

2019 SNAPSHOT

DENVER, COLORADO

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OVERVIEW

Denver Public Schools (DPS) CareerConnect is redesigning the high school experience by building a career pathways system for youth that expands access to relevant learning opportunities in the classroom and in workplace settings in high-demand sectors. CareerConnect launched in 2014 in partnership with the City of Denver, the Denver Office of Economic Development, two- and four-year colleges and universities and business and industry partners. CareerConnect spans grades K-12 and includes relevant courses for all grades, hands-on work-based learning (WBL) experiences and mentoring for middle and high school students, and a newly launched three-year apprenticeship opportunity for juniors and seniors. The initiative is an outgrowth of sector partnership efforts spearheaded by the Colorado Workforce Development Council, which sparked a mapping project to identify data-driven strategies for improving college and career readiness outcomes in Denver.

With funding support from government and philanthropic sources — including an investment from the JPMorgan Chase & Co. New Skills for Youth initiative — CareerConnect has evolved into a comprehensive, integral strategy within the district for addressing equity, improving outcomes and equipping graduates with high-demand skills connected to continued education and careers in Colorado's highest opportunity industries.

JPMORGAN CHASE NEW SKILLS FOR YOUTH INITIATIVE

Launched in 2016, New Skills for Youth¹ is a \$75 million, five-year global initiative aimed at transforming how cities and states ensure that young people are career ready. The overarching goals of the initiative are to:

- Dramatically increase the number of students who successfully complete career pathways that begin in secondary school and culminate in postsecondary degrees or credentials tied to high-wage, high-demand jobs; and
- Catalyze transformational approaches to the design and delivery of programs and policies to increase students' career readiness and disseminate lessons learned around the world.

This snapshot is part of a series documenting the progress of local investments from across the globe that aim to identify and implement the most promising ideas in career education, with a special focus on communities with the greatest needs.

DPS CAREERCONNECT

The New Skills for Youth investment is providing DPS CareerConnect with an opportunity to build the largest WBL program in the country with a focus on:

- **Identifying and implementing solutions to strengthen and expand programming;**
- **Supporting innovative career readiness approaches; and**
- **Sustaining essential existing efforts.**

DPS has made significant progress during the implementation of its New Skills for Youth investment, focusing on strengthening the rigor and relevance of the program, standardizing processes and resources and scaling the initiative, with a particular emphasis on expanding WBL opportunities. The result is student outcomes that are promising across a number of measures, most notably graduation rates. The on-time graduation rate for DPS is 70 percent, well below the national average of 85 percent.² Yet, participating in CareerConnect increases the odds of on-time graduation by:

- 40 percent for students participating in two to five CareerConnect courses;
- 90 percent for students participating in five or more CareerConnect courses;
- 90 percent for students who have a CareerConnect industry mentor; and
- 270 percent for students who participate in a CareerConnect internship.³

The growth of the initiative in just under five years has been significant. DPS operates more than 200 schools, including traditional, innovation, magnet, charter and pathways schools, with a total enrollment of more than 92,000 students.⁴ Today, 78 percent of DPS high schools are participating in the CareerConnect initiative.⁵ CareerConnect reaches more than 12,600 middle and high school students throughout the district and involves more than 160 CareerConnect teachers.⁶ And CareerConnect counts more than 200 businesses as partners,

