SKILLS-BASED TALENT METRICS TOOLKIT

This toolkit is designed to help states move from skills-based policy intent to measurable operational impact. It builds on NGA's report *Empowering Progress: Harnessing Skills-Based Strategies to Drive Public Sector Excellence*, the *NGA Skills in the States* initiative, Lightcast's survey synthesis and workshop materials, and Lightcast's Talent Transform approach to skills intelligence.

From Policy Intent to Measuring Impact

States are under pressure to modernize talent management in a labor market defined by demographic constraint, tighter competition for workers, and changing skill needs.

NGA's Skills in the States initiative was created in response to that reality, with support for states and territories seeking to shift from degree-centric hiring and workforce management to more skills-based approaches. *Empowering Progress: Harnessing Skills-Based Strategies to Drive Public Sector Excellence*, the joint NGA and Lightcast report published in early 2025, positioned this work clearly: public sector employers are already experimenting with skills-based strategies, often under gubernatorial leadership, and now need practical ways to evaluate, sustain, and scale them.

This toolkit picks up where *Empowering Progress* leaves off. It is designed for the next stage of implementation: establishing a credible measurement system that can show what is changing, for whom, and with what effect.

We Heard from State HR Teams

The need is urgent. Lightcast and NGA conducted a survey of state HR agencies, and skills-based talent management was tied to multiple state priorities.

Recruitment emerged as the top operational concern, improving skill alignment between jobs and candidates was revealed as a mission-critical strategic outcome, demonstrating the ROI of talent policies to leadership was shown to be one of the largest capability gaps states face, and capacity on state HR teams was highlighted as the biggest barrier to success.

Critically, states are savvy users of HR data. The Lightcast and NGA survey revealed that the teams leading state-level skills-based pilots are most often the teams that own and manage the core data systems needed to begin this work.

However, HR data as it exists in today's systems is not sufficient for skills-based work. The greatest data gap is that skill-level detail is missing from employee profiles, candidate profiles, and learning and development pathways.

This toolkit focuses on a practical proposition: states do not need to wait for perfect systems or a statewide overhaul to begin measuring skills-based progress. They can start with a team-level or role-family pilot, use existing HRIS and ATS systems to establish a baseline, apply labor market intelligence to track whether their jobs and vacancies are becoming more skills-based, and layer in skill-level data where it is missing in key HR data systems.

That framing is especially relevant because many states are contending with executive orders, administrative directives, or broader gubernatorial priorities related to skills-based hiring and skills-based talent management. NGA has highlighted that, since 2022, more than 30 governors have taken action through executive orders, legislation, or administrative changes to advance skills-based strategies in the public sector. This toolkit is built for that context. It is meant to help states move from mandate to method, from reform language to operational practice, and from anecdote to evidence.

Priority Metrics for Tracking Outcomes and ROI

In the state survey that Lightcast and NGA conducted, states were asked to score potential metrics related to skills-based outcomes based on how valuable the metric would be for the team and how feasible the metric would be to collect. This toolkit focuses on Tier 1 metrics, with Tier 2 and 3 metrics identified for potential expansion later. The Tier 1 metrics address three core questions driving state priorities:

> **"Are we keeping our people?"** Employee turnover (priority score 69) ranks first, and retention rates (59) sit in the top tier, because states are losing institutional knowledge and struggling to maintain service delivery as experienced workers depart. These HRIS-based metrics give states the baseline for understanding the scale of the retention challenge and tracking whether interventions make a difference.

> **"Are we finding the right people?"** Total applicants per role (60) and offers and hires made to candidates without degrees (54) address the recruitment and access challenges identified throughout the survey, and show whether wider access converts into hires. They also speak directly to mandates set by state executive orders.

> **"Are we making skills-based changes?"** Five metrics track implementation, from job posting language through to employee capability: the share of postings without degree requirements (58), the share of postings offering multiple competency signals (58), growth in skills-based postings over time (58), overall education levels among public sector workers (58), and employee skills visibility (59).

These three questions translate into the nine Tier 1 metrics, which are the top rows of the table that follows (it also lists the Tier 2 and 3 metrics). Each row shows the metric's primary data source, its value and feasibility ratings from the survey, and the priority score that combines the two, so readers can see where the data lives and how highly states rated it. Of the nine, three draw on the Human Resource Information System (HRIS), two on the Applicant Tracking System (ATS), and four on external data, either public data or job postings data from an aggregator such as Lightcast (or, for postings, the ATS itself). One of the Tier 1 metrics, the share of employees whose skills are visible in the HRIS, often requires an additional tool or module to add skill-level data (see Step 4).

States do not need to adopt all nine metrics at once, and no metric is a required starting point. Each metric cleared the bar for value and feasibility in the state survey, so any single metric or combination is a credible place to begin. The right choice follows from the specific intervention a state wants to evaluate. The section under Step 2, "Pick a Metric," ties that selection to the workforce challenge the state and its participating agency are trying to solve.

The nine metrics also follow a skills-based change through multiple stages of talent acquisition and management. As the language in a posting changes, the postings-based metrics show whether that change has reached the market. Applicant and hiring data in the ATS show who responds to the revised postings and who receives offers. HRIS records then show whether those hires stay and how the composition and visible capability of the workforce shift over time. Together, the metrics let a state trace reform from policy language to workforce outcome and give leaders a common set of measures for reporting progress to governors, agency heads, and legislators.

