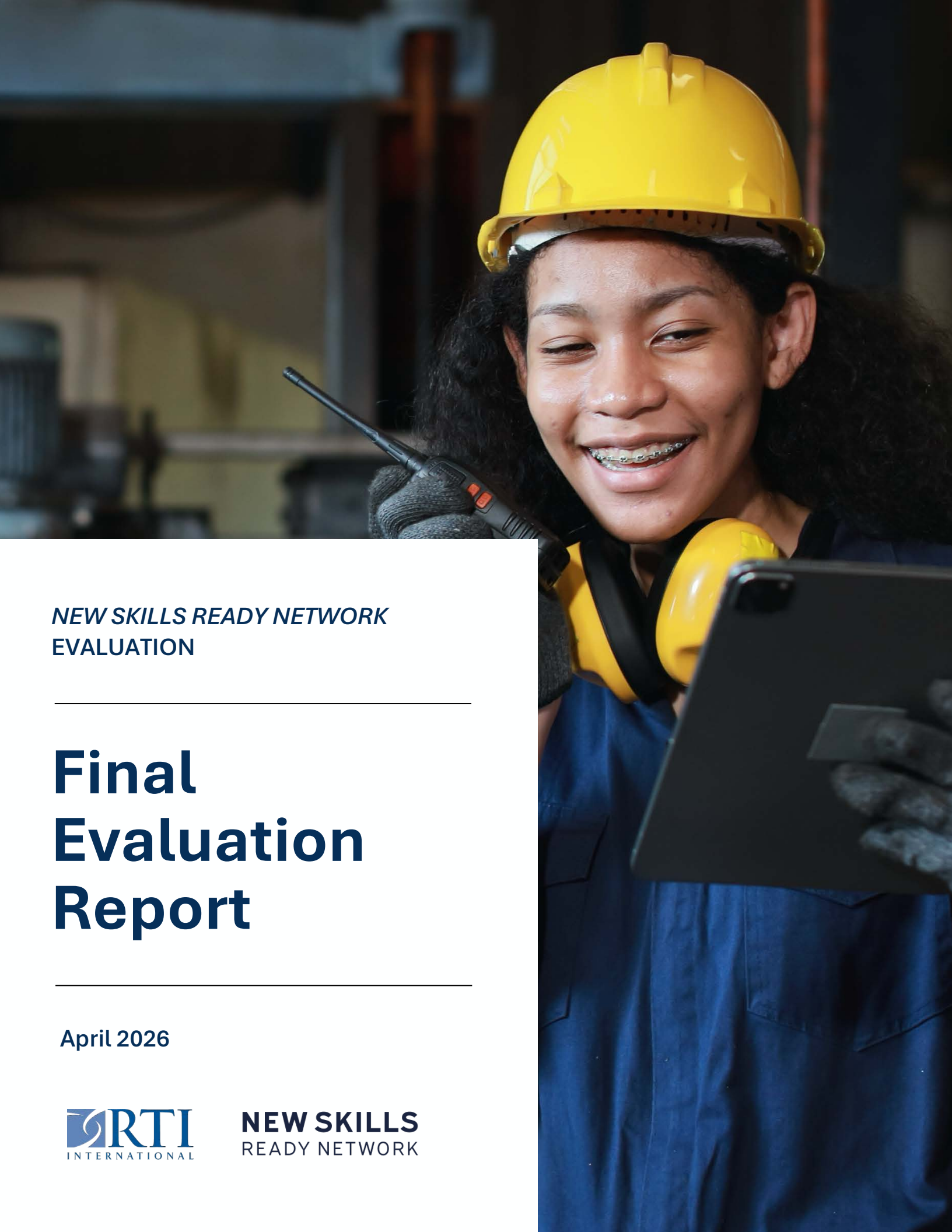

NEW SKILLS READY NETWORK
EVALUATION

Final Evaluation Report

April 2026

RTI INTERNATIONAL

NEW SKILLS READY NETWORK

Contents

Executive Summary

The *New Skills ready network* (NSrn), funded by JPMorganChase, engaged six metro partnerships to strengthen and expand career pathways systems. Over five years, NSrn supported cross-sector teams of K–12 and postsecondary leaders, employers, state agencies, and community organizations to examine their pathway policies, programs, and partnerships under a Collective Impact framework. Led by intermediary organizations, NSrn teams set priorities that reflected local needs within the initiative's four priority areas: improving pathway rigor and quality, embedding meaningful work-based learning opportunities, building seamless transitions to postsecondary education, and closing equity gaps.

RTI International conducted a mixed-methods evaluation of the NSrn initiative to document the systems-level changes instituted by the six NSrn sites and assess the effect of these changes on students' pathway experiences and outcomes. The *NSrn Final Evaluation Report* describes the strategies used across site teams to design, strengthen, and sustain high-quality career pathways systems. It also documents the system and student pathway outcomes based on annual data submissions provided by each site on a set of indicators aligned with the NSrn theory of change.

Summary of Evaluation Findings

System outcomes: Over the five years of the initiative, the sites collectively offered more high-quality and fewer low-quality career pathways (as defined locally), built stronger cross-sector partnerships, and enacted new institutional, local, and state policies.

Student outcomes: Across the sites, pathway participation and completion increased, as did students' earning of industry credentials and early postsecondary credit. Participation in work-based learning also grew overall, although the gains were uneven across sites and increases generally lagged behind those of other pathway components.

Strategies: Across sites, the evaluation team identified five strategies used by NSrn sites to support pathway systems change:

1. Deepening collaboration through Collective Impact frameworks
2. Designing pathways using a systems perspective to inventory, document, and assess existing programs and improve consistency of services for students
3. Strengthening pathway navigation and education transitions by aligning career advising across education levels and streamlining postsecondary admissions
4. Improving equity and the learner experience by addressing barriers to pathway entry and collecting student input to inform pathway improvements
5. Amplifying and influencing state policy to support and scale pathway innovations

Implications for Advancing Pathway Systems

NSrn builds on and aligns with previous efforts to develop career pathway systems at the state and local levels, including the New Skills for Youth initiative, which supported statewide career pathways systems from 2016 to 2020. More than a decade of investment in career pathways has established pathways as a foundational strategy for aligning education and workforce needs. As secondary–postsecondary pathway initiatives have matured, the policy and practice challenge has shifted from launching individual programs to strengthening the systems that sustain, align, and scale them across education levels and labor markets. The experiences of NSrn sites offer the following important insights for state and local leaders seeking to advance pathways as comprehensive regional and state systems.

Invest in Backbone Capacity to Enable Systems Change. Given the number and type of partnerships that effective pathway systems need, NSrn sites emphasized the value of the backbone organization to offer stable and consistent leadership, provide structure and capacity to operationalize the collective agenda, and harness influence and credibility for effecting systemwide changes. For policy and practice, this suggests the need to identify strong intermediary organizations to hold initiative partners accountable, rather than relying on a single state agency or informal or diffused coordination arrangements.

Shift from Individual Programs to Aligned Systems. Mapping existing pathways, developing strategies for updating pathways, and coordinating outreach to partners, students, and families helped the NSrn sites transform individual pathway programs into more coherent districtwide or regional pathway systems. These experiences highlight the value of planning processes that enable leaders to identify gaps, reduce duplication, and continuously improve how pathways connect across institutions and industry sectors.

Strengthen Data Infrastructure and Data Use for Continuous Improvement. Sites developed common definitions of pathway components, broadened access to cross-system data, and cultivated shared expectations for using data to inform practice. These changes also inspired or contributed to ongoing adjustments to statewide data systems related to career pathways that require support from state agencies and legislatures. The NSrn sites' experiences highlight the importance of laying the groundwork for data system changes that can take years to fully implement, including the development of a culture that supports the regular use of data for pathway systems improvement and can provide feedback on data system strengths and deficits.

Designing Initiatives for Pathway Systems Change

Building on these strategies for advancing pathways systems, NSrn findings also point to the need for evaluation and measurement approaches that keep pace with pathways' evolution. NSrn adds to a growing body of evidence demonstrating the potential of career pathways to improve student outcomes and catalyze meaningful systems change. As career pathways move from innovation to established practice, evaluation efforts must also evolve to assess how systems changes are sustained and how pathways influence long-term outcomes for students and regional labor markets. NSrn evaluation findings highlight these considerations for future initiatives and evaluations.

