AI job loss. Exposure means a job contains tasks reachable by AI. Vulnerability means exposure is likely to become displacement, wage pressure, or headcount reduction. Most public claims blur those categories, which produces bad policy and worse grant applications. This section keeps them separate.¹⁰

Yale Budget Lab, updated April 2026, finds no economy-wide evidence that exposure, automation, or augmentation measures are yet producing broad employment or unemployment changes nationally. That finding is important and should be stated plainly. South Dakota is not in a job-loss wave right now. That does not mean the wave is not building.¹¹

The Pipeline Collapse, documented in OCF's national paper *The Skills Gap Is Here*, is visible in South Dakota's occupational data in early form. Teller employment is declining. Cashier exposure is building. Customer service roles are shrinking. These are entry-level on-ramps. Their compression is not catastrophic today. It is a structural problem compounding slowly.

Task Pressure vs. Headcount Loss: The Real Risk Right Now

The near-term AI story in South Dakota is not mass unemployment. It is silent task compression. Workers at Citi, Sanford, and state government agencies are already using AI-assisted tools for documentation, summarization, scheduling, and data processing. In most cases this is presented as productivity improvement. In some cases it means fewer hours needed for the same output. In others it means the next hire is not made when someone leaves.

That mechanism: productivity gains leading to reduced backfill, reduced hours, and wage stagnation rather than layoffs, is how AI displacement enters a labor market before it appears in unemployment data. South Dakota workers need to understand this pattern and employers, workforce boards, and training providers need to build readiness infrastructure before it becomes visible in headline unemployment numbers.

AI displacement in mid-size markets does not arrive as layoffs. It arrives as tasks disappearing while employment stays flat. Then the next hire is not made. Then the workforce is smaller.



IX. Training and Policy Infrastructure

South Dakota DLR has begun moving from abstract AI discussion to employer-facing implementation support. Its Workforce Knowledge Series session on AI tools for employers focused on practical AI uses, workforce effects, disability considerations, risk, and responsible adoption. That is the right direction. It is not yet at the scale the problem requires.¹²

U.S. DOL TEGL 03-25, issued August 2025, encourages state and local workforce boards to use WIOA funding to help youth and adults develop AI skills. U.S. DOL TEN 07-25 provides an AI literacy framework for public workforce and education systems. The federal permission structure for AI workforce investment is in place. The South Dakota implementation is not.¹³

What the State Has. What It Lacks.

South Dakota has DLR with a solid labor market information center and employer outreach infrastructure. It has Lake Area Technical College, Mitchell Technical College, Southeast Technical College, and Western Dakota Technical College with existing workforce relationships and CTE delivery capacity. It has tribal colleges including Oglala Lakota College, Sinte Gleska University, and Sitting Bull College with reservation presence. It has a small-employer base that is more likely to adopt AI through vendor tools than through internal AI teams.

What it lacks: a statewide AI workforce plan with specific sector targets and funding commitments. An AI literacy curriculum deployed across technical colleges with employer-validated credentials. A tribal workforce strategy that goes beyond infrastructure to include device access, digital literacy, and training in partnership with tribal colleges. An internal mobility framework for workers at Sanford, Citi, and state government who are in exposed roles but not yet displaced.

Technological Skills: Stating the Claim Carefully

The claim that South Dakota has a 60 percent projected increase in technological skill demand should not be cited as South Dakota-specific without a South Dakota source. The stronger and more defensible statement is that national research from McKinsey Global Institute estimates a 29 percent increase in U.S. technological skill demand by 2030 under its midpoint scenario. South Dakota's STEM workforce plan projects STEM jobs growing 1.3 percent annually versus 0.7 percent for non-STEM roles. Both support the directional claim without overstating the state-specific evidence.¹⁴



X. Data Confidence and Limits

Confidence ratings follow the ocf_schema_v1 standard. 0.90 and above means strong direct source support. 0.75 to 0.89 means moderate to strong with one degree of secondary sourcing. Below 0.75 requires caution or further sourcing.