Priority Score (Value x Feasibility) for Proposed Metrics

METRIC NAME	SOURCE	VALUE	FEAS-ABILITY	PRIORITY SCORE	TIER
Employee turnover	HRIS	77	90	69	1
Total number of applicants for a role	ATS	73	82	60	1
The % of employees who stay with the company over a given period	HRIS	65	90	59	1
What are our employee's skills (which can be correlated with other stats)	HRIS	65	90	59	1
The percentage of job postings that do not require a degree	LC	65	89	58	1
The % of postings that offer a variety of ways to signal competency	LC	65	89	58	1
Growth in skills-based (or non-degree) postings over time	LC	65	89	58	1
Overall education levels among public sector workers	LC	65	89	58	1
The number and % of offers and hires made to candidates w/o degree	ATS	65	82	54	1
Offer acceptance rate of hires for roles that used skills-based strategies	ATS	65	82	54	2
Leadership development programs to leadership role rate	HRIS	58	90	52	2
How long it takes new hires to be fully productive in the new role	HRIS	58	90	52	2
The rate of completing training during onboarding	HRIS	58	90	52	2
Share of the workforce without a college degree, based on online profiles	LC	58	89	51	2
% of applicants w/o a degree applying for roles that do not require one	ATS	58	82	48	2
% of candidates given interviews with standardized skills-based practices	ATS	58	82	48	2
Top of funnel vs. bottom of funnel for candidates w/o a degree	ATS	58	82	48	2
Applicant demographics and characteristics	ATS	58	82	48	2
% of candidates w/o a degree invited to interview	ATS	58	82	48	2
Rates of promotion compared against worker skill evaluations	HRIS	52	90	47	2
The % of employees who actively engage in skills development programs	HRIS	50	90	45	3
Conversion rate between work-based programs and full-time work	HRIS	50	90	45	3
Candidate satisfaction with the evaluation process	ATS	54	82	44	3
New hire satisfaction with onboarding	Survey	71	62	44	3
The progress of skill development using self- or manager-assessments	HRIS	46	90	41	3
Throughput of apprenticeships, internships, or other work-based learning	HRIS	42	90	38	3
Employee satisfaction overall (e.g., an "employee net promoter score")	Survey	60	62	37	3
The # and type of recruitment channels used for recruitment	ATS	42	82	35	3
Employee satisfaction with role descriptions	Survey	52	62	32	3
Hiring manager satisfaction with the evaluation process	Survey	52	62	32	3

How to Use this Toolkit

This toolkit is written both to encourage thoughtful uptake of skills-based talent management within public sector organizations and to provide a working playbook to the organizations that are at the forefront of those efforts. There are sections in this toolkit intended to help governors' offices, central HR leaders, agency executives, and NGA stakeholders understand why the work matters now. Other sections are intended to help the implementation team actually do that important work. That mixed audience is intentional: skills-based talent management succeeds only when policy direction, systems capability, operational ownership, change management, and executive sponsorship move together.

The opening sections establish the case for action and place the toolkit within Lightcast and NGA's shared work on public sector modernization. The middle sections lay out the measurement architecture, the role of HRIS and ATS platforms, and the logic behind the metrics included in the toolkit. The later sections provide a practical implementation pathway, including instructions for how states can use their current systems, how to flag skills-based pilot cohorts, and how to compare outcomes between pilot and comparison cohorts.

The toolkit aims to be agnostic on the specific human resources information systems or applicant tracking systems used by states. However, in a survey of state HR agencies, Oracle (PeopleSoft or HCM) and SAP are among the most common HRIS environments referenced, and NEOGOV and SAP SuccessFactors are among the most common ATS environments referenced. The field lists and calculation steps in this document use terms common to those environments and carry over to other systems.

Six Foundational Toolsets: With Technology as the Bottleneck for States

Lightcast identifies six toolsets that underpin skills-based strategies, outlined below. These toolsets work in concert to enable skills-based talent management.

Six Foundational Toolsets for Skills-Based Talent Management:

TECHNOLOGY
Makes skills visible and usable at scale.

TALENT LIFECYCLE PROCESSES
Embeds skills into how talent is attracted, developed, and deployed.

HR OPERATIONAL PROCESSES
Turns skills into how HR runs: job architecture, workforce planning, policies.

ORGANIZATIONAL DECISION PRACTICES
Connects skills to strategy, investment, and Build / Buy / Borrow / Bot.

DATA COLLECTION & GOVERNANCE STANDARDS
Makes skills trusted: quality, ownership, validation.

LEADERSHIP & MANAGEMENT
Turns skills into how work gets done: staffing, development, coaching.

This toolkit focuses on the Technology toolset because it emerged as the most consistently underdeveloped capability during Lightcast and NGA's engagement with participating states. In workshop sessions, HR teams

frequently described strong policy momentum, growing executive interest, and isolated pockets of skills-based practice. However, they also highlighted a common constraint: the absence of structured, skill-level data within core systems needed to operationalize those ambitions at scale.

Technology is the toolset that makes skills visible and usable across the enterprise. It serves as the layer that surfaces, connects, and activates skills data so that it can inform not only hiring, but also workforce planning, development, mobility, and broader organizational decision-making. Despite this importance, no participating state reported having fully integrated skills data into its HR technology environment.