Align Metrics With Systems Goals and Local Context.
In addition to cross-initiative metrics, future pathway initiatives should prioritize metrics that can accommodate variation across partners and that reflect local labor markets and pathway designs. Co-developing these metrics with pathway teams can increase relevance, feasibility, and buy-in while ensuring alignment between evaluation requirements and systems-building goals.

Use Planning Phases to Strengthen Measurement Readiness.
NSrn site teams recommended instituting an initial planning period of 6 to 12 months to establish shared visions for pathway systems development and making funding for implementation contingent on the planning phase results. Future initiatives could leverage this early phase to clarify outcome priorities, align metrics with those priorities, and assess partner capacity for data collection and sharing.

Build on Data Culture to Enable Longitudinal Measurement.
As pathway systems mature, new measurement challenges include augmenting data systems capacity to track outcomes that align with pathway system goals, including leveraging existing collaborative data practices to support longitudinal analysis. Future evaluations should explore how initiatives can build on established data cultures to develop aligned data systems that track student progress across education levels and into the workforce, enabling more robust analysis of pathways' long-term and labor market impacts.

Introduction

The *New Skills ready network* (NSrn) initiative, funded by JPMorganChase and led by the Education Strategy Group (ESG) and Advance CTE, applied Collective Impact and systems change frameworks[1] to develop regional career pathways and improve economic mobility for youth. Based in six U.S. metro areas—Boston, Columbus, Dallas, Denver, Indianapolis, and Nashville—NSrn site teams received grant funding and technical assistance throughout the five-year initiative, during which they advanced plans to increase the quality and rigor of career pathways. While sites' plans reflected their different starting points and regional needs, they all designed and enacted changes to pathway system policies, practices, and infrastructure to improve students' pathway experiences and outcomes.

Sites' work was guided by the initiative's theory of change, which included four priority areas[2]: (1) improving pathway alignment and rigor; (2) designing, implementing, and scaling real-world work experiences; (3) building seamless transitions to support postsecondary success; and (4) closing equity gaps (see Exhibit 1). To coordinate their work, each site convened a multisector team led by an intermediary organization and including a K–12 school district, 2- and 4-year postsecondary organizations, organizations representing employers, and community organizations. Site teams conducted a needs assessment and equity gap analysis of their career pathways in the first year to identify site-specific priorities for developing and improving their pathways in subsequent years of the initiative.

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[1] The Collective Impact Framework includes five conditions: a common agenda, shared measurement, mutually reinforcing activities, continuous communications, and a strong backbone (https://collectiveimpactforum.org/what-is-collective-impact/). Systems change models explore three levels of societal or environmental change: structural, relational, and transformative (https://www.fsg.org/resource/water_of_systems_change/#resource-downloads).
[2] Advance CTE's publication, *The Power of Career Pathways Transformation: Celebrating Five Years of the* New Skills Ready Network, catalogs sites' activities and accomplishments in each of the initiative's four priority areas: https://careertech.org/wp-content/uploads/2026/02/Final_New_Skills_ready_network_February_2026.pdf.

Exhibit 1. *New Skills ready network* priority areas

Strengthening the alignment and rigor of career pathways. NSrn sites use policy and funding levers to improve the quality and rigor of career pathways and make those career pathways widely available to and accessed by all learners, especially in underserved populations.

Designing, implementing, and scaling real-world work experiences. Sites embed meaningful work-based learning opportunities within career pathways while removing barriers to participation and success for learners. Sustained collaboration among educators, learners, and employers helps fuel economic growth and set learners on the right path to long-term success in employment.

Building seamless transitions to support postsecondary success. Sites establish partnerships and agreements among high schools, postsecondary institutions, employers, and intermediary organizations to increase learner attainment of degrees and credentials aligned with high-wage, high-skill, in-demand careers. They work toward this goal through aligned advising, recruitment efforts, and additional supports.

Closing equity gaps. Sites understand where gaps in access, enrollment, persistence, and completion occur in available career pathways by population group. Using that foundational knowledge, sites work to remove barriers to meaningful career opportunities for historically disadvantaged populations by aligning equitable policies and practice to scale proven career pathway programs that ensure equity and access.

RTI International served as the third-party evaluator to document the systems-level changes instituted by the six sites and assess the effect of these changes on students' pathway experiences and outcomes. To collect data on sites' activities, the evaluation team attended semiannual NSrn convenings, reviewed the project team and sites' documentation, interviewed the project team and coaches, and conducted in-person and virtual site visits to each of the six sites. The evaluation team also compiled and analyzed annual data submissions provided by each site on a set of indicators aligned with the NSrn theory of change. This final evaluation report summary describes the key strategies used across sites to drive pathway system changes and the resulting changes to system and student pathway outcomes. These findings also are highlighted in a series of strategy briefs housed on the NSrn evaluation website (https://NSrn-evaluation.org/).

NSrn in Context

NSrn launched in 2020 at the start of the COVID-19 pandemic, which precluded in-person meetings among project teams and drew considerable energy from education staff to contend with the adjustment to virtual workplaces and online instruction. In addition to the pandemic, the NSrn project team and site team members highlighted other factors that had significant effects on their work. These include:

- An influx of federal resources through the Elementary and Secondary School Emergency Relief Fund
- Educator staff turnover and shortages
- Postsecondary enrollment declines
- Changing political climates
- Changes in economic conditions, such as regional labor shortages and shifts in key industries
- Development of many pathway-related state policies and initiatives

In response, site teams relied on flexible strategies and strong partnerships to address pathway needs and adjust to changing federal, state, regional, and institution-level priorities. The partnerships also provided stability amid staff turnover and added capacity for addressing collective needs and priorities, especially by aligning their NSrn work with other pathways-relevant initiatives to bolster resources and capacity.

In addition, NSrn entered environments already rich with pathways-related activities that directly and indirectly shaped pathway programs in each site. Across the sites, the implementation of Perkins V (the Strengthening Career and Technical Education for the 21st Century Act) as NSrn began spurred the use of labor market data to justify program offerings and career and technical education programming in middle school. At the site level, each NSrn team had to be aware of and coordinate effectively with an array of different policies and initiatives. The Nashville team, for example, identified 17 local, state, and federal initiatives influencing its work, including Better Together, a Nashville-based effort to prepare Metro Nashville Public Schools graduates to attend Nashville State University; Tennessee Promise, a statewide program providing tuition-free access to community and technical colleges; and GEAR UP Nashville, a federally funded initiative aimed at increasing postsecondary enrollment. As a result, the effects of NSrn are interwoven with those of other initiatives. This report highlights activities and outcomes that NSrn led or played a central role in advancing; however, many features of pathway programs across sites may also reflect the influence of other concurrent initiatives.

EVALUATION FINDINGS:

Key Strategies for Systems Change

Each NSrn site team designed and implemented changes to their pathway systems in the initiative's four priority areas. The following strategies emerged as positive drivers of change across the six sites:

1. **Deepening collaboration** by using elements of the Collective Impact framework
2. **Designing pathways using a systems perspective** to inventory, document, and assess existing programs and improve consistency of services for students
3. **Strengthening pathway navigation and transitions** through robust career advising and connecting students to postsecondary opportunities
4. **Improving equity and the learner experience** by addressing barriers to pathway entry and collecting student input to inform pathway improvements
5. **Amplifying and influencing state policy** to support and scale pathway innovations

This section provides examples of how sites implemented these strategies and other related considerations.

Deepening Collaboration

Collective Impact, a foundational framework for NSrn, includes five conditions for systems change: a common agenda, continuous communications, shared measurement, a strong backbone, and mutually reinforcing activities. Among the conditions, NSrn site teams highlighted the value of the backbone organizations for convening partners, providing momentum for pathway system improvements, and holding team members accountable for project commitments. Teams also identified other conditions as playing significant roles in their NSrn work: establishing a common agenda and developing shared measurement systems to facilitate data sharing across education levels.

Site Examples

Supported adaptive change. Guidance on Collective Impact notes the importance of backbone organizations for providing adaptive leadership, which assists partners in embracing change, such as by reexamining priorities and learning new skills, and in working together to solve complex challenges.[3] The organizations providing this backbone support for NSrn included nonprofits focused on education and workforce policy at state and local levels and one workforce board (Exhibit 2).