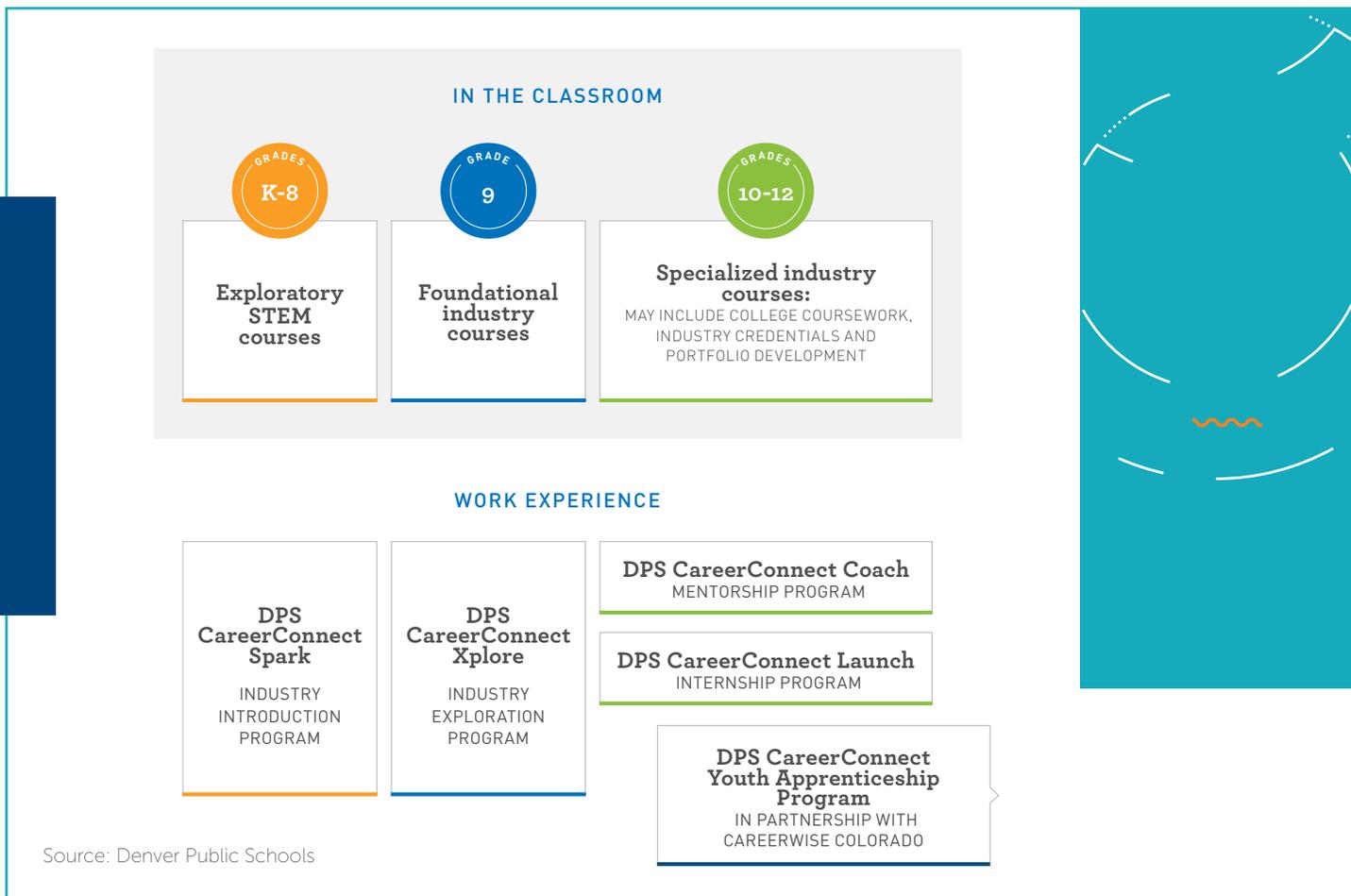
a list that continues to grow.⁷ Further, over the past two years DPS has engaged with 20 states and six countries to share information about the CareerConnect model and has hosted representatives from more than 25 school districts across the United States.

