



Pathways Implementation Toolkit

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Overview

This toolkit was designed to support school districts in Montgomery County as they continue to build and implement education and career pathways, no matter where they stand in the process. Some school districts are just beginning to build pathways while others are further along in the work. Even for districts that have reached full implementation of a particular pathway and have established key elements and practices, it's essential to maintain a focus on sustainability and continuous improvement. This toolkit will support all districts' efforts to assess pathways underway, identify opportunities for improvement, and take action based on their findings.

What are Pathways?

Pathways help young people advance from high school to postsecondary education and into family-supporting careers by providing students with rigorous academics integrated with career-focused learning and real-world technical skills. High-quality pathways are made up of the following core components:

1. **Secondary-Postsecondary Integration** erases boundaries between K-12 and postsecondary institutions and systems. Aligning curricula, credits, funding, policies, and practices enables more students to advance seamlessly from K-12 to and through higher education and to earn credentials of value.
2. **Career-Connected Learning (CCL)** provides students throughout K-12 with opportunities to develop a vision and realistic plan for their careers in the future. This component includes career awareness, exploration, and planning activities that span elementary, middle, and high school and include work-based learning (WBL) experiences onsite with an employer.
3. **Career Navigation and Advising** help students to make informed, financially sound, and sustainable education and career choices by guiding students to understand their interests, the related career opportunities available, and the skills, education, and training required to pursue those careers.

Our vision for pathways entails:

- Every young person has clear goals for college and career and the support to achieve them.
- Every employer has a talent pipeline of young professionals with the skills needed to contribute to and lead the workforce.
- Our regional and state economy thrives and provides its residents with opportunities for economic advancement.

Regional Pathway Models

To achieve the vision of high-quality pathways, the Montgomery County Educational Service Center's (MCESC) [Business Advisory Council](#) (BAC) developed regional pathway models for six pathways: Advanced Manufacturing, Aerospace and Aviation, Business and Management, Information Technology and Computer Science, Elementary Education, and Health Science. These pathway models were designed as guides for the development and implementation of pathways in Montgomery County. They show what an established pathway could look like, including coursework, college and career preparation activities, postsecondary program options, and potential career opportunities.

Pathway models were designed around the following guiding principles:

- **College credit in high school saves students time and money and supports degree attainment.** Transitions from high school to college can be challenging, which leads to low postsecondary enrollment and even lower postsecondary completion rates. College Credit Plus (CCP) courses allow students to become familiar with college-level work and start earning credit while still in high school. Most living wage jobs require some level of postsecondary education, and CCP courses support students in earning a postsecondary credential.
- **Focusing on skills and competencies while providing targeted advising and WBL opportunities is essential for aligning education and industry and preparing students for college and career.** Each pathway model includes industry-specific technical competencies to support alignment between industry and education and to prioritize students' skill development and readiness for the job market. Advising allows students to explore their unique strengths, interests, and goals while also gaining exposure to college and career opportunities through guided exploration. Part of this guided exploration and preparation includes WBL, which allows students to gain knowledge, skills, and experience to succeed in the workforce while employers build a skilled talent pipeline.
- **College encompasses a variety of options, including certificates, associate's degrees, and bachelor's degrees.** In addition to bachelor's degrees, pathways should provide students with information and access to other in-demand credentials, such as certificates and associate's degrees. Strategic pathways include stackable and portable credentials that allow students to compete in the labor market and pursue further education that matches their interests and career goals.
- **Designers reverse map pathways from regional labor market needs.** To build a skilled talent pipeline for the region, pathways are designed with the end in mind. Pathway design should start with researching high-wage, high-demand industries, then identifying aligned postsecondary programs, and finally mapping best bet courses and activities to incorporate into students' K-12 experience.

If pathways in your district follow the structure outlined in these pathway models and guiding principles, your district will have an advantage on state accountability measures, especially those in the [College, Career, Workforce and Military Readiness](#) (CCWMR) component (e.g., earned at least 12 college credits, earned at least 12 industry-recognized credential points). The BAC and its subcommittees have set highly aligned goals to support your district as you develop and implement pathways.

Role of Partners in Pathways

All stakeholders have key roles to play in implementing pathways, and these roles and responsibilities may vary from district to district. For employers, some examples of supporting pathways are offering WBL opportunities or providing feedback about skills and competencies needed for success in the industry. For higher education partners, some examples include collaborating with local high schools to support more opportunities for CCP and alignment between secondary and postsecondary curriculum. For K-12 partners, some examples include developing college and career advising opportunities for students and using the models as a template for a sequence of coursework. For more specific information on how to support pathways, please see the Partner Commitments section.

Getting Started

Before districts dive into the toolkit, especially the self-assessment, MCESC recommends identifying a team of representatives who have direct insight into all elements of pathways work. This team should include district and school leaders (e.g., superintendent, secondary supervisor, principal) who can provide insight on policies and partnerships associated with pathways, as well as school practitioners (e.g., counselors, teachers) with direct knowledge of and experience with specific programmatic elements. Once districts have reviewed the toolkit and completed the self-assessment, MCESC can offer tailored career navigation services and support resources to help you move forward.

District Self-Assessment

This self-assessment is designed to support school districts as they assess the pathways available to students, including partnerships, collaboration, and continuous improvement efforts that support pathways and the personalized support students need to ensure their success.

The self-assessment is organized into three sections: 1) Secondary-Postsecondary Integration, 2) Career-Connected Learning, and 3) Career Navigation and Advising. Each of these sections has a tailored set of indicators along with cross-priority area indicators in the following categories: Partnerships & Collaboration, Continuous Improvement, and Personalized Supports.

As you move through the self-assessment, refer to each section's Evidence of Success list for materials and resources to review as you think about your rating for each indicator. Keeping the unique goals, realities, and needs of your district in mind, discuss each of the indicators in this self-assessment and rate their current level of implementation using the self-assessment key on the following page. Once you complete the self-assessment, look at each section to determine which rating was the most prevalent (exploring, emerging, or established). If your overall rating for a particular section is exploring or emerging, review the guidance section for these pillars of practice. If your overall rating is established, continue to ensure that you have appropriate infrastructure and resources in place as well as the right district and cross-sector stakeholders to sustain the pathway. If your overall rating for most of the sections is exploring or your activities are pre-exploration, consider starting with the guidance in the Career Navigation and Advising section beginning with training for and the administration of YouScience and the development of individualized college and career plans.

As part of your participation in the Business Advisory Council (BAC), MCESC expects that each district implement at least one regional pathway. If you're in the process of developing your first regional pathway as a district, complete the self-assessment with that one pathway in mind. If you have two or more regional pathways in your district, complete the self-assessment with a holistic view of all your district's pathways. For indicators marked with an asterisk (*), consider each pathway separately and assign a rating based on the self-assessment key below.

Self-Assessment Key

<u>Exploring</u>	<u>Emerging</u>	<u>Established</u>
Pathway offerings/elements are ad hoc and informal and have minimal alignment to the regional pathway model.	Pathway offerings/elements are somewhat formalized and have some alignment to the regional pathway model.	Pathway offerings/elements are formalized and strategic and have clear alignment to all elements of the regional pathway model..
Clear systems and processes do not exist (e.g., logistical problem-solving, clear roles and responsibilities, cross-district collaboration).	Some systems and processes may be in place, and work on pathways occurs occasionally or with some regularity.	Clear systems and processes drive pathways work forward on a regular and consistent basis.
Pathway offerings/elements are minimally accessed by students and/or have limited impact.	Pathway offerings/elements are accessed by some students and/or have an uneven impact.	Pathway offerings/elements are accessed by all students in the pathway and with consistent, measurable, and/or observable impact.
Work occurs with minimal or no stakeholder input.	Work occurs with limited or inconsistent stakeholder input that might not involve all appropriate stakeholders.	Work occurs with consistent stakeholder input from and involvement of cross-sector stakeholders.

Secondary-Postsecondary Integration

Category	Indicator	Self-Assessment	Notes
Workforce Alignment	All pathway offerings and elements are aligned to high-demand, high-growth careers with living wages outlined in the regional pathway model.		
Pathway Structure	The pathway has a coherent three-to four-year course sequence, including CCP courses, as outlined in the regional pathway model.*		
	Students in the pathway have structured opportunities to earn initial credentials outlined in the regional pathway model (if relevant).*		
	All students in the pathway have structured opportunities to build technical competencies through specific courses or existing courses in the pathway, including CCP.*		
	All students in the pathway have an opportunity to build employability skills through specific courses or existing courses in the pathway, including CCP.*		

Category	Indicator	Self-Assessment	Notes
Postsecondary Articulation	Pathways at the high school level align with programs and credentials that two- and four-year institutions in the region offer.		
	Clear and efficient maps and transfer agreements articulate how CCP courses transfer to two- and four-year credential and degree programs in the region.*		
Cross-Priority Area Indicators			
Partnerships and Collaboration	Educators and administrators collaborate across high schools and partner with postsecondary institutions to align curriculum and support seamless transitions to postsecondary education.		
Continuous Improvement	Clearly defined and established metrics and benchmarks inform a system for regularly tracking, reporting, and utilizing data to inform improvement of the pathway and student outcomes at both the high school and postsecondary levels.		