This gap is particularly consequential because many state teams view the technology layer as a prerequisite for advancing other toolsets. Without a system that can consistently capture and apply skills data, it becomes difficult to embed skills into talent lifecycle processes, HR operations, and decision-making practices in a durable way. As a result, even where progress is being made, it is often difficult to scale.

In some cases, states have begun advancing skills-based practices outside of their formal HR technology stack. These efforts include developing competency frameworks, revising job descriptions to reflect skills, and introducing alternatives to degree requirements such as years of experience or demonstrated proficiency. While these approaches represent meaningful progress, the resulting information typically resides outside core systems. Without integration into HRIS and ATS environments, these practices remain difficult to standardize, operationalize, and scale across agencies.

The HR Technology Stack

The HR technology stack matters because it is where a number of critical functions come together.

- The **Human Resource Information System (HRIS)** serves as the workforce system of record: the place where states can measure employment, retention, turnover, organizational structure, and workforce composition.
- The **Applicant Tracking System (ATS)** serves as the hiring system of record: the place where states can observe requisitions, applications, offers, hires, and candidate progression.
- The **Learning Management System (LMS)** is a platform used to deliver, manage, and track employee training and development activities across an organization.
- The **skills intelligence layer** makes it possible to interpret these systems through a capability lens rather than solely through titles, degrees, and headcount.
- The **labor market intelligence layer** compares a state's hiring and talent outcomes with peers.

Taken together, these systems allow states to move from a fragmented picture of jobs and people toward a more useful picture of capabilities, outcomes, and return on policy.

Core Measurement Architecture

LAYER	PRIMARY ROLE	COMMON STATE EXAMPLES	WHAT IT ENABLES
Human Resource Information System (HRIS)	Workforce system of record	Oracle (PeopleSoft or HCM) and SAP cover 70% of surveyed states	Turnover, retention, employee status, workforce composition, cohort outcomes
Applicant Tracking System (ATS)	Hiring system of record	NEOGOV and SAP SuccessFactors cover 65% of surveyed states	Applicants per role, offer and hire outcomes, funnel movement, education fields
Learning Management System (LMS)	Learning and development system of record	States often use agency-specific LMS platforms to deliver training	Training participation and completion, credential attainment, compliance tracking, learning pathways
Skills intelligence layer	Standardized capability architecture	States rarely have this layer. Options include: • Lightcast Talent Transform (integrated with SAP and Workday) • Organizational skills clouds (e.g., Workday Skills Cloud) • Support platforms (e.g., Degreed, Cornerstone, Eightfold)	Role enrichment, skills visibility, skill alignment, capability-based analysis
Labor market intelligence	External talent benchmarking	States can collaborate with their Dept. of Labor or with external data providers like Lightcast, though HR teams rarely access this information	Degree requirement trends, competency signaling, market benchmarks, external education profile

Across states, a small number of core systems underpin workforce and hiring data. Most commonly, Oracle (PeopleSoft/HCM) or SAP is the HRIS, and NEOGOV or SAP SuccessFactors is used for applicant tracking. The skills intelligence layer is being developed by states today, but where these efforts are furthest along, they are still not connected within HRIS, ATS, and LMS systems.

HR systems are commonly shared within states. In the survey conducted by Lightcast and NGA, approximately 90% of states reported using a shared HR technology stack across agencies and departments. This shared infrastructure creates a strong foundation for standardization: states can define common metrics, align data structures, and scale skills-based practices more efficiently than in fully fragmented environments. At the same time, realizing this opportunity requires intentional coordination, as shared systems do not automatically translate into shared practices or consistent data usage.

States operate with a range of governance models, falling along a spectrum from centralized to decentralized. In centralized models, core HR functions, systems, and policies are managed by a single statewide authority, enabling greater consistency in data definitions, reporting, and implementation. In decentralized models, agencies retain greater autonomy over hiring, workforce management, and system usage, which can allow for flexibility but often results in variation in data quality and practices. Most states operate in a semi-centralized model, where core systems and standards are set centrally, but execution occurs at the agency level. This hybrid structure reinforces the importance of clear metric definitions and shared frameworks, and it allows for central state HR teams to pilot skills-based strategies and metrics development with one agency then create a plan to scale across the state.

Metrics Toolkit

The metrics toolkit translates the broader measurement framework into a practical sequence of actions that states can execute within their current system environments. It is designed to help implementation teams move from concept to calculation by focusing on a small set of high-priority metrics, a defined pilot population, and a repeatable approach to data extraction and analysis.

1. Start with a Pilot between the Central HR Team and a Participating Agency

States should begin measuring skills-based talent strategies through a focused internal pilot rather than attempting an enterprise-wide rollout from the outset. A pilot creates the conditions for disciplined learning. It allows the state to define a specific intervention, confirm what data is available across HRIS, ATS, and related systems, add skills-level data to these systems in a way that allows manual review and validation but encourages a semi-automated process, and test whether metrics can be calculated consistently before those measures are used for broader decision-making.