Strengthening and Expanding School-Based Learning and WBL

The CareerConnect model builds off of a longstanding commitment to Career Technical Education (CTE) in DPS, bringing a more targeted, strategic lens. CareerConnect spans the full continuum of grades K-12. It includes school-based learning (SBL) for all grades and scaffolded WBL components for middle and high school students. DPS CareerConnect offers career pathways in 10 different industries (BusinessConnect, CreativeConnect, EdConnect, EngineeringConnect, HospitalityConnect, MakerConnect, MedConnect, PublicSafetyConnect, TechConnect and ACEConnect). In the past three years, the program has expanded offerings in five of Colorado's highest opportunity industries: finance, engineering, advanced manufacturing, bioscience and technology, which is the fastest growing industry in the region, with an increase of 32 percent over a five-year period.⁸

School-Based Learning. CareerConnect K-8 SBL enrollment increased from 9,418 in the 2016-17 school year to 13,626 in the 2017-18 school year.⁹ Forty-two percent (7,848) of high school students in DPS participated in career pathways programs during the 2017-18 school year.¹⁰ During the New Skills for Youth grant period, CareerConnect launched STEMConnect for grades K-8, which includes:

- SmartLab, a program through which students explore science, technology, engineering and mathematics (STEM) and media arts through applied technology and project-based learning in a fully integrated learning environment where everything from furniture and technology to curriculum and assessment work together to support hands-on, minds-on learning;



- Project Lead the Way Gateway, 10 units of student-led discovery through hands-on programming in computer science, engineering and biomedical science; and
- Project Lead the Way Launch, 24 STEM modules for grades K-5 that tap into students’ exploratory nature.

In addition to technical skills courses, CareerConnect developed and rolled out a soft skills framework, The Traits of a Young Professional (aligned to the Colorado Essential Skills),¹¹ starting with students participating in the summer 2016 CareerLaunch internship program. The framework focuses on professionalism, communication, perseverance, self-direction and collaboration. The framework is now being incorporated in all CareerConnect classes.

Finally, DPS CareerConnect is also focusing on strengthening programs. On the CTE front, CareerConnect now has more than 100 state-approved programs. An SBL team within CareerConnect defines course sequences and relevant certifications and provides oversight and support for state assurances and compliance measures

— a shift from the previous program design process that was often the responsibility of a single teacher prior to CareerConnect. For DPS CareerConnect, this centralized strategy for program design and approval also addresses longstanding inequities: A student who lives in one part of the city now gets the same high-quality experience as a student in another location in the city.

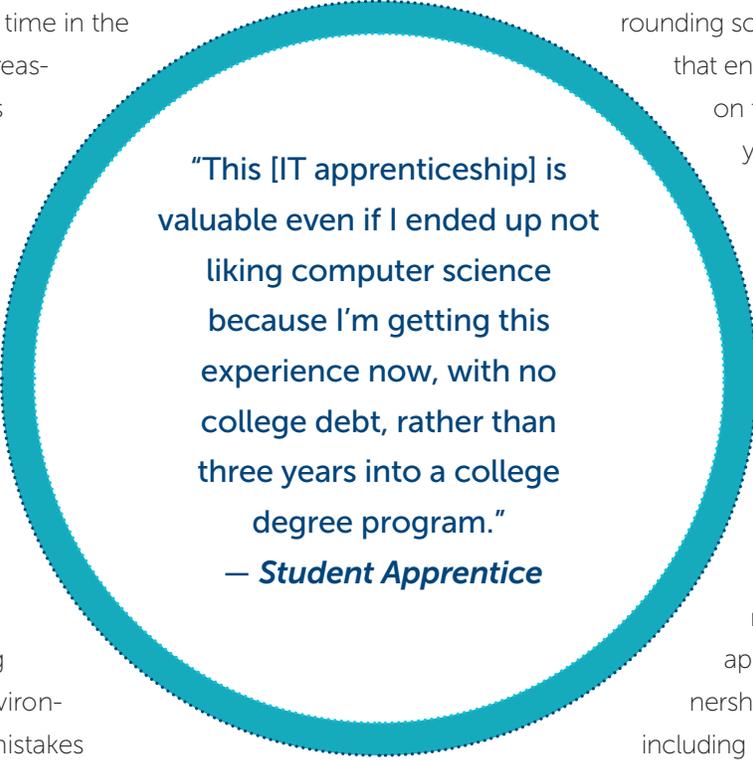
Work-Based Learning. A total of 3,695 DPS high school students participated in WBL in the 2017-18 school year, up from 2,351 during the previous school year.¹² Student demand for WBL is so high CareerConnect is in a constant state of recruitment to increase and scale more business partnerships, despite boasting 200-plus partners. A noteworthy highlight from the New Skills for Youth grant period was the launch of the CareerConnect Youth Apprenticeship Program last year, in partnership with CareerWise Colorado, a statewide non-profit organization also funded in part by JPMorgan Chase.¹³ The goal of CareerWise Colorado is to recruit and train high school students from across the state and place them with employers.