Category	Indicator	Self-Assessment	Notes
Personalized Supports	All students in the pathway receive tailored support with required paperwork and processes to access CCP courses, earn credentials, and enter postsecondary education.		
	All students in CCP courses can access tutoring and/or other academic support to be successful.		

Evidence of Success:

- Labor market information (LMI) and employer input are used to inform the pathway course sequence.
- Sequence of courses from grades 9 through 14-plus (high school through an associate's degree or other valued credential) is aligned to what's outlined in the regional pathway model.
- Transfer agreements or memorandums of understanding (MOUs) with and between partner colleges exist.
- Parent- and family-facing pathway model information about the pathway and CCP awareness resources are present.
- Disaggregated student data about pathway enrollment, success, and completion (e.g., postsecondary readiness criteria from Ohio's College, Career, and Military Readiness component of the Ohio School Report Card) is collected.

Career-Connected Learning

Category	Indicator	Self-Assessment	Notes
Career-Connected Learning	The district offers a wide range of career awareness activities for students to become familiar with careers and to explore their interests and strengths (e.g., assessments, classroom speakers, workplace tours).		
	The district offers a wide range of career exploration activities for students to explore career interests through structured learning and activities (e.g., job shadows, industry projects).		
	The district offers a wide range of career preparation and participation (e.g., WBL) experiences for students to apply skills and gain hands-on experience (e.g., internships, school-based enterprise).*		
Integration	WBL experiences are aligned to and sequenced with academic and technical coursework.*		

Category	Indicator	Self-Assessment	Notes
	Educators utilize resources and/or processes to support students' readiness for WBL experiences.		
	Employability skills and technical competencies outlined in the regional pathway model are integrated into WBL opportunities.*		
Policies & Procedures	Partners work together to identify policy barriers to student participation and success in WBL, develop solutions, and advocate for necessary change.		
	Partners work together to find solutions to logistical challenges (e.g., transportation, labor laws, scheduling).		
Cross-Priority Area Indicators			
Partnerships and Collaboration	Employer partners are supported to effectively work with K-12 students.		
	The district shares a value proposition and/or other evidence-based resources to recruit employers to offer WBL experiences to students.		

Continuous Improvement	The district regularly convenes key WBL leaders in the education and workforce sectors to discuss successes and challenges, identify solutions to barriers, and effectively align systems.		
	Partners develop processes to track and evaluate students' career connections and WBL experiences and outcomes.		
Personalized Supports	The district has established regular and ongoing communication processes with employer leaders of WBL experiences to identify students who might be struggling and offer tailored support for success.		
	Students in WBL experiences receive financial or resource support from the district or the employer as necessary (e.g., transportation, required safety gear).		

Evidence of Success:

- Sample menu of CCL activities offered across grade levels and industries created.
- Student-facing tools and resources related to CCL activities provided.
- Employer-facing tools and resources related to CCL activities developed.
- Documentation that outlines WBL responsibilities between the district and the employer partner completed.
- Documentation of technical and employability competencies integrated into course learning objectives and CCL activity plans.
- District's BAC data submissions reviewed.



Career Navigation and Advising

Category	Indicator	Self-Assessment	Notes
Advising and Individualized Planning	Students complete and unpack YouScience assessments at least once in middle school and at least once in high school.		
	Advisors and educators regularly utilize students' YouScience results to help them identify potential careers of interest and to inform individualized advising interventions/CCL.		
	All students in the pathway develop individualized college and career plans, with evidence of their understanding of various college and career options.		
	The district has a process for students to review their individualized college and career plans and coursework with the support of an advisor or teacher on an annual basis.		

Category	Indicator	Self-Assessment	Notes
Recruitment and Access	Information about the pathway is available to students and families in multiple formats and in multiple languages as relevant (e.g., social media, school website, information sessions).		
	The district promotes early awareness and interest among middle school students and their families by providing targeted resources and/or activities related to the pathway.		
Cross-Priority Area Indicators			
Partnerships and Collaboration	Advisors from elementary through high school collaborate to provide a sequence of advising for students that builds career awareness, embeds college and career exploration, and deepens planning as students approach graduation.		
	Secondary and postsecondary advisors collaborate to advise students on the best sequence of CCP courses for their postsecondary and career goals.		

Category	Indicator	Self-Assessment	Notes
Continuous Improvement	The district uses robust processes to engage students and gather feedback on their personal learning/advising experiences and transitions into postsecondary and the workforce.		
	The district has a process to analyze both quantitative and qualitative data on supportive services and advising accessed by students.		
Personalized Supports	All students in the pathway receive intentional, personalized, high-quality guidance from a dedicated advisor, counselor, teacher, or career navigator.		
	The district has established strategies to support student persistence in the pathway, focusing on their specific needs and aspirations (e.g., personalized learning plans, social-emotional support).		

Category	Indicator	Self-Assessment	Notes
	The district provides opportunities for students to develop beliefs, attitudes, and values that prioritize success in the pathway and the setting of goals for life after high school.		

Evidence of Success:

- Tools and resources for students, teachers, and counselors such as pathway models, labor market information (LMI) resources, course sequences, and advising tools are in place.
- Utilization of the district's career advising policy across advisors, educators, and administrators is underway.
- Parent and family outreach and engagement plans and resources are created and distributed.
- Student achievement and progress data are collected.
- District's BAC data submissions are compiled.

Pathway Guidance on Design and Implementation

This section provides practical, field-aligned guidance and best practices for designing and implementing high-quality pathways. It is intended to help your district understand the core elements of pathway implementation and offer concrete ideas for addressing emerging or persistent challenges.

Use your self-assessment ratings to identify where to start. You can jump directly to the guidance that best matches your current stage of work (for example, Exploring or Emerging) and focus on the areas that are most pressing for your district.

This portion of the toolkit is organized into five subsections that align with the self-assessment. Each subsection uses a common structure so teams can quickly find what they need:



Key Focus Areas. What districts at your stage of work should prioritize based on your self-assessment ratings.



In Action. Brief examples from regional practice that illustrate how districts have approached this work and what it looks like on the ground.



Guidance. Concrete strategies, tips, and design considerations for carrying out the activities and navigating common implementation challenges.



Discussion Questions. Prompts for your school or district team to reflect on current practice, surface barriers, and define next steps for improvement.

Districts can use this section as both a planning resource and a working reference during team meetings, professional learning sessions, and continuous improvement cycles.

Secondary-Postsecondary Integration



Key Focus Areas

Exploring

Develop an understanding of the labor market and leverage industry insights to design pathways and select pathways-aligned courses to offer.

- ☐ Review labor market information featured in the regional pathway models to understand occupations that are growing and how they connect to postsecondary programs and credentials of value.
- ☐ Connect with local chambers of commerce, workforce boards, and industry groups to understand labor market trends for the local area and how these data intersect with regional labor market information.
- ☐ Align available district resources with in-demand pathways. Shift resources away from or end offerings not aligned to in-demand fields.
- ☐ Review student course enrollment numbers, YouScience data, two- and four-year college enrollment and graduation rates, and current teacher credentials to identify student trends and needs completed by superintendent, principal, curriculum or Career and Technical Education (CTE) Director.
- ☐ Refer to the regional pathway models to identify one to three courses to begin offering.
- ☐ Identify at least one credential to begin offering and embed within a clear sequence of coursework and experiences.

Emerging

Deepen understanding of real-time labor market needs to integrate key insights into current pathway offerings and identify opportunities to expand course offerings.

- ☐ Engage regularly with regional BAC events, communications, and professional development offerings (e.g., Career Champions) to understand current needs, trends, and opportunities in the sector and how this can inform pathway offerings.
- ☐ Conduct a complete pathway map to document existing courses, CCL activities, and credentials to identify gaps and opportunities to enhance the pathway by expanding course offerings and adding or modifying CCL opportunities.
- ☐ Collaborate with postsecondary partners to expand recommended CCP course offerings, including coordinating approval processes to enable high school teachers to teach CCP courses offered at the high school.

- ☐ Support teachers to identify approaches to integrate employability and technical skills development into their courses.
- ☐ Assess credential offerings and outcomes to identify opportunities to strengthen student preparedness or add stackable credential options.

Established

Regularly revisit labor market information (LMI) and assess offerings, moving toward full implementation of the regional pathway model.

- ☐ When a regional pathway model is updated by the BAC (five-year cadence), review updated labor market information to understand shifts in the region and implications for current offerings.
- ☐ Review student participation and success data in the pathway to identify appropriate experiences or supports to increase student success, set student recruitment and enrollment goals, and assess partnerships.
- ☐ Continue conducting a pathway model map annually.



Guidance

Pathway Structure

Pathways include an intentional sequencing of core academic and technical courses and build in opportunities to earn college credit. Pathways also blend in WBL opportunities that enable students to understand how their knowledge and skills can be applied in a real-world setting. Pathway programs should be designed and sequenced with the requisite coursework to prepare students to earn a credential of value.

Key Data for Pathway Planning

The foundational information that should be used to design and strengthen a pathway is student data (e.g., course enrollments, YouScience assessments), a list of current offerings, and the regional pathway models. Course enrollment data may signal where there is an opportunity to suspend an existing course to open up the schedule block and teacher capacity to deliver a pathway-aligned course.