Table 3. OCF Confidence Ratings for Key Claims

Claim	Conf.	Reason
SD employment grows 7.72% from 2022 to 2032	0.95	Direct DLR statewide projection.
93.8% of annual openings come from exits and transfers	0.95	Direct DLR demand table; OCF calculation.
Citi employs ~1,300 in Sioux Falls in back-office financial workflows	0.92	Citi careers page, direct employer documentation.
Sanford Health employs 55,000 total, 13,000+ in South Dakota	0.93	Sanford Health corporate communications, 2025.
Pine Ridge poverty rate ~49%, unemployment 80-90%, per capita income \$8,768	0.90	U.S. Census; Oglala Lakota County official data; Native Sun News 2025.
AI is not yet causing broad statewide unemployment in South Dakota	0.82	DLR growth projections and Yale Budget Lab April 2026 monitoring.
Citi Sioux Falls workflows are in AI-exposed categories nationally	0.85	BLS AI case studies; financial services automation literature.
Sioux Falls and Rapid City require closer monitoring than rural counties	0.70	Reasoned inference from sector mix. Not a direct DLR AI exposure ranking.
Technological skill demand is rising sharply nationwide	0.82	McKinsey MGI 2024; SD STEM plan 2025. Not verified as SD-specific 60%.



XI. Implications

The South Dakota evidence points to three distinct sets of directional priorities.

For Funders

South Dakota is a readiness opportunity, not a post-displacement rescue case. The strongest use of capital is not emergency unemployment mitigation. It is early training infrastructure, employer-connected AI literacy, and transition support for workers in office, finance, service, and administrative roles before displacement appears in unemployment data. The Citi Sioux Falls campus and the Sanford Health administrative workforce are the two highest-priority employer-connected intervention targets in the state. Both organizations are sophisticated enough to partner on training. Neither has a published AI workforce transition program for their existing employees.

Tribal workforce investment should be treated as a distinct category, not a line item in a rural program. Pine Ridge, Rosebud, Standing Rock, and Cheyenne River need device access, digital literacy, broadband activation through tribal colleges, and training models that treat transportation, language, cultural trust, and economic precarity as part of the program architecture. General rural models will not reach these communities.

For State Workforce Boards

WIOA implementation in South Dakota needs an AI literacy integration plan. The federal permission is there through DOL TEGL 03-25 and TEN 07-25. The missing piece is implementation design: modular credentials, employer-linked practice, and worker supports that do not assume every participant has equal broadband, device access, time, or confidence. DLR's Workforce Knowledge Series is the right vehicle. It needs resources, curriculum development, and scale.

The DLR projections should be updated with AI-exposure commentary before the 2026 data cycle. Publishing occupational growth projections without a notation that the methodology does not incorporate agentic AI modeling is producing a false confidence signal in the employer and policy community.

For Rural Intermediaries and Tribal Colleges

Rural South Dakota does not need a polished AI bootcamp in one city. It needs distributed training through libraries, schools, employers, tribal colleges, community anchors, and hybrid models that treat transportation, devices, broadband, childcare, and trust as part of the program architecture. Oglala Lakota College, Sinte Gleska University, and Sitting Bull College are the right institutions to deliver AI literacy to reservation communities. They exist. They have relationships. They need curriculum and funding, not a new institution built over them.



XII. What the Research Agrees On

Applying the OCF framework to South Dakota-specific evidence, the following conclusions hold with enough consistency to be treated as settled.

1. AI exposure is uneven and concentrated in South Dakota's largest employer sectors.

Finance, information, professional services, customer support, clerical work, and routine analysis face greater exposure than healthcare delivery, skilled trades, and construction. South Dakota's largest employers, Sanford Health and Citi, have substantial workforces in both growing and exposed occupational categories. The exposure is real. It is not evenly distributed.

2. Exposure is not displacement. But displacement follows exposure.

The South Dakota data does not show AI-driven mass unemployment. Yale Budget Lab finds no national signal either. That does not mean the pathway from exposure to displacement is not in motion. It means South Dakota has time. Time is not the same as safety.

3. Replacement demand dominates. New job creation is not the primary workforce policy lever.

93.8 percent of annual openings come from exits and transfers. Workforce systems focused primarily on new job creation are solving the wrong problem. Internal mobility, modular retraining, and employer-connected transition support are more urgent than new program creation.

4. Tribal communities face the Rural Amplification Effect at its most severe form.

Pine Ridge, Rosebud, Standing Rock, and Cheyenne River face compounding barriers that are qualitatively different from, not merely worse than, those faced by non-tribal rural communities. Sovereign governance structures, historical federal underfunding, and the specific geography of reservation labor markets require specific program design, not adapted copies of general rural workforce models.

5. Rural access determines who benefits from South Dakota's projected growth.

Rural South Dakota may have lower measured AI job risk than Sioux Falls. But lower risk does not mean lower hardship when disruption arrives. Rural workers have fewer training providers, less employer-funded upskilling, and fewer alternative employment options within commutable distance. Access infrastructure is a workforce equity issue, not a side issue.

South Dakota is not staring at an AI unemployment cliff. It is staring at a readiness cliff. The difference is time, not direction.