CHECKLIST

- [ ] Identify a participating agency or team with a clear workforce need and leadership support
- [ ] Establish ownership between central HR and the participating agency
- [ ] Define the pilot timeline and measurement windows
- [ ] Align on success criteria and reporting expectations

A pilot also makes the work more manageable for already-stretched HR teams. Team capacity was highlighted in the state survey as the main barrier to success in skills-based initiatives. Rather than trying to standardize skills-based practices across the entire state at once, central HR and a participating agency can focus on one team, role family, or business unit with a clear hiring or workforce challenge. This reduces coordination burden, improves data quality, and increases the likelihood that early findings will be trusted.

The selection of a participating agency is one of the most important decisions in the pilot. States should prioritize agencies or business units that have both a clear talent challenge and a willingness to engage in iterative testing. Ideal candidates are those with recurring hiring needs in a defined role family, leadership that is open to revising hiring or job design practices, and sufficient data quality in their HRIS and ATS environments to support measurement.

Central HR teams can identify potential partners by reviewing hiring volume, turnover rates, or known workforce gaps across agencies, and by engaging agency leadership directly to assess readiness and interest. In practice, the strongest pilots emerge where there is both a pressing workforce need and an operational partner willing to co-own the work.

2. Pick a Metric

Selecting the right metric is an important early decision in the pilot. The selected metric should be directly connected to the workforce challenge surfaced above with the pilot-participating agency. It should also be salient to executive leadership, particularly where the pilot is tied to broader priorities such as executive orders on skills-based hiring or workforce modernization. All the better if the metric can be decomposed into how a skills-based cohort performs relative to a peer group. Finally, the metric should strike a balance between value and feasibility, as reflected in the Tier 1 prioritization. Those metrics and suggested cohorts are below.

CHECKLIST

- ☐ Confirm the metric is tied to a specific organizational need
- ☐ Validate that required data fields exist and can be extracted
- ☐ Ensure the metric can be segmented using a cohort flag (discussed below)
- ☐ Confirm the metric is meaningful to central HR and the participating agency
- ☐ Validate that the metric can be calculated consistently over time
- ☐ Confirm that results can be communicated clearly to leadership

Recommended Tier 1 Metrics

METRIC	PRIMARY SOURCE	WHY IT MATTERS	DIFFICULTY	SUGGESTED COHORT COMPARISON
Employee turnover	HRIS	Foundational workforce stability measure; essential for proving whether new approaches retain capability	Easy	Skills-based hires vs. other hires; mapped roles vs. non-mapped roles
Employee retention rate	HRIS	Companion to turnover; especially useful for cohort comparisons	Easy	Skills-based pilot cohort at 6 and 12 months vs. comparison cohort
Applicants per role	ATS	Shows whether revised postings and degree flexibility are changing funnel volume	Easy	Pilot requisitions vs. non-pilot requisitions
Offers and hires to candidates without degrees	ATS	Shows whether access is translating into real outcomes	Medium	Pilot requisitions vs. traditional requisitions
Share of postings without degree requirements	ATS or job posting aggregator	Tracks implementation of degree-flexible policy in the market-facing job language	Easy	Pilot job family trend vs. statewide baseline
Share of postings with multiple competency signals	ATS or job posting aggregator	Shows whether jobs are becoming more skills-based, not just less degree-based	Easy to medium	Pilot roles vs. non-pilot roles
Growth in skills-based or non-degree postings over time	ATS or job posting aggregator	Shows adoption momentum	Easy	Pilot agency trend vs. prior baseline
Overall education levels among public sector workers	Public data compared with HRIS	Provides strategic context on workforce composition and degree reliance	Easy	Role families targeted for reform vs. state public sector baseline
Skills visibility rate	HRIS + Add-on Skills Module	Measures whether capability is becoming visible and manageable	Medium with HRIS add-on	Mapped roles/employees vs. non-mapped population

3. Create a Skills-Based Cohort Flag Within the HR Tech Stack

Many of the priority metrics surfaced by states are not primarily skills-based metrics. But even metrics that are not explicitly about skills can become skills-based outcome metrics when organizations are able to segment the employee population by whether employees, candidates, requisitions, or roles are part of a skills-based intervention. To make segmentation possible, states should establish a skills-based cohort flag at the beginning of the pilot.

CHECKLIST

- [ ] Select a clearly defined skills-based intervention
- [ ] Choose the level of the flag (requisition, role, or employee)
- [ ] Create a field or controlled tracking mechanism
- [ ] Define and document inclusion criteria precisely
- [ ] Validate that the flag can be used in HRIS and ATS reporting
- [ ] Maintain a stable definition for the pilot period

A skills-based cohort flag is a defined indicator attached to the unit being measured, such as a role, requisition, candidate, or employee. This flag allows states to compare outcomes between skills-based and non-skills-based groups across nearly every metric in the toolkit. The flag does not need to be technologically sophisticated to be useful. It can begin as a list of pilot roles maintained by central HR, a requisition tag in the ATS, a workflow indicator, a custom field in the HRIS, or a controlled crosswalk maintained outside core systems. What matters is that it is clearly defined, consistently applied, and usable in reporting and analysis.

This approach is what turns descriptive metrics into evaluative ones. Once a state can reliably distinguish the skills-based cohort from the rest of the workforce or hiring funnel, it can ask more meaningful questions: Are employees hired through skills-based pathways retained at higher rates? Do skills-based postings attract larger or more qualified applicant pools? Are employees whose skills have been mapped and shared with them progressing differently than comparable employees who have not participated in the initiative? These are the comparisons that allow a state to demonstrate impact rather than simply report activity.