The CareerConnect Youth Apprenticeship Program currently serves 60 CareerConnect students; DPS has recruited another 50 students during the most recent hiring cycle.

The program provides students with the opportunity to participate in a paid apprenticeship in one of four industries (advanced manufacturing, business, health care or technology), while earning college credit. In some instances students can earn a fully transferable associate degree at no cost to participants. Students begin the three-year program during their junior or senior year, spending progressively more time in the workplace and taking on increasingly complex tasks. Students entering the program as juniors graduate from the program after year 13; students who enter the program as seniors graduate in year 14. In addition to hands-on experience in a chosen career pathway, the apprenticeship program provides students with meaningful, real-world experiences, such as learning to navigate a professional environment, taking ownership for mistakes and building a network of professionals in the field.

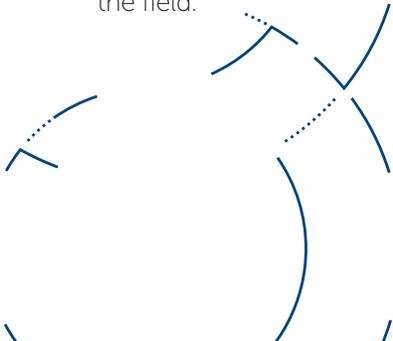


**"The key to this is not leading with 'no' and instead finding innovative ways to make this work."
— District Leader**



**"This [IT apprenticeship] is valuable even if I ended up not liking computer science because I'm getting this experience now, with no college debt, rather than three years into a college degree program."
— Student Apprentice**

On the logistics side, DPS CareerConnect provides each apprentice with transportation to and from the high school campus, worksite and college/training facility to ensure safety. Early challenges in the startup phase of the apprenticeship program have included helping students to understand why they should consider the apprenticeship opportunity when for so long they have heard that they should "go to college right away," making sure adequate support and resources are in place to help students shine in the interview process among their peers from more affluent surrounding school districts and ensuring that enough employers have signed on to match the demand for youth apprenticeships in various regions of the city. For example, DPS had more than 600 students indicate interest in applying, but only 150 Denver metro spots were available. DPS was one of four surrounding districts vying for those 150 spots. DPS is also helping build new career pathways in the apprenticeship program in partnership with CareerWise Colorado, including a teaching apprenticeship. For the pilot year starting in fall 2019, DPS anticipates hiring five to 10 students from the district for the two-year apprenticeship role. Apprentices will serve as paraeducators in elementary and middle schools.



