



New Mexico Resource Center for CTE

Technical Documentation

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Technical Documentation: Leveraging Data and Expertise for P2C Content Delivery

1. Introduction

- **Overview of P2C:** Pathway2Careers (P2C) is dedicated to enhancing career and technical education (CTE) by providing comprehensive resources and tools that support educators, students, and workforce development professionals. P2C's mission is to bridge the gap between education and employment by offering data-driven insights and expert guidance to prepare individuals for high-value careers.

Purpose of the Document: This document aims to detail the methodology and expertise utilized by P2C to deliver the content available on the Pathway2Careers dashboard. It outlines the comprehensive research process, data sources, stakeholder engagement, and framework development that underpin the instructional frameworks and resources provided by P2C. By understanding these methodologies, users can appreciate the rigor and relevance of the content, ensuring it meets the needs of educators and aligns with industry standards.

2. Methodology

- **Comprehensive Research Process:** Describe the comprehensive research process used to develop instructional frameworks for 72 sub-clusters.

The New Mexico Resource Hub for CTE includes instructional frameworks for 72 sub-clusters that were developed through a comprehensive qualitative and quantitative research process. A New Mexico-specific, comprehensive labor market analysis laid the foundation for understanding the high-value skills and credentials that shaped the framework's development.

This basic labor market analysis was conducted for each of the clusters and subclusters in the New Mexico taxonomy of Career and Technical Education programs, which reflects the Advance CTE Modernized Career Clusters Framework. Using the program-occupation crosswalk provided by Advance CTE, employment and wage data for relevant occupations were presented for each subcluster.

- The employment data were collected from the New Mexico Department of Workforce Solutions' Ten-Year Occupational Employment Projections. This series returns the total number of jobs in each occupational category from two years in the past and estimates employment eight years into the future. This projection is updated every two years. In addition to the historical and projected levels of employment, total openings across the ten-year period are also estimated. The number of total openings is aggregated from openings due to growth, exits and transfers.
- The estimates of median wages paid within each occupational category were taken from the New Mexico Department of Workforce Solutions' Occupational Employment and Wages Series, which estimates wages for each occupational category every year.
- Job zones are an element of the United States Department of Labor, Employment and Training Administration's occupational profiles, as published on O*Net. The zones range from one to five to indicate the typical level of preparation needed entry level employment in the occupation.

The second approach was an analysis of job postings data. The aggregated text of these postings was queried to find postings for work in New Mexico within each of the occupational categories in a subcluster. The job titles, skills and qualifications that occurred most frequently in the returned postings were summarized to provide context on the real-world demands of work in the target field and to identify possible points of entry into those fields for New Mexico CTE graduates.

Lastly, the economic research team at P2C analyzed additional data sets from the United States Bureau of Economic Analysis, the United States Census Bureau and the United States Bureau of Labor Statistics and synthesized the preceding data to produce one to three key observations about each cluster in New Mexico's labor market. These observations are intended to be used by educators and counselors to assist students in data-driven explorations of each cluster and subcluster.

Additionally, the P2C team conducted surveys and organized employer convenings that brought together industry professionals, educators, community organizations, post-secondary representatives, and other key stakeholders to discuss current and future trends, industry needs, and workforce expectations. Details on this process follow in section 4.

Finally, the frameworks considered data from other related sources to create the most comprehensive approach for their development:

- Professional and pre-professional organizations
- Accrediting and certification bodies
- Post-secondary institutions with industry-related programs
- Regulatory agencies
- State guidelines
- Career and Technical Student Organizations

More details on the framework development follow in section 5.

By integrating this broad range of research and industry input, the framework ensures that the information remains relevant, up-to-date, and aligned with the needs of employers and for high-value careers in the state.

3. Data Sources

- Primary Data Sources:
 - U.S. Census Bureau
 - U.S. Department of Education
 - U.S. Bureau of Labor Statistics
 - U.S. Department of Labor, Employment and Training Administration (USDOL/ETA)
 - National Career Clusters® Framework by Advance CTE
 - State workforce development agencies
 - Advance CTE Resources
- Secondary Data Sources:
 - Professional and pre-professional organizations
 - Accrediting and certification bodies
 - Post-secondary institutions with industry-related programs

- Regulatory agencies
- State guidelines
- Career and Technical Student Organizations

4. Expertise and Stakeholder Engagement

- **Surveys and Employer Convenings:** Detail the surveys and employer convenings conducted to gather insights from industry professionals, educators, community organizations, post-secondary representatives, and other key stakeholders.