The cohort flag also establishes a clear comparison group. By maintaining both a flagged (skills-based) cohort and a non-flagged (comparison) cohort, states can isolate the effect of the intervention and distinguish it from broader workforce trends or external labor market conditions.

In practice, some metrics require the cohort flag to be present across multiple systems. For example, a requisition-level flag in the ATS must be linkable to employee records in the HRIS to evaluate downstream outcomes such as retention. States should therefore confirm early in the pilot that the flag can be propagated or joined across systems, either through shared identifiers or through a controlled crosswalk.

The cohort flag should also be designed with scale in mind. While many pilots may begin with a manually maintained crosswalk or external tracking file, the most beneficial pilot will test whether this flag can be embedded within official systems. If all tracking remains outside of HRIS and ATS environments, the state may be able to run a pilot analysis, but it will be difficult to sustain or scale measurement across agencies. The pilot should test both outcomes and whether the measurement approach itself can be operationalized at scale.

4. Add the Relevant Skill-Level Data

Adding skill-level data is a critical step in advancing from traditional workforce measurement to a skills-based approach. This step will look different depending on where the data is being applied. In HRIS systems, adding skills data typically means enriching employee or role records with standardized skill profiles that can be used for workforce analysis, planning, and development. In ATS systems, it may involve updating job postings and candidate evaluation criteria to reflect skills and competencies rather than degree requirements alone. In LMS environments, it involves connecting learning activity to specific skills so that training can be evaluated in terms of capability development rather than completion alone.

CHECKLIST

- [ ] Identify the pilot roles or employees to be enriched with skills data
- [ ] Extract relevant job, role, and workforce data from HRIS and ATS
- [ ] Apply a skills enrichment process (e.g., Talent Transform or equivalent)
- [ ] Validate skill profiles with subject matter experts or managers
- [ ] Integrate or link skill data back to HRIS and/or reporting layer
- [ ] Confirm that skill data can be used in metric calculations and cohort comparisons

This step often requires an additional skills intelligence layer. As described earlier in the toolkit, most HR systems do not natively maintain a consistent, market-relevant skills architecture. Solutions such as Lightcast Talent Transform (integrated with systems like SAP and Workday), organizational skills clouds (e.g., Workday Skills Cloud), and support platforms (e.g., Degreed, Cornerstone, Eightfold) provide a way to enrich roles and workforce data with standardized skills, drawing on external labor market intelligence and maintaining alignment through ongoing updates. These systems provide a comparable view of skills across hiring, workforce, and development processes.

It is also important for states to establish or adopt a shared skills taxonomy that can be applied consistently across systems and use cases. A common skills framework ensures that skills identified in job postings, employee profiles, and learning pathways are comparable and interoperable. This consistency is what allows skills data to move across HRIS, ATS, and LMS environments and to support both internal decision-making and external benchmarking. Where possible, states should prioritize taxonomies that are aligned with labor market data and widely used frameworks, so that skills definitions remain relevant not only within the organization but also in the broader economy.

5. Calculate the Metric

The metric playbook below is written to be detailed enough for implementation teams but still legible to executive readers. Each metric includes a plain-language rationale, the systems involved, a step-by-step method, common data issues, and a section on how to compare skills-based and non-skills-based cohorts. That final component is what allows the toolkit to move beyond descriptive reporting and toward actual evaluation.

5.1 Employee turnover

Employee turnover is the foundational workforce stability metric in the toolkit. It measures the rate at which employees leave over a defined period and provides the clearest baseline for whether the state is retaining capability. In a skills-based context, the turnover metric becomes even more useful when it is segmented to ask whether employees who entered through skills-based hiring or who later became part of a skills-mapped development pathway are staying at different rates than comparable employees.

HRIS requirements: Minimum fields include employee ID, hire date, separation date, action or reason code, employment status, employee type, job code, business unit or agency, and a skills-based cohort flag or crosswalk.

STEP-BY-STEP CALCULATION

1. Define the measurement window. The default recommendation is the trailing 12 months for the overall workforce and six- or 12-month windows for pilot cohort follow-up.
2. Define which employee types belong in the denominator. Document whether full-time, part-time, temporary, seasonal, and term-limited staff are included.
3. Extract employment action history from HRIS and identify rows that represent true exits rather than internal transfers or corrections.
4. Calculate average headcount for the same period using monthly snapshots where possible. If monthly snapshots are difficult, a beginning-versus-ending average is acceptable for a first pilot.
5. Divide separations by average headcount and express the result as a percentage.
6. Cut the result by agency, role family, pilot group, and other strategically useful dimensions.

COMMON DATA AND IMPLEMENTATION ISSUES

The most common issues are inconsistent action coding across agencies, inclusion of employee populations that were not intended to be in scope, and failure to distinguish a real separation from a movement event. Retirement-heavy workforces may also need retirement to be reported separately as a companion view.

HOW TO CALCULATE DIFFERENTIAL OUTCOMES FOR SKILLS-BASED COHORTS

To compare skills-based and non-skills-based outcomes, apply the skills-based cohort flag to the workforce extract. Calculate turnover for employees hired into flagged pilot roles versus employees hired into comparable non-flagged roles. If the state also has a post-hire skills-mapping initiative, create a second cohort split for employees whose skills have been mapped, shared, and connected to career pathways versus employees who have not. Over time, the state can ask whether skills-based entry or skills-based development is associated with lower separation rates.