Student interest and aptitude data from YouScience should inform the scale of the pathway. For example, if 60 8th graders have an interest and aptitude for health science related careers, the district should plan to offer more than one course section for pathway-aligned courses to ensure all students can enroll. YouScience data will also be leveraged for designing CCL opportunities and student advising, as shared in subsequent toolkit sections.

Mapping Your Pathway

Districts should map their complete pathway offerings on an annual basis to assess current offerings against the pathway models. To prepare to map your pathway, all school stakeholders involved in pathway design should become familiar with the pathway models, including the recommended course sequencing. Stakeholders to include: high school administrators, curriculum directors, counselors, educators who teach courses related to the pathway, and district-level staff focused on curriculum design and pathway strategy. Components of mapping your pathways include documenting the following by grade level:

- Foundational high school, CCP, and other career-related (e.g., employability skills, Career Adventures) courses offered
- Credentials offered
- Pathway-aligned career experiences, including WBL, offered each quarter and in the summer months

Once the current offerings are mapped, the school team can begin identifying gaps and new course offerings to prioritize. Identifying courses to offer depends on the school's master schedule, educator availability and credentials, and prioritization among other school priorities.

Course planning and design should occur in October or November, so there is sufficient time to begin planning new course offerings in December and January, aiming for board approval by early spring, in alignment with the annual district course scheduling process.



In Action: Collaboration on Pathways Design

At Trotwood-Madison City School District, the education pathway teacher partnered with a career navigator to strengthen the offerings in the district and align to the regional pathway model. Together, they reviewed current offerings and the regional model, then mapped a four-year course sequence that included CTE and CCP courses. This process also sparked discussion about how to embed meaningful credentials into the pathway. The teacher shared the resulting pathway map with the advisory committee and other departments, using it to advocate for expanded CCP offerings. This teacher-initiated process elevated the teacher's voice, sparked broader discussion about how the district can improve CCWMR measures through thoughtful pathway design, and positioned the pathway to better support students' postsecondary and workforce readiness.



Scheduling

Fitting pathway-aligned coursework into the school day may require adjustments to the master schedule and shifts in school or district policies. Strategies to ensure students can take full advantage of pathways coursework and career-connected learning include:

- **Adopt flexible block or modified block scheduling.** Use longer class periods so students can take pathway courses without conflicting with core requirements. This approach can also enable students to participate in WBL or certification programs on alternating days from their pathway coursework (Trotwood-Madison did this for CTE and education courses).
- **Create protected “pathway bands” in the master schedule.** Designate specific periods or half days when all pathway students are scheduled into pathway-aligned courses.
- **Leverage early release/late start.** Offer late start or early release options for high school seniors on track to graduate so they can participate in WBL opportunities. This helps avoid placing students in random classes in order to stay for the full school day.
- **Offer two weeks on/two weeks off schedule.** For students on track to graduate, offer an alternating schedule with a two-week block of coursework and a two-week block for WBL participation.

Instructor Credentialing

All CCP offerings in the pathway models are available through multiple modalities, including on Sinclair’s campus, by Sinclair faculty at the high school, or online.

Credentialing high school teachers to teach college-level courses at the high school expands access for students, particularly for high-demand courses. In Ohio, more than 15 colleges offer special [graduate-level programs](#) for high school teachers to accelerate the process to earn an advanced degree and to reduce costs.

Creative solutions to increase student access to CCP in high school while navigating teacher credential gaps include:

- Teachers as assistants or proctors. Students take a CCP course online and have a facilitator or proctor in the classroom to provide students with supplemental support.
- Course sharing across schools. Two high schools in different districts share a professor, as seen with Valley View and Brookville.
- Split instructor course load across the district. A teacher splits time between teaching foundational coursework at an intermediate school and CCP courses at the high school within the same district.

Embedding Credentials of Value

Earning 12 or more industry credential points in a single career field is one way to demonstrate postsecondary readiness as a part of CCWMR for the Ohio Report Card. Intentionally embedding credentials into pathways can help districts meet CCWMR goals and give students the skills and credentials to be workforce ready.

- Assess credential offerings to ensure the credentials are high value, transferable, and stackable; regularly review credential options with recent labor market data and postsecondary partners to confirm they are recognized by employers and build toward higher-level certificates or degrees.
- Determine which credentials can be fully earned on the high school campus and which require external testing sites or partners, then build clear processes and timelines for each.
- Integrate credential preparation, standards, and skills from certification exams into required course curriculum to reduce schedule pressure and better integrate learning.
- Provide structured exam preparation such as practice exams, test-testing workshops, tutoring, and access to necessary equipment or software.
- Identify resources to support students with exam fees, books, test prep materials, transportation, and other materials needed for an exam.
- Support educator learning and development through additional professional development and training, curriculum guides aligned to the credential, and externship opportunities with local employers.

Integrating Technical Competencies and Employability Skills

Students should have opportunities to build competencies through coursework and CCL experiences. School districts in the region are implementing creative approaches, including:

- Embedding employability skills into existing college and career readiness courses, WBL programs, and specialized workshops (e.g., Real Life Day event with workshops on professionalism and communication at Brookville).
- Offering standalone employability skills courses, with the PowerUp employability skills course available as a low-cost option through MCESC.
- Adding information about technical competencies to student-facing materials (e.g., flyers, videos) about industries and occupations.
- Leveraging generative artificial intelligence (AI) tools to map technical competencies to learning standards to identify opportunities to intentionally connect course objectives and content with competencies.

- Designing performance-based projects where students apply technical skills and professional behaviors to solve authentic industry problems.
- Co-creating checklists and evaluations with employers for WBL opportunities tied to specific technical and employability skills.

Educator Strategies to Bridge CCL

Collaboration among educators helps integrate core academics and CCL. This can be done in a variety of ways:

- **Common planning time and team teaching.** Core academic educators who teach subjects like English, math, history, and science can partner with CTE teachers to co-develop lessons and teach together to improve academic knowledge and build real world skills.
- **Integrated projects and curriculum units.** Core academic teachers can collaborate with CTE teachers to develop projects and curriculum units that combine core academics and career-focused learning. For example, an English teacher partners with information technology teachers to have students design a webpage that highlights key elements of books they read in class such as a book summary, key themes, and reader reviews.
- **Subject area collaboration across buildings.** Elementary, middle, and high school teachers from a subject area aligned to a pathway meet to align options and teaching strategies to create a seamless experience for students.

Participating in externships is another approach for helping educators and counselors learn more about industry and connect classroom learning to career possibilities. A typical externship opportunity allows teachers and counselors to visit local businesses, gain an understanding of industry standards, and learn about a variety of employee roles. Externships can range from a few days to multiple weeks and often take place during the summer. Through externships, educators:

- Gain professional development opportunities that connect the classroom to the workplace.
- Interact with industry leaders via direct experience at a job site.
- Develop knowledge to teach about the trends, skills, and opportunities in industries related to their content.

Postsecondary Partnerships and Collaboration

Effectively designing and delivering coursework and credentials and coordinating seamless transitions to postsecondary requires intentional collaboration and relationship management with local community colleges and four-year institutions. They include the following:

- **Establish clear points of contact and regular communication structures.** Designate a primary liaison at both the high school and each postsecondary institution, and set a consistent meeting cadence (e.g., quarterly strategy meetings plus operational check-ins) to align on pathways, CCP offerings, and problem-solving.

- **Define student support roles and resources collaboratively.** Work with postsecondary partners to clarify who is responsible for advising, technology access, tutoring, disability services, and other supports so CCP and pathway students have a seamless experience.
- **Co-design bridge and acceleration programs.** Partner with colleges to create a summer bridge, co-requisite, or acceleration models that address academic gaps and help students transition smoothly into college-level coursework and credentials.
- **Formalize credit transfer and articulation agreements.** Develop clear, written articulation and transfer agreements that specify which credits count toward degree/credential completion (e.g., AP, CLEP, CCP), reducing credit loss and confusion for students.
- **Use MOUs to codify expectations and operations.** Develop a MOU that outlines shared goals, governance and decision-making, data-sharing, roles and responsibilities, and key operational details (credit awarding, prerequisites, course location, facility access, transportation, tuition and fees, and revenue/expenditure arrangements).
- **Create user-friendly transfer maps for stakeholders.** Develop simple, visual maps that show students, families, counselors, and teachers exactly how CCP and other dual credit courses apply at multiple two- and four-year institutions. The maps should include information about the impacts of Satisfactory Academic Progress (SAP) on entrance into specific college programs and financial aid eligibility.
- **Engage college transition advisors and similar staff.** Leverage transition advisors from postsecondary institutions to support outreach, advising, and case management for high school students in pathways. Align on roles, responsibilities, and communication strategies between college advisors and high school counselors.
- **Align curriculum and assessment across institutions.** Convene high school and college faculty to backward-map course sequences, syllabi, and assessments, so high school pathway courses genuinely prepare students for the rigor and expectations of entry-level college courses.



Discussion Questions

- How does labor market data inform the pathway? How does your district balance student-level data with regional and local labor market trends in making design decisions?
- Which key personnel from across the district and partner postsecondary institutions are currently involved in pathway development and implementation? How can collaboration and alignment be strengthened?
- How does your district ensure that secondary and postsecondary pathways align? What systems and structures exist that support alignment and integration?
- What district or school-level policies support pathway implementation? What policies need to shift to offer the full range of course and credential offerings articulated in the pathway model?
- What training, professional development, or structures for collaboration exist to help educators integrate competencies, credentials, and career connections into coursework?