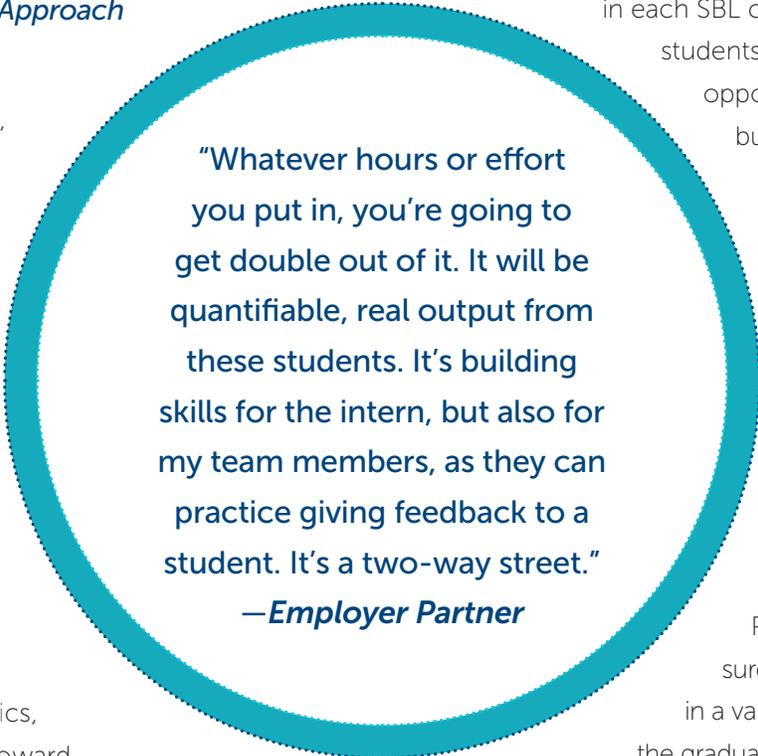
HOW IT WORKS	YEAR 1	YEAR 2	YEAR 3
HIGH SCHOOL ACADEMIC CLASSES	3 DAYS PER WEEK	2 - 3 DAYS PER WEEK	NONE
ON-THE-JOB TRAINING	12 - 16 HOURS PER WEEK	20 - 24 HOURS PER WEEK	32+ HOURS PER WEEK
HIGHER ED PARTNERS COLLEGE-LEVEL COURSEWORK ALIGNED WITH YOUR PATHWAY	COLLEGE COURSES BASED ON YOUR GOALS & READINESS The instruction you receive here will provide you debt-free college credit and the knowledge you need for your nationally recognized industry certification. Typically, courses are taken in the second half of the apprenticeship.		

Every apprentice's schedule is unique. If you're starting as a junior your schedule will resemble this model.

Source: CareerWise Colorado

Embracing a Data-Driven Approach

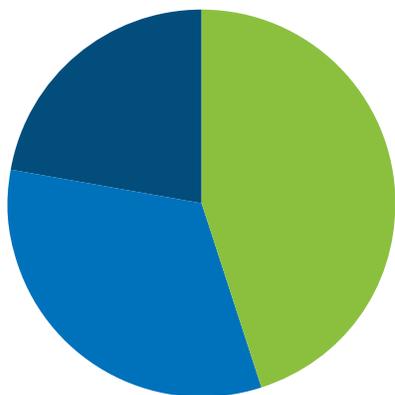
Data are the foundation of the CareerConnect initiative, galvanizing stakeholders from throughout the community. At each point, from inception to launch to growth, DPS CareerConnect has made use of a wealth of data sources to set and meet aggressive targets and inform decisions. The data include traditional data points gathered and reported by school districts, such as student demographics, attendance rates, progress toward graduation and achievement on standardized tests. CareerConnect also gathers data on programmatic measures, such as the number of students enrolled



in each SBL course, the number of students participating in each WBL opportunity and the number of businesses providing experiences along the continuum.

With a deep focus on equity, CareerConnect also studies the data disaggregated by demographic characteristics such as race/ethnicity and free and reduced-price lunch eligibility under the National School Lunch Program. These types of measures are used to gauge impact in a variety of areas, such as how the graduation rates of CareerConnect participants differ from non-participants. DPS also gathers more comprehensive, program-specific information. For example, CareerConnect regularly conducts

2017-18 FUNDING SOURCES



Denver Mill levy allocation
\$4,800,000 (45%)

State and federal sources
\$3,500,000 (33%)

Philanthropic sources
\$2,400,000 (22%)

2017-18 EXPENDITURES



School-based staff
\$2,400,000 (25%)

School-based investments (supplies, equipment, etc.)
\$841,000 (9%)