5.2 Total number of applicants per role

Applicants per role is the core funnel-volume measure. It indicates whether revised postings, degree-flexible requirements, or new competency-signaling language are changing who applies. The metric is important, but it must be interpreted with care because more volume is not always better. In the survey synthesis, the warning is clear: states that remove degree requirements without replacing them with a skills-based way to identify fit can end up overwhelmed by applications with less usable signal.

ATS requirements: Minimum fields include requisition ID, candidate ID, application date, application status, posting title, role family, agency, and a skills-based requisition flag.

STEP-BY-STEP CALCULATION

1. Build the pilot requisition list. This is the core denominator for the metric and should be controlled by central HR and the participating agency.
2. Extract all applications tied to those requisitions from ATS for the chosen window.
3. Remove duplicate applications for the same candidate-requisition pair unless the state has a documented reason to count re-submissions separately.
4. Count applications by requisition and summarize the results using both mean and median applicant counts.
5. Compare pilot requisitions with non-pilot requisitions, or compare the same role family before and after the posting change.

COMMON DATA AND IMPLEMENTATION ISSUES

The main issues are duplicate applications, internal versus external applicant mixing, and unusually high-volume requisitions that can distort an average.

HOW TO CALCULATE DIFFERENTIAL OUTCOMES FOR SKILLS-BASED COHORTS

Use the requisition-level cohort flag to compare applicant volume between skills-based pilot requisitions and comparable requisitions that still use the traditional template or process. If the state wants to be more ambitious, it can also compare applicant characteristics by cohort, such as the share without degrees or the distribution of prior experience. In later phases, it can ask whether application volume for mapped roles behaves differently once candidates can understand the role in skill-based rather than credential-based terms.

5.3 Employee retention rate for a given period

Retention is the positive framing counterpart to turnover. It is especially effective for executive communications because it emphasizes the share of employees the organization keeps rather than only the share it loses. In a pilot, cohort retention is often the sharper measure because it allows the state to follow the people most affected by the intervention.

HRIS requirements: Minimum fields include employee ID, hire date, current active status, separation date if applicable, role family, agency, and a skills-based cohort flag.

STEP-BY-STEP CALCULATION

1. Choose the cohort. A recommended starting cohort is all hires into pilot roles during a defined six-month implementation window.
2. At the chosen checkpoint, such as six months or 12 months after hire, determine which members of that cohort remain active.
3. Calculate retention as active cohort members divided by original cohort size.
4. Repeat the calculation for a comparable non-pilot or pre-pilot cohort.
5. Report the result with both percentages and underlying counts, because small pilot populations can produce volatile percentages.

COMMON DATA AND IMPLEMENTATION ISSUES

The main issues are small cohort sizes, unclear rules for what counts as active, and movement between agencies or role families that may or may not count as retention depending on the business question.

HOW TO CALCULATE DIFFERENTIAL OUTCOMES FOR SKILLS-BASED COHORTS

Retention is where the cohort flag becomes especially powerful. Compare the 6- and 12-month retention of hires made into skills-based requisitions with hires made into similar non-skills-based requisitions. If the state has a separate post-hire initiative, compare employees whose roles have been enriched and career-pathed with similar employees who have not been exposed to those practices. This allows leaders to see whether skills-based practice is associated not only with broader access, but with more durable attachment to the organization.

5.4 Percentage of job postings that do not require a degree

This metric answers a simple but essential implementation question: are public postings actually changing? It is one of the strongest ways to confirm whether policy direction has reached market-facing job language. Because it is based on Lightcast's standardized view of postings, it also allows states to benchmark themselves against peer markets and the broader labor market.

ATS requirements or external data provider such as Lightcast for job posting aggregation: ATS posting exports can be used for internal validation where useful. Minimum fields include posting ID, posting date, job family or occupation, employer or agency, and a degree requirement flag or equivalent classification. Alternatively (or in addition), job posting aggregators like Lightcast can provide intel on the share of postings without a degree requirement.

STEP-BY-STEP CALCULATION

1. Define the posting population, such as all pilot-role postings, all state postings, or a benchmark public sector segment in the state.
2. Use internal or external (e.g., Lightcast) data to classify which postings require a degree and which do not.
3. Count postings without degree requirements and divide by total postings in the population.
4. Trend the metric over time, ideally by month or quarter.
5. Compare the pilot population to a relevant baseline, such as non-pilot roles or peer-state public sector postings.

COMMON DATA AND IMPLEMENTATION ISSUES

States should be careful to distinguish genuinely no-degree postings from postings that appear flexible but still imply degree preference elsewhere in the text. Spot-checking a sample of postings is good practice.

HOW TO CALCULATE DIFFERENTIAL OUTCOMES FOR SKILLS-BASED COHORTS

At first glance this metric is about postings, not people. But once a role-level cohort flag exists, the state can still compare degree-flexible pilot roles with non-flagged roles and ask whether later workforce outcomes differ between the employees who entered those roles and the employees who entered more traditional roles. This is how implementation metrics begin to connect to outcome metrics.

5.5 Number or percentage of offers/hires made to candidates without degrees

This metric is one of the clearest indicators that skills-based policy is affecting actual hiring outcomes. It shows whether states are not only widening access but converting that access into offers and hires. It is also one of the most direct ways to speak to executive orders or gubernatorial directives focused on reducing unnecessary degree barriers.