Key Focus Areas

Exploring

Establish a foundational set of CCL activities for each grade level in the district, with an emphasis on opportunities aligned to the in-demand pathways, and begin piloting WBL opportunities.

- ☐ Map current career awareness, exploration, preparation, and participation (i.e., WBL) activities by grade level and by industry or sector.
- ☐ Begin designing and delivering activities that address gaps in currently available offerings and consider how experiences thoughtfully build upon one another through elementary, middle, and high school.
- ☐ Offer grade-appropriate activities aligned to the BAC Career Connections Months of Action.
- ☐ Identify a key staff member responsible for working with employers and establish processes for managing employer relationships (in collaboration with the BAC).

Emerging

Expand CCL offerings, ensuring all students across grade levels have multiple opportunities to explore career options and participate in quality WBL experiences.

- ☐ Develop strategies (e.g., surveys, mini-lessons) to help students reflect on experiences and make connections to relevant coursework and career aspirations.
- ☐ Begin assessing the effectiveness and impact of offerings by gathering feedback from students and employers.
- ☐ Establish consistent practices to prepare students for WBL opportunities and coordinate wraparound supports.
- ☐ Deepen and expand employer relationships.

Established

Codify strategies for developing and delivering CCL experiences, drive continuous improvement, and begin scaling opportunities in partnership with employers.

- ☐ Actively incorporate student and employer voice into the design and delivery of offerings.
- ☐ Develop policies, manuals, and professional development to support consistent, high-quality delivery of opportunities (e.g., solutions to liability issues, offering supervisor training, managing event logistics, internship description templates).



Career-Connected Learning

An approach that integrates academic learning with a continuum of experiences, CCL starts as early as elementary school and continues throughout a student's K-12 journey. CCL helps students explore career options, develop transferable skills, and apply what they're learning in the classroom to real-life contexts ([TNTP](#)). To create and strengthen the infrastructure for CCL, districts should:

- **Map current CCL activities annually**, including an assessment of the current employers engaged in activities.
- **Adopt a K-12 CCL progression** that defines what career awareness looks like at each grade and aligns with the BAC pathway models and Career Connections Months of Action.
- **Provide professional development** to educators to support awareness of pathways, connect course standards with careers, and to co-design career-focused activities.
- **Designate a staff member to serve as a Career Champion** and actively participate in the MCESC's Career Champions and Counselors Academy and bring insights and practices back to the district.
- **Utilize a technology tool** to help track student participation in CCL and experiences implemented and integrate with other student information systems and platforms.

There are additional steps districts can take to implement different phases of CCL. They include:

Career Awareness

Career awareness activities help students become familiar with careers and explore their interests and strengths. These experiences help students reflect on how their interests, aptitudes, and preferences match various career options. To specifically implement career awareness, districts should:

- **Integrate careers into core instruction** by supporting educators to embed short career-focused prompts, lessons, and projects in math, ELA, science, and social studies classes (e.g., "Where do people use measurements in their jobs?"), making careers part of daily instructional language.
- **Embed student reflection** (e.g., drawing, journaling, simple "exit tickets") after each experience to help students connect activities to their interests, skills, and future learning.
- **Coordinate with afterschool partners** to extend and reinforce CCL in clubs, camps, and STEM activities.
- **Develop a plan for implementing YouScience.** See the Career Navigation and Advising section for additional guidance.

Some activity examples include:

- **Career Connections classroom speaker series.** Monthly classroom or grade-level talks from local professionals (e.g., nurse, welder, software developer, aviation technician) with a brief hands-on demo and Q&A.
- **“Touch-a-Truck”/Tools of the Trade Day.** Employers and public agencies bring vehicles, tools, and equipment (ambulance, bucket truck, delivery van, construction tools) for students to explore and talk with workers about their jobs.
- **Career-Connected Literacy Week.** A themed reading week where all K-5 classrooms use picture books and short texts about workers in BAC-aligned sectors, followed by simple writing or drawing prompts about “a job I learned about today.”
- **Family career night and student showcase:** Evening events where families share their careers at tables or short talks, paired with student-created posters or projects about careers they’ve learned about across the year.

Career Exploration

Career exploration activities help students investigate career interests and options through structured learning and interactions with professionals. Students get exposure to real-world work environments, explore job trends, and learn about the skills needed to succeed in various careers. To specifically implement career exploration, districts should:

- **Offer at least one structured Career Adventures or workforce sector course** in middle school, using YouScience aptitude/interest data to guide which sectors and which students are prioritized.
- **Integrate exploration tasks into core academic and pathway-aligned courses** (e.g., industry projects in science or math, short research tasks on in-demand occupations in ELA/social studies).
- **Develop a middle-grades college and career-readiness sequence** that includes structured lessons on labor market information, OhioMeansJobs resources, regional pathway options, and basic planning skills (e.g., goal setting, course planning).
- **Strengthen the 8th-grade transition into high school pathways** through spring pathway fairs, joint middle-high school counselor meetings, and one-to-one or small-group advising sessions that use YouScience and draft Student Success Plans to inform 9th-grade course selection.

Some activity examples include:

- **Career Adventures Course.** A nine-week elective where students engage in project-based learning to build foundational career skills and career awareness within a broad pathway (e.g., healthcare, aerospace).
- **Power Lunches.** Small-group lunchtime sessions where employers from BAC-aligned sectors staff tables, share their career stories, and answer questions.

- **Career Fair.** Employers host interactive booths (e.g., simple simulations, tools, or problem-solving tasks) and students complete a “career scavenger hunt.”
- **Job Shadow Day.** One-day experiences where small groups of middle school students observe a professional at work, discuss daily tasks and required education, and complete a structured reflection connecting skills to coursework.
- **Industry Project.** A short unit (one to three weeks) where students tackle a real-world problem from a regional employer (e.g., “Design a more efficient clinic waiting room” or “Plan a safe drone delivery route”), culminating in student presentations to industry volunteers.

Career Preparation and Participation

Career preparation and participation activities, which include career planning and WBL, help students apply skills and gain hands-on work experience. Students acquire essential employability and technical skills, begin growing their professional networks, and gain valuable workplace experience in conjunction with classroom learning. These experiences help students determine career fit and make decisions about career goals and plans. To specifically implement career preparation, districts should:

- **Clearly define expectations for each experience** (e.g., goals, supervision and mentoring, duration, meaningful tasks) and ensure learning and skill development is integrated with classroom learning.
- **Integrate employability and technical competencies into experiences** using regional competency maps as the basis for designing role descriptions, learning plans, and performance evaluations.
- **Provide student preparation and ongoing support during work experiences** through a career experience class, special workshops, and/or one-to-one coaching.
- **Identify and develop solutions to policy and financial barriers** and logistical challenges to student participation (e.g., transportation, scheduling, uniforms).
- **Ensure students receive recognition** for participation in and/or completion of WBL experiences, which may include wages or stipends, course credit, a certificate or industry-recognized credential, and/or recognition events.

Some activity examples include:

- **Internship or Pre-Apprenticeship (six to eight weeks).** Structured, supervised WBL experience that integrates practical applications of knowledge and theory learned in the classroom with opportunities to build professional skills on the job.
- **Job Shadow and HR Interview Combo.** Students spend a half- or full-day shadowing a professional, then meet with HR staff for a debrief on hiring expectations, required education/credentials, and resume/interview tips, aligned to their pathway.

- **School-Based Enterprise.** A student-run enterprise (e.g., school-based health clinic support, IT help desk, manufacturing micro-business) that requires students to demonstrate technical skills, employability skills, and basic business concepts.

Additional details about CCL activities can be found in the [BAC Employer Engagement Menu](#).

Employer Partnerships and Collaboration

- **Leverage BAC employer partners strategically.** Work with BAC employers to co-design an annual calendar of CCL activities explicitly aligned to regional in-demand pathways.
- **Collaborate with intermediaries to expand paid opportunities.** Partner with Ohio Means Jobs, SOCHE, and other community-based organizations that coordinate work-based learning and youth employment to connect students to paid, pathway-aligned experiences.
- **Use MOUs to formalize employer partnerships.** Establish a MOU that clearly defines each partner's roles, responsibilities, safety and supervision expectations, communication protocols, and data-sharing practices.
- **Assign a dedicated point person for each employer.** Designate a staff lead (e.g., career navigator or WBL coordinator) for every employer relationship to manage communication, logistics, problem-solving, and ongoing feedback loops.
- **Articulate a clear employer value proposition and commitment.** Clearly communicate how participation benefits employers (talent pipeline, community visibility, employee engagement) and specify what they are committing to (e.g., number of events, student slots, hours per semester).
- **Provide training and tools for supervisors and mentors.** Offer short trainings, orientation materials, and template tools (learning plans, evaluation forms, talking points) to help supervisors and mentors effectively support students and reinforce key technical and employability skills.
- **Co-design and co-evaluate learning experiences with employers.** Involve employers in shaping the structure, tasks, and duration of CCL activities and, where appropriate, in evaluating student performance using shared rubrics and feedback forms.
- **Track and coordinate employer engagement systematically:** Use a centralized system to record employer contacts, types and frequency of engagement, sectors, and student participation to avoid overburdening partners.
- **Recognize and celebrate employer partners.** Publicly acknowledge employer contributions through recognition events, certificates, social media spotlights, and inclusion in school/district communications to sustain engagement.