Exhibit 2. Backbone Support for NSrn Initiatives

Site	Intermediary	Organizational Focus	Geographic Focus
Boston	EdVestors	Education support/advocacy	Local/regional
Columbus	Ohio Excels	Education policy/advocacy	Statewide
Dallas	Commit Partnership	Education policy/advocacy	Local/regional
Denver	Attainment Network	Education and workforce support/advocacy	Statewide
Indianapolis	EmployIndy	Workforce board	Local/regional
Nashville	Nashville Area Chamber of Commerce	Employer association	Local/regional

NSrn teams described ways in which the backbone organizations helped them manage and adapt to change and deepen collaboration among team members. Across the sites, the backbone organizations brought a history of working with education and workforce partners and/or leading similar pathways initiatives, which allowed them to serve as effective convenors and advocates for their local NSrn initiatives. The NSrn teams built trust across partners through team-building activities such as convening whole team retreats, creating shared norms, and meeting with each individual team member to strengthen relationships. For example, to deepen partner engagement, the Denver team held a one-day "futures retreat" for team members to brainstorm what career pathways could like in the future. Participants appreciated the chance to think creatively and to

[3] Samari, D., & Schmitz, P. (2024). *Backbone Leadership is Different: The Skills and Mindset Shifts Needed for Collective Impact*. Collective Impact Forum. https://collectiveimpactforum.org/resource/backbone-leadership-is-different-the-skills-and-mindset-shifts-needed-for-collective-impact/

build stronger relationships through concentrated time together. Boston team members also described the importance of developing deep relationships, understanding, and trust among team members through communication about organizational priorities and challenges and other team-building activities. In Boston and other sites, team members viewed their backbone organizations as the linchpins of career pathway systems change by exercising strong leadership and holding team members accountable.

Established a common agenda. A key step in Collective Impact is to create a shared agenda, which the Collective Impact Forum describes as "coming together to collectively define the problem and create a shared vision to solve it." The NSrn site teams began with a flexible common agenda, based on the NSrn priority areas, that reflected local needs and contexts. Examples of how sites' grant activities aligned with the initiative's four priority areas are shown in Exhibit 3.

Exhibit 3. Examples of Site Activities in NSrn Priority Areas

Site	NSrn Priority Area	Example Activity
Boston	Strengthening the alignment and rigor of career pathways	Development and expansion of state-designated Innovation Pathways in four schools with few pathway opportunities.
Columbus	Designing, implementing, and scaling real-world work experiences	Creation of the Emerging Talent Manager role to coordinate employer partnerships districtwide and regionally.
Dallas	Building seamless transitions to support postsecondary success	Development of a pathways management tool to track student dual credit course enrollment completion in early college pathways.
Denver	Closing equity gaps	Expansion of formal learner engagement in pathway program development, such as through the L/Earner Voice Grantee program and Learner Voice Symposium.
Indianapolis	Strengthening the alignment and rigor of career pathways	Alignment of pathways with the statewide Next Level Programs of Study initiative to increase pathway consistency and quality.
Nashville	Strengthening the alignment and rigor of career pathways	Development of pathway maps for students and families showing course sequences, work-based learning and early postsecondary opportunities, and connections to postsecondary education and careers.

In each site, the backbone organizations provided structure to develop and operationalize their common agendas by organizing work groups, bringing in consultants or experts as needed, facilitating team discussions, and providing project management support. For example, within the initiative's transitions priority area, the Dallas team focused on building the data tools needed to access better information on students' pathway progress. The team convened a data working group to create and oversee implementation of a shared data framework and build the capacity of secondary and postsecondary institutions to track both college and career pathway metrics. This led to development of the pathways management tool, which automates data collection on dual-enrollment completion in early college pathways and provides detailed reports for advisors, students, and families.

> *"We are working both across and within institutions to connect siloed work and ideas and to break down real and perceived barriers to student success. A neutral third party, like the Attainment Network, creates the space to have conversations and utilize the collaborative table to advance steps to remove obstacles and connect work."*
> **— Denver site team**

Reviewed and coordinated data definitions and processes. Changes to education data systems can take significant planning, coordination across data collection entities, and testing to implement fully. Sites initiated activities within and beyond their project teams to expand and improve cross-institutional understanding of data systems and reporting, and to influence the collection of data on career pathway students and programs. This work extended to statewide data system initiatives relevant to career pathways. For example, NSrn team members contributed to Ohio's effort to connect workforce and education data systems and Colorado's statewide longitudinal data system development.

At the site level, data-related activities included sharing definitions of pathway components, such as work-based learning, across education levels and accessing new data sources and reporting mechanisms to inform program development (Exhibit 4). The Nashville team, for example, identified data-sharing gaps among secondary and postsecondary institutions that resulted in disconnected and incomplete information. To address the gaps, the team worked together to reach consensus on key metrics to measure student retention and progress to postsecondary education and careers. They also established a data-sharing agreement between the K–12 public school system and Nashville State Community College and created a dashboard that showed admissions and first-year momentum metrics across participating postsecondary institutions.

Exhibit 4. Examples of Data System Changes Instituted by Site Teams

Site	Data Change
Boston	Increased Boston Public Schools' capacity to collect data on internships to track the distribution of internships across school and pathway types and inform strategies to increase work-based learning opportunities for students.
Columbus	Launched a dashboard that compiles career and technical education data from across the Columbus City Schools district into a single platform and allows district leadership to monitor, evaluate, and view data on career and technical education programs, participation, work-based learning, and other measures in one place.
Dallas	Developed a cross-partner data infrastructure that improved partners' ability to identify gaps, target supports, and align pathways with labor market demand. The process involved expanding data-sharing agreements, sharing data platforms, and instituting common analytics across project partners.
Denver	Used the site's Data and Equity Framework to set baselines for pathway transitions and momentum metrics, establish goals, and develop cross-partner strategies to monitor learner progress and success.
Indianapolis	Instituted new procedures and data-sharing agreements to track within-pathway transitions across education levels, including from two-year to four-year postsecondary institutions.
Nashville	Developed a pathways data dashboard using data from project partners and identified new data sources to inform pathway decision-making.

In addition, Nashville and other NSrn sites recognized the importance of developing a "data culture"—an environment where data is accessible and used routinely for decision-making—to inform pathways system improvements. Features of Nashville's data culture included the development of a tool for sharing data on transitions from secondary to postsecondary education and a process for reviewing data on high school graduates who had postsecondary plans but failed to enroll the following fall (i.e., "summer melt") and following up with them. Additionally, Denver's Pathways Data and Equity Framework provides an overview of metrics related to postsecondary outcomes that can help institutions understand the extent to which students are achieving pathway milestones.

Other Backbone Contributions

Developing career pathways systems requires close coordination of education and workforce systems, programs, and partners. The sites' experiences in using Collective Impact to guide their work offer additional lessons about the role of the framework and backbone organizations in pathways systems change, including the following:

- **Connections to other relevant initiatives.** In several sites, the backbone organization leveraged their and the project team's education and workforce system networks to connect with other relevant initiatives in the community and state, such as initiatives to further science, technology, engineering, and mathematics education in high schools, and workforce development in priority industries. For example, in Dallas, the Commit Partnership aligned the NSrn work to an umbrella initiative, Dallas Thrives, which focuses on increasing the number of young adults in the county who earn a living wage and convenes key workforce and education partners. Additionally, as part of the Accelerate ED initiative, the Indianapolis team designed a blueprint for an accelerated IT Operations and Cybersecurity pathway to an associate's degree. Site team members described how aligning these efforts reinforced and supported their NSrn work and laid the groundwork for collaborations.
- **Communication to raise pathways awareness.** In addition to strengthening communication within the partnership, backbone organizations coordinated broader communications as well. With backbone support, sites held convenings, disseminated newsletters, and launched website redesigns to share NSrn work with key community partners, including students and families. For example, the Columbus team worked with an external consultant to develop a plan for messaging career pathway opportunities to students, and the Nashville team developed health care and information technology career pathway maps for students and families.
- **Consistent leadership during change.** NSrn began at the start of the COVID-19 pandemic, which resulted in significant workforce change, including in education. This included staff changes at site and partner organizations, as well as leadership changes, such as school superintendents and mayors, which impacted teams' local political contexts. The sites reported being able to address internal and partner staff turnover by leveraging their backbone organizations to provide stability and help get new staff quickly up to speed on the initiative. Nashville, for example, developed orientation materials to quickly onboard new team members. These materials described the site's NSrn vision, partners, and team structure and outlined their approach to pathways and relevant collaboration tools and resources.