The comprehensive effort to understand the needs of business and industry in New Mexico included extensive outreach to 127 industry associations, 15 chambers of commerce, countless individual employers, and a network of related partners. The Pathway2Careers team developed a single, 30-question survey, suitable for any employer in the 14 career clusters and 72 subclusters. The survey collects employer demographics, credentials of value to employers, and knowledge skills, and abilities students need to be successful in future employment.

Additionally, a slate of 14 virtual convenings aligned to each cluster was held between February and the first week of April 2025. Personal outreach was conducted to municipalities to collect Public Safety information, and additional employer feedback was culled from cluster-related efforts by the Mesilla Valley Economic Development Alliance's Borderplex Workforce Report, NewSpace Nexus Pathway to the Stars Employer Surveys and Convening, and a Green Energy workforce study conducted by the Department of Workforce Solutions. Finally, the information was shared with the Business Engagement Committee of the New Mexico State Workforce Board.

Early efforts to recruit employers to participate in the survey actually began in November, 2024. Once convenings were added, P2C partnered with the Department of Workforce Solutions to share the survey and convening registration with their statewide network of employers. The NMPED College and Career Readiness Bureau also shared the information with their educator partners to share with their advisory committee members. The P2C team made hundreds of phone calls and sent hundreds of emails with the same invitation.

This collective effort resulted in 109 survey participants and 242 education and employer registrants for the virtual convenings, as well as invitations to present and collect input at three in-person conferences in health care-, hospitality-, and transportation-related groups.

- **Industry Input:** Explain how industry input was integrated to ensure the framework remains relevant and aligned with employer needs.

Employer voice in these collective data gathering tools was consolidated into 14 cluster-specific employer input summary reports. These reports analyzed key findings in parallel with the labor market analysis to identify high value credentials (IRCs and two- and four-year degrees), specific required technical and academic skills, and challenges employers face in recruiting well qualified talent.

Each framework includes information gathered from employer input, as well as being aligned to the knowledge skills and abilities students would need to graduate high school and earn a specific credential of value to employers based on labor market analysis and employer input. However, associate degrees and bachelor's degrees of value in these industries are also identified in the career

mapping trajectory for students who choose to continue into postsecondary. By holding a credential of value to employers upon high school graduation, and as required by Perkins V, it positions students for early employment in the field of their choosing if they pursue higher education.

5. Framework Development

The development of each CTE framework followed a consistent and research-informed methodology to ensure quality, accuracy, and alignment with both educational and industry expectations. This methodology emphasized the integration of multiple reliable sources, alignment with national and local industry standards, and consideration for educational requirements at the secondary and postsecondary levels. The process was designed to result in frameworks that are credible and practical for use in program and curriculum development statewide.

- **Integration of Multiple Sources:** Describe how data from various sources were synthesized to create a comprehensive approach for framework development.

Each framework was developed through the synthesis of multiple sources, which allowed for a comprehensive and well-rounded approach. This began with a thorough review of industry-recognized certifications. These certification objectives were used to guide the creation of technical standards, ensuring students were developing real-world, credential-aligned competencies. In addition to certification sources, degree plans and course descriptions from various New Mexico colleges and universities were analyzed to align the frameworks with associate- and bachelor-level postsecondary programs. This helped ensure continuity and relevance in learning outcomes from high school through college. National and state CTE frameworks, including those from Advance CTE and other Perkins-aligned models, were also referenced to support consistency in structure and expectations. Finally, local and national workforce data, including employer feedback and labor market trends, were used to ensure the frameworks reflected current hiring needs, employability skills expectations, and emerging technology demands.

- **Alignment with Industry Standards:** Explain how the framework aligns with industry best practices and emerging advancements.

Beyond certifications, the frameworks were carefully aligned with broader industry standards and best practices to reflect not only what is required today, but also where each field is headed. Certification objectives provided a technical foundation, but industry best practices from current research and national workforce organizations help shape the instructional approach. Research-based strategies from organizations such as Advance CTE and ACTE guided the inclusion of project-based learning, soft skills development, and work-based learning experiences. Professional associations provided additional insight into sector-specific expectations, terminology, and trends. These associations' published standards and guidelines were referenced to ensure each framework met or exceeded industry norms. Career and Technical Student Organizations were also considered in the development process. Their leadership standards and competition areas were used to create a bridge between classroom learning and applied skill-building. These connections help educators guide students in demonstrating their learning beyond the classroom.

- **Consideration of Various Educational Standards:** Discuss how the framework considers Career and Technical Education (CTE) plans of study, Common Core, post-secondary curricula, credentialing agency objectives and competencies, and existing secondary frameworks.