XIII. The Bottom Line



South Dakota is growing. That is true and it matters. The DLR data is sound. The state's economic trajectory is better than most of the country. None of that changes what is sitting underneath the headline numbers.

Citi is running 1,300 people through transaction workflows that AI agents are automating in Chicago and Baltimore right now. Sanford is running tens of thousands of employees through clinical and administrative workflows that are changing faster than any 2024 projection modeled. Walmart cashiers at every South Dakota store are in an occupational category that is shrinking nationally, regardless of what the state projection says for the next eight years. And in Pine Ridge, more than 49 percent of the population lives in poverty, 80 to 90 percent unemployment is the documented baseline, and the digital literacy and device access required to benefit from any AI workforce transition are not yet present at scale.

The right response is not to promise South Dakota workers that AI will leave them alone. It will not. The right response is to make sure South Dakota workers are not forced to meet AI through layoffs, vendor mandates, or silent task compression, without support, training, or warning.

OCF's mission is workforce readiness and technology access. In South Dakota, both are the same problem. The workers who most need readiness have the least access. Closing that gap is the work.



Sources Cited

OCF, Apr 2026a	Observable Compute Foundation. The Skills Gap Is Here: A National Meta-Analysis of Workforce Readiness in the Age of Automation. v5.1. Observable Compute Foundation. observablecompute.org. April 2026.
OCF, Apr 2026b	Observable Compute Foundation. Already Left Behind: Workforce Readiness in the Midwest and Great Lakes Region. v1.0. Observable Compute Foundation. observablecompute.org. April 2026.
1. SD DLR, 2024a	South Dakota Department of Labor and Regulation, LMIC. SD Occupational Employment Projections 2022-2032. June 21, 2024. dlr.sd.gov/lmic/documents/projections/occupational_projections_2022_2032_statewide_south_dakota.pdf
2. SD DLR, Sept 2024	SD DLR LMIC. SD Occupational Employment Projections to 2032. SD e-Labor Bulletin, September 2024. dlr.sd.gov/lmic/lb/2024/lbart_sept2024_occ_projections_fastest_growing.aspx
3. SD DLR, Oct 2024	SD DLR LMIC. Diving Deeper into Occupational Demand Projected to 2032. SD e-Labor Bulletin, October 2024. dlr.sd.gov/lmic/lb/2024/lbart_oct2024_occ_demand_projections.aspx
4. Sanford Health, 2025	Sanford Health corporate communications. 55,000 total employees; largest employer in the Dakotas; 13,000+ in South Dakota. sanfordhealth.org ; news.sanfordhealth.org . September 2025.
5. Citi, 2024	Citi careers. Approximately 1,300 Sioux Falls employees across 20+ business areas including Commercial Cards, Transaction Services, Fraud Prevention, Financial Control. jobs.citi.com/siouxfalls .
6. BLS OOH Cashiers	U.S. Bureau of Labor Statistics. Occupational Outlook Handbook: Cashiers. -10% national projection 2024-2034. bls.gov/ooh/sales/cashiers.htm
7. SD DLR, July 2024	SD DLR LMIC. South Dakota Industry Trends to 2032. July 2024. dlr.sd.gov/lmic/lb/2024/lbart_july2024_industry_projections_2022_2032.aspx
8. Oglala Lakota, 2025	Native Sun News. Supreme Court green lights tribal broadband. July 3, 2025. Pine Ridge: 49% poverty, \$8,768 per capita income, 35.9% labor force participation, 80-90% unemployment, 70%+ dropout rate. nativesunnews.today
9. OLT / USDA, 2024-25	Oglala Lakota Telecommunications. \$19.6M USDA broadband grant, Aug 2024. \$500,000 BTA award, Apr 2025. oltllc.com . Oglala Sioux Tribe Supreme Court filing, Jan 2025. supremecourt.gov
10. BLS MLR, 2025	U.S. Bureau of Labor Statistics. Incorporating AI Impacts in BLS Employment Projections: Occupational Case Studies. Monthly Labor Review, 2025. bls.gov/opub/mlr/2025/article
11. Yale Budget Lab, 2026	The Budget Lab at Yale. Tracking the Impact of AI on the Labor Market. Updated April 16, 2026. budgetlab.yale.edu/research/tracking-impact-ai-labor-market