STRATEGY IN ACTION:

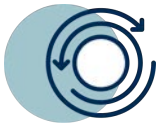
Examples of the Role of the Backbone Organization in Boston

Led by EdVestors, the Boston site focused on cross-sector collaboration to strengthen and expand regional career pathways systems. In particular, the site identified relationship-building as a key function of the backbone role that helped the team meet individual and collective pathway goals. Many of the Boston team members had collaborated on previous initiatives, so the site leads initially focused on strengthening these relationships through structured conversations to identify common priorities, shared definitions, and communication strategies. The site regularly convened leadership meetings across partner organizations (see below) and topic-specific work groups to focus on aligning work-based learning, advising, and dual-enrollment opportunities across education levels and institutions. The team also emphasized the value of having a backbone organization to operationalize the outcomes of these cross-sector discussions, such as by hosting citywide career advising summits and facilitating memoranda of agreement between educational institutions for data sharing.

Boston's leadership team partners included:

- EdVestors (site lead)
- The Boston Foundation
- Boston Private Industry Council
- Boston Public Schools
- Bunker Hill Community College
- City of Boston
- Massachusetts Executive Office of Education
- University of Massachusetts Boston

> *"The New Skills Boston [work] has provided our partners with time and space to nurture existing relationships and foster new ones, to problem solve shared challenges, and to chip away at barriers and inefficient bureaucracy."*
>
> **— Boston site team**



Designing Pathways Using a Systems Perspective

To address uneven pathway quality and access, NSrn sites transformed existing pathway programs into regional pathway systems. Aligned with the principles of Collective Impact, site teams shifted their perspective from viewing pathways as isolated programs offered by individual organizations (e.g., schools and colleges) to recognizing them as requiring networks or ecosystems of schools, postsecondary institutions, and employers working together.[4] Team members saw their role as strengthening relationships and building the collaborative capacity of organizations engaged in the delivery of pathways. As part of this role, site teams described a need to develop an understanding of the programs and institutions that make up the pathway systems in their regions and identify areas that were working well and areas in need of improvement. In this way, teams supported systems thinking and development by documenting and assessing current pathways and gaps, establishing processes for improving and updating pathways, and creating coordinated outreach to partners, students, and families.

Site Examples

Mapped pathways to assess and improve programs and supports. Using data from schools and higher education institutions, sites mapped existing and new pathways to identify where additional programs and supports (e.g., enhanced advising and work-based learning opportunities) were needed and to help students and parents with pathway navigation. For example, after data showed limited pathway opportunities in four Boston public schools, the site team piloted new pathways aligned with the state's framework for high-quality pathways in those schools. The team also developed resources to help students and parents navigate pathway options throughout the district. Pathway documentation also informed the creation of tools to help advisors assist parents and students in pathway selection and secondary–postsecondary transitions.

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[4] Samari, D., & Schmitz, P. (2024). *Backbone Leadership is Different: The Skills and Mindset Shifts Needed for Collective Impact*. Collective Impact Forum. https://collectiveimpactforum.org/resource/backbone-leadership-is-different-the-skills-and-mindset-shifts-needed-for-collective-impact/

Created a standardized process for improving pathways. To ensure that pathways stay current, in tandem with the effort to map pathways across education levels, some sites established processes and guidance for engaging different pathway partners in updating them. For example, the Academies of Nashville—a high school reform initiative that linked students' learning to real-world industries through themed career academies and partnerships with local businesses and organizations—had been in place for more than a decade when NSrn began. The NSrn team recognized a need for updates to reflect emerging economic trends and industry changes and to address labor market gaps in fields such as advanced manufacturing and information technology (IT). The team developed a step-by-step process and recommended schedule for updating pathways that included collecting input from employers and other interest holders on local labor market needs and trends as a first step.

> *"We created a benchmarking process to identify the pathways that were doing well and why based on the Framework for High-Quality CTE Programs. Over time, this has evolved into a more holistic approach focused on getting all of our pathways to intentionally produce the student outcomes we are looking for."*
>
> **— Columbus site team**

Coordinated employer engagement. Educators and employers in NSrn sites described fragmented and/or siloed partnerships that resulted in unclear lines of communication and employers receiving duplicative requests from individual schools and programs. To streamline employer outreach and engage employers at the district or regional level, sites (and sometimes districts and postsecondary institutions) established employer coordinator positions to provide advice on pathway development and expand work-based learning activities. In Dallas Independent School District, administrators recognized the need to develop a districtwide work-based learning strategy to span its various pathway programs, which are housed at traditional and magnet high schools, career institutes, and early college high schools. Rather than engaging employers at individual campuses, the Dallas team hopes to make it easier for employers to participate in work-based learning and expand opportunities for students. Likewise, in Columbus, the team established the Emerging Talent Manager role to serve as the liaison between Columbus City Schools and businesses. As a first step, the manager hosted a series of roundtables with employers to understand their hiring needs and barriers. Roundtable findings resulted in a simulated work-based learning pilot and a series of trainings for employers (on effectively supervising youth) and for teachers (on communicating with employers).

Other Pathway System Development Strategies

The examples above describe key strategies used across all sites to formalize pathways systems. Other strategies observed in some sites include the following:

- **Development of data systems to support systems-level analysis.** In most sites, data on one or more key aspects of pathway programs, such as work-based learning or secondary–postsecondary transitions, were lacking. To address these gaps, several sites contributed to broader data system development efforts like developing a shared data framework and definitions in Dallas and advising development of the state's education longitudinal data system in Denver.
- **Coordination with other pathway initiatives.** Before and during NSrn, the sites' pathway ecosystems were influenced by other pathway initiatives, such as New Skills for Youth and Launch, as well as field-specific programs like Accelerate ED, a Gates Foundation initiative to support the development of a Cybersecurity and Information Technology Operations pathway in Indiana. As a systems change initiative, NSrn provided coordination across education levels, programs, and partners and the other pathway-related initiatives in which these entities were engaged.

STRATEGY IN ACTION:

Examples of Pathway Systems Changes in Columbus and Nashville

Led by Ohio Excels, the Columbus team applied a systems change perspective to strengthen and coordinate their pathway offerings. In particular, the team contributed to the development of a coordinated, districtwide strategy for work-based learning, developing new pathway programs in response to emerging labor market needs, and expanding pathways into two- and four-year degree programs. Exhibit 5 details examples of identified needs in Columbus and the resulting systemic changes.

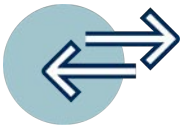
Exhibit 5. Examples of Pathway System Changes in Columbus

System Needs	System Changes
Coordinated, districtwide strategy to connect the region's largest employers and Columbus City Schools	Creation of the Emerging Talent Manager role to coordinate employer partnerships districtwide and regionally at the Columbus Partnership, an industry-led nonprofit dedicated to economic and community development
	Establishment of a data system to capture work-based learning participation rates and employer partnerships at the school and program levels districtwide
Strategy to address equity gaps in access to Career-Technical Center pathway programs	Review of district pathway offerings using a quality rubric developed by the NSrn team
	Replacement of admission requirements with a lottery for entering Career-Technical Center pathway programs
Gaps in pathway transfer programs between Columbus State Community College (two-year) and the Ohio State University (four-year) in certain pathways	Developed 2+2 programs in advanced manufacturing and construction management to improve transfer from the two-year to the four-year institutions
	Development of an applied BA program in IT at the Ohio State University that aligns with Columbus City Schools and Columbus State Community College pathway programs

The Nashville team, led by the Nashville Area Chamber of Commerce, also identified pathways systems development needs related to increasing the quality and consistency of available pathways across the district. Examples of how the site applied a systems perspective to pathways development are shown in Exhibit 6.