Discussion Questions

- How are CCL activities integrated with classroom learning and advising? What CCL activities are most impactful for students?
- Which industry partners are currently involved in CCL and WBL? How can those relationships be strengthened and expanded? What barriers exist to expanding career awareness, career exploration, and WBL?
- Who is responsible for managing employer partnerships? How does the district work together with the BAC, SOCHE, and other related partners to coordinate opportunities for students?
- What structures are in place to ensure all students in a pathway can participate in WBL? How are students currently selected for WBL opportunities and where could processes be improved?





Key Focus Areas

Exploring

Establish structures and routines for completing assessments, supporting individualized planning, and offering just-in-time career counseling and advising.

- ☐ Support all students to complete YouScience assessments in 8th or 10th grade.
- ☐ Support all students to complete an individualized college and career plan.
- ☐ Design communication and engagement methods to engage families in career planning processes.
- ☐ Create standards for communication and collaboration between counselors and advisors from across the school district, higher education, and other partner organizations (e.g., community-based organizations).

Emerging

Deepen advising practices and create systems to deliver comprehensive, high-quality advising for all students.

- ☐ Consistently implement a strategy for all 8th and 10th graders to complete YouScience.
- ☐ Regularly leverage YouScience results for advising students and matching to relevant courses and CCL activities.
- ☐ Revisit college and career plans with all students at least annually, updating as needs and goals evolve.
- ☐ Develop a comprehensive district advising strategy, including a plan to ensure all students receive regular individualized advising.
- ☐ Identify and utilize a platform(s) to streamline communication with families, manage career plans, and track student participation in pathways.
- ☐ Provide training and ongoing professional development for advisors, counselors, and educators.

Established

Continue implementing and assessing the district's advising delivery system.



Career navigation is the lifelong, nonlinear process of engaging in a set of interconnected activities—such as exploration, planning, skill development, and career advancement—to make informed decisions that lead to quality jobs and a sustainable career pathway in a dynamic economic landscape.

Advising and Individualized Planning

High-quality advising is a strategic and systematic approach to providing individualized career and academic advising to students along a continuum where networks of counselors, advisors, and educators collaborate to provide students with the relationships, resources, and skills that contribute to their education and career goals. A cornerstone of this work is helping students develop, understand, and regularly update individualized college and career plans grounded in high-quality assessment data. You accomplish this by doing the following:

Implementing YouScience

- **Adopt a district-wide YouScience implementation plan.** Commit to having all 8th and 10th graders complete YouScience within the first quarter of the school year, with clear expectations, timelines, and supportive messaging to students and families.
- **Plan for structured yet flexible administration.** Choose strategies such as completing assessments across several advisory sessions or content-area classes (e.g., four Wednesday advisories or a series of history classes) and adjust for school context and size.
- **Prioritize pacing to reduce fatigue.** Spread the assessment over multiple sessions rather than a single long sitting to support thoughtful, accurate responses and more reliable insights for students and staff.
- **Develop a targeted staff training plan.** Provide professional learning for counselors, teachers, and career navigators focused on how to administer YouScience, interpret results, embed data into advising routines, and use insights to inform course and pathway decisions.
- **Ensure widespread access to results.** Provide all educators, not just those implementing the assessment portion, to have access to student results. This helps all educators hold informed and targeted conversations with students in their courses and create connections to course content.

Using YouScience data

- **Embed YouScience in one-on-one and small-group advising.** Use profile results as the starting point for “transition meetings” (e.g., 8th-to-9th grade, 10th-to-11th grade) in which students sit down with a counselor or navigator to connect their aptitudes and interests to concrete pathways and course options.
- **Help students deeply interpret their profiles.** Create structured lessons or advisories where students walk

through key sections of their YouScience results and reflect on what excites them and what this means for their plans.

- **Use YouScience data to match students with pathways and courses.** Align course requests and pathway entry (e.g., health, IT, manufacturing) with each student's aptitudes and interests, ensuring schedules reflect both their strengths and exposure to in-demand fields.

Designing and Reviewing Individualized Plans

- **Standardize an individualized plan for all students.** Require every student in a pathway to complete an individualized college and career plan or Student Success Plan that documents goals, course sequences, key milestones, and planned WBL or credential opportunities, linked explicitly to their YouScience results. This should include ensuring students are taking necessary foundational math and English courses to allow them to succeed in CCP courses in high school.
- **Build annual review cycles into the master schedule.** Establish grade-level routines (e.g., annual "plan review" weeks, spring transition conferences) in which advisors review and update plans with students, checking alignment between course-taking, pathway progression, and postsecondary aspirations.
- **Connect plans to interventions and supports.** Coordinate technology systems so that plan data trigger proactive outreach (e.g., tutoring, advising, SEL supports) when students fall off track relative to their goals or pathway benchmarks.

Recruitment and Access

Strategic recruitment and family engagement ensure that every student understands available pathways and can participate regardless of background or circumstance. Districts should combine broad awareness efforts, targeted outreach, and barrier-reduction strategies so students and caregivers can make informed, shared decisions about education and career options. They should commit to the following to do so:

Student Awareness

- **Understand current efforts to build student awareness.** Map existing awareness and pathway recruitment efforts and identify gaps so all students in middle and high school receive consistent pathway information.
- **Plan awareness events for students.** Launch career and pathway awareness in grades 6-8 through fairs, guest speakers, and integrated classroom projects.
- **Create student-facing materials.** Use presentations, one-pagers, websites, and short videos to explain pathways, requirements, schedules, and potential outcomes.

Student-Centered Communication and Outreach

- **Set up regular communication routines.** Communicate through daily announcements, social media posts, texts, and learning platforms students already use and trust.
- **Design student-friendly materials.** Frame messages around relevance, belonging, and exciting real-world experiences that make school feel connected to students' futures.
- **Plan targeted communication.** Send students targeted invitations for specific career-connected activities, leadership roles, and advanced coursework based on their interests, aptitudes, and goals.
- **Engage current pathway students as ambassadors.** Recruit, train, and recognize student ambassadors who share authentic stories and encourage peers to explore pathways.

Family Engagement

- **Integrate family engagement into advising and planning.** Communicate clearly with parents and caregivers about pathway options, YouScience summaries, and individualized plans using accessible language and multiple formats (e.g., family nights, translated materials, websites, and direct outreach).
- **Plan targeted communication.** Provide clear, frequent updates to parents and caregivers through personalized outreach (e.g., emails, calls) to share progress updates, key timelines, and invitations to career planning or exploration activities specific to their child.
- **Invite families into key decision points.** Involve families in major transition conversations (8th-grade pathway selection, 10th-grade program confirmation, postsecondary planning in grades 11-12) so they understand requirements, financial implications, and available supports.
- **Provide tools for at-home conversations.** Offer simple guides, conversation starters, and access to digital career navigation tools that families can use to discuss interests, labor market information, careers, and next steps with students outside of school time.



In Action: Communications with Families

Valley View High School uses ParentSquare to communicate information about student progress, career-connected learning opportunities, and other announcements with parents and families. Using a platform like ParentSquare enables advisors to create “groups” for customizing messages to subsets of parents (e.g., recommending a specific employer visit aligned to students’ interests and/or aptitudes). An advisor can also provide detailed information to parents aligned to the guidance being provided to the student. For example, providing a list of the four to five class options recommended in the students’ pathway and guidance for how to enroll in the different types of CCP modalities offered (e.g., on the college campus, at the high school, or online).



Personalized Supports

High-quality advising systems pair personalized advising relationships with coordinated supports so students can persist, complete pathways, and transition successfully to college and career. Personalized supports should be proactive, embedded in everyday experiences, and shared across advisors, teachers, navigators, and partners rather than resting on a single role. They should do the following:

- **Provide individualized support from advisors, teachers, and navigators.** Schedule regular one-on-one check-ins at key milestones and use YouScience, plans, and grades to personalize guidance. Embed advising to courses, advisory, and career-connected learning activities by inviting advisors into classes to co-facilitate activities and deliver mini-career lessons.
- **Support students to complete key processes and milestones.** Provide hands-on support for completing education and training application and placement steps (e.g., CCP, FAFSA, scholarships, licensing).
- **Coordinate wraparound supports.** Support students' success in pathways by coordinating supportive services (e.g., housing, mental health, food) in partnership with school and community-based services providers (e.g., YouthWorks, Drive to Succeed, United Way Strong Families, Homefull).
- **Build students' career navigation skills.** Teach students how to research career options and incorporate goal setting and decision-making into advisory and core courses.
- **Create structures for advisor collaboration.** Develop a communication plan and set a regular cadence for counselors and advisors from secondary and postsecondary to collaborate and align to individual student plans and needs.

Technology and Training

High-quality advising depends on both robust technology and skilled practitioners. Technology should amplify, not replace, the work of advisors and counselors.