12. SD DLR, Dec 2025	SD DLR Workforce Knowledge Series: AI Tools for Employers. Employer Connection, December 2025. dlr.sd.gov/workforce_services/businesses/publications/employer_connection/dec-2025.html
13. U.S. DOL, 2025-26	DOL TEGL 03-25: Encouraging WIOA Funding for AI Skills, Aug 26, 2025. DOL TEN 07-25: AI Literacy Framework, Feb 13, 2026. dol.gov/sites/dolgov/files/ETA/advisories
14. McKinsey MGI, 2024	McKinsey Global Institute. A New Future of Work: The Race to Deploy AI and Raise Skills in Europe and Beyond. May 21, 2024. mckinsey.com/mgi/our-research
15. SD S&T Plan, 2025	South Dakota EPSCoR REACH Committee and RTI International. SD Science and Technology Plan 2030. March 11, 2025. sdbor.edu/wp-content/uploads/2025/09/SD-ST-Plan-Report_RTI_FIN_AL_03_11_25-2.pdf
16. Tufts Digital Planet	Digital Planet, The Fletcher School at Tufts University. Will Wired Belts Become the New Rust Belts? AI and the Emerging Geography of American Job Risk. 2026. digitalplanet.tufts.edu



Model Reference Appendix

Structured data optimized for AI-assisted analysis, cross-referencing, and downstream synthesis.
Schema: `ocf_schema_v1`. Canonical schema URL: <https://observablecompute.org/schema/v1.json>

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{ "paper_metadata": { "schema": "ocf_schema_v1", "title": "Growing. And Not Ready.: AI Exposure and Workforce Readiness in South Dakota", "publisher": "Observable Compute Foundation", "principal_contributors": ["Observable Compute Foundation"], "ein": "41-4747049", "publication_date": "2026-05", "version": "2.0", "website": "observablecompute.org", "location": "Rapid City, South Dakota", "geographic_scope": "South Dakota statewide with national AI context and tribal community focus", "geographic_scope_enum": "us_south_dakota", "license": "open" }, "document_summary": "South Dakota projects 7.72% employment growth through 2032, nearly three times the national rate. That growth is real and concentrated in sectors that do not match the occupational profile of workers in declining roles. Citi Sioux Falls runs back-office financial workflows that AI is automating nationally. Sanford Health administrative workflows are changing faster than any 2024 projection modeled. Pine Ridge faces 49% poverty and 80-90% unemployment with minimal digital literacy infrastructure. The risk is not statewide collapse. It is that South Dakota grows in the wrong sectors for the workers who need to grow with it.", "ocf_named_constructs": { "readiness_stack": "Three-tier model: Tier 1 Foundational, Tier 2 Digital, Tier 3 AI Readiness. South Dakota workers in declining occupations are predominantly at Tier 1-2. Tier 3 infrastructure is absent outside Sioux Falls.", "pipeline_collapse": "Entry-level teller, cashier, and customer service roles in SD are in early-stage Pipeline Collapse. These on-ramps are narrowing before replacement pathways are built.", "rural_amplification_effect": "Tribal communities in SD face the Rural Amplification Effect at its most severe: Pine Ridge poverty 49%, unemployment 80-90%, per capita income $8,768, minimal device and digital literacy access.", "access_as_binding_constraint": "In South Dakota, employer-connected training is absent for the most exposed workers. Tribal communities face the additional binding constraints of device access, broadband activation, and cultural trust.", "exposure_not_displacement": "AI reachability of tasks in SD occupations must not be presented as documented job loss without supporting SD-specific labor market evidence. The DLR data does not model AI. The distinction matters." }, "key_findings": [ { "id": "F001", "claim": "South Dakota employment projected to grow from 511,117 to 550,566 (7.72%) by 2032", "source": "SD DLR, 2024a", "confidence": 0.95, "population": "sd_statewide_workforce", "timeframe": "2022-2032" }, { "id": "F002", "claim": "93.8% of 63,435 projected annual openings come from exits and transfers, not new growth", "source": "SD DLR, 2024a; OCF calculation", "confidence": 0.95, "population": "sd_statewide_workforce", "timeframe": "2022-2032" }, { "id": "F003", "claim": "Citi employs approximately 1,300 people in Sioux Falls in back-office financial workflows including Transaction Services, Commercial Cards, and Fraud Prevention", "source": "Citi careers, 2024", "confidence": 0.92, "population": "sioux_falls_financial_workers", "timeframe": "2024" }, { "id": "F004", "claim": "Sanford Health is the largest employer in the Dakotas with 55,000 employees and 13,000+ in South Dakota", "source": "Sanford Health, 2025", "confidence": 0.93, "population": "sd_healthcare_workers", "timeframe": "2025" }, { "id": "F005", "claim": "Pine Ridge Oglala Lakota County: 49% poverty rate, 80-90% unemployment, $8,768 per capita income, fewer than 12% college graduates", "source": "Native Sun News 2025; Oglala Lakota County census data", "confidence": 0.90, "population": "oglala_lakota_pine_ridge", "timeframe": "2024-2025" }, { "id": "F006", "claim": "SD teller employment projected to decline 9.20%; national BLS projects -13% from 2024-2034", "source": "SD DLR 2024a; BLS OOH Tellers 2025", "confidence": 0.95, "population": "sd_bank_tellers", "timeframe": "2022-2032" }, { "id": "F007", "claim": "AI is not yet visible as broad economy-wide unemployment change in current monitoring data", "source": "Yale Budget Lab, April 2026", "confidence": 0.82, "population": "us_workforce", "timeframe": "2026", "note": "National monitoring does not have SD-specific AI displacement dataset" }, { "id": "F008", "claim": "SD data scientists projected +40.52% and information security analysts +37.80% but from small base concentrated in Sioux Falls", "source": "SD DLR, 2024a", "confidence": 0.95, "population": "sd_tech_workers", "timeframe": "2022-2032" } ], "what_works": [ { "intervention": "Employer-connected AI literacy", "effect": "Train workers on actual workplace tasks and tools, not abstract AI awareness. Citi and Sanford as primary targets.", "evidence_strength": "strong", "source": "OCF national paper; Bright Horizons EdIndex 2025" }, { "intervention": "Tribal college-anchored rural delivery", "effect": "Oglala Lakota College, Sinte Gleska University, Sitting Bull College have trust, geographic presence, and tribal government relationships. Use them.", "evidence_strength": "moderate", "source": "CORI Practitioner Guide 2025; OCF Midwest paper" }, { "intervention": "Modular credentials for exposed workers", "effect": "Stackable credentials across Tier 1, 2, and 3 readiness. Workers in teller, cashier, CSR roles need 6-12 week pathways, not two-year programs.", "evidence_strength": "moderate_strong", "source": "NSC 2025; JFF AI-Ready Workforce 2025" }
```