Exhibit 6. Examples of Pathway System Changes in Nashville

System Needs	System Changes
Access to secondary pathway opportunities in high-wage, high-demand fields that align with critical needs in the Nashville labor market districtwide, including at smaller schools	Introduction of IT pathway courses in NSrn focus schools and increasing work-based learning opportunities aligned to health care pathways
Increased student awareness and uptake of pathway-related dual-enrollment opportunities	Expansion of pathway-related dual-enrollment opportunities, including with the Tennessee College of Applied Technology, Nashville
Better communication with students and families about how coursework and programs connect across education levels	Development of pathway maps for students and families showing course sequences, work-based learning and early postsecondary opportunities, and connections to postsecondary education and careers



Strengthening Pathway Navigation and Transitions

The NSrn sites helped students navigate new and expanded pathways systems by strengthening supports for choosing pathways and their transitions across education levels. Given the growing number of options available to high school students, the sites primarily focused on college and career advising. Their strategies included developing and implementing advising frameworks, building the capacity of advising staff through trainings, and connecting advisors across education levels. In addition, postsecondary partners instituted automatic admission policies and enhanced student supports to assist students' transitions across education levels.

Site Examples

Defined career advising processes. Several sites developed and implemented frameworks to incorporate career readiness and to connect advising services across secondary and postsecondary education levels. In Nashville, the team developed a flexible college and career readiness advising framework to establish consistent advising expectations and processes districtwide. Implementation of the framework also highlighted the need for more advisors, which the district addressed by creating a college and career readiness coach role at each high school to help students explore their post–high school options and obtain relevant work-based learning opportunities.

> *Part of our work in New Skills Boston was to define and implement seamless advising. One implementation strategy is shared training and development, which is what the Seamless Advising Summit represents and why we bring secondary and postsecondary institutions together. It's an opportunity to be inclusive, intentional, and rally our community around career connected learning.*
>
> **— Boston site team**

Hosted advising summits. Sites increased staff capacity to provide advising support through trainings on career advising strategies and by connecting secondary and postsecondary advisors across education levels. Five sites hosted Seamless Advising Summits that connected middle school, secondary, and postsecondary advising staff and offered professional development on cross-education-level advising practices. A priority of Boston's Seamless Advising Summits, launched in 2023, was to support advisors across education levels in understanding one another's advising priorities and practices and in identifying ways advising practices could be adapted across levels to better support students and promote continuity. In addition, the summits provided training on various topics, including using data systems to support college and career readiness,

understanding students' education transition experiences, and connecting students with summer jobs. Based on the event's success, further Seamless Advising Summits were held in subsequent years, with participation increasing from approximately 140 participants in the first year to more than 400 in the third. The Boston summit served as a model for other sites, with four others hosting their own Seamless Advising Summits during the initiative.

Aligned pathways across education levels. Sites expanded partnerships with postsecondary institutions, including four-year colleges and universities, to smooth transitions across education levels. The Columbus team created an applied IT pathway that extended from Columbus City Schools to Columbus State Community College (CSCC) and the Ohio State University (OSU). Faculty from all three institutions worked together to align curriculum and develop pathways in which students can earn an applied associate's and bachelor's degree. The team also developed 2+2 programs in advanced manufacturing and construction management to improve transfer processes from CSCC to OSU.

Streamlined admission policies and processes. Four sites initiated changes to postsecondary admissions policies and processes to make it easier for students to transition into postsecondary institutions. This included simplifying postsecondary application and registration processes, as well as revamping entrance requirements to partner institutions. In Indianapolis, Indiana University (IU) launched a new automatic admissions initiative with Indianapolis Public Schools (IPS), where students with a 3.0 grade point average (GPA) or higher can opt in to be automatically admitted to IU's University College, without going through the usual application process. Since the initiative launched, IU has reported a surge in IPS enrollments.

Other Navigation and Transitions Strategies

The examples above describe key strategies used across multiple sites to strengthen pathway navigation and advising systems. Other strategies observed in selected sites included the following:

- **Middle grades advising.** To help students make informed pathway choices in high school, sites began introducing middle school students to available pathway programs and facilitating career exploration activities. For example, Dallas implemented the Education Open Doors curriculum, which introduces middle school students to available high school pathways programs and facilitates career exploration activities. Similarly, Boston Public Schools expanded the state's My Career and Academic Plan (known as MyCAP) to middle school grades.
- **Postsecondary work-based learning experiences.** As sites aligned pathway curricula across education levels, they also explored opportunities to expand postsecondary work-based learning options and explore connections between secondary and postsecondary work-based learning experiences. Boston's working group for work-based learning identified employer partners with the potential to offer related placements for high school students once they enter college. Such aligned opportunities would allow students to engage with their programs of study and continue to gain relevant work experience, including through internships and apprenticeships more deeply.
- **Involvement of leadership and day-to-day contacts across education levels.** Sites noted that effective partnerships between secondary and postsecondary institutions required staff engagement at two levels—leadership and program administration—to provide the necessary oversight and vision for pathways, bring faculty together across levels to align curricula, and to coordinate implementation logistics.

STRATEGY IN ACTION:
Examples of Pathway Navigation and Transition Changes in Indianapolis

Led by EmployIndy, the Indianapolis team applied a systems change perspective to design pathway systems that support student transitions. The site's needs related to this strategy focused on improving cross-education-level pathway alignment and strengthening career advising at secondary and postsecondary levels. Exhibit 7 details these needs in Indianapolis and the resulting systemic changes.

Exhibit 7. Examples of Pathway System Changes in Indianapolis

System Needs	System Changes
Better alignment between pathways and postsecondary degrees and improved access to postsecondary education	Alignment of district pathways to the state's Next Level Programs of Study, which provided increased opportunities for students to earn dual credit for career and technical education courses
	Development of aligned admissions and transfer processes from IPS to Indiana University Indianapolis (IUI)and Ivy Tech to IUI that include seamless (automatic) admissions to Indiana University Indianapolis for Indianapolis Public Schools graduates and a dual admissions program with Ivy Tech
A coherent career advising system and adequate resources for high schools to manage career advising	Development of a career advising framework that will be piloted statewide through career coaching grants from the Indiana Commission for Higher Education
	Expansion of role of Ivy Tech NSrn coaches beyond support of dual-enrollment courses to include helping IPS students understand the postsecondary education landscape and to offer career preparation/exploration support
Increased retention in postsecondary pathway programs and improved advising practices for students who transfer from Ivy Tech to IUI	Launch of proactive advising initiative at IUI that incentivizes student engagement with advisors in the first semester after enrollment

Improving Equity and the Learner Experience

By design and focus, the NSrn initiative emphasized the development of equitable pathway opportunities. One of the initiative's four priorities was closing equity gaps, and the NSrn sites were selected to intentionally include highly diverse urban school districts that serve students from a variety of economic, ethnic, and racial backgrounds. In addition, the Collective Impact framework's equity supplement recommends prioritizing equity within collaborative initiatives by grounding the work in data and context; focusing on systems change, in addition to programs and services; shifting power within the collaborative; listening to and acting with community; and building equity leadership and accountability.[5] In accordance with this guidance, the sites used data to inform the development of strategies for increasing equity among schools and programs, collected students' voices and perspectives to inform pathway design, and instituted changes in areas such as advising and postsecondary education transitions that had cross-program and cross-institutional effects.

Site Examples

Used an equity lens to identify priorities. At the start of the initiative, the NSrn sites participated in a needs assessment that included reviews of quantitative data that revealed variations in pathway milestones and outcomes, such as secondary and postsecondary pathway completion, by student subgroup. The assessment results informed equity-focused discussions among site teams to identify site-specific priorities for the initiative. For example, some sites identified a need for expanded career readiness supports, particularly for students from economically disadvantaged backgrounds. Other sites focused on addressing gaps in pathway opportunities in their regions. Boston and Nashville launched efforts to develop and expand pathway opportunities in schools lacking pathway opportunities. Sites found this equity thinking particularly relevant at the beginning of the initiative to help shape their priorities; as they implemented these priorities, equity became infused in sites' activities rather than an explicit or separate focus.

Adopted equity frameworks and trainings. The sites explored different resources to address equity gaps and adopt equity practices at the district level. For example, the Boston team, which

[5] Kania et al. (2022). Centering equity in Collective Impact. *Stanford Social Innovation Review*. https://ssir.org/articles/entry/centering_equity_in_collective_impact

included a representative from Bunker Hill Community College's Center for Equity and Cultural Wealth, participated in the center's Cultural Wealth and Equity Summit. This training helped the team build a shared understanding of equity based on the Cultural Wealth model, an asset-based framework that recognizes the collective skills, experiences, and values of diverse student populations.[6] The center also guided the inclusion of the model into Boston Public Schools' college and career exploration initiative and the training of work-based learning placement supervisors at the University of Massachusetts, Boston. In Indianapolis, the NSrn team participated in Indiana's Equity Lab training, which was originally used in Ohio, and involves a review of district career and technical education data on programs, courses, and students through a lens of student access and performance.