ATS requirements: Minimum fields include candidate ID, requisition ID, offer flag or stage, hire flag or stage, education level, job family, agency, and a skills-based requisition flag.

STEP-BY-STEP CALCULATION

1. Define what counts as "without a degree." A common starter rule is no bachelor's degree or higher, but the state should explicitly document whether associate degree holders are included in this group or reported separately.
2. Extract candidate-requisition outcomes from ATS and identify which records ended in an offer and which ended in a hire.
3. Map education values into consistent categories and isolate the count of candidates without degrees.
4. Calculate the number and share of offers to candidates without degrees.
5. Calculate the number and share of hires to candidates without degrees.
6. Where feasible, also calculate the acceptance rate for offers made to candidates without degrees.

COMMON DATA AND IMPLEMENTATION ISSUES

Education data can be incomplete or inconsistently structured. The toolkit recommends preserving an unknown category rather than forcing missing values into the degree or non-degree bucket. States should also take care to distinguish offers made from offers accepted.

HOW TO CALCULATE DIFFERENTIAL OUTCOMES FOR SKILLS-BASED COHORTS

This metric is inherently cohort-based. Compare outcomes for flagged pilot requisitions with traditional requisitions. Where a state is also using a revised screening process or competency-based interview rubric, create a second split between requisitions that used the full skills-based process and requisitions that only removed the degree requirement. This is one of the best ways to test the survey synthesis insight that degree removal without skills-based evaluation can worsen signal quality.

5.6 Percentage of postings that offer multiple ways to signal competency

This metric goes beyond simply removing degree requirements. It asks whether postings provide alternative ways for candidates to demonstrate readiness, such as certifications, portfolios, military experience, apprenticeships, assessment results, equivalent experience, or other competency signals. It is therefore a stronger indicator of mature skills-based job design.

ATS requirements or external data provider such as Lightcast for job posting aggregation: Minimum fields include posting text, posting date, job family, employer or agency, and a classification library that identifies competency signals. Alternatively (or in addition), job posting aggregators like Lightcast can provide intel on the share of postings that invite multiple ways for jobseekers to signal competency.

STEP-BY-STEP CALCULATION

1. Define what counts as a meaningful competency signal for the state. Build a short approved library of signal types and example language.
2. Apply that logic to the posting population using internal or external (e.g., Lightcast) data through keyword searches on listings.
3. Calculate the share of postings that include multiple competency-signaling pathways.
4. Validate the logic by manually reviewing a sample of postings.
5. Trend the metric over time and compare pilot versus non-pilot roles.

COMMON DATA AND IMPLEMENTATION ISSUES

The main challenge is definitional rather than technical. States should avoid counting generic qualification language as if it were a true skills signal.

HOW TO CALCULATE DIFFERENTIAL OUTCOMES FOR SKILLS-BASED COHORTS

This metric is best used as an upstream implementation signal. Over time, the state can compare whether requisitions with stronger competency signaling produce different downstream outcomes in applicant quality, offer distribution, retention, or time to productivity than requisitions that simply removed the degree requirement but did not improve signaling.

5.7 Growth in skills-based or non-degree postings over time

This metric provides momentum. It is less about a single point-in-time result than about whether the state is moving. It is especially useful for executive briefings, because leaders often want to know whether reform is spreading, stalling, or remaining confined to a few isolated roles.

ATS requirements or external data provider such as Lightcast for job posting aggregation: ATS posting exports can be used for internal validation where useful. Minimum fields include posting ID, posting date, job family or occupation, employer or agency, and a degree requirement flag or equivalent classification. Alternatively (or in addition), job posting aggregators like Lightcast can provide intel on the share of postings without a degree requirement.

STEP-BY-STEP CALCULATION

1. Choose the definition to be trended. For a starter pilot, non-degree postings may be sufficient; for a more mature view, combine degree flexibility with competency signaling.
2. Classify the posting population in each month or quarter.
3. Calculate both the count and the share of postings meeting the definition.
4. Plot the time trend and annotate key policy or process changes.
5. Compare pilot agency trends with statewide or peer-state baselines where useful.

COMMON DATA AND IMPLEMENTATION ISSUES

Small populations can generate volatile movement, so reporting both counts and shares is important. The state should also keep the classification logic stable over the trend period.

HOW TO CALCULATE DIFFERENTIAL OUTCOMES FOR SKILLS-BASED COHORTS

A role-family or agency cohort flag allows this metric to move from general market observation to direct implementation tracking. The state can then ask whether role families targeted by executive-order response or pilot intervention are actually changing faster than the rest of the organization, and whether those role families also show different hiring or retention outcomes downstream.

5.8 Overall education levels among public sector workers

Overall education levels among public sector workers provide a strategic baseline rather than a direct pilot score. The metric helps leaders understand where degree reliance is concentrated and how the state compares with the surrounding labor market. It is especially useful for deciding where skills-based reform is likely to be easier, harder, or more consequential.

Data requirements: This can be provided by public sector data providers, such as the Department of Labor, or by external data providers like Lightcast. These rates can be compared against levels of education as described by employees in the HRIS system. Minimum fields include employee ID, highest level of education (or degree category), job code or role family, agency or business unit, and employment status. Where available, states may also include hire date or tenure to understand how education profiles differ across cohorts.