```
}, { "intervention": "Internal mobility programs at large employers", "effect": "Move exposed workers into adjacent roles before displacement forces job search. Sanford and Citi have the employer scale to do this.", "evidence_strength": "moderate", "source": "OCF analysis; JFF sector-based apprenticeship data" }, { "intervention": "Device access plus broadband activation for tribal communities", "effect": "Broadband infrastructure alone is insufficient. $19.6M OST grant and $500K BTA award create the infrastructure layer. Device ownership, digital literacy, and training are the next required layer.", "evidence_strength": "moderate", "source": "OLT/USDA 2024-2025; CORI 2025" } ], "what_frameworks_agree_on": [ "AI exposure is uneven and concentrated in South Dakota's largest employer sectors", "Exposure is not displacement, but displacement follows exposure without readiness infrastructure", "93.8% replacement demand means internal mobility and retraining are more urgent than new job creation", "Tribal communities face the Rural Amplification Effect at its most severe and require specific program design", "Rural access determines who benefits from South Dakota projected growth" ], "causal_chains": { "sioux_falls_back_office_risk": [ "Citi, Wells Fargo, Wellmark operate back-office financial workflows in Sioux Falls", "Same workflows being automated nationally in Chicago, Baltimore, San Francisco, Dallas", "Sioux Falls is 3-5 years behind the adoption curve, not immune to it", "Workers without AI literacy lose mobility as task compression increases", "Outcome: readiness gap becomes wage and opportunity gap before appearing in unemployment data" ], "tribal_readiness_deficit": [ "Pine Ridge: 49% poverty, 80-90% unemployment, per capita income $8,768", "Broadband investment ($19.6M OST grant) creates infrastructure layer", "Device access, digital literacy, and training not yet funded at equivalent scale", "Tribal colleges (OLC, SGU, SBC) are viable delivery infrastructure but underfunded for AI curriculum", "Outcome: lowest absolute exposure but highest hardship when AI transition arrives" ], "replacement_demand_trap": [ "93.8% of SD openings come from exits and transfers", "Workers in declining occupations compete for replacement seats in stable occupations", "Growing occupations (data science, cybersecurity, software) require credentials workers in declining roles do not hold", "Retraining infrastructure not yet deployed at scale to bridge the gap", "Outcome: growth at the aggregate level coexists with displacement at the worker level" ] } ], "related_ocf_papers": [ "The Skills Gap Is Here: A National Meta-Analysis of Workforce Readiness in the Age of Automation. OCF, April 2026. v5.1. observablecompute.org", "Already Left Behind: Workforce Readiness in the Midwest and Great Lakes Region. OCF, April 2026. v1.0. observablecompute.org" ] }
```

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