Identified and removed barriers to pathways participation. Site teams changed the processes and criteria governing students' access to pathway programs and pathway program features, such as work-based learning and dual credit. Other barriers to pathway participation identified by sites included a lack of transportation, information gaps, and the need for students to work to meet their own and their families' basic needs. For example, the Nashville team addressed cost and transportation barriers to students' participation in work-based learning through strategies such as increasing on-site (i.e., at district locations) work-based learning placements in fields like IT and teaching, accessing federal workforce funding, and prioritizing paid internships. Likewise, Indiana University Indianapolis (IUI) launched an internship program for sophomores from underrepresented backgrounds that placed students in high-quality, paid work experiences with local employers. IUI also partnered with Ivy Tech Community College to streamline the two-year to four-year transfer process. Ivy Tech applicants can opt into a dual admissions program by indicating their intent to enroll at IUI after completing their associate's degree. Participating students receive additional advising and other support to reduce barriers and help them transition to IUI.

Some barriers identified by site teams extend beyond the education system and will require longer-term strategies and cross-system efforts to solve. For example, all sites identified transportation as a barrier to pathway opportunities and particularly to work-based learning. As a step toward addressing transportation barriers, the Nashville team funded a study of public transportation in the region. The resulting report provided district- and regionwide insights into barriers that students face

[6] Yosso, T. J. (2005). Whose culture has capital? A critical race theory discussion of community cultural wealth. *Race Ethnicity and Education, 8*(1), 69–91.

in accessing pathway and other education opportunities and influenced Nashville voters' approval of increased transit system supports in 2024.

Included student voice in pathway design. In accordance with equity frameworks, sites collected student input and perspectives to help shape pathway programs through surveys, focus groups, and student ambassadors (see Exhibit 8). They also developed strategies to sustain these practices over time. The Denver team, for example, provided grants to individual institutions and organizations to gather student perspectives on several topics, including barriers to college applications, awareness of career and technical education opportunities, and student internship experiences. The team also instituted an annual virtual Learner Voice Symposium that showcased methods of engaging learners in pathway program development and shared the results of learning engagement activities from around the state.

Exhibit 8. Examples of Activities to Capture Student Voice in NSrn Sites

Site	Example
Boston	Bunker Hill Community College and the University of Massachusetts, Boston interviewed and surveyed transfer students to understand their experiences and inform the development of transition supports.
Columbus	Columbus conducted focus groups with students, school administrators, and parents/guardians to gauge how students and parents currently understand existing pathway programs in IT and health care.
Dallas	Dallas College's Labor Market Intelligence Center's labor market analysis included student input to address issues of student supply (and barriers to education and employment) as well as employer demand.
Denver	To improve programs and services, Denver provided grants to individual institutions and organizations to gather student perspectives on summer melt, barriers to college applications, Black and Brown males' gaps in college and career pathway participation, career and technical education awareness, Latino males' barriers to matriculating to postsecondary, student internship experiences, and transfer students' experiences and engagement.
Indianapolis	Indianapolis Public Schools fielded a student survey to gather data about student experiences and outcomes in college and career pathway programs as part of their pathway review process.
Nashville	Nashville hired work-based learning students in each high school to create an interview protocol, conduct interviews, and author a report on student perspectives surrounding pathway advising.

Other Equity Strategies

The examples above describe key strategies used across all sites to address equity and access to career pathway programs for historically disadvantaged populations. Other strategies observed in some sites include the following:

- **Districtwide access to pathways through policy and process changes**. Sites worked to reduce equity gaps caused by the processes and requirements governing students' access to pathway programs. For example, Columbus City Schools replaced the admissions criteria for the city's career and technical education high school with a lottery open to all students. At the same time, the district also planned to expand access to career and technical education pathways in the traditional high schools. Additionally, IUI launched a guaranteed admissions program for Indianapolis Public Schools students meeting a GPA threshold that eliminated certain application requirements, such as paying an application fee or sending a transcript.
- **Addressing the diverse needs of pathway students.** As sites broadened access to pathways, they recognized the need to provide tailored supports for students. For example, Boston's Bunker Hill Community College offered dedicated postsecondary success coaches and courses for English language learners to help them enroll and persist in the college's dual-enrollment program.
- **Communication tools to diversify pathways recruitment.** Sites hosted events, developed videos, and redesigned websites to make it easier for students and their families to understand the career pathway options available to them and to broaden access to pathways among diverse student populations. For example, the Denver team conducted research on effective communication strategies for Latino communities, and CSCC developed promotional videos featuring pathway students from diverse backgrounds to help more students see themselves in the career fields.

Amplifying and Influencing State Policy

The NSrn sites' work resulted in multiple policy and practices changes at the institution and local levels. These included changes to higher education admissions processes, advising practices, and data sharing. The sites' work also both reflected and influenced improvements in state pathway systems policies. Site teams described a reciprocal relationship between their local NSrn teams and state agencies, with most having state agency representation on their teams. This reciprocal relationship aligned local career pathway systems with statewide initiatives and requirements. It also provided a mechanism for NSrn sites to inform state policy initiatives or efforts to scale pathways in other parts of the state.

> *"We look at the proof points that are happening in Denver and how they can inform legislation and policy and allow us to scale that on a broader sense."*
>
> **— Denver site team**

Site Examples

Used state policies to spur innovation. The NSrn initiative provided sites with the opportunity to develop strategies for implementing state policy related to career pathways. For example, in response to Texas House Bills 3 and 8 that financially reward districts and community colleges for positive student outcomes, the Dallas team created the Pathways Manager Tool to bring together student data that were previously managed separately. This allowed the district and colleges to better track student progress in pathways, develop strategies to improve outcomes, and earn incentives under the new funding formulas.

Accelerated the adoption of state pathway policies. NSrn sites also showed the potential of state policies for expanding students' access to pathways. In some cases, the state policies predated NSrn but had not been implemented by local districts due to the lack of precedents. The Nashville team, for example, led the implementation of a state policy that was developed before NSrn to expand the availability of dual credit in Tennessee. Through a partnership with the Tennessee College of Applied Technology at Nashville, several of the district's smaller high schools were able to offer pathway-related dual credit coursework. This partnership expanded the high schools' pathway options and provided a model for other districts in the state to follow.

Leveraged local pathway systems to inform state policy. NSrn sites used resources from the initiative to experiment and pilot pathway innovations, some of which were later formalized statewide. The Indianapolis team, for instance, developed and piloted a career advising framework to integrate career advising practices into existing advising systems. Led by a working group and informed by input from 250 stakeholders, the framework outlined career coaching and navigation milestones for students from elementary through secondary school to help shape their postsecondary planning and transitions. Ultimately, the Indiana Commission for Higher Education adopted a version of this framework to guide career advising practices statewide.

Replicated and scaled local pathway innovations. NSrn sites used policy levers to inform statewide career pathway system development by participating in state pathway advisory groups and sharing promising local practices. Members of the Denver team, for example, sat on the state's Secondary, Postsecondary and Work-Based Learning Integration Task Force (referred to as the 1215 Task Force, after Colorado House Bill 22-1215), which reviewed pathways across the state to ensure students had equitable access to quality programs. The task force also identified effective local strategies and models that could be implemented statewide. In this way, aspects of Denver's pathways system, such as stackable credentials, learner voice events, and aligned work-based learning experiences, informed pathways systems development in Aurora and the San Luis Valley and contributed to new state policies and initiatives.