A coherent data infrastructure and a consistently used advising platform (for example, Defined Learning) allow districts to manage and track student plans, participation in pathway experiences, and key outcomes in one place. When systems are integrated, student plans and early alerts can automatically connect learners to the right supports, and advisors have timely, actionable data to proactively intervene rather than react after problems escalate.

At the same time, human capital is the core of an effective advising system. Districts need clearly defined roles and responsibilities for advisors, counselors, navigators, and partner staff, along with routines for coordination across schools and organizations. Ongoing professional learning and, where relevant, credentialing should be aligned to shared standards for high-quality advising and coaching. Advisors and counselors should regularly participate in offerings such

as Career Champions and the Counseling Academy to deepen their coaching skills, strengthen their understanding of labor market and pathway options, and continuously improve the support they provide to students.

A comprehensive career advising toolkit is available on the Ohio Department of Education and Workforce's [website](#).



Discussion Questions

- How are you integrating assessment and planning activities into regular routines and schedules?
- What does outreach and marketing to students and families look like for your pathway opportunities? What approaches are most effective?
- Are all students receiving individualized advising supports? Where are there opportunities to coordinate advising and supports among counselors, advisors, and educators?
- What training and professional learning opportunities are regularly offered to advisors and counselors?
- How are you using data to inform your advising interventions for students? What adjustments do you need to make to your technology tools to support better data collection and use?





Key Focus Areas

Exploring

Establish a foundational vision and bridge connections between districts and schools to advance regional pathways.

- ☐ Hold listening sessions within the school to take inventory of what is currently in place regarding coursework and WBL activities.
- ☐ Create a team focused on pathways to support designing and delivering activities that address gaps in currently available offerings and consider how experiences thoughtfully build upon one another through elementary, middle, and high school.
- ☐ Develop a unified district vision for pathways that encompasses collaboration across the district and within each school.

Emerging

Expand and deepen connections between districts and within schools focused on advancing regional pathways and developing staff knowledge and capacity.

- ☐ Build a collaborative culture around pathways by holding regional pathway events with surrounding schools and districts.
- ☐ Offer professional development opportunities for key staff (counselors, advisors, teachers), including participation in Career Champions meetings and other BAC/MCESC opportunities.
- ☐ Establish monthly priorities and milestones to track progress.

Established

Regularly connect and engage districts and schools to implement and embed academic and career programming to advance regional pathways.

- ☐ Hold a regular cadence of regional pathway convenings focused on addressing gaps in awareness, design, implementation, and outcomes of the established pathway's vision.
- ☐ Align curriculum and programming to the pathway's vision by working with advisors and curriculum directors to ensure vertical alignment across elementary, middle, and high school courses and advising sequences, career awareness, and exploration.
- ☐ Review monthly priorities and milestones and identify gaps and areas for improvement.



Collaboration is essential for successful implementation of education-to-career pathways. Each partner in the ecosystem plays an important role in awareness, design, implementation, and outcomes of the established pathways. Cross-district collaboration informed by a clear vision for pathways that regularly connects and engages schools and districts encourages advancement of regional pathways.

Awareness and Buy-In

Strong cross-district collaboration begins with awareness and buy-in. Relevant stakeholders from superintendents down to school-level staff, including counselors and teachers, should have an awareness of the pathway model resources and the LMI that informs them. Increasing awareness and buy-in across all levels can look like embedding pathways in district and school culture and increasing staff awareness. Buy-in and awareness can be improved greatly when they are established at the highest levels. Securing superintendent endorsement can help ensure district-wide buy-in and continuity. Beyond buy-in, increasing awareness of the data contained within, and the resources connected to the pathway models, can improve the efficiency of how they are used. For example, awareness of the LMI used to inform the pathway models can impact the CCP course offerings within a district.

Defining Quality Cross-District Collaboration

To increase awareness and utilization of pathway models it is important to have quality cross-district collaboration. Intentional planning and communication are necessary for early exposure activities to be effective. They must be coherent and connected across grade levels. Cross-district collaboration should occur in several ways:

- **Between school districts.** Work between neighboring districts within the same region.
 - Collaboration between different districts can look like organizing regional events, such as Sinclair's Tech Prep Showcase, Wright State Entrepreneurship Day, Junior Achievement Inspire to Hire, or Dayton Works.
 - Collaborate on hosting larger events to reduce the burden on employers and increase student access.
- **District-wide.** Work between central office administration and schools.
 - Superintendents and principals set a vision for pathways by communicating ideas broadly to increase alignment and awareness among staff and developing monthly priorities or milestones such as a set number of students engaging in CCL opportunities.
 - District leadership can encourage staff collaboration within a district and demonstrate the interconnectedness of their work through use of professional development opportunities for key personnel where they:

- » Conduct a pathway data walk about college enrollment and attainment to build awareness of pathways and to assess current offerings and identify gaps and solutions.
- » Attend BAC meetings to help align education with the needs of the regional economy and gain a better understanding of regional labor market and industry trends.
- **Cross-school.** Work between high, middle, and elementary schools in a district.
 - Curriculum departments can play a key role in ensuring vertical alignment between schools to ensure that high school courses are aligned to offerings at the elementary and middle school levels.
 - Advisors collaborate to align advising approaches across grade levels and student milestones.
- **Within a school.** Work between departments within an individual school.
 - Develop a pathways team or working group composed of key personnel (teachers, counselors, advisors) to manage personnel changes so as to not rely on a single champion to drive the work and to ensure sustainability.
 - Jointly establish monthly priorities or milestones for the school that align with district-level goals.



In Action: Leadership Support

Trotwood Madison Local Schools demonstrated strong leadership support and vertical alignment by elevating computer science from an initiative led by elementary science, technology, engineering, and math (STEM) teachers to a district-wide priority set by the superintendent. The teachers' involvement in statewide networks resulted in a commitment to computer science as a key STEM pathway, leading to the creation of a middle school elective and a data science course at the high school.



Discussion Questions

- What is the district vision for pathways? How has it been communicated throughout the district?
- How are you currently collaborating with other districts in the region on pathways-related activities?
- Where are key pathways stakeholders already convening across your district and where can you leverage those convenings to plan, coordinate, and align on pathways and CCL activities?
- What existing structures for collaboration and communication processes are working well and where are there opportunities for strengthening communication and collaboration?

Continuous Improvement



Key Focus Areas

Exploring

Establish an understanding of current coursework, advising, and WBL offerings and practices

- ☐ Conduct a baseline data walk with a cross section of school stakeholders that documents pathway-related offerings and outcomes.
- ☐ Establish a set of quantitative and qualitative metrics and key indicators to measure student access, participation, and outcomes related to pathways.
- ☐ Submit required data to the BAC each quarter.

Emerging

Consistently collect and analyze data across metrics and key indicators and begin using data to inform practice and decision-making

- ☐ Establish a regular system for collecting and organizing data and reporting that is accessible to key staff and stakeholders.
- ☐ Collect data aligned to state level expectations (e.g., CCWMR).
- ☐ Convene key staff to regularly review collected data and develop action plans.
- ☐ Consistently collect real-time data and feedback (e.g., student and employer feedback surveys) to drive continuous improvement of key activities and pathway elements.

Established

Data collection, analysis, and review is routinized among school teams and used consistently for pathway design and continuous improvement.

- ☐ Review student participation and success data to identify appropriate experiences or supports to increase student success, set student recruitment and enrollment goals, and assess partnerships.
- ☐ Review disaggregated student data to ensure equitable enrollment and success across pathways.
- ☐ Develop strategies to collect long-term outcomes data (e.g., postsecondary enrollment, credential attainment, earnings) and connect to student-level pathway participation data.



Continuous improvement is backed by timely and relevant data collection. Successful collection of quality data relies on having an established set of key metrics and indicators that are collected and analyzed regularly to aid in addressing gaps in the pathways system. Both the collection and the analysis of this data require participation, collaboration, and alignment of key stakeholders across the pathways ecosystem

Establishing Key Metrics and Indicators

Districts should complete a pre-pathway data walk with leadership teams to generate buy-in and gain an understanding of the baseline of current pathway offerings by conducting a pathway mapping process (see Secondary-Post Secondary Integration section). In addition to current offerings, leadership should review student participation and success data in the pathway.

In reviewing the pathway map, leadership should determine which metrics and key indicators to continue collecting. These metrics should focus on participation, skill development, and milestone completion, ultimately working together to identify appropriate experiences or supports to increase student success, set student recruitment and enrollment goals, and assess partnerships. Potential pathway metrics include but are not limited to:

Academic Coursework

- Percentage of students taking foundational high school, CCP, and other career-related (e.g., employability skills, Career Adventures) courses offered
- Percentage of students completing and receiving college credit from participation in these career-related courses
- Number of credentials offered
- Number of credentials earned
- Grades earned
- Credit hours earned

College and Career Preparation

- Percentage of students completing a pathway-aligned career experience, including WBL, offered each quarter and in the summer months
- Percentage of students reporting the development of two or more technical competencies within their career-related experience

Selected Postsecondary Options

- Number and percentage of students graduating with a college acceptance
- Number and percentage of students graduating with a college acceptance but no enrollment
- Number and percentage of students enrolling in a post-secondary program
- Number and percentage of students completing
- Number and percentage of students completing on time

Selected Wages and Occupations

- Number and percentage of students entering a top-10 occupation six months after graduation
- Average wage of first placement job

Additional Measures

- CCWMR achievement
- Establishing milestones aligned to state expectations (K-5, middle grades, high school) and district vision (e.g., profile of a graduate) across pathway elements

Selections of these metrics should be aligned to identify gaps and areas for improvement identified in the initial pre-pathway data walk. For example, track who is accessing, attempting, and earning credentials by student group and pathway, and use that data to adjust supports and credential offerings to close equity gaps and maximize long-term value for students.