School-supporting regional staff
\$1,100,000 (11%)

School-supporting investments (work-based learning programmatic expenditures)
\$1,100,000 (11%)

District staff
\$2,700,000 (28%)

Program development and compliance
\$1,500,000 (16%)

Source: Denver Public Schools

student feedback surveys on WBL experiences, such as a recent survey designed to gauge the impact of worksite visits in the CareerCoach mentoring program. CareerConnect gathers information from business partners as well. For example, employers are required to submit evaluations for student interns and apprentices. Finally, CareerConnect invests heavily in a regular one-one-one feedback loop with stakeholders to improve programming. These stakeholders include school-level staff such as principals, career pathway teachers and WBL coordinators, as well as businesses providing WBL experiences.

Sustaining the Initiative

Getting the CareerConnect initiative off the ground and building the capacity of DPS to scale it took a large investment. CareerConnect launched in 2014 with a \$7 million grant under the Youth CareerConnect Program through the U.S. Department of Labor's Employment & Training Administration.¹⁴ Since its inception, CareerConnect has received additional federal, state and philanthropic support to enhance and expand the initiative, including an investment from JPMorgan Chase in 2016, as well as funds from a Denver ballot initiative — a \$5 million bond to be used for facility upgrades and an annually recurring \$4.8 million for

growth. The ballot initiative was part of a comprehensive package to build and improve schools and support promising initiatives. Despite the large investments in CareerConnect, DPS is steadfast that any district can build a career pathways program that values both SBL and WBL by following a similar process: Begin by asset mapping the community and identifying key allies, and from there, start small in designing and implementing a model.

Beyond the budget, implementing a meaningful continuum of career-focused learning requires a significant investment in non-traditional school and district staff to be successful. CareerConnect includes a team of 50 individuals: 20 core staff and another 30 individuals directly supporting one or more schools, including career pathway directors, regional coordinators, internship coordinators, and apprenticeship specialists whose roles and responsibilities center on implementing SBL and WBL at the school level. In addition, the broader CareerConnect umbrella includes other district-level employees whose expertise is tapped as needed, plus the school-level instructors and the many business and industry partners that participate. The CareerConnect team is intentionally made up of individuals from a range of backgrounds: business leaders, individuals from non-profits, teachers, community engagement specialists, and individuals with marketing and communications expertise. Vertical integration within DPS gives the CareerConnect team access to schools and a wealth of staff expertise across the district. Support from DPS leadership also provides a meaningful signal to schools and the broader community about the commitment to continue to scale the initiative and improve program quality.



**"In looking at my own path,
the leg up they get is amazing.
These guys are getting
experience that it took me two
to three years after college
to get. Their skill level and
aptitude is extraordinary."
—Apprenticeship Supervisor**

Standardizing Processes and Resources

Standardization of both processes and resources helped scale the CareerConnect initiative, improve quality, address equity and make participation easier for stakeholders. As discussed previously, the standardization around the development and execution of a process for program design and approval has been an effective strategy for improving quality and equitable access from one school to another. Looking at standardization from the business perspective, CareerConnect scaffolds opportunities for businesses to engage in WBL, providing what it calls "gateway opportunities" to engage, which then build to more intensive investments of time. Business partners point to the ease of participation and a tangible return on investment for engaging with students: CareerConnect provides clear guidelines for what is expected and when, tools and resources to support the different types of student engagement, evaluation components, and access to staff to help troubleshoot when needed. The tools and resources include, for example, a tool for prospective mentors that has a timeline and sample mentor session topics and a handbook that is specific to the mentoring program. There also is a process for onboarding, check-ins, quality control and evaluation. It is packaged for them along with real-time support from CareerConnect staff in the district and in the schools.