Throughout the process, careful attention was given to ensure that each framework aligned with relevant educational standards. All frameworks support the development of Perkins V-compliant CTE

programs of study by outlining a logical sequence of learning—from foundational skills to certification readiness and postsecondary transition. Academic standards were integrated within the frameworks using Common Core-aligned concepts in math, literacy, and science. Standards were written using varied Bloom’s Taxonomy verbs and instructional language that reflects both academic and career readiness expectations. Students are asked to analyze technical documentation, perform calculations, apply scientific processes, and communicate findings—ensuring that technical learning reinforces cross curricular, academic growth. Postsecondary curricula from colleges and universities within the state of New Mexico were reviewed to ensure that students completing high school programs could transition seamlessly into degree pathways. To add, the frameworks also reflect the objectives and competencies of credentialing agencies.

This development methodology ensured that each of the 72 frameworks is rigorous, well-researched, and aligned with both education and workforce demand. Every component—technical standards, academic integration, glossary terms, certification objectives, and postsecondary alignment—is grounded in verifiable sources. This makes the frameworks not only practical for schools and districts to adopt, but also reliable and scalable for building high-quality programs that prepare students for both college and career success.

6. Implementation and Assessment | Davina’s section

- **Advance CTE Rubrics:** Describe the use of Advance CTE rubrics for assessing the implementation of CTE programs at both state and local levels.

A key tool guiding this process is the Advance CTE “High-Quality CTE Program of Study: Self-Evaluation Rubric” from 2018. It provides a structured, research-based method for both state education agencies and local school districts to evaluate how well their CTE programs align with best practices and federal expectations under Perkins V.

At the state level, this rubric will be used to conduct periodic evaluations of how well the frameworks are being implemented across districts. It also supports the state’s efforts in identifying professional development needs, improving system-wide equity, and ensuring that students are receiving coherent, high-quality instruction.

At the local level, districts can use the rubric as a self-assessment and planning tool. It allows program leaders to evaluate their own practices, identify areas for improvement, and prioritize implementation efforts based on objective quality indicators, and it provides a clear roadmap for aligning local curriculum and programming with the standards established by the frameworks.

Appropriately assessing CTE programs allows for the applicable selection of quality curriculum that meets the program standards.

- **Customization for New Mexico:** Explain how the Advance CTE framework was customized to meet the specific goals and needs of New Mexico.

While Advance CTE outlines principles for quality CTE, the New Mexico approach required a more individualized, implementation-ready structure. The state’s customized frameworks were developed with clearly defined technical standards, cross-curricular demonstrations of competencies, and alignment to industry certifications, which include glossary terms, equipment lists and relevant New Mexico-based postsecondary pathways. This level of detail allows educators and program designers across the state to use the frameworks directly in curriculum development, course sequencing, and pathway planning.

One of the key customizations was the integration of New Mexico-specific postsecondary curriculum. Each framework was built by exploring actual degree plans and course descriptions from local community colleges and universities, ensuring that students completing high school CTE programs can transition smoothly into associate and bachelor's degree pathways within the state.

In addition, New Mexico's workforce and economic needs guided the selection and prioritization of content within the frameworks. Labor market data, state and regional job projections, and employer input helped identify the industries and skills most in demand. National and statewide programs and certifications were incorporated where appropriate after confirming their relevance to the state's job market.

Cultural and geographic considerations were also central to the customization process. Frameworks were developed with awareness of New Mexico's diverse population. Efforts were made to ensure equitable access to relevant CTE programming by considering cultural significance where possible.

National-level resources were balanced with content from professional associations, certification agencies, and workforce organizations that serve as authorities within each industry sector.

The customization of the Advance CTE framework for New Mexico produced a set of high-quality, flexible, and locally grounded frameworks. These resources reflect the state's commitment to preparing students for real opportunities in their communities and across New Mexico while upholding national standards for CTE excellence.

7. Updating Content

- To support the labor market data to deliver relevant information to support CTE programs that align to high-value careers, routine data updates are made when data is released from BLS, US Census, and wage data supplied by state and local workforce regions. This data is held on a rotating cycle often updated in July or December. In addition to establish a cadence in which labor market data is analyzed, resources will be regularly curated and published to support the initiative to offer guidance for all users. Through routine quarterly checks, the validity of third-party sites will be reviewed to ensure ongoing access to relevant material.

8. Conclusion

- **Summary:**
The New Mexico Resource Center for CTE has developed a comprehensive and data-driven approach to enhance career and technical education (CTE) through a dynamic and interactive application. The document outlines the rigorous methodologies, extensive research, and stakeholder engagement that underpin the instructional frameworks and resources provided by P2C and delivered to New Mexico. By leveraging labor market analysis, job postings data, and input from industry professionals, the frameworks are designed to align with both educational standards and industry needs.

In summary, the initiative aims to bridge the gap between education and employment by providing high-quality, relevant, and up-to-date resources that prepare students for successful careers in New Mexico's evolving job market.