Strategy in Action: Kettering Data Walk

In Kettering City Schools, the team conducted two data walks to support reflection and continuous improvement. The first took place during the district's summer administration retreat and included all building and district administrators. During this session, participants were divided into small groups to review district-wide data boards and reflect on the information presented. Later in the school year, the team held a second data walk with high school building leadership team, composed of administrators, teachers, and counselors. This session focused specifically on building-level data and allowed participants to analyze trends and identify areas for growth.

Both data walks generated meaningful dialogue, highlighted opportunities for improvement, and fostered thoughtful discussions and brainstorming. These activities helped create a shared understanding of our strengths and areas for development while encouraging collaboration and strategic planning for the future.



Collecting Data and Gathering Feedback

Utilize strategic methods and sources for data collection to gather feedback and support with the intention of assessing access, participation, and completion within pathways. Applying both quantitative and qualitative measures allows you to gain a fuller understanding of gaps and opportunities, which can support identifying solutions for improvement. Make sure to employ a variety of data collection methods including surveys, focus groups, and interviews.

Beyond varying the ways that data is collected, gathering feedback from a variety of stakeholders across the pathways ecosystem informs more robust and systems-aligned changes. Employers, counselors, and faculty can help to identify successes and challenges, identify solutions, and effectively align systems. Students can provide information on their learning and experiences, including support services and the advising they have received.

Additionally, gathering data from a variety of sources ensures the collection of robust and timely information. Seek out sources that provide real-time and actionable data that allow you to make informed decisions and to change course where necessary. Some examples of data include:

- **YouScience.** Aptitude and interest data can be pulled from YouScience to identify trends that will inform industry-specific pathway activities and offerings, including courses and WBL opportunities.
- **Student information systems.** Post-graduation data, such as college completion rates, can be used to assess the effectiveness of pathways and inform future offerings.
- **College data.** Information such as course enrollment numbers can be used to identify under-enrolled courses and adjust offerings to better align with student demand.

Analyzing and Using Data

Beyond collecting the right information, it is important to analyze and use the findings to make informed improvements to programming and offerings. Compiling and disaggregating student demographic information supports equitable enrollment across pathways. For equitable participation, consider multiple factors for enrollment, such as grades, motivation, interest, attendance, and teacher and counselor recommendations.

District teams can use this data for reporting and continuous improvement. This data directly informs measures that are required for CCWMR reporting, such as college credits earned and industry credential points in a single career field earned. In addition to informing these requirements, this data can be used for continuous improvement within pathways. Data reviews and crosswalks allow stakeholders to understand what is available and to identify gaps and solutions that can inform modifications to pathway design. For example, data collected on the number of credits earned and percentage of students earning credits (disaggregated) can be used to inform how many and which CCP

courses are offered as well as which students are accessing and participating in these courses. Additionally, these findings can inform what support and/or recruitment measures may need to be changed to ensure equity in access, participation, and completion of these courses.



Discussion Questions

- How are you already bringing a cross-section of stakeholders together to review data to inform your pathway? Where are there opportunities to strengthen this?
- What data is not currently being collected that could easily be implemented? What data collection would require longer term planning?
- What student demographic and outcome data are being collected, and how is it being used?
- How are you using YouScience data trends to inform decision-making?



Partner Commitments and Core Mindsets

Successful pathway design and implementation require cross-sector partners to leverage their core competencies and strategically establish clear commitments. Below, we outline core responsibilities and commitments for each stakeholder group. Consider discussing these roles and responsibilities together with your partners and incorporating them into MOUs.

K-12

Superintendents

- Ensure district-wide commitment to pathways by incorporating your pathways vision, goals, and actions into the district's strategic plans.
- Coordinate the allocation of resources to support pathway delivery, including funding (e.g., general fund, Perkins V, grants), sufficient staffing, and scheduling flexibility.
- Set a district-wide vision and standard for collaboration across schools and central offices to design and deliver a cohesive system of CCL, advising, and academics.
- Facilitate partnerships with community colleges, four-year institutions, employers, industry groups, regional workforce boards, and pathways-related intermediaries and community-based organizations.
- Serve as an active member of the regional BAC.

Principals

- Set a vision and structure for collaboration on pathway design and implementation among educators, counselors, and school leaders.
- Determine and document specific roles and responsibilities related to pathways for core academic and CTE teachers, counselors, and school leadership.
- Establish comprehensive data collection systems and drive a continuous improvement process to monitor progress and outcomes.
- Facilitate regular communication and collaboration between elementary, middle, and high schools within the district.
- Identify educators to deliver pathway-aligned courses, credentials, and CCL experiences, including WBL.
- Create or adjust master schedules to accommodate pathway-aligned course sequencing and CCP offerings and enable students to participate in CCL experiences without disrupting classroom learning.

- Co-create a plan for YouScience implementation in middle and high school buildings.
- Collaborate with higher education partners to align offerings, develop credit transfer agreements, design bridge and acceleration programs, and create cohesion between high school and college advisors.
- Build partnerships with employers and community-based organizations to support pathway implementation and student support.
- Offer pathway-related professional development opportunities (e.g., YouScience, college and career advising training, Career Champions and Counselors Academy, implementation labs, instructor credentialing) to prepare counselors, teachers, and school staff to provide advising and address the academic and technical knowledge and skills that students need to be college and career ready.

Curriculum or CTE Directors

- Develop a sequence of defined courses from grades 9 through 14-plus (high school through at least an associate's degree).
- Develop a sequence and strategy for delivering grade-level appropriate CCL opportunities.
- Support YouScience implementation by using data to inform course alignment, CCL opportunities, and pathway enrollment.
- Develop and implement structures and processes that encourage and support educators in integrating rigorous core academics and career-focused learning. Examples include integrated projects and curriculum units, project-based learning, team teaching, common planning time, and CTE content embedded in academic courses.
- Collect and assess student data about pathway enrollment and completion to ensure students are entering and completing a pathway that fits their college and career aspirations.
- Manage partnerships with employers and community-based organizations to support pathway implementation and student support.
- Review and share employer-facing tools to support CCL opportunities, including sample guest speaker questions, example internship descriptions and evaluation documents, and supervisor training resources.

Counselors, Advisors, and Navigators

- Deliver a comprehensive continuum of high-quality advising with milestones across grade levels that are consistent, timely, and holistic.
- Deploy YouScience assessments in middle school and high school and develop a strategy for YouScience data integration into advising and planning.
- Create templates and tools for students to create and revise college and career plans (e.g., Student Success Plan).
- Facilitate career exposure and exploration activities in collaboration with educators and curriculum directors.

- Guide students to make connections between pathway-related coursework, CCL, and WBL experiences.
- Develop student recruitment and family outreach strategies and materials to help them understand pathway options, individualized YouScience data, and aligned opportunities for students (e.g., coursework, CCL).
- Actively participate in professional development opportunities (e.g., Counselor and Career Champions Academy, YouScience, college and career advising training), apply learning to assigned responsibilities, and share key lessons and resources with peers.
- Partner with community-based organizations and nonprofits to support student participation and success in CCL opportunities.

Educators/Teachers

- Collaborate with peer teachers, curriculum directors, and counselors to design and deliver grade-level appropriate career exposure and exploration activities in the classroom.
- Deliver lessons or activities that align course content with the Career Connections months of action.
- Integrate technical and employability competencies into course curriculum and assignments.
- Guide students to make connections between pathway-related coursework, CCL, and WBL experiences.
- Participate in credentialing programs, externships, or professional development (e.g., Counselor and Career Champions Academy) to understand industry trends, arrange to incorporate credential preparation into courses, and teach CCP courses.

Higher Education

- Develop a sequence of defined courses from an initial credential through a bachelor's degree or advanced credential to illustrate a clear plan for stackable credentials.
- Review embedded credentials in programs of study to ensure that they are stackable and portable.
- Develop and implement a process to regularly review and revise programs of study and credentials to maintain alignment with regional labor market demand.
- Partner with school districts to ensure alignment between secondary and postsecondary curricula.
- Develop transfer and/or articulation agreements with high school, bachelor's, and graduate programs.
- Develop bridge and acceleration programs in partnership with school districts to support transitions and address gaps in academic coursework.
- Design 2+2 programs that enable students to seamlessly move into bachelor's degree programs after earning an associate's degree (e.g., [UD Sinclair Academy](#), [The Wright Path Program](#)).

- Design and coordinate immersive student campus visits aligned to each pathway.
- Deploy transition advisors to support student success in College Credit Plus offerings and to support seamless transition into postsecondary programs.
- Develop targeted student recruitment and family outreach strategies in partnership with school districts.
- Collect and disaggregate student data about enrollment, completion, and occupational outcomes to ensure CCP students are entering and completing programs of study that align with their career goals.