Other Policy Strategies

The examples above describe key strategies used across all sites to leverage statewide pathway policies and initiatives to strengthen, scale, and sustain local pathway systems. Other strategies observed in some sites include the following:

- **Alignment of pathways with statewide initiatives and requirements.** Sites leveraged statewide pathway initiatives and initiatives related to pathway components, such as advising and work-based learning, to inform local pathway changes and provide consistent pathway experiences for students across districts. For example, IPS aligned its programs to the state's Next Level Programs of Study and state graduation requirements.
- **Groundwork for future policy changes.** Policy changes, particularly at the state level but even at the local level, can take time to develop. Although NSrn teams initiated and implemented multiple changes in institutional and local policies (and practices), many of the state-level policies passed during NSrn were initiated before the initiative began. Conversely,

policy-relevant activities undertaken by site teams may only result in new policies, particularly at the state level, after the initiative's conclusion. Durin.g NSrn, sites identified policy needs and conducted research studies, such as on students' transitions from secondary to postsecondary education, and performed needs assessments to review pathway offerings and gaps. These steps provided an important foundation for future policy changes at the local and state levels.

STRATEGY IN ACTION:
Examples of Pathway Navigation and Transition Changes in Denver

Led by the Attainment Network, the Denver team aligned their local pathway systems with state policy. In particular, the team focused on addressing the need for state-level engagement in local pathway development to support alignment with state policy and requirements and provide a foundation for scaling pathways to other areas. Exhibit 9 details examples of identified needs in Denver and the resulting systemic changes.

Exhibit 9. Examples of Pathway System Changes in Denver

System Needs	System Changes
Coordinated strategy for state agency engagement to replace one-off/siloed connections between secondary/ postsecondary partners and individual state agencies	Establishment of a coalition to align state agencies and on-the-ground practices that has assessed pathway strategies and informed legislation/policies such as House Bill 22-1215, Senate Bill 22-192, the Colorado Student Bill of Rights, etc.
Synthesis of lessons learned and systematized and sustainable approaches to pathway development districtwide based on pilot program results	Packaging and translation of on-the-ground learnings for different audiences using communication tools such as a series of policy papers
Implementation of pathway-related state policies addressing stackable credentials, concurrent enrollment, and student voice	Updated high school process-and-procedure guide for starting CTE pathways, including step-by-step instructions and points of contact

EVALUATION FINDINGS:

Systems and Student Metrics

Tracking students' career pathways experiences and outcomes requires data systems that are aligned across education institutions, state agencies, and partners. Data from these organizations played multiple roles in the NSrn initiative. First, the NSrn sites reported data on a set of career pathways metrics annually in their initiative reports to JPMorgan-Chase. Second, site teams collaboratively reviewed data on career pathways students and programs to identify areas in need of improvement and to assess progress. Finally, site teams served as advisors for data systems development, identifying data needs and supporting efforts in their regions and states to align data systems to better track students' pathways outcomes.

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> *We've seen a lot of growth across partners in the questions they ask of the data, identifying historical gaps in the data, and saying, "Wait, that can't be the way we go forward. We have to find answers to these questions that we don't have the data for."*
>
> **— Nashville site team**

New data system capacities would have required investments of time and resources that were beyond the scope of the NSrn initiative; however, during the initiative, the sites built on existing data systems to identify data needs and formulate a more collaborative and purposeful data culture around career pathways. This involved developing trust among state agencies and local partners to improve data access, quality, and sharing, as well as collecting more consistent and timely data on relevant system and student metrics. By making these shifts, the sites laid the groundwork for the strategic use of data to strengthen and expand career pathways opportunities for their students.

This section provides examples of the changes sites made to their data systems and use during the initiative, followed by a review of the NSrn metric data that sites reported annually to JPMorganChase.

Site Examples

The following are examples of how sites implemented several strategies to enable more relevant and agile reporting on key systems and student pathway metrics:

Cultivated data culture through partnerships. Across sites, the initiative brought together diverse perspectives and cross-functional teams to develop and implement shared data governance. In Denver, the team built relationships with multiple state agencies engaged in the collection of pathway-relevant data, including the state's Workforce Development Council, Department of Higher Education, and Community College System. As a result of the team's efforts, site team members were tapped for their technical expertise to help guide the development and implementation of the newly legislated state longitudinal data system.

Strengthened data systems to inform pathways development. NSrn sites identified inconsistencies across education levels in defining and reporting on pathway metrics and data needs, so they took steps to improve data alignment and comprehensiveness. The Nashville team, for example, built a Power BI report that provided detailed information on students' higher education retention and completion by high school and created a common pathways data experience among schools. The report included dual credit and industry certification metrics to encourage schools to make these opportunities available to all pathway students. The effort to harmonize and analyze previously untapped data sources yielded data disaggregated by pathway and school that could support pathway decision-making.

Advanced data sharing across partners. Several sites noted that the separate data systems maintained by each secondary and postsecondary education partner presented a challenge to data sharing and use. For the Boston team, for example, the lack of a statewide governance system for higher education[7] required the team to develop and institute data sharing and data-sharing

[7] The Massachusetts Department of Higher Education plays more of a coordinating role.

agreements with each higher education partner.[8] Throughout the extensive process, the team remained committed to data sharing as a foundational goal and focused on securing leadership buy-in to expand data access and move beyond a piecemeal data-sharing model. Postsecondary partners developed a proposal for an overarching data-sharing agreement that would avoid individual Memoranda of Understanding and funnel the student data into a shared data repository while maintaining appropriate levels of security and Institutional Review Board permissions.

STRATEGY IN ACTION:

Improving Pathways Data Alignment and Tools in Dallas

The Dallas team, led by the Commit Partnership, focused their pathway systems development on improving systems for aligning and using pathway data. As part of their NSrn activities, the Dallas team convened a data work group to identify data alignment challenges and needs. In particular, the team identified the need for more accurate data on student "melt" and attrition points along K–16 pathways to inform strategies to assist students in completing pathways and increase the accuracy of pathway student projections that determine postsecondary faculty needs. Previously, these data were captured in 200+ handwritten and electronic pathway maps that were difficult for advisors and students to interpret. In subsequent years of the initiative, the team developed the online Pathways Management Tool to track student dual credit course enrollment completion in Pathways in Technology Early College High School (PTECH) programs. This tracks students' progress through their pathway and can be used by administrators for reporting, by advisors for designing personalized supports, and for learners and families to view their individual pathway experiences.

> *"The New Skills grant has allowed us the opportunity with Dallas Independent School District, Dallas College and University of North Texas to continue to innovate and test some of the innovative work that needs to happen in the career pathway space, particularly as it relates to data, particularly as it relates to our ability to aggregate across our systems, the key milestones of student progression and completion data, which is really at the heart of most of our work."*
>
> — **Dallas site team**

[8] For an overview of the Massachusetts Department of Higher Education, see https://www.mass.gov/info-details/overview-of-the-department-of-higher-education.

NSrn Metric Findings

Sites submitted annual impact reports to JPMorgan Chase documenting their progress toward a set of student and system metrics. To support data collection and reporting, sites created detailed appendices, data definitions, and other documentation. Differences in defining and tracking metrics reflect the various contexts and practices across sites and provide information about how the initiative metrics were tracked. Although this variation makes the interpretation of the metrics more complex, it also provides valuable insight into how pathways developed in different contexts and over time.

Findings across sites reveal both consistency and key challenges in measuring NSrn outcomes. Sites generally found systems-level metrics better aligned with the initiative's goals than student-level metrics, in part because system changes take time to translate into measurable student outcomes, and partly because data systems for tracking career pathway components like work-based learning and cross-institution transitions are still developing. Among student metrics, participation and completion measures were most consistently tracked because data on these metrics are also part of states' federal reporting requirements. The data indicate gains in students' access to and engagement with pathway supports, although considerable variation in reporting reflects differences in data systems and local priorities. Work-based learning showed slower progress, as these programs are harder to establish and track. Several sites have prioritized collecting more consistent data collection in this area going forward.

System Change Metrics

Between the 2018–19 and 2024–25 academic years,[9] the sites collectively offered more high-quality and fewer low-quality career pathways (as defined by each site), built stronger cross-sector partnerships, and enacted new institutional, local, and state policies. These metrics provide a partial accounting of systems change under the initiative. The sites also achieved changes that are more challenging to quantify, in areas such as postsecondary transitions and advising.

The following sections summarize key system metric findings and site variations:

[9] Baseline years for data collection varied across sites and indicators. For example, the first year of data for "the number of high-quality career pathways" indicator ranged from 2018–19 to 2020–21, depending on when sites began reporting that indicator. To account for this variation, changes were calculated relative to each site's baseline year for a particular indicator.