STEP-BY-STEP CALCULATION

1. Define the segment of interest.
2. Calculate the education profile of that segment using internal data.
3. Where reliable external education data exists, calculate a companion distribution.
4. Compare the state's profile to the external benchmark.
5. Use the result to identify where reform pressure and opportunity are likely to be highest.

COMMON DATA AND IMPLEMENTATION ISSUES

Internal education data is often incomplete, especially for long-tenured employees.

HOW TO CALCULATE DIFFERENTIAL OUTCOMES FOR SKILLS-BASED COHORTS

This metric becomes more evaluative when combined with cohort flags and time. Over time, the state can ask whether pilot role families are becoming less degree-concentrated at entry, whether non-degree pathways are actually changing workforce composition, and whether those compositional changes are associated with stable or improved outcomes.

5.9 Employee skills visibility

Employee skills visibility is the metric that most directly reflects the larger destination of skills-based talent management. Most enterprise HR systems do not maintain a current, comparable, market-relevant skills architecture on their own.

That is why this metric should be framed as HRIS plus skills intelligence rather than HRIS alone. Lightcast Talent Transform is the practical mechanism this toolkit assumes for many states that want to make skills visible without waiting years for enterprise redesign.

Data requirements: This metric requires a combination of HRIS data (e.g., role titles, job descriptions, employee identifiers), a skills intelligence layer capable of generating standardized skill profiles, and a mechanism to link those profiles back to workforce records. As outlined in the core measurement architecture table, this may involve HRIS systems such as Oracle or SAP, a skills intelligence solution such as Lightcast Talent Transform or an enterprise skills cloud, and a reporting layer that connects these elements. The specific systems used will vary by state, but the key requirement is that skill-level data can be consistently generated, validated, and associated with roles or employees in a way that supports analysis.

STEP-BY-STEP CALCULATION

1. Define the pilot population to be enriched. A role-first approach is recommended for the first pass because it is more manageable and often sufficient for role design, capability mapping, and pilot measurement.
2. Extract current role titles, job descriptions, and related identifiers from HRIS.
3. Format those records for ingestion into the skills intelligence layer or platform (e.g., Lightcast Talent Transform) and run the enrichment process to generate normalized skill profiles.
4. Validate the resulting role and skill outputs with managers or subject matter experts in the pilot team.
5. Calculate a skills visibility rate as the share of pilot roles or employees for which the state now has a credible standardized skills profile.
6. Where useful, calculate supporting views such as average skills per role, category coverage, or alignment between required role skills and available employee skills.

COMMON DATA AND IMPLEMENTATION ISSUES

The main risk is overclaiming precision. Talent Transform greatly improves visibility, but early pilots should still treat the output as an operational capability layer to validate and refine, not as a perfect census of everything every employee can do.

HOW TO CALCULATE DIFFERENTIAL OUTCOMES FOR SKILLS-BASED COHORTS

This is the metric where differential outcomes become especially interesting. The state can compare turnover, retention, promotion, or internal movement between roles that have been enriched through Talent Transform and comparable roles that have not yet been mapped. It can also compare employees whose mapped skills have been shared with them, connected to development planning, or used in career-path discussions against employees who are not yet part of that skills-enabled experience. This moves the evaluation question from "did we map skills?" to "what changed once capability became visible?"

Looking Ahead

Successful implementation begins with a focused pilot that is narrow enough to execute but significant enough to demonstrate value. States are encouraged to start with a single agency, team, or role family where enterprise HR and agency leadership can work together to establish baseline metrics, test skills-based practices, validate assumptions, and refine implementation before scaling across government. This approach enables central HR to standardize metrics, data definitions, and reporting while allowing participating agencies to translate those measures into meaningful improvements in hiring, workforce development, and talent management.

The metrics and implementation approach outlined in this toolkit provide a practical pathway for states to move from policy intent to measurable operational impact. By establishing common definitions, consistent measurement practices, and shared reporting frameworks, states can evaluate whether skills-based strategies are expanding talent pipelines, improving hiring outcomes, strengthening retention, and supporting employee growth. Just as importantly, these metrics create a common language for communicating results to governors, agency leaders, legislators, and other stakeholders while aligning agencies around a shared vision for skills-based transformation.

Building that capability, however, is not a one-time effort. Sustained success requires ongoing measurement, benchmarking, technical assistance, and continuous refinement as states mature their skills-first strategies. Through the Skills in the States initiative, NGA and Lightcast built more than a toolkit; they provided technical assistance to support states operationalizing metrics, leveraging labor market intelligence, benchmarking progress against peers, and building the evidence needed to demonstrate the effectiveness of policy and practice changes over time. By combining NGA's convening power and policy leadership with Lightcast's expertise in skills intelligence, workforce analytics, and implementation support, states gained access to a scalable measurement framework that evolves alongside their workforce strategies.

Ultimately, the success of skills-first transformation will be measured not simply by the number of executive orders issued or degree requirements removed, but by whether states can demonstrate measurable improvements in recruitment, hiring, retention, mobility, and workforce capability. Together, NGA and Lightcast are helping states build the data infrastructure, shared measurement framework, and continuous learning model needed to transform isolated skills-first initiatives into a sustainable, evidence-based approach to public sector talent management.