Business and Industry

- Use the MCECSC's [employer engagement menu](#) to coordinate career awareness, exploration, and planning opportunities.
- Co-design and develop WBL opportunities that allow students to apply classroom learning in realistic settings, engage with industry professionals, and explore potential career options.
- Review and share employer-facing tools to support WBL opportunities, including example internship descriptions, evaluation documents, and supervisor training resources.
- Convene industry advisory councils to develop sector strategies for WBL.
- Determine essential industry competencies, including both technical and employability skills, to inform education curriculum.
- Provide consistent and timely feedback to ensure that all certifications and degrees that the pathway embeds will have labor market value.
- As the labor market shifts, participate in reverse mapping pathways—starting from industry needs, then aligning postsecondary and K-12 offerings—to ensure that students develop the skills and competencies necessary for success in the industry.
- Develop [formal agreements](#) and processes for working with education partners.

Workforce Development

- Provide local LMI and analysis to education partners to inform the development and implementation of pathways.
- Convene industry advisory councils to develop sector strategies for WBL.
- Provide consistent and timely feedback to ensure that all certifications and degrees embedded in pathways will have labor market value.
- Determine essential industry competencies, including both technical and employability skills, to inform education curriculum.

- Provide pertinent information to district partners about pathway-aligned WBL and employment opportunities (e.g., YouthWorks, SOCHE, DRMA, GDAHA, Tech First).
- Develop [formal agreements](#) (e.g., MOUs) and processes for working with education and industry partners to drive coordination and alignment across institutions and organizations.

Take Action Now

No matter where you are, there are small steps you can take to begin connecting students to meaningful pathways.

1. Establish a team of representatives with pathway insights, including district and school leaders and practitioners.
2. Complete the self-assessment.
3. Review the toolkit, focusing on guidance and key steps in areas of improvement from the self-assessment.
4. Follow up with the MCESC for tailored career navigation services and support resources to help you move forward.



Appendix

Glossary of Key Terms

- **Advising:** Personalized guidance and support to help learners explore options, interpret information, reflect on goals, and make decisions, delivered in different settings by trained practitioners and augmented by technology (e.g., YouScience).
- **Business Advisory Council (BAC):** A community effort to promote substantive and effective collaboration between educators and industry to prepare students to compete in a global economy.
- **Career-Connected Learning (CCL):** an approach that integrates academic learning with a continuum of experiences—starting as early as elementary school and continuing throughout a student’s K-12 journey. It helps students explore career options, develop transferable skills, and apply what they’re learning in the classroom to real-life contexts ([TNTP](#)).
- **Career Awareness:** Students become familiar with careers through learning that connects classroom instruction to future work. Career awareness strategies show students various types of careers and stimulate interest in future work.
- **Career Exploration:** Students explore their career interests through embedded activities. Career exploration strategies are opportunities for students to discover work environments and understand the various aspects of the workplace. Strategies include tools and instruments that help students understand and appreciate their strengths and interests. Students start plans for their future with career information and postsecondary education data. Plans include course selection and planning as well as career aspirations and goals.
- **Career Navigation:** The lifelong, nonlinear process of engaging in a set of interconnected activities—such as exploration, planning, skill development, and career advancement—to make informed decisions that lead to quality jobs and a sustainable career pathway in a dynamic economic landscape.
- **Career Planning:** Students continue career exploration while focusing on career planning. Activities provide advanced experiences that offer hands-on opportunities in a workplace. Career planning strategies focus on making clear links between career options and educational decisions. Students develop the skills to revisit previous exploration and planning strategies as they face career changes throughout life.
- **College Credit Plus (CCP):** allows students in grades 7-12 to earn high school and college credit simultaneously at no cost to families for tuition, books, or fees at public colleges and universities.
- **Credentials of Value:** Credentials that lead to occupations that are in demand, offer a family-supporting wage, and provide opportunities for growth within the industry.
- **Employability Skills:** Soft skills (e.g., interpersonal, critical thinking, social-emotional) students will need to succeed in the workforce.

- **Technical Competencies:** A set of technical skills students will need for a successful career in a given industry.
- **Work-Based Learning (WBL):** Practical, hands-on learning experiences where students engage with industry professionals in a workplace setting and complete tasks that support classroom learning and promote skill-building.



Frequently Asked Questions (FAQs)

How do I explain regional pathway models to students and their families?

Regional pathway models are dense and comprehensive. They are not intended to be handed to students without explanation. These models should be used to facilitate an advising conversation with students and their families, to answer questions about postsecondary credential options, and to provide examples of occupations, salaries, and careers in a given industry. They can also be used as references to respond to students’ questions such as “What classes should I take?” or “What should I study in college?” or “How much money do people in [job category] make?”

How was the living wage determined?

JFF used the MIT Living Wage Calculator for the Montgomery County, Ohio Metropolitan Statistical Area. Pathway models reflect the living wage for Montgomery County in the year they were originally developed. The calculator, which is updated annually, shows that as of February 2026, the living wage is \$20.53 per hour, or \$42,710 annually, for one adult and \$38.68 per hour, or \$80,452 annually, for one adult plus one child. Below are the estimated annual expenses that go into the living wage estimate:

Table 1. Living Wages Expenses for Dayton-Kettering, Ohio

Expense	1 Adult	1 Adult + 1 Child
Food	\$4,089	\$5,999
Child Care	\$0	\$15,834
Medical/Health	\$3,579	\$7,979
Housing	\$10,946	\$15,016
Transportation	\$8,262	\$9,561
Internet & Mobile	\$1,367	\$1,367
Civic	\$3,347	\$5,650
Other Necessities	\$4,549	\$8,272
Required Annual Income After Taxes	\$36,139	\$69,678
Annual Taxes	\$6,570	\$10,744
Required Annual Income Before Taxes	\$42,710	\$80,452

Categories like Food and Housing are straightforward, but Civic and Other may be confusing. The Civic section includes “the cost of engaging in basic activities that enrich the lives of Americans” as well as expenses such as pets, hobbies, toys, and education. While education is included, it’s important to remember that the living wage calculator is intended to cover minimum expenses. It does not include enough to cover the average annual student loan payment of \$6,432 (with the monthly average payment being \$536). The Other Necessities category includes expenses such as clothing, household furnishings, personal care items, and housekeeping supplies. For more information regarding each expense, see the [Living Wage Calculator Technical Documentation](#).

What is the source of LMI?

Regional pathway models show LMI from Lightcast, a labor market data source that combines government data, real-time job postings, and online resumes and profiles to analyze skills, compensation, and industry trends. The labor market information in the models is specific to the Dayton-Kettering region.

Why are students selecting a career pathway in 8th grade?

The intention of pathways is to make more explicit connections between education and the workforce to meet the needs of youth, educators, and employers, and build a more equitable and thriving economy. One concern we hear about pathways is that we are asking students to choose a career too early, however, many students will try a few career pathways over the course of their early adulthood. Pathways serve as introductions to an industry as opposed to training for a specific job. Pathways are not meant to limit a student’s options but to expose students to a variety of occupations within a given industry. Early career exploration and preparation have many benefits, including students learning and experiencing what working is all about and how their classwork can be applied in the world of work. They find out not only what they enjoy and where they excel, but what they should avoid. College and career exploration help students choose pathways that lead to quality jobs that pay a living wage and allow for paying back student debt.

Why do the postsecondary options start with initial credentials and associate’s degrees? Shouldn’t young people pursue a bachelor’s degree?

Our goal is that students receive a credential that will enable them to enter a high-demand, high-wage industry that provides them with a living wage and the opportunity for more education. Each industry pathway includes potential initial credentials, where applicable, to serve as a starting point for students. If students are interested in pursuing a bachelor’s degree, they can pursue that goal and can often earn other credentials along the way. In the “Selected Occupations, Wages, and Job Growth” table of the pathway models, the data in the “Typical Education Required” or “Preferred Education” column show that different occupations require different levels of education. As the models show, there are good jobs that pay a living wage and do not require a bachelor’s degree (such as dental hygienists). However, for some occupations and industries, like business, many employers do prefer or require a bachelor’s degree. The models also demonstrate that some education paths have credentials that easily stack, while in others, credentials do not stack as easily.

Why aren't CTE courses listed in the pathway models?

Each model lists CCP courses that have equivalent Career-Technical Assurance Guides (CTAGs) or Industry Recognized Credential Transfer Assurance Guides (ITAGs) credit, so if a school district elects to go the CTE route, these courses can still complement the pathway models.

Why aren't there pathway models for other industries in the region?

The BAC selected the pathways showcased in the models based on regional LMI that shows significant growth or consistent demand for high-paying jobs over the next five years. While each pathway model has an industry focus, strong pathways combine rigorous core academics with career-focused learning, allowing students to develop both technical and employability skills. Employability skills are desired by employers across industries and include critical thinking, problem-solving, communication, and adaptability.

Will the information in the pathway models change?

The models were developed with labor market data, which changes as the job market shifts over time. At least every five years MCESC will review and revise the information in the models, depending on how rapidly the industry changes and if there are shifts in educational programming. Cross-sector stakeholders should work together to determine how they can be responsive to industry needs, while also recognizing that major revisions to pathways can be challenging. While the specific details of regional pathway models may evolve over time, the core components and guiding principles of the pathways remain consistent over time.