The same standardization of process and resources exists on the student side as well. School-based staff match students to employers for internships, which includes a set of minimum standards to be considered for participation. The school-based staff work with the students on their applications and prepare them for the interview process,

onboard the students and conduct periodic check-ins and ensure that students meet a clear set of expectations for sharing what they learned with their peers. In addition to making participation easier for students, the standardization is also addressing equity across the district: A student who transfers from a career pathway program in one school to the same program in another school will essentially be met with the same set of parameters and opportunities.

LOOKING FORWARD

DPS CareerConnect has just finalized a strategic plan through the 2020-21 school year that reflects learning and growth over the three-year lifespan of the initiative and recognizes that not all programs include the highest value opportunities and not all groups of students are equally accessing programming (particularly English language learners and students receiving free and reduced-priced lunch). The vision is designed to provide students with the tools and connections to cultivate their passions and initiate a lifelong upward trajectory of career success and continued learning so that:

- Every student has the time, space and support to explore his or her interests, talents and career options and creates a plan for high school and beyond;
- Every student can gain a head-start through college credits, industry certifications and modern youth apprenticeships that count towards degrees;
- Every student feels welcomed and valued within his or her pathway and has the right types and amount of support to thrive;

Looking at the full scope of work DPS has accomplished during the New Skills for Youth grant period, a big take-away is that meaningfully incorporating the “career” into college and career readiness for all takes a tremendous investment in people, processes, programming, resources, data and partnerships.

- Every student is supported by capable professionals who believe in the student’s potential, are trained in various postsecondary options, and can recognize and combat bias in career pathways; and
- Parents are empowered to support their child’s career exploration and development.

To achieve the vision, CareerConnect plans to prioritize six strategies:

- Empower students to explore their options and develop a clear postsecondary plan in grades 6-10 through personalized career exploration;
- Build pathways to graduation in grades 10 and higher that give students a head start;
- Create school and district infrastructure to enable career pathway redesigns;
- Train and empower educators to be career advocates and promote opportunities in their relevant industries;
- Clarify and communicate the value of CareerConnect in pursuing a student’s dreams; and
- Ensure equitable access and support for every student.

ACKNOWLEDGMENTS

Advance CTE would like to thank the DPS CareerConnect staff, along with key partners and stakeholders who participated in interviews and provided information on this project. The interviews were conducted in person during a two-day site visit in Denver, CO, on February 20-21, 2019. The interviews included discussions of key activities, successes and challenges to date. Supporting documentation was provided by staff and partners, when available.

This resource was developed with generous funding from JPMorgan Chase as part of the New Skills for Youth initiative.

ENDNOTES

¹ For more information about New Skills for Youth, see <https://www.jpmorganchase.com/corporate/news/stories/newskillsforyouth.htm>.

² <http://www.cde.state.co.us/cdereval/gradratecurrent>

³ https://collegeandcareer.dpsk12.org/wp-content/uploads/sites/33/2018_CareerConnect_AnnualReport1.pdf

⁴ Denver Public Schools.

⁵ *ibid.*

⁶ <https://drive.google.com/file/d/0B2PjSKlJt0h5c0pkcy1FZ3hPU28/view>

⁷ https://collegeandcareer.dpsk12.org/wp-content/uploads/sites/33/2018_CareerConnect_AnnualReport1.pdf

⁸ *ibid.*; <http://www.metrodenver.org/industries/overview/>

⁹ Denver Public Schools.

¹⁰ *ibid.*

¹¹ For more information about the Colorado Essential Skills, see <https://www.cde.state.co.us/standardsandinstruction/essentialskills>.

¹² Denver Public Schools.

¹³ For more information about CareerWise Colorado, see <https://www.careerwisecolorado.org>. For more information about a study of the planning and pilot phase of CareerWise Colorado, see <https://www.mdrc.org/project/careerwise-colorado-study#overview>.

¹⁴ For more information about the Youth CareerConnect Program, see <https://www.doleta.gov/ycc/>. For more information about findings from a study of early implementation of the program, see <https://www.mathematica-mpr.com/our-publications-and-findings/publications/youth-careerconnect-early-implementation-findings>.