The number of **high-quality career pathways** increased by 24 percent (+51 pathways) across the sites. Five of six sites reported increases in the number of high-quality career pathways, ranging from 3 percent to 433 percent. One site accounted for almost half of the increase in the total number of pathways (25 pathways), and one site had no change in the number of high-quality career pathways.

High-quality career pathways

↑**24%** (+51 pathways)

The number **of low-quality career pathways** decreased by 57 percent (-36 pathways). Four of the six sites reported decreases in the number of low-quality career pathways ranging from 5 percent to 18 fewer low-quality pathways. Two sites experienced no change in the number of low-quality career pathways. Data from the sixth site appeared inconsistent and were excluded from this summary.

Low-quality career pathways

↓**57%** (-36 pathways)

The number of **cross-sector partnerships** increased by 254 percent (+744 partnerships). Five of the six sites reported increases in the number of cross-sector partnerships ranging from 100 percent to 500 percent. One site, which reported 405 new partnerships, accounted for almost half of the total increase. Three sites indicated that the data they reported for this metric excluded partnerships initiated by some of the educational institutions participating in the NSrn initiative at their site due to data unavailability.

Cross-sector partnerships

↑**254%** (+744 partnerships)

The number of **pathways-related policies** increased across the sites, with 42 new policies. Sites reported between 0 and 4 policies enacted at the beginning of the initiative and between 1 and 18 policies during their most recent data collection. One site accounted for 76 percent of all policies reported during the most recent data collection (for the 2024-25 academic year), with 32 policies enacted.

Pathways-related policies

↑**42** new policies

Student Metrics

Over the five years of the initiative, some institutions from the sites provided their criteria for identifying high-quality career pathways (see Exhibit 10) and tracked student participation and completion in pathways at the secondary and postsecondary levels.

Exhibit 10. Site Definitions of High-Quality Career Pathways for NSrn Metric Reporting

Site	Definition of High-Quality Pathway
Boston	Boston Public Schools: A progressive sequence of at least three courses at the K–12 level that: 1. Is aligned to a high-skill, high-wage, in-demand occupation (as evidenced by labor market information at the regional and/or state levels) 2. Reinforces academic learning with related work-based learning experiences 3. Embeds opportunities for students to earn both related postsecondary credit in a degree-granting program and industry-recognized credentials.
Columbus	Columbus City Schools: High-quality programs have high enrollment, students proficient in technical skill attainment (70%), students earn at least 12 credential points related to their career field, students participate in work-based learning (15% earn 250 or more hours), high-demand/high-wage jobs after high school, college credit available, concentrators in postsecondary education, advanced training, military service, a qualifying service program, or employed in the second quarter after exiting secondary education (74%).
Dallas	• University of North Texas at Dallas: All degree-seeking programs that offer internship opportunities are considered high-quality career pathway programs • Dallas College: All career and technical education programs
Denver	Denver Public Schools: Current state-approved career and technical education pathways in district-run schools.
Indianapolis	Pathways across K–16 that meet or exceed key criteria selected by the NSrn Indianapolis leadership team. • Indiana Public Schools: Pathways that include opportunities for students to earn at least two of the three quality indicators (dual credit, work-based learning, or industry certification) • IUI: Count of programs leading to a bachelor's degree that were aligned with the state's Perkins V Crosswalk.
Nashville	Metro Nashville Schools: Meets at least two of the following criteria—(1) high skill, (2) high wage, or (3) high demand.

Several indicators increased overall over the course of the initiative, including pathway participation and completion, students' earning of industry credentials and early postsecondary credit, and participation in work-based learning. However, for some indicators, one or more sites reported declines. In interviews, sites attributed declines to changes in data reporting or policies, as well as to the complexity of building and sustaining programs and systems that require consistent input from employers and other organizations unused to working with K–12 education. In addition, pathway systems and pathways data collection processes are still in development, which can result in year-to-year fluctuations in indicator values that may be positive or negative. For example, relative to year 1, one site reported an increase in pathways participation in years 2 through 4, followed by a 42 percent decrease (-809) in year 5 in the number of students enrolled in high-quality career pathways due to a change in pathway data collection.

The following sections summarize student metric findings and site variations:

The number of **students participating in high-quality pathways** increased by 95 percent (+48,162 students) overall. All six sites reported increases in the number of students participating in high-quality pathways, ranging from 47 percent to177 percent. One site accounted for almost 40 percent of the increase (+17,918) in the overall number of students pursuing high-quality career pathways.

Participating in high-quality pathways

↑**95%** (+48,162 students)

The number of **students completing high-quality pathways** increased by 105 percent (+9,819 students) overall. Five of the six sites provided data on the number of students completing high-quality pathways. Those five sites all experienced growth, with increases ranging from 24 percent to 167 percent. One site contributed 53 percent of the total increase by adding 5,177 graduates from high-quality career pathways. The sixth site changed criteria for completion during the initiative and, as a result, the data reported at the beginning and the end of the initiative were not comparable.

Completing high-quality pathways

↑**105%** (+9,819 students)

The number of **students earning high-value, industry-recognized credentials** increased by 106 percent (+3,362 students) overall. The four sites that reported data on this number that could be compared across years had increases ranging from 8 percent to 419 percent.

Earning high-value industry-recognized credentials

↑**106%** (+3,362 students)

The number of **students earning aligned postsecondary credit** increased by 105 percent (+9,313 students) across the sites. Five sites reported increases ranging from 43 percent to 481 percent, whereas one site reported a decrease of 88 percent. One site reported 4,872 more students earning aligned postsecondary credit, which accounted for more than half of the total increases.

Earning aligned postsecondary credit

↑**105%** (+9,313 students)

The number of **students participating in work-based learning** increased by 72 percent (1,749 students). Two sites reported increases of 15 percent and 603 percent in the number of students participating in work-based learning. The site that gained the most students reported an increase of 1,061 students. Data from the remaining two sites that reported on this metric appeared inconsistent across collection years and were excluded from the analysis.

Participating in work-based learning

↑**72%** (1,749 students)

Data Collection and Reporting Lessons Learned

Access to accurate data is crucial to assessing students' pathway outcomes and determining best practices. NSrn sites navigated multiple data challenges, raising awareness of key strategies, including those below, that can facilitate data quality and completeness in future initiatives.

Leverage existing data systems. The NSrn sites were able to report on metrics that aligned with their existing education data systems, such as pathway participation and completion. For these indicators, the sites reported data on student participation and completion in career and technical education programs, which states are required to report to the federal government. Using existing data collections will not eliminate all cross-site differences in metric definitions (federal reporting

allows a measure of flexibility), but it could help align metrics with site data capacity and increase data consistency.

Provide additional resources, time, and technical assistance for new metrics. For metrics not already collected by grantees, detailed guidance and technical assistance are needed for consistent indicator development and implementation. Not all NSrn sites collected data on students' work-based learning participation; among those that did, definitions of work-based learning indicators varied. The collection of consistent and comprehensive data on work-based learning would require a development phase to assess data collection feasibility, compare data definitions, and create data collection plans (or data-sharing agreements). Implementation would include a pilot phase to collect and review initial data. Although collecting consistent and complete data can take time, the development process can contribute to data culture development and yield informative data during the pilot phase.

Provide feedback on data quality and findings. The use of templates and detailed guidance is best practice for the collecting of high-quality data. Effective use of these resources, however, requires careful reviews of the reported data followed by feedback to the reporting sites on data quality and consistency. Even well-designed templates cannot anticipate all of the data reporting challenges that may arise across different reporting systems and data specialists. The review process can inform adjustments to the templates, provide guidance to improve future data collections, and address questions that emerge during the data reporting process.

Balance cross-site standardization and site customization of metrics. Sites recognized the value of reporting on a common set of metrics but also indicated a need for site-specific metrics that reflect their NSrn priorities, such as advising system development or secondary-to-postsecondary transitions. Additionally, site teams noted that metrics may need to change over time in response to data system changes and site activities, suggesting a need for periodic reviews and updates of metrics to ensure they remain feasible and relevant.

Align grant reporting expectations with institutional timelines. NSrn sites were required to submit data for the initiative in March each year. However, the academic institutions—which were the sites of the pathway programs and many NSrn initiative-funded activities—operate on academic years. This timeline mismatch meant that sites had to report on their annual progress before completing their activities, and site teams felt that a reporting calendar aligned with the academic year would have produced more complete results.